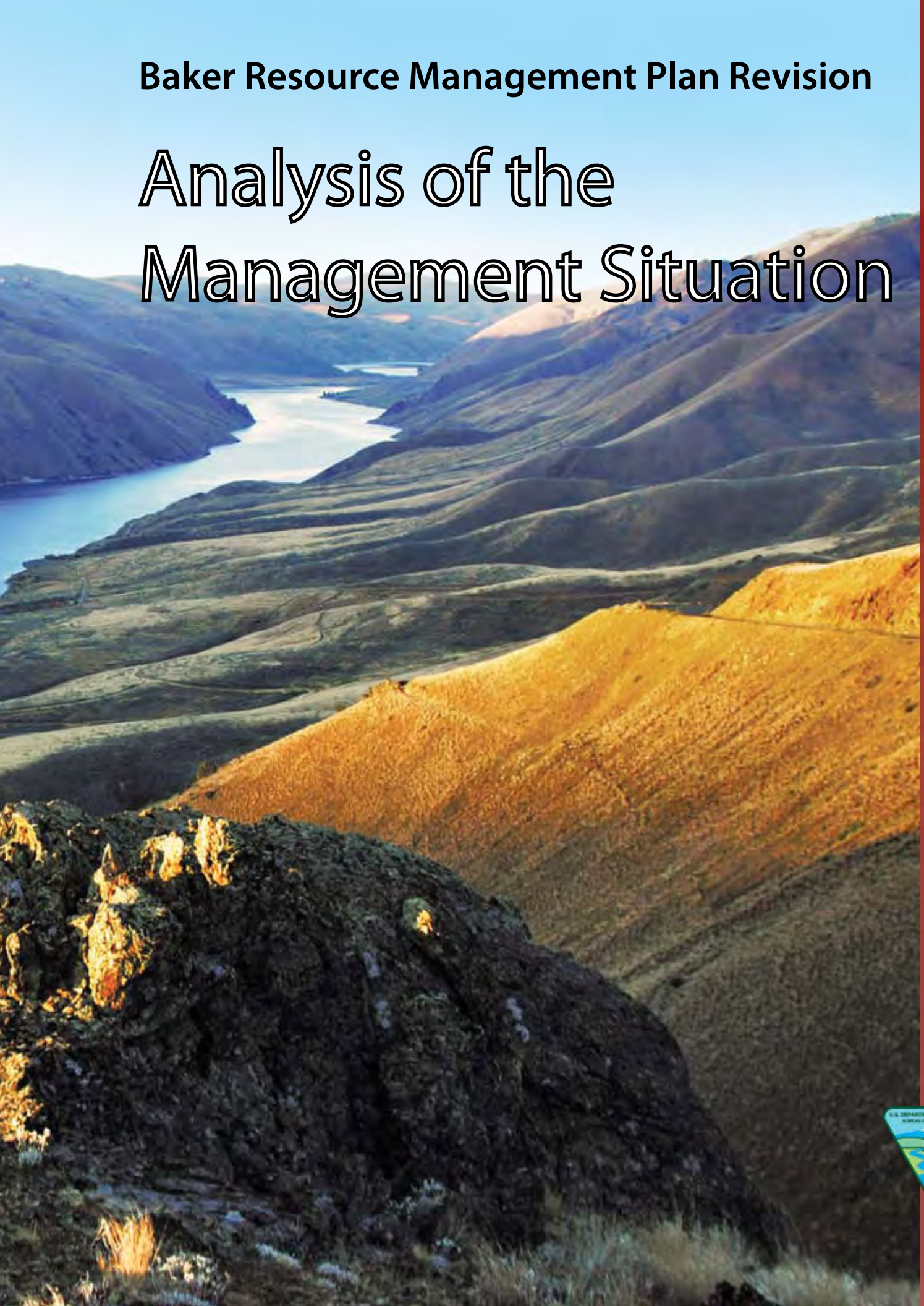

Baker Resource Management Plan Revision

Analysis of the Management Situation

BLM

Vale District Office — Baker Resourse Area

March 2009

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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Analysis of the Management Situation

Baker Resource Management Plan Revision

Bureau of Land Management

February 2009

"It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public land for the use and enjoyment of present and future generations."

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Baker Field Office
P.O. Box 947
Baker City, Oregon 97814

IN REPLY REFER TO:

1610 (OR-035)

January 21, 2009

Greetings,

The Vale District's Baker Field Office began a journey in 2008 to revise its nearly 20-year-old Baker Resource Management Plan (RMP) (BLM 1989). We held scoping meetings throughout Northeast Oregon to talk directly with people who have a stake or an interest in public land management, and we met with Tribes, county representatives, and other federal and state agencies. We also received written comments from many people who care about and use public lands in the Baker Field Office Planning Area. We learned much over the course of the year as we considered your comments and concerns, and completed our review of the condition of public lands managed by the Baker Field Office, as well as the ever-changing uses and needs on the land.

The result, or culmination, of this work is contained within this Analysis of the Management Situation (AMS). The AMS:

- Summarizes the existing conditions, trends, and management guidance for the Planning Area
- Explains the need for change by identifying preliminary issues, and identifies management opportunities
- Provides an initial description of the biological, physical, social, and economic components of the environment that will be affected by the decisions made in the RMP
- Includes the initial scoping report

This AMS provides the foundation for subsequent steps in the planning process, such as the development of our management alternatives and analysis of environmental consequences.

Public involvement is a critical and welcome component of land use planning, and I appreciate your interest and involvement thus far. The Baker RMP revision team and I look forward to continuing our work with you as this process moves forward, and together we can generate effective strategies that will provide important guidance for the future management of public lands in Northeast Oregon.

Best Regards,

Nancy K. Lull

Nancy K. Lull
Field Manager
Vale District BLM

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1 Introduction

The Baker Field Office of the Bureau of Land Management (BLM) has begun the process of revising its current resource management plan (RMP; BLM 1989), which directs the use, protection, and enhancement of resources on BLM-administered public lands (public lands) managed by the Baker Field Office. Decisions in land use plans guide future land management actions and subsequent site-specific implementation decisions. Land use plan decisions establish goals and objectives for resource management (desired outcomes) and the measures needed to achieve these goals and objectives (management actions and allowable uses). This Analysis of the Management Situation (AMS) is the first step in revising the Baker RMP (BLM 1989). The new Baker RMP will establish broad-scale desired conditions, goals, objectives, and guidelines for the management of public lands and resources in the Baker Field Office Planning Area (Planning Area).

A. Purpose of the Analysis of the Management Situation

The Federal Land Policy and Management Act of 1976 directs the BLM to develop and periodically update RMPs that guide land management on public lands. The first step in the process to prepare a new RMP is to conduct an AMS. The purpose of the AMS is to summarize the existing management situation, explain the need for change, propose a range of management opportunities, and describe any management limitations.

In order to make the most accurate determination of the current state of resource use, this AMS incorporates land management issues and environmental data that have developed since the approval of the current Baker RMP (BLM 1989). Part of this process involves describing the physical, biological, and socioeconomic components of the environment that would be affected by the management decisions incorporated into the proposed RMP. Such information will also provide the analytical base for the proposed RMP's Environmental Impact Statement (EIS).

The purpose of this AMS is threefold:

- To summarize the existing conditions, trends, and management guidance for the Planning Area
- To explain the need for change by identifying preliminary issues, and to identify management opportunities
- To provide an initial description of the biological, physical, social and economic components of the environment that will be affected by the decisions made in the RMP

This AMS is thus the foundation for subsequent steps in the planning process, such as the design of alternatives and analysis of environmental consequences (43 Code of Federal Regulations [CFR] 1610.4-4), which will be documented in the Draft and Final EISs that accompany Draft and Proposed RMPs. Table 1.1 identifies where this AMS fits in the overall planning process.

Table 1.1. Land Use Planning Process Steps

Planning Steps	Description
Identify Issues	Issues or land use problems that need to be resolved are identified. This ongoing process ties to the National Environmental Policy Act (NEPA) scoping process.
Develop Planning Criteria	Planning criteria establish constraints and guides for the planning process; streamline the process; establish standards, rules, and measures; set the scope of inventory and data collection; identify the range of alternatives; and estimate the extent of analysis. Preliminary planning criteria developed by the BLM can be modified through public comment.
Issue Notice of Intent (NOI)/ Scoping	The NOI is published in the Federal Register, local media, mailings, etc. The NOI identifies the preliminary issues and planning criteria and provides for a 30-day public review and comment period. This is also the start of the formal NEPA scoping process inviting the public to identify issues or land use problems that need to be resolved. In addition to the Federal Register notice, ideas are solicited through mailings, newspaper articles, public meetings, and workshops. Ideas from public, private, and internal sources are gathered, screened, and evaluated. The issues to guide the planning process are also summarized.
Collect Inventory Data	Inventory data is collected based on the planning criteria. Data are generally collected from existing sources. New data collection is limited to what is needed to resolve the planning issues identified.
AMS	Information is gathered on the current management situation, pertinent physical and biological characteristics are described, and the capability and condition of the resources are evaluated. This analysis provides a reference for developing and evaluating alternatives.
Formulate Alternatives	A range of reasonable combinations of resource uses and management practices is identified. Reasonable alternatives are developed that address issues identified during scoping and that offer a distinct choice among potential management strategies. This includes a "no action" alternative.
Estimate Effects of Alternatives	The impacts of each alternative on the environment and management situation are estimated.
Select the Preferred Alternative	The Field Manager recommends to the State Director a preferred alternative that best resolves planning issues and promotes balanced multiple use objectives. The State Director approves the selection of the preferred alternative along with the other alternatives under consideration.
Issue Draft RMP/EIS	The Notice of Availability (NOA) is published in the Federal Register, media, mailings, etc. The NOA notifies the public of the availability of the Draft RMP/ EIS and provides for a 90-day public review and comment period.

Table 1.1. Land Use Planning Process Steps

Planning Steps	Description
Issue Proposed RMP EIS	Public comments are evaluated and any needed modifications are made. A second NOA is published and a copy of the proposed RMP/Final EIS is filed with the Environmental Protection Agency. This initiates the 30-day protest period under 43 CFR 1610.5-2.
Governor's Consistency Review	A 60-day Governor's review to identify inconsistencies with state or local plans is initiated simultaneously with the public comment period.
Protests	The State Director may sign and implement that portion of the plan not under protest.
Notice of Significant Change	When a protest period or consistency review results in significant changes to the proposed plan, a Notice of Significant Change is issued, which provides for an additional 30-day comment period.
Plan Approval	Once protests have been resolved and the Governor's consistency review has been completed, the State Director approves the RMP by signing the Record of Decision (ROD).
Monitor and Evaluate the RMP	The BLM ensures that the plan is continually monitored and evaluated until it is replaced.

1. Need For a New Resource Management Plan

The current Baker RMP (BLM 1989) does not address changes in agency and departmental direction and policy; concerns related to population growth, economics, and the current political environment; and the development of new information. The Preplan Analysis for the Baker RMP (BLM 2003) identified the following changes and concerns that need to be considered in this Planning Process:

- Consideration of leasable and renewable energy resources and energy transportation systems, as required by national policies, including public lands sources of mineral materials essential for construction on related infrastructure
- Consideration of energy facility siting, including power line and pipeline rights-of-way (ROWs)
- New listings under the Endangered Species Act (ESA) including bull trout (threatened, 1998); Snake River fall run, Snake River spring/summer run, and Mid Columbia spring run Chinook salmon (threatened, 1992); Mid Columbia and Snake River steelhead (threatened, 1997, 1999); and Canada Lynx (threatened, 2000) and grey wolf, as well as the delisting of bald eagle and the possibility of new listings in the future
- Recent biological opinions issued under the ESA indicating additional guidance is needed to protect some plants and animals in portions of the Planning Area
- Interim guidance from Pacific Anadromous Fish Strategy (PACFISH) and Inland Fish Strategy (INFISH) management plans (1994 and 1995, respectively)
- Requirements from the Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (2000)
- BLM Instruction Memorandum (IM) 1992-264, Guidelines for Domestic Sheep Management in Bighorn Sheep Habitats (1998), and IB OR-99-061, Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats (1998)
- Refinement and extension of the Northern Goshawk Management Guidelines (1998)

- Implementation of the Rangeland Standards and Guides (1997)
- Direction and guidance from the President's Forest Health Initiative (2002)
- Planning and reporting requirements from the President's Energy Plan (2001)
- Downward trends in ecological integrity based on the condition of soil and vegetation and perceived impacts from land uses including recreation, grazing, agriculture, and development
- An increase in fragmentation and loss of plant and animal species diversity or genetic resilience due to loss of connectivity within and between blocks of upland forest, shrub-steppe, and riparian habitats
- Invasive and noxious weed encroachment and the expansion of juniper and other woody species beyond their historic range of variability
- Forest health issues and impacts from insect infestations
- Need to address reducing hazardous fuels surrounding "communities at risk"
- New information regarding the importance of late and older seral species, historic disturbance factors such as fire on the landscape, and sustainable use and development on public lands
- Development of the National Fire Plan and the setting of priorities for fuels treatment (communities at risk), protection, and suppression activities
- Federal Wildland Fire Management Policy and Program Review (1995)
- Review and Update of the 1995 Federal Wildland Fire Management Policy (2001)
- Report to the President: Managing the Impacts of Wildfires on Communities and the Environment (2000)
- A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy and Implementation Plan (2001)
- Changing socioeconomic conditions and opportunities to revise management direction to provide employment through both traditional commercial activities and contracted forest and rangeland health initiatives
- Identification of high priority areas and special emphasis watersheds for restoration activities within the Planning Area
- Identification of 303(d) listed streams and the anticipated identification of Total Maximum Daily Load (TMDL) levels and development of water quality restoration plans
- Designation of wild and scenic rivers and the preparation of the Wallowa and Grande Ronde Rivers Management Plan and the John Day Wild and Scenic River RMP Amendment/ROD (2001)
- Identification of wilderness study areas
- Nominations of areas of critical environmental concern (ACECs)
- Application for renewal of a Federal Energy Regulatory Commission (FERC) hydropower license by Idaho Power for the Hells Canyon Complex dams
- The Oregon Land Exchange Act, also known as the Northern Oregon Assembled Land Exchange (2000)

In addition to the above changes and concerns that the Baker Field Office identified in their Preplan Analysis (BLM 2003), additional sources of new information will guide this current planning process. For instance, the Interior Columbia Basin Ecosystem Management Project offers new insights into the management of the lands included in the Planning Area. In addition, BLM IM 2008-014, Comprehensive Travel and Transportation Management, outlines a significant change in off-highway vehicle (OHV) and travel management policy that needs to be addressed in the current planning process. Together, these changes, concerns, and new information have driven the need for a revision of the current Baker RMP (BLM 1989).

B. General Planning Area Description

The Baker RMP revision will address public lands managed by the Baker Field Office within the Vale District of the BLM (see Map 1.1). The Planning Area for this planning effort is the Baker Resource Area with the exception of lands located in the southwestern portion of the Resource Area within the hydrologic boundaries of the John Day River Basin. The Prineville District Office analyzed and manages these lands as part of the John Day Basin RMP, which is currently undergoing revision.

The Planning Area covers parts of Baker, Union, Wallowa, Morrow, and Umatilla counties in Oregon and Asotin County in Washington. The Planning Area includes approximately 8,662,806 acres of public and private lands, including 428,036 surface acres of public lands administered by the BLM. The BLM is responsible only for the management of public lands within the Planning Area, which are collectively referred to as the Decision Area. Table 1.2 provides an overview of surface ownership within the Baker Resource, Planning, and Decision areas. The BLM also administers 3,72490 acres of mineral estate within the Planning Area (see Map 1.2), 3,316,671 acres of which include both federal surface and federal mineral estate. The remaining 408,119 acres are considered split estate lands, with the surface estate being under private ownership and the mineral estate reserved to the federal government.

The general land pattern in the Planning Area is characterized by small to moderate-sized parcels of public lands that are widely scattered and intermingled with private, state, and federal lands administered by the USFS and other federal agencies. The 428,036 acres of BLM surface ownership constitutes approximately five percent of the 8,662,806 acres in the Planning Area.

Most of the Decision Area is located in Baker County. Communities in the Planning Area include Baker City, Union, La Grande, Pendleton, Elgin, Wallowa, Enterprise, Joseph, Halfway, Umatilla, Heppner, North Powder, Oxbow, Richland, Asotin, Durkee, Unity, Huntington, Hermiston, Milton-Freewater, and other small towns.

C. Key Findings of the Analysis of the Management Situation

Chapter 2 of this AMS describes the current conditions of the resources, resource uses, special designations, and socioeconomic conditions of the Planning and Decision areas. Chapter 3 describes the current management situation, while Chapter 4 examines if the current management situation is responsive to current issues and discusses new management opportunities. As described above, changes in management direction and policy, environmental conditions, and increasing populations have lead to the development of new management issues not addressed in the current Baker RMP (BLM 1989) and associated amendments and other modifications. As a result, a number of issues and concerns have been identified that are not adequately addressed by the current management situation, which has lead to new management opportunities for the Baker Field Office to address in this planning process. Below is a brief summary of the key management opportunities identified in this AMS.

Resources

Air

- Incorporate new air quality restrictions outlined in the Oregon Smoke Management Plan
- Address smoke management issues to adhere to air quality standards

Geology

- Coordinate with Oregon Department of Geology and Mineral Industries to update geological map of the area
- Update known areas of moderate to high potential for occurrence of mineral materials, and leasable and locatable mineral resources
- Update known areas of unique geologic features
- Coordinate with local management agencies and governments to identify immediate and long-term minerals needs

Table 1.2. Land Surface Administration (in Acres) for the Baker Resource, Planning, and Decision Areas

Land Ownership	Resource Area	Planning Area	Decision Area
BLM, Baker Field Office	442,305.52	428,036.22	428,036.22
Bureau of Indian Affairs	158,790.00	158,790.00	—
Bureau of Reclamation	3,491.76	3,491.76	—
Corps of Engineers	24,570.03	24,570.03	—
Department of Defense	48,849.37	48,849.37	—
U.S. Fish and Wildlife Service (USFWS)	9,204.25	9,204.25	—
Private	5,228,305.42	5,048,427.96	—
State Lands	73,286.39	74,208.96	—
U.S. Forest Service (USFS)	2,911,749.44	2,867,227.63	—
Total	**8,900,552.18**	**8,662,806.18**	**428,036.22**

Soils

- Update management direction to protect soil productivity and minimize erosion
- Update management direction to identify and protect sensitive soils such as hydric soils and rare or sensitive biological crusts
- Integrate soil management direction with other resources, particularly vegetation and invasive plant management to improve soil cover

Water

- Cooperate with other agencies on developing TMDLs and Water Quality Restoration Plans
- Update management direction to prioritize watersheds restoration projects
- Identify and develop guidelines to improve water bodies and associated riparian areas showing a static or downward trend with proper functioning condition surveys
- Update BLM water rights information

Vegetative Communities (including Special Status Plant Species)

- Identify desired future conditions for vegetation types
- Adapt management to meet multi-resource objectives
- Develop direction for rehabilitating and/or restoring public lands after ground disturbing activities
- Track locations for strategic plant species

Invasive Plants and Noxious Weeds

- Establish guidance for:
  - Emphasis on integrated weed management
  - Invasive plant education
  - Prevention
  - Restoration of poor condition sites
  - Early Detection Rapid Response
  - Increased coordination with other landowners and agencies
  - Address new invasive species in northeast Oregon
  - Increase use of bio-control as an effective tool where available
- A 1984 injunction is still in effect in Oregon on public lands that limits the BLM's ability to effectively treat certain species. The BLM is currently preparing a statewide EIS in an attempt of having the injunction lifted.

Fish

- Update species of local importance
- Update management, guidelines, and direction for native and ESA-listed fish and fish habitat including designated critical habitat
- Help Protect, maintain, and improve genetic integrity of native and listed fish
- Conduct Section 7 ESA Consultation with USFWS and National Oceanic Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) (NOAA Fisheries)
- Coordinate with Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fish and Wildlife (ODFW) on managing fish habitat and conducting fish habitat and redd surveys
- Protect, maintain, and improve suitable and designated critical habitat for ESA-listed fish species

Wildlife (including Special Status Species)

- Update management direction for greater sage-grouse and sagebrush steppe habitats and identify desired habitat conditions
- Incorporate new conservation management guidelines published for species including northern goshawk, Columbia spotted frog, and other species
- Incorporate wildlife habitat management criteria suitable for addressing fire fuels treatments, wildfire rehabilitation, grazing use, and rangeland structural developments associated with grazing permit renewal
- Update management direction to protect wildlife habitat values in post-settlement western juniper
- Prescribe appropriate conservation measures needed to protect wildlife habitat from potential adverse impacts cause by energy development, mining activity, recreational use, and livestock grazing, including (a) seasonal and spatial protective actions needed to address habitat security (e.g., freedom from human disturbance) and (b) physical habitat qualities
- Continue reliance upon relevant wildlife management direction provided in existing habitat management plans
- De-emphasize reliance upon management direction provided in the BLM Fish and Wildlife 2000 document given that agency capability and environmental conditions have changed

Wildland Fire Ecology and Management

- Update with new science and policy
- Develop desired future conditions for each vegetation type and high wildfire hazard risk situation
- Determine fuels management opportunities
- Develop management direction for fuel treatment priorities and fuel treatment methods
- Address use of wildfire as a vegetation and fuels management tool
- Address smoke management issues

Cultural Resources

- Update Priorities for adaptive management
- Proactive landscape level inventories
- Site protection and stabilization
- National Register evaluation
- Monitoring

Paleontological Resources

- Develop direction for paleontological resources that may be found in the future

Visual Resources

- Review and update current visual designations classes as appropriate

Wilderness Characteristics

- Update inventory of BLM lands for potential wilderness characteristics

- Develop direction for areas that may exhibit wilderness characteristics and manage activities to protect or preserve these characteristics

Cave and Karst Resources

- Develop direction for significant caves that may be found in the future

Resource Uses

Forests and Woodlands

- Continue to improve forest health conditions, including woodlands (both juniper and conifer) and hardwood stands while reducing hazardous fuels
- Where appropriate, continue to preserve and restore late seral forest conditions through active forest health management actions
- Where appropriate continue to supply a sustainable level of sawtimber and Special Forest Products
- Continue updating the forest and woodland inventory (FORVIS Database)
- If markets and infrastructure are developed, explore opportunities to utilize biomass generated from thinning and juniper eradication

Livestock Grazing

- Address rangeland and riparian health
- Update allotment numbers, acreages, and categories
- Update language and science
- Assess monitoring
- Revise range project priorities

Minerals

- Make certain oil, gas, and mining withdrawals are current for Special Designation areas
- Provide direction for the following mineral needs in the Planning Area:
  - Identify and categorize known mineral potential areas
  - Determine community mineral material needs (need for community pits)
  - Determine areas with potential for recreational prospecting (panning and metal detecting)
  - Identify, categorize, and mitigate chemical and physical hazards associated with abandoned mine workings
- Oil and Gas, Coal, and Geothermal Leasing
  - The Planning Area is not a likely target area at this time; however, coal and geothermal resources are known to exist in the Planning Area.
  - Data and maps from Vale lease sales
- Locatable Minerals, Mineral Materials
  - Revise text to reflect current conditions, regulations, and demand

Recreation and Facilities

- Review appropriateness of special recreation management areas and extensive recreation management areas for plan development
- Consider OHV designations with regard to recreational, administrative (county and state included), and environmental needs

Renewable Energy

- Update areas likely to be of interest for energy transportation ROW (corridors)

Transportation and Access

- Begin detailed road inventory for future travel management plan analysis
- Emphasize public and county involvement in future route designations, including through extended scoping periods and public outreach
- Consider county transportation needs and county economic development planning.

Lands and Realty

- Update land tenure zones
- Update current acreages for the Planning Area to incorporate land exchanges/acquisitions
- Analyze lands acquired since the RMP for potential management changes
- Review/revise existing utility corridors
- Designate land use authorization avoidance and exclusion areas
- Establish direction for renewal energy resource development
- Identify priority access areas
- Participate in hydropower relicensing and licensing for projects on BLM lands
- Assure mitigations are submitted to FERC in a timely manner to facilitate protection and mitigation measures are placed on the licenses
- Assure implementation of mandatory conditions and recommendations for hydropower licenses

Special Designations

- Bring geographic information system boundaries for special areas to current standards
- Develop direction for newly designated special management areas

Areas of Critical Environmental Concern

- Review current nine ACECs to determine if criteria for relevance and importance is met
- Review ACECs to ensure resource values are still accurate and appropriately protected
- Review/revise ACECs specific management actions and direction for protection of resources
- Evaluate potential additional areas
- Develop improved direction for existing ACECs
- Consider the designation of and develop direction for potential ACECs

Backcountry Byways

- Develop direction to maintain national back country byway designations

Wild and Scenic Rivers

- Complete a wild and scenic river suitability determination for eligible river segments and develop direction to maintain unique characteristics
- Maintain current wild and scenic river designations for the protection of the outstandingly remarkable values

Wilderness Study Areas

- Maintain interim management protection for all wilderness study areas pending Congressional designation or de-designation

Socioeconomic Conditions

Tribal Interests

- Protect habitat for traditional plant, fish and wildlife resources
- Identify and protect traditional use locations
- Ensure resource health and access for exercise of treaty rights

Health and Public Safety

- Provide for the health and safety of the public utilizing BLM administered lands

2 Area Profile

A. Resources

1. Regional Context

Most of the Bureau of Land Management (BLM)-administered public lands (public lands) in the Planning Area (i.e., the Decision Area) are located in Baker County, Oregon, and are part of the Blue Mountain Physiographic Province. These public lands are generally between 3,000 to 6,000 feet in elevation and occur in dissected uplands and canyons.

Portions of the Decision Area also occur in three other physiographic provinces. In the Snake River Province, the Snake River has eroded a deep, rugged canyon as it flows north between Idaho and Oregon. On the Snake River, there are three reservoirs formed behind Hells Canyon, Oxbow, and Brownlee dams. Idaho Power Company owns the dams. There are several medium to large tracts of public lands in the breaks along the canyon and adjacent to the reservoirs. In the Joseph Upland Province, the Snake, Wallowa, Grande Ronde, and Imnaha rivers and Joseph Creek have cut canyons 2,000- to 4,000-feet deep through this rolling basaltic upland. The few tracts of public lands in this area tend to occupy the rugged topography adjacent to the Grande Ronde River and its tributaries. The Umatilla Plateau is a dry upland underlain by basalt that is also dissected by Willow Creek and the Umatilla and Walla Walla rivers. While tracts of public lands in this area are small and widely scattered, a few are located strategically along rivers and streams and provide important riparian habitat.

Human use of the area spans at least 10,000 years. Historically, several Tribes used the Planning Area for fishing, hunting, gathering plants, travel, social and economic exchange, and religious practices. Today, descendants of the first people who occupied the region, from time immemorial, are members of eight federally recognized Tribes with reservations located in Oregon, Washington, Idaho, and Nevada. These Tribes have rights or interests in the public lands reserved through treaties, executive orders (EOs), and/or federal statutes. Tribal interests in federal lands may be related to traditional cultural use, water-land well being, or the socioeconomic needs of Tribes. Although there is little information available to the BLM about specific locations of current Native American uses in the Planning Area, the public lands provide natural and cultural resources of traditional and present importance to tribal communities.

Grazing, timber sales, and mineral activities that occur in the Planning and Decision areas are important to sustaining the local economy. Livestock production and agriculture are important sources of income in the area. Cattle ranching and associated hay crops are major components

of these activities. Lands administered by both the BLM and U.S. Forest Service (USFS) provide livestock grazing as well as natural habitats for wildlife. The timber industry is important in the forested portions of the Planning Area around the communities of Baker and La Grande. Most of the Decision Area is open for mineral location, sale, or lease by private individuals or companies. The number of tourists and recreationists who visit the Decision Area is growing and contributes significantly to the Planning Area's economy. Such visitors spend money at local retail stores, service stations, and lodging facilities. Many service businesses such as guides and shuttle providers operate on major rivers like the Snake, Grande Ronde, and Wallowa. In addition, there is heavy recreational use of the reservoirs and adjacent public lands behind the Brownlee, Oxbow, and Hells Canyon dams on the Snake River.

a. Climate

Precipitation

The climate in the Planning Area ranges from sub-humid in the Blue Mountains to semi-arid in the valleys and lower plateaus, with average yearly precipitation varying between 9 and 52 inches, with higher precipitation at higher elevations. Most of the public lands are at lower elevations with correspondingly lower rainfall. Within the same watersheds at higher elevations, yearly precipitation can be as high as 80 inches, falling primarily as snow. The Columbia Gorge provides a break in the rain shadow of the Cascades, allowing more moisture from the west at higher elevations near the Gorge, but has little influence in the southeastern portion of the Planning Area.

Highest precipitation falls during winter and spring, with snow packs accumulating at higher elevations that contribute to spring run-off. Rain on snow events can occur during warming spring temperatures and cause flooding. There is less influence from marine air masses in the southern part of the Planning Area (Ferguson 1999), and thunderstorms are common in the summer. The past 50 to 100 years has shown a slight decrease in winter precipitation and increase in summer precipitation (Ferguson 1999).

Temperature

Temperatures vary from sub-zero during winter months to over 100° Fahrenheit (F) during the summer. Seasonal and daily temperatures both have large variations. Baker County mean temperatures are in the 80s (°F) in the summer and 30s in the winter. The past 50 to 100 years has shown a slight increase in winter temperatures and slight decrease in summer temperatures (Ferguson 1999).

b. Ecoregions

An ecoregion is an area containing geographically distinct set of environmental conditions and associated assemblage of species and natural communities. The Planning Area falls into three ecoregions: Columbia Plateau, Blue Mountains, and Snake River Plains. These are further divided into 22 smaller subecoregions, which are shown in Table 2.1. These subecoregions are created from a combination of different elevations, moisture regimes, and parent material.

The majority (76.7 percent) of the Decision Area occurs in the Continental Zone Foothills Subecoregion, followed by the Canyon and Dissected Uplands (9.5 percent) and Melange (6.7 percent). All other subecoregions except Canyons and Dissected Highlands, Maritime-Influenced Zone, Pleistocene Lake Basins, and Unwooded Alkaline Foothills contain less than 1 percent of the Decision Area. Subecoregions with more than 1 percent of the Decision Area are described below, with the exception of Mesic Forest Zone, which encompasses only 0.8 percent of the Decision Area. This subecoregion is included in the discussion because it involves managed timber stands on public lands.

Continental Zone Foothills: This subecoregion consists of foothills and buttes between the Blue and Wallowa mountains and the northwestern Snake River plain, with elevations ranging between 1,800 to 6,600 feet. The mountains block any maritime influences leading to a continental climate with hot dry summers and cold winters. Many of the soils are developed on basalts. Veg-

Table 2.1. Subecoregions within the Planning Area

Subecoregion	Planning Area (Acres)	Decision Area (Acres)	Total % of Decision Area
Blue Mountain Basins	693,470	711	0.2
Canyons and Dissected Highlands	718,383	5,110	1.2
Canyons and Dissected Uplands	783,325	40,851	9.5
Cold Basins	83,057	333	0.1
Continental Zone Foothills	1,102,333	328,448	76.7
Continental Zone Highlands	241	0	0.0
Deep Loess Foothills	92,943	0	0.0
Deschutes/John Day Canyons	7,546	0	0.0
Dissected Loess Uplands	8,889	0	0.0
John Day/ Clarno Highlands	100,246	479	0.1
John Day/Clarno Uplands	216	0	0.0
Lower Snake and Clearwater Canyons	323	0	0.0
Maritime-Influenced Zone	839,943	4,467	1.0
Melange	394,927	28,637	6.7
Mesic Forest Zone	982,956	3,179	0.7
Pleistocene Lake Basins	640,867	4,315	1.0
Subalpine-Alpine Zone	274,998	973	0.2
Umatilla Dissected Uplands	396,115	1,992	0.5
Umatilla Plateau	1,119,924	1,033	0.2
Unwooded Alkaline Foothills	14,589	5,316	1.2
Wallowas/Seven Devils Mountains	336,862	1,698	0.4
Yakima Folds	70,652	495	0.1
Total Acres	**8,662,805**	**428,037**	**100.0**

etation primarily consists of sagebrush steppe at lower elevations with Douglas fir and ponderosa pine forest at higher elevations.

Canyons and Dissected Uplands: Deep river canyons and dissected plateaus between an elevation of 1,000 and 5,000 feet characterize this subecoregion. Examples of Canyons and Dissected Uplands in the Decision Area are along the Grande Ronde River, Joseph Creek, and the Snake River in the tri-state region (Oregon, Washington, and Idaho). These steep areas have thin rocky soils that retain little moisture. Vegetation varies between grasslands and forest depending on elevation and aspect.

Melange: Dissected, mid-elevation mountains with elevations between 3,500 and 7,500 feet characterize this subecoregion. Its geology is a complex mixture of basalt overlying metavolcanic, metasedimentary, and sedimentary rocks. Soils are dry and tend to be high in magnesium, which leads to poor growing conditions, except for plants adapted to magnesium-rich soils. Vegetation varies between grasslands and forest depending on elevation and aspect. Mining claims are common in this ecoregion.

Maritime-Influenced Zone: This subecoregion varies in elevation from 3,000 to 6,000 feet. It intercepts marine weather systems moving through the Columbia River Gorge, which allows it enough moisture to support a conifer forest at lower elevations.

Continental Zone Highlands: This subecoregion is a moderately dissected mountainous volcanic plateau with an elevation between 4,000 and 6,700

feet that experiences extreme temperatures and low precipitation for this elevation. Historically, frequent wildfires influenced the open character of the forest; however, the recent lack of fire is leading to denser forests.

Unwooded Alkaline Foothills: This subecoregion consists of rolling foothills, benches, alluvial fans, and scattered badlands usually underlain by sandy, alkaline lacustrine (lake bed) deposits at elevations ranging from 2,200 to 3,900 feet. Wyoming big sagebrush and associated grasses are the dominant forms of vegetation.

Pleistocene Lake Basins: This subecoregion is generally flat with elevations from 300 to 1,300 feet. Due to the low elevation, precipitation varies between 7 and 10 inches per year. Native vegetation consists of grasses and big basin sagebrush, with cheatgrass invading much of the area.

Mesic Forest Zone: While less than 1 percent of the Decision Area occurs in this subecoregion, it is important because this area contains productive conifer forests. With elevations ranging between 4,000 and 7,700 feet, this subecoregion has the highest precipitation levels in the Decision Area, with the exception of the Subalpine-Alpine Zone. Higher elevation sites with ashy soils that hold moisture support spruce-fir forests. Lower, dryer sites support ponderosa pine.

2. Air Quality

a. Indicators

National Ambient Air Quality Standards

In order to protect human health and welfare, the 1963 Clean Air Act (Public Law [PL] 91-604), as amended in 1977 (PL 95-9) and reaffirmed in 1990 amendments, requires that the Environmental Protection Agency (EPA) establish standards for certain pollutants based on the best available science. The National Ambient Air Quality Standards (NAAQS) have thus been established for six air pollutants: particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, and lead.

"Particulate matter" is a term used to describe dispersed airborne solid and liquid particles, which will remain in atmospheric suspension from a few seconds to several months. Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) or less than 10 microns in diameter (PM_{10}) is small enough to enter the human respiratory system. Particulate matter, alone or in combination with other pollutants, can constitute a health hazard.

Medical studies have shown a relationship between increases in particulate matter concentrations and rises in the number of clinic and hospital visits for upper respiratory infections, cardiac diseases, bronchitis, asthma, pneumonia, and emphysema. Deaths of elderly persons afflicted with respiratory diseases and cardiac conditions also show an increase during periods when the concentration of particulate matter is unusually high for several days.

Smoke from wildfire and prescribed fire is the primary air quality concern for the Planning Area, with particulate matter being the primary pollutant of concern in smoke. Particulate levels within the Planning Area due to smoke are generally well below the national standards. Complaints about "nuisance smoke," however, frequently occur.

Prescribed and wildland fires are also a source of carbon monoxide, nitrogen dioxide, and sulfur dioxides, also regulated under the NAAQS; however, the amount of nitrogen dioxide and sulfur dioxides produced by wildland fuels is negligible. Since carbon monoxide quickly dissipates, it is generally only a concern for firefighters working at the fire. Health concerns associated with these pollutants fall under worker safety regulations rather than pollution regulations.

Visibility and Regional Haze

Visibility is important to visitors who come to enjoy the scenic beauty of public lands in the Planning Area, often from a long distance away. Having clear days for such viewing opportunities is especially important for many visitors who are in the area for only a short period.

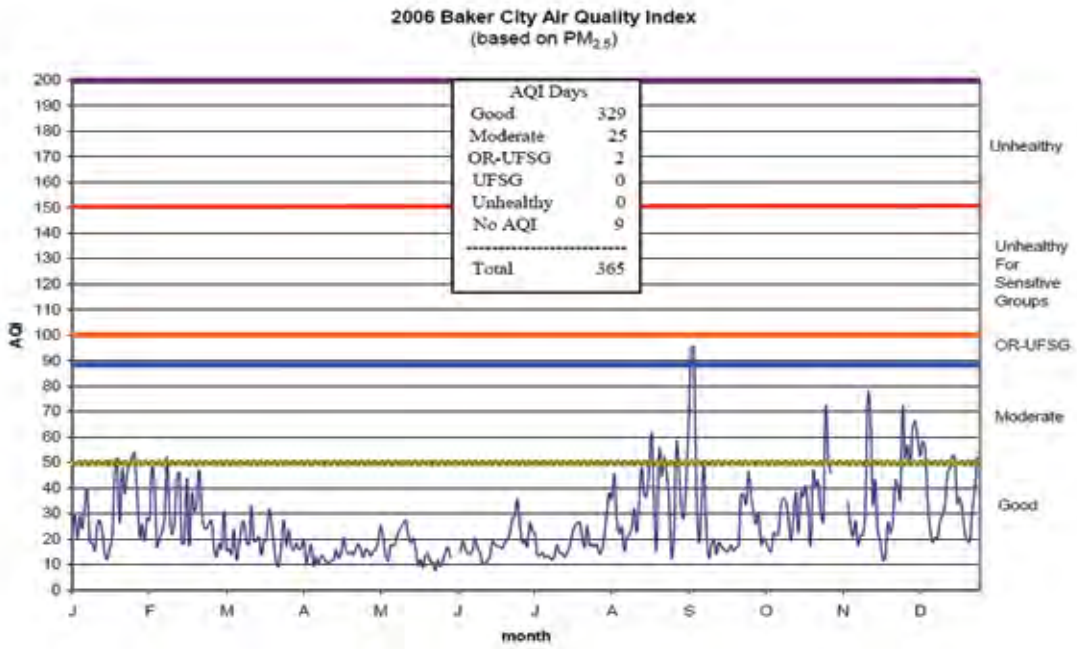


Figure 2.1. 2006 Baker City Air Quality Summary

Class I airsheds require the highest level of protection under the federal Clean Air Act. The intent of Class I areas is to "preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value." Mandatory Class I areas consist of:

- National parks over 6,000 acres in size
- National memorial parks over 5,000 acres in size
- International parks
- All wilderness areas over 5,000 acres in size

These original Class I mandatory areas are those in existence as of August 1977, plus their additions. They can never be re-designated to another air quality classification.

Hells Canyon and Eagle Cap wildernesses are Class I airsheds that are within the Planning Area. All other federal (e.g., BLM, USFS, and NPS) lands within the Planning Area were given a Class II air classification under the Clean Air Act, including the non-wilderness portion of the Hells Canyon National Recreation Area. While Class I designation allows virtually no degradation in air quality, Class II designation allows moderate deterioration associated with moderate population and industrial growth.

Within Class I areas, visibility is the air quality-related value that is most affected by smoke from wildland fires. Particulates suspended in the atmosphere scatter light; therefore contributing to visibility impairment. Very small particles can travel great distances and contribute to regional haze problems. Regional haze can result from prescribed burning over multiple days and/or multiple owners utilizing the airshed over a short period of time. Cumulative particulate load may be the result of fire use or urban and industrial sources, or it may be a combination of the two. The causes of regional haze are often difficult to identify.

b. Current Condition

Most of the Planning Area has relatively good air quality. No communities within the Planning Area are currently in non-attainment status. Baker City and La Grande, Oregon, are the primary populations affected by management of public

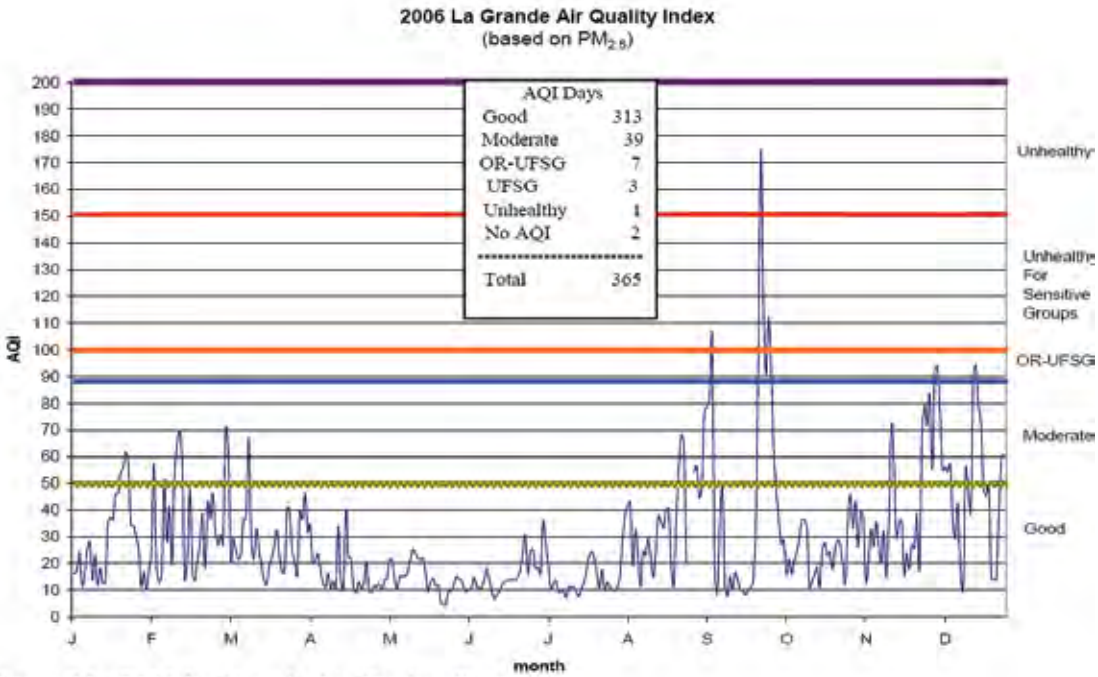


Figure 2.2. 2006 La Grande Air Quality Summary

lands in the Planning Area. Figure 2.1 illustrates Baker City's air quality in 2006 while Figure 2.2 illustrates La Grande's air quality in 2006.

Too many violations of Clean Air Act standards results in a declaration of a non-attainment area. This designation means that the air quality in the area does not attain the established standards for a given criteria pollutant. La Grande was moved from a non-attainment designation in 2006 after air quality was improved. Union County smoke restrictions remain in place during the peak firewood-burning period from November 15 through February 15.

Due to regional transport winds, actions that occur a considerable distance away can affect air quality within the Planning Area. Distance buffers much of the area from potential adverse effects from industrial and metropolitan pollutants. Population growth in northeast Oregon may diminish this buffer in coming decades.

Current air quality effects to the wildernesses and Class 2 lands are primarily derived from smoke and regional haze that affects large areas of the West under certain, not completely understood conditions. The issue of regional haze and its effects on western vistas has been and is being studied at a scale beyond this analysis, such as by the Grand Canyon Visibility Transport Commission. The EPA has also mandated impairment reduction goals for visibility.

A memorandum of understanding (MOU) between Oregon Department of Environmental Quality (ODEQ), Oregon Department of Forestry (ODF), and the USFS provides for the operation of PM_{10} smoke monitoring sites. Sites are operated from April 1 to approximately October 1 in Asotin, Enterprise, Baker City, and John Day, and throughout the year in La Grande and Pendleton. The monitoring network, in operation since 1995, provides real-time monitoring to those conducting prescribed burning as well as provides long-term monitoring of trends and conditions. While the intent is to protect human health during these activities, the network also obtains information concerning visibility impacts from airborne particles. The network expanded in 1999 and could grow in the future. This network, as well as the Interagency Monitoring of Protected Visual Environments (IMPROVE) stations, will work equally well for the monitoring of PM_{10} and the newer $PM_{2.5}$ standard.

The IMPROVE network was established to help the states determine the baseline visibility condi-

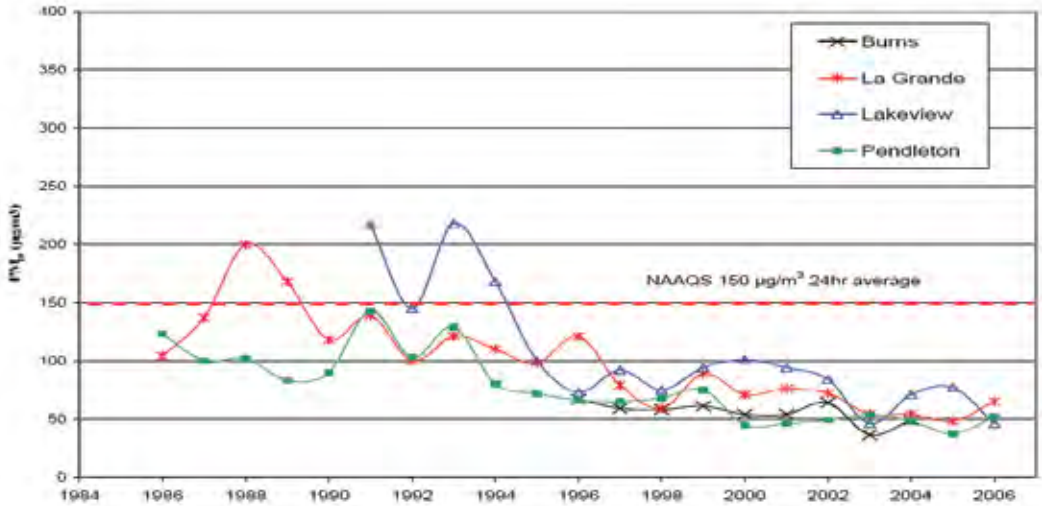


Figure 2.3. PM10 trend for Eastern Oregon cites using the second highest 24 hr average Summary

tions in the mandatory Class I areas. Oregon and Washington, with the cooperation of the USFS and NPS, have recently established a number of IMPROVE sites, of which several are designed to monitor more than one Class I area. Within the Planning Area, the IMPROVE sites are located near Starkey Experimental Forest headquarters and Oxbow Dam on the Snake River.

c. Trends

The occurrence of wildfires and the use of prescribed fire have been increasing over the last decade, yet the air quality in eastern Oregon has improved, as indicated in Figure 2.3.

Current data from a national visibility monitoring network (Sisler and others 1996) do not show fire to be the predominant source of visibility impairment in any Class I area (40 Code of Federal Regulations [CFR] Part 51). Emissions from fire are an important episodic contributor to atmospheric loading of visibility-impairing aerosols, including organic carbon, elemental carbon, and particulate matter. While fires can substantially impair visibility over short periods, fires, in general, occur relatively infrequently and thus have a lesser contribution to long-term averages. Fire events contribute less to persistent visibility impairment than sources with emissions that are more continuous.

States must demonstrate reasonable progress in improving visibility in Class I areas over a 60-year period, during which visibility should be returned to "natural conditions" by the year 2064. The Western Regional Air Partnership is in the process of defining what the natural conditions would be and developing cooperative visibility protection plans in 12 of the western states, including Oregon and Washington. These plans must work towards the goals of (1) improving visibility on the haziest 20 percent of days and (2) protecting the visibility on the cleanest 20 percent of days.

No "restricted areas" (i.e., areas for which permits to burn on forestland are required year round), "designated areas" (i.e., principal population centers), or "special protection zones" (i.e., buffer zones around non-attainment areas) currently exist on or near the Planning Area. In 2009, ODF burning rules will change. Baker City, La Grande, Burns, John Day, and Pendleton will be designated Smoke Sensitive Receptor Areas.

d. Forecast

While the overall trend is for an increasing need to use prescribed fire to reduce fuel hazards and restore ecosystems, more stringent smoke

management restrictions that adhere with the Oregon Smoke Management Plan should minimize future impacts.

The BLM and USFS entered an MOU with ODEQ and ODF to increase the use of prescribed wildland fire. At the heart of this agreement is the goal to reduce emissions and improve the health of fire-dependent ecosystems. Some emissions from unwanted wildland fire would be replaced by prescribed fire emissions, but it is believed that prescribed fire can be better managed and generally have lower emissions than wildfires.

With the agencies working together to track smoke emissions and dispersion from forest and federal rangeland burning, managers can reduce smoke impacts to local communities and maintain compliance with air quality regulations.

e. Key Features

The key features for air quality within the Planning Area are the soon to be designated smoke sensitive receptor areas of Baker City, La Grande, Enterprise, and Pendleton, Oregon, for particulate matter and Hells Canyon National Recreation Area, Hells Canyon Wilderness, and Eagle Cap Wilderness for visibility standards. Class I areas (Hells Canyon and Eagle Cap wildernesses) are also key features in the Planning Area due to their mandatory high level of protection.

3. Geology

a. Current Condition

The Planning Area lies within the Blue Mountains Physiographic Province. This physiographic province consists of distinct geologic terranes associated with the formation of the Blue Mountain Volcanic Arc and its accretion to the North American continent. The Blue Mountain Arc consists of the Grindstone, Wallowa, Baker, Izee, and Olds Ferry terranes and ranges in age from Devonian to Jurassic. Bishop (2003), Brooks (1979), and Vallier (1998) describe these terranes and the rocks they contain. The arc accreted to the North American continent in the late Cretaceous, at which time the Wallowa, Elkhorn, Pedro, and Lookout Mountain batholiths intruded. Igneous activity again occurred in the mid-Tertiary with the emplacement of rhyolitic volcanic rocks and plateau-type basalts associated with migration of the Yellowstone hot spot. Locally, sediments and volcanic ash accumulated in lake-basins in the late Tertiary.

b. Trends and Forecast

The Blue Mountain Physiographic Province has been in a state of constant motion for millions of years due to the collision of two massive plates moving past one another. This trend is likely to remain constant for the near future.

c. Key Features

Map 2.1 illustrates the key geological features of the Planning Area. The Blue Mountain Physiographic Province consists of a number of smaller terranes that originated to the west in an oceanic environment. Oregon was covered by seas as far back as Triassic time (200 million years ago), when these exotic blocks or terranes were accreted onto the west coast of North America. Along the west coast of North America, these terranes are extensive and much more complex that previously thought. The five terranes that make up the Blue Mountain Physiographic Province contain their own distinctive suite of rocks and fossils. They include the Olds Ferry Island Archipelago (composed of volcanics and sedimentary rocks), the Izee Terrane (an assemblage of layered rocks from the Forearc Basin between the island archipelago and the trench of the Subduction Zone), the Baker Terrane (a deep ocean floor crust environment), the Grindstone Terrane (formed from a shallow ocean backarc basin), and the Wallowa Volcanic Archipelago Terrane (Orr and Orr 1999).

Caught between two massive blocks, the Blue Mountains have been in motion for millions of years. This motion built up stress that initially created fold and later faulting, which occurred in stages approximately every five million years. There are two major lineaments in the Blue Mountains running across the northeastern corner of the province: the Grande Ronde Lineament and the

Olympic-Wallowa Lineament. The Grande Ronde Lineament runs for miles across eastern Oregon and parallels Eagle Creek and the upper Grande Ronde Valley. The Olympic-Wallowa Lineament is a structural trend that extends from the Vale and Snake River fault zones in the southeast through the Blue Mountains and across the Columbia plateau in the northwest.

During Pleistocene times, nine major glaciers glaciated the Wallowa Mountains in the northeast corner of the Planning Area. Evidence of these glaciers can be seen in the "U–shaped" valleys and terminal moraines found south of Lostine and Joseph. The Grand Canyon of the Snake River begins at the oxbow on Oregon's eastern border where the Snake River has cut its way between the Wallowa Mountains of Oregon and the Seven Devils Mountains of Idaho. With an average depth of 5,500 feet, Hells Canyon exposes Permian to Cretaceous aged rocks along its walls.

4. Soil Resources

Soils are created through the interaction of climate, parent material (rock type), topography, and microorganisms in the soil. Through time, the interaction of these variables develops specific soil types. Formation of soils is a slow process, particularly where moisture levels are low. Disruption of soils can lead to long-term changes in soil productivity and changes in ecological conditions for the site.

a. Indicators

Management practices may affect the ability of soils to maintain productivity by influencing disturbances such as displacement, compaction, and erosion. These can be used as indicators of soil productivity.

An indicator for sensitivity of soils to management activity is erosion hazard. Erosion hazard is a measure of the susceptibility of soil to erosion when cover is removed. A high erosion hazard factor shows increased probability that erosion damage may occur as a result of ground disturbing activities.

Other indicators for sensitivity to management are displacement and compaction. Displacement and compaction hazard is a measure of the susceptibility of soil to become physically displaced and/or compacted when enough weight or pressure is repeatedly applied to the soil surface. A high displacement and compaction hazard factor shows increased probability that displacement and compaction damage may occur as a result of ground disturbing activities.

Data sources

Sources of data include county soil survey data, the EPA ecoregions for the Blue Mountains, Columbia Plateau, and the Snake River Plains, and a series of subbasin plans developed for the Northwest Power and Conservation Council. Additional information came from grazing allotment evaluations and proper functioning condition (PFC) surveys. Little data is available for Malheur County at this time. The Baker Field Office is working on an updated soils layer for this planning process, which will be used for analyzing alternatives for the revised Baker Resource Management Plan (RMP)/Environmental Impact Statement (EIS).

b. Current Condition

Influences on Soil Types

Climate

There are two soil moisture regimes within the Planning Area, moist and dry. Given the lower elevation of most public land within the Planning Area, the majority of the soils are dry.

Parent Material

Parent materials are an important factor in the formation of soils that may differ widely both in mineral composition and hardness, affecting soil texture and the rate of mineral breakdown.

The majority of the soils in the Planning Area are volcanic in origin. Columbia River basalts are common, as are ashflow tuffs (i.e., pyroclastic rock formed from hot volcanic ash). Soils formed from Columbia River Basalts generally have high infiltration rates and moderate permeability. Soils influenced by the deposition of silty volcanic ash

from the eruption of Mount Mazama 6,700 years ago are generally highly productive but erosive if soil cover is removed.

The Planning Area also contains granitic rocks, sedimentary rocks, and metamorphic rocks (both metasedimentary and metavolcanic). Granitic rocks tend to be highly erosive (Nowak 2004a), and water infiltration is generally high with moderate percolation. Soils derived from metamorphic rocks are not as erosive as granite soils, are very low in clay, and have high infiltration and percolation rates.

Melange rocks in the Planning Area are from island arcs that connected with what was once the Oregon coast.

Soil Parent Material and Texture Summary

Most of the volcanic, sedimentary, and metasedimentary-derived soils in the Planning Area have fine to medium textures. Soils derived from metamorphic rocks are very low in clay and have high infiltration and percolation rates; they are not considered as erosive as granitic soils. Granitic rocks are more coarsely textured and highly erosive. Volcanic ash deposited from volcanic eruptions on Mount Mazama still influences soils of the Planning Area. This ash, while erosive, is capable of absorbing and holding large quantities of water and has contributed positively to the productivity of most sites where it is found.

Topography

Topography is influential in the formation of many soil characteristics, such as soil depth. Deeper soils can occur in alluvial valleys. Shallow soils occur on steep slopes and on the top of basalt plateaus.

More active slopes are generally steeper than 35 percent. These soils are typically formed in diorite, rhyolite, schist, and argillite; tend to be sandy or loamy with little soil development; and are high in rock fragments, often with volcanic ash in the surface layer (Laird 1997).

More stable slopes of metamorphosed diorite and basalt can form even where slopes range from 35-70 percent (though generally less than 50 percent). They tend to be loamy or clayey, have a high number of rock fragments, and moderately to strongly developed.

More developed soils are formed on basalt, volcanic tuff, and volcanic rock of the Clarno Formation. Slopes range from flat to 35 percent but are generally less than 20 percent. Soils in these areas are clayey and have few rock fragments (Laird 1997).

Soils in the valley bottoms are formed in alluvial and lacustrine deposits on floodplains, river terraces, and alluvial fans.

Vegetative Cover

Soils form under two major types of plant cover: (1) grasses and shrubs and (2) conifer forests. Grasses and shrubs are dominant in the warmer and drier areas at lower elevation, and conifer forests are dominant in the cooler and moister areas at higher elevations. Grasses and shrubs cover most of the Decision Area.

Junipers are expanding into areas with grass and shrub cover, leading to less ground cover and impairment of hydrologic function. Many nonnative species are found in the Planning Area. Crested wheatgrass has been planted as a monoculture in many areas and cheatgrass has invaded much of the area. See the Section A-6, Vegetative Communities, for more information on vegetative cover and juniper expansion.

Invasive plants are increasing in the Planning Area and can affect soils in many ways. They can cause changes in soil properties such as pH, nutrient cycling, and composition or activity of soil microbes. A reduction in soil nutrient levels makes it difficult for native plants to compete with the invasive plants, and probably affects the soil biotic community. Weed-infested soil has been shown to be more susceptible to erosion than soil occupied by native grass species (Lacey *et al.* 1989). In a simulated rainfall test, soil erosion more than doubled in rangeland areas dominated by spotted knapweed when compared to natural bunchgrass/forb grasslands. This is primarily due to significantly lower in-

filtration rates and higher levels of bare ground on the knapweed-dominated site compared to the uninfested areas (Lacey and Marlow, 1989). See Section A-7, Invasive Plants and Noxious Weeds, for more details on the expected spread of invasive plants in the Planning Area.

Unique Soils

Unique soils include hydric (wet) soils and biological soil crusts, which make up less than 1 percent of the Decision Area. Hydric soils form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (http://soils.usda.gov/use/hydric/intro.html). The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of riparian vegetation. They occur in riparian areas along streams and rivers, as well as along small seeps, springs, and ponds. Where the riparian areas are thin stringers or small areas around streams, hydric soils may not be noted but included in the upland soil categories.

Biological Crusts consist of small plants and bacteria that grow together on the soil surface (Belnap *et al.* 2001). The more common of these are cyanobacteria, green algae, lichens, mosses, and microfungi. They help stabilize soils as well as add nitrogen to the soil. Many biological crusts are sensitive to disturbance.

c. Trends

Grazing levels affect soil compaction, erosion, and the health of biological crusts. The trend is for lowered numbers of livestock, which will improve soil function. Implementation of standards for rangeland health guidelines (BLM 1997; see Section B-3, Livestock Grazing) has reduced soil erosion in some areas.

Logging has lead to increased compaction and soil disturbance. This trend has slowed with implementation of best management practices (BMPs) and lowered number of acres logged per year.

Roads and rights-of-way (ROWs) remove land from productivity and can increase erosion. There are many roads within the Decision Area ranging from 3.9 miles of road per square mile in the Upper Grande Ronde Subbasin to 0.7 miles of road per square mile in the Lower Grande Ronde Subbasin. Table 2.2 shows the mile of roads per square mile for Decision Area in the different subbasins. For Brownlee Reservoir, Burnt River,

Table 2.2. Square Miles of Roads in the Decision Area by Subbasin

Subbasin Name	Decision Area Sq. miles	All Roads	Miles/Sq. Mile
Brownlee Reservoir	132.7	148.0	1.1
Burnt River	237.9	433.1	1.8
Imnaha River	0.8	0.9	1.1
Lower Grande Ronde	39.8	27.3	0.7
Lower John Day	0.1	0.2	3.5
Lower Snake-Asotin	7.0	7.7	1.1
Middle Columbia-Lake Wallula	5.7	10.3	1.8
North Fork John Day	3.7	15.9	4.3
Powder River	206.1	418.2	2.0
Umatilla	5.8	15.0	2.6
Upper Grande Ronde River	6.6	26.0	3.9
Walla Walla	4.3	6.3	1.5
Wallowa River	4.1	6.2	1.5
Willow	14.0	39.3	2.8
Willow (Morrow Co)	0.1	0.2	2.6

and Powder River, which have the majority of the Decision Area, miles of road per square mile ranges between 1.1 and 2.0.

The number of requests for ROWs is increasing over time.

In some areas, the use of off-road vehicles (ORVs) leads to erosion, compaction, loss of soil cover, and damage to biological crusts. The popularity of off-highway vehicles (OHVs) has increased over the last 10 years, leading to increased damage from this activity over the same period.

Mining within the Decision Area is often along riparian areas where hydric soils occur. The intensity of the mining pressure varies depending on the price of the mineral mined.

Invasive plants continue to spread within the Decision Area. The change from native vegetation to non-natives such as cheatgrass, medusahead, and crested wheatgrass affect soils by changing the functioning of soils. While crested wheatgrass is no longer planted in the Decision Area and treatment occurs in some areas for a variety of invasive and noxious species, it is difficult to convert the vegetation back to historic native plants communities and return to the normal functioning of soils.

Juniper is a native plant that continues to spread into both grassland, shrub, and forested areas due to suppression of fire. Juniper-dominated areas have higher erosion and less soil moisture and nutrients available to other plants (Bedell *et al.* 1993). Juniper expansion will likely persist with continued fire suppression activities.

Wildfires will continue to occur in the Decision Area, leading to changes in soil properties and movement of sediment. The Foster Gulch Fire burned 53,000 acres in 2006, a significant portion of which occurred in the Decision Area. To aid in recovery after the fire, grazing was restricted from the area for 2 to 5 years. During the following year (2007), severe summer rainstorms caused extreme rilling, erosion, and mudflows onto the BLM campgrounds and the road along the Hells Canyon reservoir.

d. Forecast

No major changes from the trends discussed above are expected. The future will see continued livestock grazing, but there is the potential for change in the timing of grazing and a reduced level of grazing, which can lead to improvements in overall cover and soil function.

Logging will continue at some level within the Decision Area, which will contribute to soil impacts.

Off-highway vehicle use will continue and probably increase in popularity, intensifying and expanding areas of erosion and compaction. The creation of new roads and ROWs will also increase the area where erosion occurs.

There is a strong recreational mining presence in the Decision Area, increasing as the price of gold rises. Commercial mining will likely increase following the recent rises in precious metal prices. Such activities will contribute to increased soil impacts, especially for hydric soils.

Both the spread and treatment of invasive plants will continue in the Decision Area. More frequent and extensive controlled burns as well as other methods could help control the invasion of junipers. Such treatment should benefit soils in the immediate area by allowing them to move closer to their natural functions.

e. Key Features

Key soils in the Decision Area include highly erosive soils and highly productive soils. Examples of the latter include hydric soils, biological crusts, and ashy soils.

Hydric soils occur near streams, springs, and wetlands and are important for the stability of these features. Wildlife and livestock preferentially use these riparian and wetland areas as do humans for recreation.

Biological Crusts are important for nutrient cycling as well as erosion control. They are rela-

tively fragile because they are composed of many types of organisms, the assemblage of which can change due to disturbance.

Ashy soils are highly productive if associated with vegetative cover, but are highly erosive when exposed. Knowing the location of ashy and other highly erosive soils is important for management purposes as protective actions, such as control of invasive plants and restricting cattle grazing, can be directed towards these areas to protect soil function.

5. Water Resources

Introduction

A watershed is an area of land that drains downslope to the lowest elevation. A hydrologic unit code (HUC) is a hierarchical, numeric code that uniquely identifies watersheds and is used to organize hydrologic data. The smaller the number, the larger the watershed. For instance, HUC 2 watersheds are larger in area than HUC 3 watersheds, the latter generally containing several HUC 4s. In the state of Oregon, the HUC 4 watersheds are commonly referred to as subbasins. Table 2.3 shows the relationships of the HUC numbering system and level of watersheds within the Planning Area. The HUC 4s are the units used for the discussion of water resources in this section.

Table 2.4 shows the subbasins that include part of the Planning Area. The 428,037 acres of public lands that comprises the Decision Area cover only 2.6 percent of the total watershed area. The Decision Area is concentrated in Brownlee Reservoir, Burnt River, and Powder River subbasins. The Lower Snake-Asotin, Lower Grande Ronde, and Willow subbasins have 1 percent or slightly over of their land base in Decision Area. The other watersheds have less than 0.5 percent of the subbasin in Decision Area. Map 2.2 illustrates the location of the HUC 4 subbasins in the Planning Area.

The waterways within these subbasins flow into the Columbia River, either directly or via the Snake River. Map 2.2 shows the location of the major streams that flow across the Planning and Decision areas.

a. Indicators

There are three general qualities used for discussing the condition of water resources in the Planning Area: (1) quantity of water available for beneficial uses, (2) water quality, which describes its suitability for beneficial uses, and (3) overall stability of the stream and riparian system.

Water quantity can be discussed only in very general terms because it is difficult to quantify water available for use due to the large number of surface water rights in the Planning Area. The BLM has little control over water withdrawals within the region and therefore has little control over low flows. Precipitation and snow pack are dependent on climate and control timing and volume of peak flows.

The state 303 (d) listing and subbasin Total Maximum Daily Load (TMDL) documents contain broader information for each subbasin as a whole.

Proper functioning condition surveys are local surveys completed by the BLM and used as indicators for channel stability and riparian condition.

b. Current Condition

Groundwater

In general, groundwater systems are divided into confined and unconfined. Unconfined systems are found in alluvium along alluvial river systems such as the Umatilla River. They can also include springs and seeps that occur where groundwater intercepts the surface.

Confined systems within the Planning Area are usually in basalts or other fractured volcanics. As with surface water, the major use of groundwater in the Planning Area is for irrigation. The BLM uses some springs and wells for stock watering and for human consumption at campgrounds.

Table 2.3. HUC 4 Watersheds in the Planning Area

HUC Field	Region #	Name	Category
1	**17**	**Pacific Northwest**	**region**
2	***1705***	***Middle Snake***	***subregion***
3	*170501*	*Middle Snake/Boise*	*basin*
4	17050119	Willow	subbasin
3	*170502*	*Middle Snake/Powder*	*basin*
4	17050201	Brownlee Reservoir	subbasin
4	17050202	Burnt River	subbasin
4	17050203	Powder River	subbasin
2	***1706***	***Lower Snake***	***subregion***
3	*170601*	*Lower Snake*	*basin*
4	17060106	Lower Grande Ronde	subbasin
4	17060102	Imnaha River	subbasin
4	17060104	Upper Grande Ronde River	subbasin
4	17060105	Wallowa River	subbasin
2	***1707***	***Middle Columbia***	***subregion***
3	*170701*	*Middle Columbia*	*basin*
4	17070101	Middle Columbia-Lake Wallula	subbasin
4	17070102	Walla Walla	subbasin
4	17070103	Umatilla	subbasin
4	17070104	Willow (Morrow Co)	subbasin
3	*170702*	*John Day*	*basin*
4	17070204	Lower John Day	subbasin
4	17070202	North Fork John Day	subbasin

Streams

There are 578 miles of perennial streams, 1,252 miles of seasonal streams, and 34 miles of unclassified flow type in the Decision Area. About one third of the streams in the subbasins with the largest amount of land within the Decision Area (Brownlee Reservoir, Burnt River, and Powder River) have perennial flow. Table 2.5 contains data on the miles of intermittent, perennial, and unclassified streams in portions of the subbasins located in the Decision Area.

Stream geomorphology within the Decision Area varies widely. For example, stream gradients in the Powder River subbasin range from over 20 percent in the high elevations of the to 2 - 4 percent in the lower, larger systems (Nowak 2004b). The higher elevation streams tend to have a higher tree and shrub component to the riparian vegetation. At lower elevations, more of the riparian vegetation is shrubs, grasses, and forbs. High elevation headwater streams tend to be high gradient channels that transport larger size material. A high component of boulders and cobbles in the bed and banks often stabilizes these channels. Lower gradient streams found in less confined valleys often have smaller substrates that are less erosion resistant. These areas are more reliant on riparian vegetation for channel stability, are more susceptible to disturbance and recover less quickly when disturbed (Rosgen 1996).

Disturbance associated with moderate to high stream flows following natural or human induced disturbance may have altered many stream reaches in the Decision Area through vertical and/or lateral channel erosion that lowered the groundwater table and removed the streams connection with

Table 2.4. Acres and Subbasins (HUC 4) within the Planning Area

Subbasin #	Subbasin Name	Subbasin (Acres)	Planning Area (Acres)	%Subbasin in Planning Area	Decision Area (Acres)	% Subbasin in Decision Area	% Decision Area in Subbasin
17050201	Brownlee Reservoir	833,486	334,491	40.13	84,925	10.19	19.84
17050202	Burnt River	703,045	700,477	99.63	152,274	21.66	35.57
17060101	Hells Canyon	346,254	123,876	35.78	0	0.00	0.00
17060102	Imnaha River	544,006	544,006	100.00	543	0.10	0.13
17060106	Lower Grande Ronde	971,001	844,664	86.99	25,457	2.62	5.95
17070204	Lower John Day	2,021,050	105,402	5.22	40	<0.01	0.01
17060103	Lower Snake-Asotin	449,931	68,537	15.23	4,489	1.00	1.05
17070101	Middle Columbia-Lake Wallula	1,651,659	414,039	25.07	3,656	0.22	0.85
17070202	North Fork John Day	1,182,755	376,959	31.87	2,359	0.20	0.55
17050203	Powder River	1,092,562	1,092,562	100.00	131,931	12.08	30.82
17070103	Umatilla	1,610,946	1,610,945	100	3,737	0.23	0.87
17060104	Upper Grande Ronde	1,046,628	1,046,627	100.00	4,223	0.40	0.99
17050116	Upper Malheur	1,553,321	92	<0.01	0	0.00	0.00
17070102	Walla Walla	1,126,171	307,489	27.30	2,776	0.25	0.65
17060105	Wallowa River	610,200	610,200	100.00	2,647	0.43	0.62
17050119	Willow	485,380	20,738	4.27	8,928	1.84	2.09
17070104	Willow (Morrow Co)	555,813	462,160	83.15	52	0.01	0.01
Totals		**16,784,208**	**8,663,264***	**52.62**	**428,037**	**2.55**	**100**

*Total does not equal 8,662,806 due to rounding.

the floodplain. Entrenched channels and a lowered groundwater table can reduce recruitment and recovery of riparian vegetation until channel widening and re-establishment of the floodplain increases reduces erosive forces.

Riparian vegetation is influenced by and influences floodplain development. Floodplain and flood-prone width of the stream channel and resulting width of the riparian area vary with channel type. As the riparian area increases, so should the storage capacity of the floodplain. Infiltration and subsurface flow from uplands, alluvial groundwater from the stream, and infiltration during periods of floodplain inundation contribute to storage. Water stored during the wet season in the stream banks and floodplains provides a source for subsequent release of water to the stream during the dry season (Ponce and Lindquest 1990).

Water Supply

All of the subbasins are completely allocated or over allocated for the amount of water available. Irrigation for agriculture is the most common use for water in the Planning Area.

Water Rights

The State of Oregon recognizes instream water rights for the public benefit to maintain sufficient flows to protect recreation, fish, wildlife, and other river-related resources. Oregon Parks and Recreation Department (OPRD), Oregon Department of Fish and Wildlife (ODFW), and ODEQ apply for instream water rights to Oregon Water Resources Department's (OWRD's) Water Resource Commission. The priority date for instream water rights is the date the application is submitted to the OWRD.

Current BLM policy is to use the state's instream flow water right process to preserve flow-dependant

Table 2.5. Watersheds and Flow Type On Public Lands Within the Subbasins

Subbasin	Intermittent/ Seasonal (Miles)	Perennial (Miles)	Unknown/ Unclassified (Miles)	Total Miles	% Perennial
Brownlee Reservoir	303.1	116.2	—	419.4	27.7
Burnt River	358.0	184.8	12.0	554.8	33.3
Imnaha River	5.2	0.6	—	5.8	9.9
Lower Grande Ronde	87.5	59.6	0.1	147.1	40.5
Lower John Day	0.3	0.3	—	0.5	50.0
Lower Snake-Asotin	32.6	14.8	—	47.4	31.3
Middle Columbia-Lake Wallula	6.5	2.6	1.6	10.7	24.2
North Fork John Day	10.4	7.0	0.0	17.4	40.2
Powder River	328.3	159.1	11.3	498.7	31.9
Umatilla	9.3	2.8	—	12.1	23.4
Upper Grande Ronde River	10.4	6.3	—	16.7	37.7
Walla Walla	12.4	9.1	—	21.5	42.4
Wallowa River	29.3	10.3	—	39.6	25.9
Willow snake	58.5	4.2	8.6	71.3	5.8
Willow (Morrow Co) Columbia	0.3	0	—	0.3	0.0
Total	**1,252.1**	**577.7**	**33.6**	**1,863.3**	**31.0**

values for any stream designated as a wild and scenic river. The National Wild and Scenic Rivers Act (PL 90-542) specifically reserved the minimum quantity of water necessary to maintain the values for which the river was designated. The Act authorizes a federal reserved water right and the priority dates for each of the river segments is the date of designation. A federal reserved water right would only be exercised if the state's appropriative instream water rights process were inadequate to protect the designated values of the river. Current Department of the Interior (DOI) policy provides latitude to cooperate with Oregon natural resource agencies to achieve resource protection objectives prior to exercising a reserved water right. This policy does not abrogate the federal reserved water right.

Protection of instream flows will rely, in part, on existing instream water rights that the State of Oregon issues for some segments. These rights are subject to senior priority appropriations. The OWRD has identified desired flow levels to protect recreation, fish, and wildlife. These flow levels are not water rights; rather, the OWRD uses them in its calculations of water availability during low flows.

The BLM will use a variety of tools, authorities, and strategies to achieve instream flow levels that support the river values. These tools include leasing (in the short term) and transferring existing BLM consumptive use rights to instream uses (in the long term) and entering cooperative agreements with the State of Oregon and other agencies for the purchase of water rights from willing sellers for transfer to instream uses.

The BLM has water rights on every reservoir within the Decision Area (pers. comm., Vern Pritchard, September 2008). These are generally for wildlife, recreation, and watering livestock. The BLM also uses some wells for livestock and human consumption at recreation facilities.

There are no municipal watersheds located within the Decision Area. The Wallowa, Baker,

La Grande, and Walla Walla municipal watersheds are located on USFS lands upstream of public lands.

Water Quality

Water quality standards are established to protect beneficial uses of the state's waters. Beneficial uses are assigned by basin in ODEQ's Oregon Administrative Rules for water quality. Beneficial uses include:

- Domestic water supply
- Fishing
- Industrial water supply
- Boating
- Irrigation
- Water contact recreation
- Livestock watering
- Aesthetic quality
- Fish and aquatic life
- Hydropower
- Wildlife and hunting
- Commercial navigation and transportation

When a water quality standard is established, the first step is to identify the beneficial uses sensitive to the parameter. Every two years, the states assess water quality and reports to EPA on the condition of these waters. Washington Department of Aquatics, ODEQ, and Idaho Department of Environmental Quality and prepare an integrated report that meets the requirements of the federal Clean Water Act. Many reaches within the Planning Area were identified as having nonpoint source pollution problems affecting beneficial uses, including fisheries, aquatic habitat, wildlife habitat, and water contact recreation.

The list of water quality limiting parameters in the Planning Area include algae, bacteria, dissolved oxygen (DO), flow modification, habitat modification, nutrients, pH, sedimentation, and temperature. Of these concerns, temperature, sediment, turbidity, flow modification, and habitat modification are widespread throughout the Decision Area.

The ODEQ previously placed water bodies on the 303(d) list based on habitat modification and flow modification. Habitat modification listings relied on information indicating inadequate pool frequency and lack of large woody debris. Flow modification listings were based on inadequate flow to maintain instream water rights purchased by ODFW. Because the Clean Water Act does not consider flow and habitat as pollutants, these water bodies can be removed from the 303(d) list and placed in the category "water quality limited but a pollutant does not cause the impairment" (http://www.blm.gov/nstc/WaterLaws/oregon2.html).

A TMDL defines the amount of a pollutant that can be present in a water body while meeting water quality standards. The ODEQ develops a water quality management plan (WQMP) as a broad strategy for implementing TMDL allocations. Along with associated planning, TMDLs and WQMPs work together to protect designated beneficial uses such as aquatic life, drinking water supplies, and water contact recreation. Several of the subbasins in the Planning Area have TMDLs and WQMPs in place (see Table 2.6). Eventually all subbasins will be have TMDLs and associated WQMPs.

The development and implementation of water quality restoration plans (WQRPs) (or, in some specific instances, sufficiently stringent management measures) provide the specific actions by which the USFS and BLM will meet TMDL requirements on lands under their jurisdiction. As a result, these plans are required even if a TMDL has already been established (USFS and BLM 1999). At this time, two WQRPs have been completed for the Decision Area, one for the South Fork Walla Walla River and the other for the Lookout Mountain area. Both WQRPs address high stream temperature.

The majority of the Decision Area is within the Burnt River and Powder River subbasins. Total Maximum Daily Loads for these rivers will be

Table 2.6. Subbasin TMDL Status as of September 2008

Subbasin	TMDL Status	State
Brownlee Reservoir	2004 part of Lower Snake	OR-ID
Burnt River	TMDL Not Started	OR
Imnaha River	TMDL Report In-Progress	OR
Lower Grande Ronde	TMDL Report In-Progress	OR
Lower John Day	TMDL Report In-Progress	OR
Lower Snake-Asotin	Approved 2004	ID-WA-OR
Middle Columbia-Lake Wallula	Approved 2002	WA-OR
North Fork John Day	TMDL Report In-Progress	OR
Powder River	TMDL Not Started	OR
Umatilla	Approved 2001	OR
Upper Grande Ronde River	Approved 2000	OR
Walla Walla	Approved 2005	OR
Wallowa River	TMDL Report In-Progress	OR
Willow	TMDL Report In-Progress, part of Malheur report	OR
Willow (Morrow Co.)	2007	OR

completed in the next few years. Brownlee Reservoir is included in the Lower Snake TMDL. While the Snake River is listed for mercury, a TMDL for mercury was postponed due to lack of water column data.

Temperature, sediment, and turbidity are the primary parameters for listings. In addition, pH, bacteria, DO, nutrients, and bacteria are common parameters. Appendix 2.A presents the ODEQ streams and listing criteria for streams within the Planning Area.

Table 2.7 shows the miles of streams per subbasin within the Decision Area needing or having a TMDL in place. Burnt River and the Lower Grande Ronde subbasins have the most miles of stream listed in need of TMDLs. While only a few acres of the Decision Area are in the Lower Grande Ronde subbasin, the public lands are concentrated along the mainstem of the Grande Ronde River and Joseph Creek, which do not have TMDLs assigned.

Temperature and sediment are the primary water quality pollutants in the Decision Area. Management actions that increase stream temperatures include water withdrawal and removing riparian vegetation that shades the streams and helps regulate temperature. Riparian vegetation also helps stabilize banks and adds large wood to the channel, which helps regulate sediment movement. Other activities leading to sediment problems include road-stream interaction (e.g., travel on or construction/maintenance of roads that are near or cross streams) and activities that remove ground cover (e.g., livestock grazing, wildfire, mining, etc.).

The Baker Field Office uses continual stream temperature monitoring devices on a set of streams during the summer months. Most of the streams monitored have temperatures higher than the standards for at least a few days a year.

In the Upper Grande Ronde Subbasin, Potter Creek was monitored and has TMDL standards approved. The temperature of this stream rarely goes over 55°F, making it one of the coldest streams in eastern Oregon (BLM 2006; BLM 2007a).

Other water quality data are collected with spot checks to maintain baseline data. The parameters monitored include turbidity, pH, DO, stream flow, and air and stream temperature. Map 2.2 shows where water quality data has been collected.

Table 2.7. TMDL Status by Subbasin for Streams in the Decision Area

Subbasin	TMDL Approved (Miles)	TMDL Needed (Miles)	Total Miles
Brownlee Reservoir	42.8	6.9*	49.8
Burnt River	—	37.7	37.7
Imnaha River	—	0.3	0.3
Lower Grande Ronde	—	35.1	35.1
North Fork John Day	—	3.6	3.6
Powder River	—	3.0	3.0
Upper Grande Ronde River	3.9	—	3.9
Walla Walla	4.0	—	4.0
Wallowa River	—	9.8	9.8
Willow	—	4.4	4.4
Total Miles	**47.1**	**104.5**	**151.6**

*TMDL for mercury on Snake River has not written

Generally, water quality monitoring shows turbidity, pH, and DO within standards. Turbidity numbers are usually low but can be high in the spring or fall after rains. Dissolved oxygen is usually in the good range, but can be low during the summer.

Riparian Function and Stream Stability

For the current Baker RMP (BLM 1989), riparian conditions for streams in the Decision Area were inventoried and rated. Of the 169 miles of streams inventoried, 18 miles (11 percent) were in excellent condition, 65 miles (39 percent) were in good condition, 61 miles (36 percent) were in fair condition, and 26 miles (15 percent) were in poor condition. Trends were primarily static. Although the method used for inventorying riparian conditions for the 1989 RMP is no longer used and are not directly comparable to PFC surveys that the BLM currently uses to assess stream stability and riparian condition, comparison of trends within the Decision Area can be made.

Proper Functioning Condition Surveys

Proper functioning condition surveys look at the stability of the stream including the riparian vegetation along the banks. Of the PFC data collected on BLM streams, one stream was surveyed in 1995, while the others were surveyed between 1998 and 2007. Overall, the majority of streams surveyed are proper functioning or functional with an upward trend (see Table 2.8 and Map 2.2). Powder River was the only subbasin with less than 50 percent of the streams at PFC or functional with an upward trend. Brownlee Reservoir and the Lower Grande Ronde subbasins have the most reaches surveyed at PFC or functioning with an upward trend.

Brownlee Reservoir: The portion of the Decision Area in this subbasin consists of a narrow strip of land along the west side of the Snake River. Only the tributaries were surveyed and not the mainstem Snake River. Access is very limited to most streams in the subbasin due to topography and steepness, which also limits their use. As a result, streams in the Brownlee Reservoir subbasin show little alteration and are in good condition, with a majority (77.3 percent) being at PFC or functioning with an upward trend, which meets the Baker Field Office's goal of 75 percent PFC or showing an upward trend.

Burnt River: The majority (56%) of Decision Area streams surveyed in the Burnt River subbasin are generally at PFC or functional at risk with an upward trend. However, the surveys results are more mixed than the other subbasins, ranging from PFC to nonfunctional. This probably stems from the many active mining claims in the subbasin, which can affect stream stability.

Table 2.8. PFC Survey Results for BLM Streams Within the Subbasins (2002-2006)

Watershed	Functional at Risk Downward Trend (miles)	Functional at Risk -Trend not Apparent (miles)	Functional at Risk -Upward Trend (miles)	Non-Functional (miles)	PFC (miles)	Total Miles	% PFC or upward trend	% Non-functional or downward trend
Brownlee Reservoir	19.5	—	32.3	1.7	39.8	93.2	77.3	22.7
Burnt River	23.4	29.0	37.5	4.7	37.9	132.5	56.9	21.2
Lower Grande Ronde	0.4	4.4	18.8	—	30.3	53.9	91.11	0.7
Middle Columbia-Lake Wallula	—	—	—	—	5.8	5.8	100.0	0.0
North Fork John Day	—	0.3	2.0	—	1.3	3.6	93.0	0.0
Powder River	17.7	19.3	15.2	6.4	18.3	77.0	43.6	31.3
Walla Walla	0.5				3.3	3.8	86.3	13.7
Willow	3.2	1.4	3.8	—	6.0	14.4	68.0	22.0
Total Miles	**64.7**	**54.4**	**109.7**	**12.7**	**142.8**	**384.3**	**65.7**	**20.2**

Lower Grande Ronde: Most of the Decision Area in this subbasin is along the Grande Ronde River and Joseph Creek. Of the surveyed section of the Grande Ronde River, 91 percent is at PFC or functioning with an upward trend.

The public lands on the Grande Ronde River have been managed more intensively since the Endangered Species Act (ESA) listings of Chinook salmon, steelhead, and bull trout (see section A-11, Special Status Fish). Inventory and assessment of most public lands began in 1991 with the first species listings. Particular attention was paid to livestock grazing leases, seasons of use, and general ecological conditions.

Middle Columbia-Lake Wallula: The BLM manages a very small amount of land to the south of the Columbia River in Juniper Canyon, which was rated at PFC for the 5.8 miles surveyed.

North Fork John Day: This subbasin encompasses only a small portion of the Decision Area, with only 3.6 miles of streams surveyed. Trend was not apparent for the short distance surveyed on public lands along the North Fork John Day. The North and South Forks of Cable Creek were at PFC or functional with an upward trend where surveyed.

Powder River: While most of the land along the Powder River is private, public lands occur along the river upstream of the Medical Springs Highway. The majority of the streams surveyed were on the north side of the river. Results were mixed with 44 percent showing PFC or functional with an upward trend and 33 percent showing nonfunctional or functional with a downward trend. The Powder River itself was at PFC where surveyed. Thief Valley Dam impacts the river flows and sediment, which limits point bars and sand distribution and has resulted in a high width to depth ratio.

The PFC surveys conducted in 2007 show the riparian area along Clover Creek to be functioning at risk with no apparent trend. The stream width to depth ratio was rated as too high, particularly where the stream was accessible by livestock.

The riparian area of Balm Creek is functioning at risk with no apparent trend. Vegetation was in good condition, particularly the herbaceous

component, and there was sufficient matting along most of reach; however, headcutting and lateral instability puts all of this vegetation in jeopardy. If not for the lateral and vertical instability, the stream may have rated with an upward trend. Balm Creek has an abandoned mine along the stream that is part of an ongoing restoration project discussed under trends below.

Based on PFC evaluations done in 2007, riparian areas along Sawmill Creek were found to be functioning at risk in a downward trend. A perennial system would be expected for this section of the creek based on drainage size and catchment area; however, due to upstream water right diversions and entrenchment, the system is intermittent in nature.

Walla Walla: The section of the South Fork of the Walla Walla River surveyed showed the river at PFC. The North Fork of the Walla Walla River rated as functional with a downward trend.

Willow: Public lands occur in a small section in the northern part of the subbasin, which is experiencing active mining. The streams surveyed are Basin Creek or tributaries to Basin Creek, the majority (68 percent) of which rated at PFC or functioning at risk with an upward trend.

Lentic Waters: Lentic waters are standing water habitat, such as lakes, ponds, seeps, bogs, and meadows (BLM 1993; BLM 1994a). In the last two years, slightly over 10 acres of lentic area were surveyed, with less than 40 percent identified at PFC or functional at risk with an upward trend. Table 2.9 shows the results for the lentic water surveys.

c. Trends

Water Quantity

Over the last century or more, the trend has been for ever-increasing water use in the western United States. In eastern Oregon, streams have been over-allocated for many years, with demand for use greater than water available for use. Reservoirs store water that would ordinarily runoff in the spring to make it available for use during dry summer months. Despite this, many streams do not flow or have substantially reduced flows during the driest and hottest time of the year due to water withdrawals. The BLM has little control over water quantity as most of the water is used for irrigating privately owned lands.

Water Quality

Temperature data have not been collected long enough to identify a trend in stream temperature. Temperatures along many streams are likely to improve as the stream banks and riparian areas become more vegetated and provide thermal cover for the streams. As riparian areas improve, streams that have widened due to cattle trampling and other management issues will have the opportunity to become more narrow and deeper, which will also help modulate temperature. For wide shallow streams such as the John Day and Grande Ronde rivers, water withdrawals have a larger impact than stream shading on stream temperature.

In the Powder River Subbasin, an abandoned mine restoration project has been underway since 2005 to remove and treat heavy metals in tailings from an abandoned mine within the Balm Creek area, and to prevent the hazardous materials from contact with riparian areas and entering Balm Creek. The concentrations of copper and zinc have killed fish (including sensitive fish species) in the stream. Continued construction activity in 2006 has revealed an additional contaminated site that requires sediment removal. Approximately 20 acres have been disturbed/rehabilitated and work on an additional 20 acres is waiting for further funding. In addition to improvement in water quality, long-term rehabilitation of the riparian area is expected after the project completion. All rehabilitated sites will be fenced to exclude livestock and planted and/or reseeded with native species.

The USFS and BLM have implemented changes in management direction that include stream protection buffers, improved grazing management and monitoring, road closures and decommissioning, improved logging techniques and equipment, and silvicultural prescriptions designed to restore

Table 2.9. Lentic PFC surveys (2006-2008)

Functional at Risk Downward Trend	Functional at Risk -Trend not Apparent	Functional at Risk -Upward Trend	Non-functional	PFC	% PFC or upward trend	% Nonfunctional or downward trend	Total Acres
2.68	0.51	0.25	3.21	3.6	37.6	57.5	10.25

ecosystem health. The combination of these efforts has led to improved riparian conditions, which leads to improves water quality.

Riparian Function and Stream Stability
The trend is generally upward for riparian areas. This is especially true in subbasins with anadromous fish[1] where restoration is emphasized. The Burnt River and Powder River subbasins, which are no longer anadromous subbasins due to dams on the Snake River, have the most miles of stream showing a downward or static trend.

Riparian function and stream stability are slowly improving due to implementation of BMPs, stream buffers, and other management direction discussed above under water quality. Decline in number of animal unit months (AUMs) and changes in timing of grazing leads to improved stream bank stability and vegetation growth.

Mining in the Decision Area, especially in the Powder River Subbasin, has led to localized areas of degradation of riparian conditions. Increases in OHV use has caused localized problems where use occurs near water and OHV trails direct sediment into streams.

The Wallowa and Grande Ronde Rivers Management Plan (BLM and USFS 1993) and BLM efforts since the plan's completion has significantly improved the resource conditions for which the Grande Ronde River was designated as an area of critical environmental concern (ACEC) and a wild and scenic river. As recommended in the Baker RMP (BLM 1989), the BLM has acquired 7,321 acres along the Grande Ronde River, which allowed for the expansion of riparian restoration efforts along the river.

1 Anadromous fish are those that return from the sea to spawn in freshwater streams where they were born, such as Pacific salmon species.

The Lower Grande Ronde River was the site of a restoration project since 1995. Work focused on planting willows and other shrubs along gravel bars and low terraces, and ponderosa pine on higher terraces. Sedges were also planted along gravel bars but washed out. Monitoring showed good results in some areas but mixed results in others due to ungulate browsing and some flooding. Weed treatments and reseeding the treated areas has also occurred.

d. Forecast
Water Quantity
The demand for water will continue into the future, while the availability of will remain relatively stable. Over allocation of surface water will thus continue, keeping a number of streams at low levels or completely dewatered in the summer months. As population in the Planning Area increases, groundwater will become an increasingly important commodity.

Water Quality
Water quality will continue to be impacted by roads, livestock, OHVs, recreation use, energy development, and mining. Implementation of standards for rangeland health (BLM 1997), stream protection buffers, and state water quality regulations will continue to lead to improvements in riparian habitats and water quality.

Riparian Function and Stream Stability
Riparian areas will likely improve overall due to improvement in grazing and logging practices, particularly through the implementation of rangeland standards and use of no-cut buffers on streams.

e. Key Features

Key features for water resources are the areas along streams important for fish habitat and human use. This includes all the major streams within the Planning and Decision areas and associated riparian areas. Lakes and springs are also important for wildlife use as well as human use.

When looking to prioritize restoration projects, on top of the list would be areas with larger blocks of public lands along streams. Restoration efforts in these areas would have a greater chance of improving riparian condition and water quality than areas with mixed ownership.

Exclosures are important for controlling grazing around key streams. They will continue to be built and/or maintained to control grazing around sensitive riparian areas, particularly along streams with anadromous fish.

The BLM often designates ACECs to protect important streams or water bodies. The Grande Ronde, Powder, and South Fork Walla Walla rivers and Joseph Creek are currently within ACECs that have special management plans focused on stream improvement projects.

6. Vegetative communities

a. Indicators

The primary indicator of vegetative condition is a similarity index that compares current plant composition to the Natural Resource Conservation Service (NRCS) Historic Climax Plant Community Descriptions. In other words, vegetation condition is related to the plant associations present and how close the area resembles the potential natural community (PNC). The standards for rangeland health and guidelines for livestock management (BLM 1997; see Section B-3, Livestock Grazing) contain additional indicators.

b. Current Condition

The dominant shrub and grass from NRCS Historic Climax Plant Community Descriptions for each soil series within the Decision Area was used to classify potential plant communities. Geographic Information System analysis indicated that 12 site-potential plant communities dominated the Decision Area. These site-potential plant communities are presented in Table 2.10, along with their total acres in the Decision Area; their locations are illustrated on Map 2.3.

Grasslands/Shrublands

Within the Decision Area, the primary ecological sites with low and moderate similarity to PNC includes sagebrush-dominated stands with reduced native grass composition, non-native annual grasses invaded into Wyoming big sagebrush and basin big sagebrush communities, Wyoming big sagebrush seeded to crested wheatgrass, pubescent wheatgrass, intermediate wheatgrass or Russian wildrye, and western juniper encroaching into adjacent shrub-steppes and grasslands.

Ironside Ecosite Inventory (1977) was the most recent ecological condition inventory. This inventory encompassed 85 percent of the acres of public land identified as being administered for grazing under Section 3 (within a grazing district) of the Taylor Grazing Act. None of the public lands managed for grazing under Section 15 (not within a grazing district) of the Taylor Grazing Act were inventoried.

Table 2.11 presents the rangeland condition classifications from the Ironside Ecosite Inventory are and describes how closely the present plant community on an ecological site resembles the PNC for specific sites.

The results from the Ironside Ecosite Inventory presented in Table 2.11 indicate that less than 2.5 percent of the 381,448 acres of rangelands inventoried were at PNC while 22.6 percent had high similarity to PNC, 28.3 percent had moderate similarity to PNC, 30.4 percent had low similarity to PNC, of which 6.4 percent were non-native perennial grass seedings, and 16 percent ecological status was undetermined. Vegetation trend monitoring conducted since 1977

Table 2.10. Site-Potential Plant Communities in the Decision Area

Potential Plant Community	Acres
Wyoming big sagebrush steppe	123,702
Mountain big sagebrush steppe	134,570
Basin big sagebrush steppe	11,370
Threetip sagebrush steppe	2,069
Rigid Sagebrush Steppe	16,285
Mixed Grasslands	80,537
Mixed Grasslands and Juniper	4,076
Dry forest	27,985
Moist forest	7,741
Riparian	3,062
Rock outcrops	5,210
Water	566
No Site-Potential Plant Community Survey Data	10,864
Total	**428,037**

indicated that these categories are fairly stable. In other words, when analyzing at a landscape level, the proportion of acreage in High, Moderate, and Low condition today is very similar to the levels identified in 1977.

Native Communities

Wyoming Big Sagebrush (*Artemisia tridentata* ssp. *wyomingensis*)

Wyoming big sagebrush communities are found on arid and generally lower productive sites than any other big sagebrush (Bunting *et al.* 1987). The dominant PNC consists of bluebunch wheatgrass, Idaho fescue, arrowleaf balsamroot, and Wyoming big sagebrush. Conversely, lower successional stages are dominated with cheatgrass and a similar amount of sagebrush cover when compared to PNC (Bunting *et al.* 1987). While the lower successional stages are relatively stable with bottlebrush squirreltail being the predominant perennial native grass, once these areas burn, the likelihood of converting the site into a grassland dominated by non-native grasses (e.g., cheatgrass) is high (Bunting *et al.* 1987). Initial management strategies designed to convert these non-native annual grasslands back to PNC typically have included reductions in livestock grazing intensity and/or duration; however, these actions will not convert the site back to a native Wyoming big sagebrush community. Such a conversion would require intensive management, which includes aggressive re-seeding efforts or changing the grazing system to early spring (before the remnant native grass boot stage) or fall use (after the remnant native grass seed shatter growth stage) and in most cases increasing grazing intensity (Frost and Launchbaugh 2003). Unfortunately, the success of re-seeding a non-native annual grassland and converting the site back to a native Wyoming big sagebrush community is typically low (Cox and Anderson 2004) and changing the season of use will take years to see significant results.

The majority of the climax grass species within the Wyoming big sagebrush community include Idaho fescue and bluebunch wheatgrass. Both grass species are sensitive to light to extreme livestock grazing during the boot to soft dough growth stages (i.e., early to mid reproductive stage) (Brewer *et al* 2007). Historic grazing systems were not designed to allow for reduced or deferred grazing during these sensitive stages; therefore, a large amount of the Wyoming big sagebrush community was converted from a native perennial and annual grass understory to a non-native grass understory. Some of the converted Wyoming big sagebrush community

Table 2.11. Ecological Condition Ratings from 1977 (Section 3 Lands Only)

						Early					
PNC		**Late**		**Middle**		**Native and Non-Native Annuals**		**Non-Native Seedings**		**No Status Determined**	
Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
9,682	2.5	86,155	22.6	108,114	28.3	91,817	24.0	24,490	6.4	61,190	16.0

was seeded with non-native perennial grasses to improve soil stability, wildlife habitat, and livestock forage.

From 1944 to 1993, approximately 18 percent of the potential Wyoming big sagebrush and basin big sagebrush plant communities were seeded with crested wheatgrass, pubescent wheatgrass, intermediate wheatgrass, Russian wildrye, or a mixture (Baker Resource Range Project File). Crested wheatgrass was the most common seeding type within the Decision Area. Most of the seedings occurred from 1961 to 1971 and were located in the Powder River watershed.

Mountain Big Sagebrush (*Artemisia tridentata* ssp. *vaseyana*)

This subspecies occurs on the most mesic and usually highest elevations of the three subspecies of big sagebrush. Mesic sites are characterized by a moderately moist habitat. As a result, the herbaceous component of the mountain big sagebrush series is among the most productive of all the sagebrush communities. Many mountain big sagebrush PNC communities are rich in total number of both grass and forb species (NRCS 2008). Mountain big sagebrush is also more resilient to the invasion of non-native annual grasses than Wyoming or basin big sagebrush community types (Bunting *et al.* 1987).

Due to historic fire suppression activities, most of the mountain big sagebrush stands have a higher composition of mountain big sagebrush (by weight) than what PNC specifies (NRCS 2008). Prescribed fire in stands that have trace amounts of non-native annual grass are effective in reducing the amount of mountain sagebrush and increasing the amount of native perennial grasses (Bunting *et al.* 1987). Typically, it takes between 15 to 25 years after a prescribed burn for mountain sagebrush to reach pre-burn levels and greater than 30 years if multiple fires burned the site within a short period of time (Bunting *et al.* 1987).

Basin Big Sagebrush (*Artemisia tridentata Ssp. Tridentata*)

There is a limited amount of basin big sagebrush in the Decision Area because most of this highly productive community type was converted into farmland. Today, basin big sagebrush is highly fragmented and primarily found near riparian areas, swales, and field edges (Bunting *et al.* 1987). Livestock and wildlife prefer it to other sagebrush communities. Because forage utilization is often greater within basin big sagebrush areas than the surrounding vegetation, excessive utilization can reduce the ecological condition within this vegetation community.

Some large, contiguous stands of basin big sagebrush still occur in the Burnt River watershed. These plant communities are typically located in the warmer and dryer range of the series; therefore, making them susceptible to cheatgrass invasion similar to Wyoming big sagebrush communities (Bunting *et al.* 1987).

Threetip Sagebrush (*Artemisia tripartite*)

There is a limited amount of threetip sagebrush within the Decision Area. Threetip sagebrush is typically found in association with big sagebrush (Passey and Hugie 1962; Thatcher 1959). Within the Decision Area, Wyoming big sagebrush and Basin big sagebrush are the most common big sagebrush species occurring with threetip. Unlike big sagebrush types, threetip sagebrush has the ability to sprout after fire (Passey and Hugie 1962). If fire return interval is shorter than the historic range of variability, the non-spouting big sagebrush would be eliminated from the site, resulting in a pure stand of threetip sagebrush (Passey and Hugie 1962). All of the threetip

sagebrush sites on the Decision Area consist of a mixture of threetip sagebrush and big sagebrush, which indicates that the fire return interval is long enough to maintain a diversity of sagebrush.

Rigid Sagebrush (*Artemisia tripartite*)

Rigid sagebrush occupies stony or extremely shallow soils over bedrock and is associated with Sandberg bluegrass (Cox and Hunt 1990). Most of the rigid sagebrush sites within the Decision Area are not grazed by livestock, do not have enough fine fuels production to carry fire, and have slight to no non-native annual species present, with the exception of sites that burned in the Foster Gulch fire. These sites contain an increased amount of non-native grasses than before the fire.

Mixed Grasslands

The Decision Area has approximately 89,823 acres classified as having the potential to support grasslands dominated by Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass, (*Pseudoroegneria spicata*), or Sandberg bluegrass (*Poa secunda*). The potential native vegetation of these communities consists generally of 80 to 90 percent composition by weight of grass and 10 to 20 percent forbs and shrubs. The dominate shrubs in the mixed grassland includes bitter brush and snowberry. The two dominate grassland PNC within the Decision Area are Idaho fescue and bluebunch wheatgrass. As mentioned above, both grass species decrease when light to extreme livestock use occurs year after year during the boot to soft dough growth stages, which leads to low to moderate similarity to PNC (Brewer *et al.* 2007). However, most of the bluebunch wheatgrass and Idaho fescue grasslands in the Planning Area are found on relatively steep slopes that receive slight to no livestock use on an annual basis. Therefore, livestock grazing is not a contributor to changes in ecological condition or trend on a landscape-level scale.

Fire suppression within the native perennial grasslands has resulted in increased amount of shrub and or juniper composition, which is above the listed NRCS PNC levels. Most sites have a moderate to high similarity to PNC. Additionally, observations by the Baker Field Office range staff indicate that there is no or only a trace of non-native annuals within these vegetation communities. Therefore, the use of prescribed fire would have a high probability of reducing the shrub and juniper component and increasing the native grass component while maintaining the native grass species (i.e., there is a low conversion potential to non-native grasses).

Juniper Woodlands

Historically, juniper woodlands were located in rocky areas that were refugia from fire. Reduced fire frequencies, changing climate, and past grazing practices promoted the expansion of juniper out of these refugia. Without fire or mechanical treatment projects, juniper will continue to expand into Wyoming big sagebrush, mountain big sagebrush, and native grasslands. Many juniper stands are reaching a state where juniper dominance is beginning to alter understory conditions. As the juniper canopy closes in, grass and shrub cover declines, with negative consequences to wildlife habitat and forage production (Miller and Tausch 2001). Increases in bare ground and impaired hydrological function are additional consequences of increasing juniper dominance (Pierson *et al.* 2007).

Dry Forest

The majority of the forested land in the Decision Area is classified within the Dry Forest vegetation group (i.e., receives 12 to 17 inches of precipitation annually). Dry forests were historically open-grown "park-like" stands, with an overstory of large, widely spaced ponderosa pine in the lower to mid elevations with increasing amounts of Douglas fir and western larch cohorts on higher elevations and more mesic sites. In some instances, Douglas fir occurs as the dominant species, including as pure stands, with a similar structure as ponderosa pine or mixed conifer stands. Typically, the understory would consist of primarily grass and forb species with little underbrush, sporadic conifer regeneration, and occasional clumps of smaller trees.

The primary disturbance agents in the dry forest types are insects, disease, and fire. In healthy stands, insects, diseases, and/or parasites (pri-

marily bark beetles, root rots, rusts, and dwarf mistletoe) typically create small canopy openings and promote a multi-layered stand structure with some agents targeting overstory trees and others thinning understory trees. The canopy openings or gaps created are typically less than five acres in size.

The dry forest types are generally within Fire Regime I, which has a mean fire interval range of 0 to 35 years. These fires typically occur as low intensity, low severity understory fires, which keep the understory relatively free of ladder fuels and large accumulations of ground fuels. Overstory mortality in this type of fire is uncommon and usually occurs as isolated individuals or clumps.

Moist Forest (Mixed Conifer, Grand Fir, and Lodgepole Pine/Sub-alpine Fir)

The moist forest group occurs at much lower frequency within the Decision Area. These forests typically occur at higher elevations, or in moist micro-sites such as stream bottoms or select northern aspects. Most stands have a mixed species composition, but occasionally there are pure to nearly pure stands, primarily lodgepole pine. Often these stands will have a component of drier site species such as ponderosa pine and Douglas fir, but there will be an abundance of grand fir and perhaps Engelmann spruce, lodgepole pine, and/or sub-alpine fir. These stands have a greater carrying capacity than dry forests and thus can sustain a greater density of trees per acre and remain in a healthy condition. Increased stand densities are also at least partially due to species in these stands being more shade tolerant. In fully stocked stands, understory vegetation including conifer regeneration is typically less dense than would occur in the drier forest type. Understory grass, forb, and shrub species may be depauperate or absent in very dense, closed canopy stand conditions.

Similar to the dry forest group, the primary disturbance agents in the moist forest types are insects, disease, parasites, and fire. However, unlike the drier forests, these stands are more likely to have one or more diseases or insects at work at any given time. This is due to several factors including a greater competition for water and light when dense stand conditions prevail, a greater species-specific susceptibility to infection or infestation, and a greater likelihood of mechanical injury resulting from inter-tree contact. The greater susceptibility to insect and disease and greater likelihood of injury are both due, at least in part, to shade tolerant trees having thinner bark.

The majority of moist forest stands within the Decision Area are within Fire Regime III, which has a mean fire interval range of 35 to 200 years. Fires within this interval are of mixed severity and generally cause mortality in both the understory and the overstory, but typically do not result in a stand-replacing event. In a typical fire, less than 75% of the stand would experience high severity. Larger, fire hardy individuals and clumps of trees may have survived more than one fire interval and will form a multilayered "old growth" structural component. Wetter sites generally burn less frequently than drier sites and it is common for these stands to be the oldest in the forest.

Pure stands of lodgepole pine, which are a rare occurrence within the Decision Area, would fall into the Fire Regime IV classification, which is characterized by 35-200 year fire return interval, but unlike Fire Regime III, these fires are typically stand replacing. Interestingly, lodgepole pine is a unique species in that it is a "disturbance obligate," which means it generally cannot reproduce without a severe stand replacement event. This is due to its serotinous cones that cannot open and disseminate seed without very high temperatures (i.e., fire). Generally, lodgepole pine is a pioneer species and thus is seral to other tree species. However, in the course of its normal disturbance cycle, it can maintain itself as a pure stand. During this cycle, which involves a short life of 80 to 100 years, mountain pine beetle generally ravage the stand, followed by the standing dead trees burning in a stand replacing fire. This causes the serotinous cones to release, which propagates the new lodgepole stand.

Riparian Areas/Wetlands

There are 3,196 acres classified as riparian/wetlands within the Decision Area. Vegetation within

these areas includes wet and mesic meadows dominated by herbaceous vegetation and reaches dominated by willows or aspen. The BLM has evaluated the majority of riparian and wetlands in the Decision Area for PFC and will eventually evaluate all of them. Field biologists monitored approximately 319.2 miles of riparian or "lotic" areas and 5 acres of wetland or "lentic" from 1998 to 2008. Table 2.12 displays the results.

Non-native Communities

Non-native Annual Grasslands/ Shrublands

Past land management actions have converted a portion of the historic Wyoming big sagebrush and basin big sagebrush communities within the Decision Area into grasslands/shrublands dominated by non-native annual species. The non-native annual grasslands/shrublands were considered to have low similarity to PNC and have a stable trend. Wyoming big sagebrush communities that were converted to non-native annual grasslands require intensive management to move from low similarity to moderate similarity to PNC (Cox and Anderson 2004).

Before the Ironside Ecosite Inventory was completed in 1977, specialized livestock grazing systems were implemented to reduce the conversion of Wyoming big sagebrush to non-native annual grasslands/shrublands. The success of changing the grazing systems can be tracked through the utilization transects established in the late 1970's within the Powder River watershed. The earliest utilization transects were compared to current observations and the results indicate non-native annual grass expansion is not occurring on a landscape-level scale. In 2008, 73 of 108 effectiveness transects were observed and only 2 showed slight expansion of non-native annual grasses.

Wildfires have burned within relatively intact Wyoming big sagebrush communities that bordered a non-native annual grass site within the Snake River watershed. Localized (fine scale) expansion of non-native annuals occurred within the perimeter of these fires. In addition, newly identified small isolated infestations cropped up along the Grande Ronde River, Keating, and Powder River geographical units; however, these sites are not large enough for detection at the landscape-level scale. Therefore, the acreage of current non-native grasslands has remained relatively stable since 1977.

Non-native Seeded Perennial Grasslands/ Shrublands

Past land management actions have also converted approximately 23 percent of the Wyoming and basin big sagebrush potential natural communities within the Decision Area into non-native crested wheatgrass, pubescent wheatgrass, intermediate wheatgrass, or Russian wildrye grassland/shrubland. Crested wheatgrass is the most common seeding type within the Decision Area.

Species composition within the seeded grassland/shrubland typically consists of Wyoming big sagebrush and non-native perennial grass; Wyoming big sagebrush, non-native perennial, and annual grasses; Wyoming big sagebrush, non-native perennial, non-native annual grasses, and native plants (associated within bluebunch wheatgrass and Idaho fescue plant communities); or a monoculture of the seeded grass. Most of the non-native seedings were drill seeded which generally have a higher production of the seeded grass than pastures that used broadcast seeding methods. Conversely, broadcast-seeded pastures generally have higher species diversity than drill-seeded pastures.

Table 2.12. PFC Assessment for Lentic and Lotic systems (1998 to 2006)

Riparian Type	Proper Function and Condition		Functioning at Risk Upward		Functioning at Risk Not Apparent		Functioning at Risk Downward		Not Functioning	
Lotic	**miles**	**%**	**miles**	**%**	**miles**	**%**	**miles**	**%**	**miles**	**%**
	127.65	40	72.78	22.8	55.8	17.5	50.0	15.7	13.04	4.1
Lentic	**acres**		**acres**		**acres**		**acres**		**acres**	
	3.6	76.8	0.25	5.3	0.34	7.2	0.5	10.7	0.0	0

Livestock grazing systems have an effect on the longevity of seedings. Pastures that are repeatedly grazed during the boot to soft dough stage with high grazing intensity will increase shrub cover and reduce the production of the seeded grass faster than a pasture where grazing is deferred during the boot to soft dough stage (Angell 1997). Most of the seeded pastures within the Decision Area receive periodic deferment from grazing during the boot to soft dough growth stage. The pastures that do not have a deferment during the boot to soft dough growth stage typically have a higher composition of non-native annuals, Wyoming big sagebrush, and early successional native grasses.

The crested wheatgrass grasslands/shrublands have a low similarity to PNC. It has been well documented that crested wheatgrass dominated communities require intensive management to move the site from low similarity to moderate similarity to PNC (Cox and Anderson 2004).

c. Trends

Native Communities

Sagebrush and Grasslands

The primary quantitative method of determining vegetative trend is through range trend plots, which are periodically read as part of the rangeland-monitoring program. Currently, measurements of plant frequency and ground cover are used to determine trend, supplemented by photographs and professional judgment. Observed apparent trend is a qualitative method used on C-category allotments (see Section B-3, Livestock Grazing). Generally, trend determinations are scheduled on a 5-10 year cycle, but many allotments are currently behind schedule in terms of trend monitoring.

Table 2.13 presents the apparent rangeland trends that were tabulated in the Proposed Baker RMP (BLM 1986).

Table 2.13. Rangeland trends as of March 1986 (in acres)

Upward	Static	Downward
142,720	184,482	41,985

Table 2.14 indicates the current trend status as of March 2008. This information was created by updating Table 2.13 using primarily current trend data (quantitative) and, to a lesser degree, the professional judgment of current range staff (qualitative).

Table 2.14. Rangeland trends as of March 2008 (in acres)

Upward	Static	Downward
153,645	178,933	34,717

Based on Tables 2.4 and 2.5, at a landscape level, trend measured in 1986 is relatively similar to that measured in 2008. There is, however, a slight increase in upward trend and a slight reduction in downward trend. Some of the improvements in trend can be attributed to changes in livestock management within the Wyoming big sagebrush communities that were converted to a non-native annual grassland in the Snake River watershed. Management changes include specialized grazing systems that defer livestock use during the critical season for bluebunch wheatgrass and Idaho fescue.

Wyoming and Basin Big Sagebrush

Current livestock grazing management will probably not convert intact native Wyoming and basin big sagebrush communities into non-native annual grass/shrublands. This is primarily due to the use of specialized grazing systems implemented since the 1970's that defer the critical season of use (boot to soft dough growth stage). Current research indicates that grazing systems that use any given pasture one or two out of three years during the critical season are likely to remain in a moderate to high similarity to PNC and are likely to have a stable or positive ecological trend (Brewer *et al.* 2007).

Within the Snake River watershed, grazing systems were changed from mid season grazing to early spring grazing (before the boot growth stage) within a converted non-native annual pasture. Changing the season of use has caused an upward trend, but not to the degree that changed the ecological condition classification. This trend

will likely continue. Current research and grazing recommendations support our observation that high to moderate grazing intensity in the early spring or fall can improve ecological trend in a site dominated by non-native annuals (e.g., cheatgrass) (Frost and Launchbaugh 2003). Conversely, removing livestock grazing or reducing grazing intensity from a site dominated by non-native annuals will not improve trend or ecological condition (Frost and Launchbaugh 2003). Therefore, to improve ecological trend and condition, livestock grazing systems should be designed to graze pastures dominated by non-native annual grasses during early spring (before the native grass boot stage) or fall (after seed shatter of the native grasses) every year at moderate to high intensity.

However, wildfire can convert intact native Wyoming or basin big sagebrush communities to non-native annual grasslands/shrublands (Bunting *et al.* 1987). The conversion would be dependent on proximity and strength of the non-native annual grass seed sources. Currently, localized expansion of non-native grasses has been observed following wildfire in the Snake River and Burnt River watersheds. This trend will remain the same in the future.

Mountain Big Sagebrush

Most of the mountain big sagebrush communities within the Decision Area are located in areas that receive no to slight (0 to 20 percent) forage utilization due to steep slopes or the distance to suitable livestock watering sites (greater than one mile). Research shows that as distance to water increases, livestock utilization decreases (Alder *et al.* 2001). Valentine (1947) indicates that livestock primarily graze areas less then one mile from water. Trend monitoring shows sites greater than or equal to one mile from water are typically in a stable state and have a moderate to high similarity to PNC.

Mountain big sagebrush communities within a mile of suitable livestock watering sites typically have a higher amount of shrub composition than PNC. In these areas, past livestock management activities reduced the amount of fine fuels, thus reducing fire frequency within the vegetative community. Past grazing systems also did not defer the use during the critical season (boot to soft dough growth stage) for the climax grass (bluebunch wheatgrass and Idaho fescue). As a result, some of the mountain big sagebrush stands have a lower composition of bluebunch and Idaho fescue than expected. Ecological trend within these areas will be either static or downward because of the increased sagebrush composition. Obtaining upward ecological trend within these areas would require management that reduces the sagebrush composition (e.g., prescribed fire, herbicide treatment, or brush beating).

Threetip Sagebrush

Under current land use management, threetip sagebrush sites are expected to maintain a mixture of threetip sagebrush and big sagebrush species. However, most of the threetip acreage within the Decision Area has a non-native annual grass seed source. Drastic reductions in the fire return interval from the current level could convert these sites to pure stands of threetip with an understory of non-native annuals.

Current livestock grazing management will probably not convert intact native threetip sagebrush communities into non-native annual grasslands/shrublands. This is primarily due to the use of specialized grazing systems implemented since the 1970's that defer the critical season of use (boot to soft dough growth stage). Current research indicates that grazing systems that use any given pasture one or two out of three years during the critical season are likely to remain in a moderate to high similarity to PNC and are likely to have a stable or positive ecological trend (Brewer *et al.* 2007).

Rigid Sagebrush

Under current land management, rigid sagebrush should maintain a native shrub and grass component.

Juniper Woodlands

Without fire or mechanical treatment projects, juniper will continue to expand into dry forests, Wyoming big sagebrush and mountain big sagebrush communities, and native grasslands. Many juniper stands are reaching a state where

juniper dominance is beginning to alter understory conditions. As the juniper canopy closes in, grass and shrub cover declines, with negative consequences to wildlife habitat and forage production (Miller and Tausch 2001). Increases in bare ground and impaired hydrological function are additional consequences of increasing juniper dominance (Pierson *et al.* 2007).

Dry Forest

The current condition for most of the Planning Area's stands is a distinct departure from the historic condition of open-grown, large trees with a sparse understory. While it is likely that there have always been dry site stands in all stages of development, there is historic evidence that millions of acres were in the open, park-like condition throughout the Columbia Basin. The Planning Area has very few stands that meet these criteria and those that do exist are the result of management actions taken in the relatively recent past.

Schmitt and Scott (1993) recognized that a variety of insects and diseases, compounded by protracted drought, overstocking, and inappropriate past management have severely damaged many mixed conifer stands in the Blue Mountains. They also saw that large areas in the ponderosa pine type are drastically overstocked and in imminent danger of a bark beetle population buildup and resultant epidemic. Insect populations throughout the Planning Area are spreading each year. Nearly two decades of passive forest management are leaving insect disturbances unchecked. As a result, many forest stands are losing trees including the larger trees left for seed sources during past management treatments. In fact, mountain pine beetles seem to select these larger trees during outbreaks. Furthermore, the natural resistance of trees and stand to attack by mountain pine beetles decreases as age and competition increase (Gast *et al.* 1991). As a result, "[w]hen bark beetle mortality reduces stand density in unthinned stands, some of the best trees are lost, and the mortality often occurs in clumps, resulting in uneven distribution of growing space among remaining trees" (USFS 1999) .

While there is not currently a bark beetle epidemic within the Decision Area, there is a marked increase in mountain pine beetle, western pine beetle, and fir engraver beetle activity. Most pine beetle activity is within stands and clumps of trees in the 12-inch and smaller class, which is the preferred size class of tree for mountain pine beetle attacks. However, there are increasing random occurrences of larger pine mortality from western pine beetle and there is prevalent grand fir mortality in all size classes caused by fir engraver. It is believed that this mortality is a result of overstocking and drought. Additionally, similar neighboring areas of the Blue Mountains have recently suffered significant mortality by beetles in their large, older pines (Spiegel 2008).

Throughout the Decision Area, there are varying levels of disease infestation. The primary agents appear to be dwarf mistletoe (primarily in Douglas fir, ponderosa pine, and western larch), Comandra blister rust (ponderosa pine), and various wood rotting fungi. These agents occur in varying degrees of infection from endemic to epidemic in which all trees within a stand are infected. Amongst these agents, the primary concern is with dwarf mistletoe infected Douglas fir, which has the highest rate of infection of any tree species within the Decision Area. While pine and larch have scattered stands with very heavy infection levels, this parasitic plant is far more pervasive in Douglas fir and is well beyond endemic levels.

Riparian Areas/Wetlands

Most of the areas classified as PFC or functioning at risk/upward trend are in areas not suitable for livestock grazing, have well armored stream banks, or are within a livestock grazing exclosure. These streams will likely remain stable under current or similar land management practices. Conversely, most of the areas classified as functioning at risk/downward trend or not functioning have streambanks that are sensitive to livestock grazing or had a significant disturbance (e.g., grazing, fire, flood event, flow regulations, channelization, mining activity, road

encroachment, upstream channel conditions, or augmented flow) that reduced the condition and function of the riparian area/wetland.

Riparian areas and wetlands identified as functioning at risk/downward trend and not functioning, with livestock grazing listed as a contributing factor to current condition, are will probably remain in an undesirable condition until land management is changed or restoration projects are implemented. In addition, riparian areas and wetlands that are in an undesirable condition due to fire or floods and are not impacted by livestock grazing should, in time, move towards a desirable condition. However, factors contributing to unacceptable conditions outside BLM control or management (e.g., flow regulations, channelization, mining activity, road encroachment, upstream channel conditions, and augmented flow) will continue to retain some riparian areas/wetlands in an undesirable condition regardless of land management practices.

Currently, the only livestock grazing indicators applied to riparian/wetland vegetation are utilization and browse. However, the use of utilization as a management tool has been questioned (Frost *et al*. 1994 and Sharp *et al*. 1994), especially in riparian areas (Clary and Leininger 2000). The proportion of peak standing crop removed or damaged by livestock defines utilization (Frost *et al*. 1994). Peak standing crop varies annually, is difficult to determine, and may have a high amount of error. Additionally, some years the maximum permitted utilization levels may not be adequate to maintain riparian function throughout the watershed. Conversely, stubble height has a low amount of error (Burton *et al*. 2008); is easy to measure, communicate, and visualize; and can be set at a level that would maintain or improve riparian function. Percent stream bank alteration or disturbance have also been proposed as a grazing indicator in Rosgen C, B, E, F, G, B, and A channel types (Burton *et al*. 2008).

Burton *et al*. (2008) recommends completing multiple indicator monitoring to determine if stubble height, bank alteration/disturbance, and/or woody browse is appropriate for the given stream and to determine the appropriate permitted standard on a site-by-site basis. Setting stubble heights, streambank disturbance, and/or woody browse specific for each stream or channel type should improve the functionality and condition of streams that are not functioning or functioning at risk with a downward trend. Not setting stubble height targets in grass dominated or codominate riparian areas where livestock were a main contributor to the condition rating would maintain or reduce the current PFC rating.

Riparian exclosure fences were constructed along fish-bearing streams identified as being at or below the functioning at risk/upward trend category, with livestock grazing being listed as a main contributor to the condition. Approximately four miles were fenced since 1998. The riparian fences were constructed in Meadow, Dark Canyon, Squaw, Deer, and Bear creeks. These areas will likely have a positive trend and will eventually be classified as PFC or functioning at risk/upward trend.

Non-native Communities

Non-native Annual Grasslands

Grasslands dominated by non-native annual grasses will maintain a low similarity to PNC and a static to slightly upward trend independent of disturbance (e.g., wildfire and livestock grazing). Intensive management will be required to improve the condition of these sites. Management actions would require reseeding or changing livestock season of use. Livestock management changes within the Decision Area restricting the season of use to early/mid spring have caused a slight upward trend over the past 20 years.

Non-native Crested Wheatgrass Grasslands/Shrublands

Crested wheatgrass seedings follow a relatively predictable trend over time, which results in higher shrub cover and reduced crested wheatgrass cover (Frischnecht 1963). In addition, yearly heavy to extreme livestock grazing during the boot growth stage can reduce crested wheatgrass vigor and allow non-native annual species to invade or cause sagebrush cover to increase at a faster rate than specialized grazing systems that reduce the intensity of grazing during the boot

growth stage (Richards and Caldwell 1984; Angell 1997). Currently, most of the crested wheatgrass pastures have a higher cover of sagebrush and lower crested wheatgrass production than when first established.

d. Forecast

Native Communities

The lack of disturbance that removes a portion of the sagebrush component in the mountain big sagebrush and native grasslands community types will continue to cause a static or slight downward ecological trend. To push the ecological trend in an upward direction would require prescribed fire, wildfire, brush beating, or herbicide treatments in sites that have no to a trace of non-native annual grasses and/or invasive weeds.

Annual Grassland

Grasslands dominated by non-native annual grasses will maintain a low similarity to PNC and a static trend. To cause an upward trend would require authorizing high intensity livestock grazing during the early spring (before the native grass boot growth stage), and/or fall high intensity livestock grazing (after the native grass seed shatter growth stage), or reseeding the site with native grasses. However, past native grass seedings within the Decision Area have been costly and have had marginal success in restoring the site.

Non-Native Seeded Grasslands/Shrublands

Non-native seeded grasslands/shrublands will continue to follow a trend that involves an increase in the amount of sagebrush and a reduction in crested wheatgrass cover (Frischnecht 1963). In other words, sagebrush would increase until crested wheatgrass cover was a minor component. Mechanical or prescribed fire treatment(s) is necessary to reduce sagebrush and increase the non-native grass cover.

Juniper Woodlands

Without fire or mechanical treatment projects, juniper will continue to expand. Many juniper stands are reaching a state where juniper dominance is beginning to alter understory conditions. As the juniper canopy closes in, grass and shrub cover declines, with negative consequences to wildlife habitat and forage production (Miller and Tausch 2001). Increases in bare ground and impaired hydrological function are additional consequences of increasing juniper dominance (Pierson *et al.* 2007).

Riparian Areas/Wetlands

Riparian areas and wetlands identified as either functioning at risk (downward trend) or not functioning with livestock grazing listed as a contributing factor to current condition will remain in an undesirable condition until land management is changed or restoration projects implemented. Livestock management changes may include changing the season of use to winter, spring, or fall; fencing the riparian area; intensive livestock management (e.g. low stress stockmenship or supplement placement); and reducing grazing intensity or duration. However, factors outside BLM control or management that contribute to unacceptable conditions in riparian areas and wetlands will continue to do so regardless of land management practices.

e. Key Features

Shrubland, Grasslands, and Riparian Areas

Early seral communities dominated by non-native annual grass stands are in a relatively stable state and will probably not return to native communities without active management intervention. Similarly, riparian areas classified as non-functional are very difficult to improve without extreme management intervention. On the other hand, areas with steep slopes and/or are great distance from water are typically in late seral condition or PNC and in a relatively stable condition.

Management will likely focus on areas at risk with significant quantities of desirable native vegetation and where trends can be monitored. The key area concept will be used extensively in management of these public lands for vegetative improvement. Key areas are indicator areas that reflect what is happening on at a larger scale: They represent the "pulse" of the vegetative community and readily show a response to management actions. The BLM Technical Reference

1734-4, Sampling Vegetation Attributes (USFS *et al.*, 1999), provides more details on the key area concept.

Forestlands

Existing late seral or "old growth" stands should receive priority consideration for protection from wildfire; specifically, from conditions that could lead to stand-replacing wildfire. This does not insinuate a hands-off approach, but rather an active management approach that concentrates on thinning from below and reduction of fuels. This consideration should extend to stands that, while not meeting all the structural characteristics for old growth, have an old, large tree component. Exceptions to this strategy should only occur in cases where a severe forest health situation exists and it is necessary to remove some old, large individuals in an attempt to restore the stand to a healthy condition.

The Lookout Mountain area is unique to the Decision Area because it exists as an island of forest vegetation amongst a sea of desert vegetation. It also hosts the largest concentration of quaking aspen and mountain shrub communities and the largest pure stands of Douglas fir in the Decision Area. Some of the Douglas fir stands on Lookout Mountain exist in an old growth structure; however, these trees are in very poor condition due to an epidemic infection of mistletoe. Active management is needed to restore the health of the Douglas fir stands, as well as to restore the aspen and mountain shrub communities to their former range.

Quaking aspen, cottonwood, and any other hardwood communities occurring throughout the Decision Area should receive priority consideration for protection from further decline. In addition, active management should be used to restore them to their former range, including eradication of encroaching conifers (i.e., juniper) and using prescribed fire to initiate suckering.

7. Invasive Plants and Noxious Weeds

a. Indicators

Weeds invade environments where they did not evolve and/or are not wanted. Weeds can be native or non-native, invasive or noninvasive, and noxious or not noxious.

Most invasive plants currently known to occur in Oregon were originally introduced to North America from Europe and Asia. Some introductions had occurred intentionally such as purple loostrife or Dalmatian toadflax, which were brought in as ornamentals. They can also be introduced unintentionally by methods such as contaminants of feed, seed, and ship ballast. Most invasive plant introductions have been unintentional. Once established, these plants spread rapidly by natural (e.g., wind, water, and wildlife) and artificial (e.g., roads, equipment, and the movement of contaminated feed and seed) means. They generally invade disturbed soils and stressed plant communities. Once established, many of these plants can invade healthy plant communities and significantly alter established ecosystems.

Invasive weeds typically have reproductive, morphological, and physiological attributes that allow them to effectively compete for growing space. Most major species have at least several of the following characteristics:

1. Perennial in nature, reproducing by rhizomes, roots, and/or vegetative plant parts
2. Continuous seed production throughout the growing season
3. Production of high numbers of seed, up to 500,000 per year
4. Unique ways of dispersing and spreading their seed
5. Ability of seeds to remain dormant in the soil for extended periods of time
6. Ability to grow under adverse conditions

Table 2.15. Invasive Plants in the Planning Area Designated Noxious by the BLM and/or ODA

Common Name	Scientific Name	BLM	ODA
Common Crupina	*Crupina vulgaris*	Noxious	B
Bermudagrass	*Cynodon dactylon*	Noxious	
Bitter Nightshade	*Solanum dulcamara*	Noxious	
Black Henbane	*Hyoscyamus niger*	Noxious	
Bull Thistle	*Cirsium vulgare*	Noxious	B
Canada Thistle	*Cirsium arvense*	Noxious	B
Cheatgrass	*Bromus tectorum*	Noxious	
Chicory	*Cichorium intybus*	Noxious	
Common Bugloss	*Anchusa officinalis*		B
Common Burdock	*Arctium minus*	Noxious	
Common Tansy	*Tanacetum vulgare*	Noxious	
Common Teasel	*Dipsacus fullonum*	Noxious	
Cornflower	*Centaurea cyanus*	Noxious	
Dalmatian toadflax	*Linaria dalmatica*	Noxious	B
Diffuse Knapweed	*Centaurea diffusa*	Noxious	B
Dodder	*Cuscuta spp.*		B
Dyer's Woad	*Isatis tinctoria*	Noxious	B
Field bindweed	*Convolvulus arvensis*	Noxious	B
Giant Knotweed	*Polygonum sachalinense*		B, T
Hairy Whitetop	*Cardaria pubescens*	Noxious	
Himalayan blackberry	*Rubus discolor (precerus)*	Noxious	B
Halogeton	*Halogeton glomeratus*	Noxious	
Houndstongue	*Cynoglossum officinale*	Noxious	B
Italian Thistle	*Carduus pycnocephalus*	Noxious	B
Japanese Brome	*Bromus japonicus*	Noxious	
Japanese Knotweed	*Polygonum cuspidatum*		B, T
Jointed Goatgrass	*Aegilops cylindrica*	Noxious	
Leafy Spurge	*Euphorbia esula*	Noxious	B, T
Lens-Podded Whitetop	*Cardaria chalepensis*	Noxious	
Mayweed Chamomile	*Anthemis cotula*	Noxious	
Meadow Hawkweed	*Hieracium pratense*	Noxious	A, T
Mediterranean Sage	*Salvia aethiopis*	Noxious	B
Medusahead Rye	*Taeniatherum caput-medusae*	Noxious	B
Musk Thistle	*Cardus nutans*	Noxious	B
Myrtle Spurge	*Euphorbia myrsinites*	Noxious	B
Orange Hawkweed	*Hieracium aurantiacum*	Noxious	
Ox-eye Daisy	*Chrysanthemum leucanthemum*	Noxious	
Perennial Pepperweed	*Lepidium latifolium*	Noxious	B
Perennial Sowthistle	*Sonchus arvensis*	Noxious	
Poison Hemlock	*Conium maculatum*	Noxious	B
Puncturevine	*Tribulus terrestris*		B
Purple Loosestrife	*Lythrum salicaria*	Noxious	B, T

Table 2.15. Invasive Plants in the Planning Area Designated Noxious by the BLM and/or ODA

Common Name	Scientific Name	BLM	ODA
Quackgrass	*Elytrigia repens*	Noxious	
Red Brome	*Bromus rubens*	Noxious	
Ripgut Brome	*Bromus diandrus*	Noxious	
Rush Skeletonweed	*Chondrilla juncea*	Noxious	B, T
Russian Knapweed	*Acroptilon repens*	Noxious	B
Russian Olive	*Elaeagnus angustifolia*	Noxious	
Scotch Broom	*Cytisus scoparius*	Noxious	B
Scotch Thistle	*Onopordum acanthium*	Noxious	B
Spotted Knapweed	*Centaurea maculosa*	Noxious	B, T
Squarrose Knapweed	*Centaurea virgata*	Noxious	A, T
Sulfur Cinquefoil	*Potentilla recta*	Noxious	B
St. Johnswort (Klamath Weed)	*Hypericum perforatum*	Noxious	B
Tansy Ragwort	*Senecio jacobaea*	Noxious	B, T
Tree-of-Heaven	*Ailanthus altissima*	Noxious	
Wild Proso Millet	*Panicum miliaceum*	Noxious	
Whitetop (Hoary cress)	*Cardaria draba*	Noxious	B
Yellow Starthistle	*Centaurea solstitialis*	Noxious	B, T
Yellow Toadflax	*Linaria vulgaris*	Noxious	B
Tamarisk	*Tamarix*	Noxious	

7. Adaptable to a wide variety of soil and climatic conditions

8. Compete well for soil moisture, sunlight, and nutrients

9. Possess genetic adaptability

An invasive weed attains a "noxious" status by legislation only, where it is designated as undesirable by a federal, state, or county government and as injurious to public health, agriculture, recreation, wildlife, or property (Sheley and Petroff 1999). This designation usually places the burden on land managers to control, contain, or inhibit reproduction of a listed species occurring on any given parcel of land. Oregon Department of Agriculture (ODA) divides their list of noxious weeds into three distinct categories:

T: Weeds that represent an economic threat and are a priority for control

B: Weeds that also represent an economic threat, but their infestations are small enough to make eradication/containment possible

A: Weeds that are regionally abundant and widespread throughout Oregon and biocontrol is often a preferred option for control

In addition, each county can designate plant species as "locally noxious" within that county. The BLM also has an invasive plant list that identifies species of concern. The Federal Noxious Weed Act of 1974 established an undesirable plant management programs and an integrated management program to control undesirable plants. The act also established a list of invasive species. The list was compiled through cooperative efforts from all federal agencies and is maintained by NRCS.

Noxious weed management is a high priority for the Decision Area. A significant budget allocation

Table 2.16. Non-native Plant Species Commonly Occurring Across the Planning Area

Common Name	Scientific Name	Common Name	Scientific Name
Tall wheatgrass	*Agropyron elongatum*	Buckwheat	Polygonum convolvulus
Intermediate wheatgrass	*Agropyron cristatum*	Halogeton	Halogeton glomeratus
Crested wheatgrass	*Agropyron intermedium*	Kochia	Kochia spp
Quackgrass	*Elytrigia repens*	Prickly lettuce	Latuca serriola
Smooth Brome	*Bromus inermis*	Clasping pepper-weed	Lepidium perfoliatum
Downy brome	*Bromus tectorum*	Yellow sweetclover	Melilotus officianalis
Cheatgrass	*Bromus spp.*	White sweetclover	Melilotus alba
Russian wildrye	*Elymus junceus*	Black medic	Medicago lupulina
Timothy	*Phleum pratense*	Alfalfa	Medicago sativa
Kentucky bluegrass	*Poa pratensis*	Knotweed	Polygonum spp
Yellow alyssum	*Alyssum alyssoides*	Common Purslane	Portulaca oleracea
Pigweed	*Amaranthus spp.*	Curly dock	Rumex spp.
Absinth wormwood	*Artemisia absinthium*	Russian thistle	Salsola spp.
Annual/biennial mustards	*Brassica spp.*	Groundsel	*Senico spp*.
Bluebell	*Campanula rotundifolia*	Tumble mustard	Sisymbrium spp
Shepard's purse	*Capsella bursapastoris*	Sowthistle	Sonchus spp.
Common lambsquarter	*Chenopodium album*	Common dandelion	Tarazacum officinale
Bull thistle	*Cirsium vulgare*	Field pennycress	Thlaspi arvense
Hawksbeard	*Crepis spp*	Common mullein	Verbascum thapsus

is made each year to support this program. Close coordination and cooperation occurs with other federal, state, and county agencies as well as adjoining private landowners and is an important part of the integrated management approach taken by the BLM.

b. Current Condition

Distribution of Invasive Plants and Noxious Weeds

Due to the diversity of vegetation types and conditions within the Decision Area, the BLM faces a wide array of invasive plant species and noxious weeds. Many of these tend to be the biggest threat on range sites in poorer condition because annual grasses or forbs already dominate such sites.

Noxious and invasive plant species are often associated with areas experiencing natural or human caused disturbances. Noxious and invasive plants mainly occur along natural and constructed waterways, roads, recreational destinations, rangeland, pipelines, ROWs, and livestock/wildlife paths and congregation areas. Table 2.15 presents species known to occur within the Planning Area. Map 2.4 illustrates the location of five of these noxious and invasive plant species (knapweed, yellow star thistle, rush skeleton weed, leafy spurge, and Dalmatian toadflax). Many additional species are also likely to occur but have not yet been detected.

Non-native Plant Species

Numerous non-native plant species occur within the Planning Area and are commonplace across the State of Oregon, many of which are considered naturalized plant species. Such non-native species have a wide distribution in the United States, and some occur throughout the world. While most of these plants have undesirable qualities, they are so widespread that they are tolerated in most management practices. Table 2.16 lists non-native plant species that commonly occur within the Planning Area

c. Trends

Noxious weeds have increased in prevalence in some areas and decreased in other locations across the Planning Area. For example, diffuse knapweed along the Grande Ronde River has dramatically decreased in frequency since the mid-1980s. Meanwhile, rush skeletonweed in the Snake River Breaks has increased in prevalence during the same period. Yellow starthistle in the Keating Valley during the 1980s was also another serious problem. While effective biocontrol and effective herbicide treatments reduced the weed to an economic threshold, it has been on the upswing in recent years and the need for herbicide treatments is emerging. Generally the acres infested by noxious weeds and the diversity of noxious weeds have increased since completion of the current Baker RMP (BLM 1989). New techniques such as Early Detection Rapid Response (EDRR) and Integrated Weed Management (IWM) have been effective in helping to eliminate new infestations and reducing existing ones, especially when combined with the improving condition of the rangelands. Introductions of new noxious weed species combined with increased ground disturbance indicate a need for treatments and control into the foreseeable future.

d. Forecast

Based on drought, wildland fires, increased recreational and commercial activities, and associated responses by invasive non-native plant species, the diversity and cover of native vegetation is threatened and may continue to decline in the Planning Area. Management actions to rehabilitate burned areas and areas affected by commercial activities are planned. Additionally, an intensive vegetation control program will continue to treat weeds throughout the Decision Area utilizing prevention techniques and IWM and EDRR methodologies. Successful implementation of these plans may slow or gradually reverse the loss of native vegetation. To adequately address resource use and identify areas susceptible to encroachment by invasive plants requires additional data and inventory. Budgets and funding will likely limit the accomplishments of program targets. Utilizing the Vegetation Treatments on BLM Lands in 17 Western States Programmatic EIS (PEIS; BLM 2005a) and the subsequent step-down PEIS (ongoing) for Oregon should allow the BLM to lift the herbicide injunction that has existed since 1983/1987. This action will authorize the use of additional herbicides that will allow for increasingly effective treatments.

e. Key Features

Noxious weeds are able to invade any habitat that exists within the Planning Area. This feature makes them especially hard to locate and monitor. Noxious weeds are excellent pioneering species, which allows them to be the first species established post disturbance. Common ground disturbing activities that create habitats susceptible to noxious weed establishment across the Planning Area include fire, roads, ROWs, OHV use, and grazing. Once established in these disturbed areas, noxious weeds are more effective at obtaining the required nutrients, water, and sunlight necessary for growth and survival, thereby preventing the establishment of desirable plants. Once firmly established in disturbed habitats and depending on species, noxious weeds may be effective at invading previously undisturbed habitats.

Forested communities are less susceptible to noxious weeds due to shading, ground cover, and less disturbance factors.

8. Fish

a. Indicators

Stream habitat conditions affect the ability to sustain fish populations. In the case of migratory fish such as salmon, the quality of habitats upstream or downstream from public lands may affect production on public lands. Loss of quality stream habitat and declining water quality has lead to reduced or eliminated fish populations in the Planning Area compared to their historic levels. Human factors such as dam construction, livestock grazing, irrigation, road use and construction, forest practices, ranching, farming, mining, and recreational activities are the primary cause of fish habitat degradation. One of the greatest

Table 2.17. Modes of Thermally Induced Fish Mortality

Modes of Thermally Induced Fish Mortality	Temperature Range	Time to Death
Instantaneous Lethal Limit – Denaturing of bodily enzyme systems	> 90°F (> 32°C)	Instantaneous
Incipient Lethal Limit – Breakdown of physiological regulation of vital bodily processes, namely: respiration and circulation	70°F to 77°F (21°C to 25°C)	Hours to Days
Sub-Lethal Limit – Conditions that cause decreased or lack of metabolic energy for feeding, growth or reproductive behavior, encourage increased exposure to pathogens, decreased food supply and increased competition from warm water tolerant species	64°F to 74°F (20°C to 23°C)	Weeks to Months

Reproduced from ODEQ 2004

single causes for fish habitat degradation in the Planning Area is the construction of the Hells Canyon Dam Complex on the Snake River.

Oregon Department of Environmental Quality has identified many of the streams in the Planning Area as being water quality limited, which means in-stream water quality fails to meet established standards for certain parameters for all or a portion of the year. Nine water quality-limiting parameters listed by ODEQ affect fish habitat in the Planning Area, including algae, bacteria, DO, flow modification, habitat modification, nutrients, pH, sedimentation, and temperature. Three of these nine concerns (temperature, sediment, and habitat modification) are widespread throughout the Planning Area. Variations in temperatures can be lethal to many fish species in the Planning Area, with the cause of mortality being dependent on the actual temperature range. The modes of thermally (i.e., temperature-related) induced fish mortality is presented in Table 2.17.

b. Current Condition

Fisheries habitat includes mostly perennial streams and some intermittent streams, especially those that have good flows in the spring. There are approximately 578 miles of perennial streams, 1,252 miles of intermittent or seasonal streams, and 34 miles of ephemeral or unknown streams in the Decision Area. Of those streams, there are 61 to 87 miles of anadromous producing streams, 89 miles of bull trout habitat, and 578 miles of resident fish (native redband trout and rainbow trout) habitat. Many springs and ephemeral (snowmelt) channels provide water to these perennial and intermittent streams that support anadromous and resident fish species. Table 2.18 lists native fishes found in the Planning Area.

Stream health, water quality, and in-stream fish habitat have been degraded over the years, which affect anadromous and resident fish species. Rearing and spawning areas have been reduced in size and quantity as rivers have been straightened, large wood removed, pool habitat reduced and/or eliminated, side channels and wetlands removed, beavers removed, and stream bottoms compacted by fine sediment.

The BLM has monitored most of the streams in the Decision Area for water quality and stream temperature in order to collect baseline and current condition information, and found that most of the streams do not meet standards for good water quality or satisfactory temperature for at least a few days a year. The loss of water volume during summer low flows, which is mainly due to water withdrawal for irrigation purposes, has directly affected stream temperature. Increasing air temperatures in summer months can also directly affect stream temperatures, especially in areas where riparian vegetation and stream shade are lacking. In many areas, almost the entire fish-bearing stream is reduced to almost no flow or no flow during summer months.

Table 2.18. Native Fish Species in the Planning Area

Common Name	Scientific Name	Common Name	Scientific Name
Rainbow trout/ Steelhead	*Oncorhynchus mykiss*	Northern pikeminnow	*Ptychocheilus oregonensis*
Redband trout	*Oncorhynchus mykiss gibbsi*	Shorthead sculpin	*Cottus confuses*
Westslope cutthroat	*Oncorhynchus clarki lewisi*	Paiute sculpin	*Cottus beldingi*
Chinook Salmon	*Oncorhynchus tshawytscha*	Chiselmouth	*Acrocheilus alutaceus*
Bull trout	*Salvelinus confluentus*	Peamouth	*Mylocheilus caurinus*
Pacific lamprey	*Lampetra tridentata*	Longnose dace	*Rhinichthys cataractae dulcis*
White sturgeon	*Acipenser transmontanus*	Speckled dace	*Rhinichthys osculus*
Mountain whitefish	*Prosopium williamsoni*	Redside shiner	*Richardsonius balteatus balteatus*
Mottled sculpin	*Cottus bairdi*	Largescale sucker	*Catostomus macrocheilus*
Slimy sculpin	*Cottus cognatus*	Mountain sucker	*Catostomus platyrhynchus*
Torrent sculpin	*Cottus rhotheus*	Bridgelip sucker	*Catostomus columbianus*

(Northwestern Power Planning Council [NWPPC] 2004a-c)

The overall condition of the fisheries is linked to the condition of the riparian area and the stream channel. Channel characteristics are different in every watershed of the Planning Area. Streams and riparian area conditions are dynamic. Natural events, alone or in combination with degraded habitat conditions resulting from human activities, can impact stream productivity. Many of the streams that are in the forested sections are quite stable; however, rain on snow events, slides, avalanches, or storm events can quickly alter stream channels and riparian areas. Non-forested streams (e.g., high desert streams) can also have rain on snow events or storm events that can wipe out all vegetation next to a stream. Many of the tributary streams that feed into the larger rivers are on steep ground and can have high sediment yields, especially during a storm event.

Riparian habitat degradation is the most serious problem in the Decision Area for fish as it contributes to other water quality factors. Improving these riparian areas would thus improve temperature, stream stability, sediment, other water quality factors, and habitat (ODEQ 2004).

In portions of the Planning Area, introduced non-native fish species have impacted or eliminated native fish populations through predation and competition for food and cover. However, many of the non-native fish species are favored by anglers and important for the Planning Area's sport/recreational fisheries. Table 2.19 lists non-native fish in the Planning Area.

c. Trends

The Planning Area's aquatic habitats have gradually declined over the last century due to a combination of human influences including dam construction, irrigation projects, impassable culverts, livestock grazing, roads, farming/ranching, timber removal, mining, and recreational use. Such activities have led to a loss of wetland and riparian habitats, reduced water quantity and quality, increased water temperatures, loss of in-stream habitat, and blocked migration routes, all of which has led to declining native fisheries.

Over the last ten years, the Baker Field Office has been making a strong effort to inventory all perennial and intermittent streams in the Decision Area and noting their current condition. With this information, the BLM has attempted to identify the activities responsible for some streams remaining relatively "healthy," and those activities responsible for many streams declining in health or remaining in poor condition. Based on such inventories, changes have been made in livestock grazing or other activities, which have led or will lead to improvements in the stream condition. Restoration projects have been

Table 2.19. Non-native Fish Species in the Planning Area

Common Name	Scientific Name	Common Name	Scientific Name
Brook trout	*Salvelinus fontinalis*	Black crappie	*Poxomis nigromaculatu*
Bluegill	*Lepomis macrochirus*	Channel catfish	*Ictalurus punctatus*
Lake trout	*Salvelinus namaycush*	White crappie	*Poxomis annularis*
Pumpkinseed	*Lepomis gibbosus*	Flathead catfish	*Pylodictis olivaris*
Warmouth	*Lepomis gulosis*	Largemouth bass	*Micropterus salmoides*
Carp	*Cyprinus carpio*	Brown bullhead	*A,eiurus nebulosus*
Yellow perch	*Perca flavescens*	Smallmouth bass	*Micropterus dolomieui*
Walleye	*Stizostedion vitreu*	Golden trout	*Oncorhynchus aguabonita*

(NWPPC 2004a-c)

proposed or other protection measures added to the management of the streams that were identified in poor condition. The anadromous stream habitat that BLM manages has had protection measures added to the current management, which has eliminated most impacts, especially from cattle grazing.

d. Forecast

The productivity of streams in the Decision Area will remain below potential until habitat conditions and watershed processes are improved, and other sources of salmon/steelhead mortality are reduced. Passage at dams and impacts from commercial (and to a lesser degree, recreational) fisheries are significant sources of fish mortality. Activities with the potential to impact stream habitat must be designed to minimize negative effects and restoration actions should be taken.

Many of the watersheds within the Planning Area are comprised of very little federal land. In fact, some of the most important watersheds that support anadromous fish species consist of less than 5 percent federal land (USFS and BLM). As a result, impacts due to activities on the Decision Area are minimal in comparison to activities occurring on lands not administered by the BLM. Coordination is critical among all landowners (federal, state, and private) to ensure adequate watershed conditions to support native fish populations.

e. Key Features

Several habitat attributes the main "drivers" of fish production and sustainability, including riparian condition, channel stability, habitat diversity, sediment load, high flow frequency, low flow frequency, oxygen, temperature, and pollutants. Table 2.20 presents these key features necessary for healthy fish populations. The BLM can manage for all the stream characteristics listed in Table 2.12 except high and low flows, which are highly variable and dependent on weather, snow accumulation, and irrigation.

The survival, growth, and diversity of species within a stream depend upon the amount and type of impacts that occur on that stream system. Fish require good water quality for survival. Certain water quality standards that meet basic biological needs for fish have been developed by ODEQ, including standards for turbidity, pH, DO, stream temperature, and pollutants. These standards are as follows:

- Turbidity <10 Nephelometric Turbidity Units over background
- pH = 6.5-8.5
- DO = 8.0-11.00
- Stream temperature = 20° C or 68° F.;
- e. coli = 30 day log mean of 126 e. coli per 100/ml (based on 5 samples) and no single sample to exceed 406 e. coli per 100/ml

Table 2.20. Key Habitat Features Necessary for Healthy Fish Populations

Habitat Attribute	Definition
Riparian Condition	Condition of the streamside vegetation, landform, and subsurface water flow
Channel Stability	The condition of the channel in regard to bed scour and artificial confinement - Measures how the channel can move laterally and vertically and to form a "normal" sequence of stream unit types
Habitat diversity	Diversity and complexity of the channel including amount of large woody debris and multiple channels
Key Habitat	The complex of habitat types formed by geomorphic processes (including large woody debris) within the stream (e.g. pools, riffles, glides etc.)
Sediment Load	Amount of fine sediment within the stream, especially in spawning riffles
High Flow	Frequency and amount of high flow events
Low Flow	Frequency and amount of low flow events
Oxygen	DO in water column and stream substrate
High Temperature	Duration and amount of high summer water temperature or low winter temperatures that can be limiting to fish survival
Pollutants	Introduction of toxic (acute and chronic) substances into the stream

9. Wildlife

a. Indicators

Wildlife is dependent on the condition of vegetative habitat for survival. Important indicators of wildlife habitat health are directly tied to wildlife populations, plant composition, distribution, and structure. For the Decision Area, both rangeland and forest plant communities contribute to wildlife habitat on public lands.

The BLM must be aware of wildlife population trends and take appropriate steps to conserve or improve habitats, which will sustain species through a population decline. However, animal population management responsibility has been delegated to the state. In the Planning Area, this includes both ODFW and Washington Department of Fish and Wildlife (WDFW). For federally listed species, population management responsibility is normally delegated to the U.S. Fish and Wildlife Service (USFWS) but crafted in a collaborative manner involving state agencies, academics, and other recognized technical experts. The USFWS also regulates hunted migratory species such as waterfowl.

In summary, habitat trends and wildlife population trends are both important factors that the BLM must appropriately consider within the context of multiple use. This wildlife section thus addresses both topics. Section b (Current Conditions) includes general species account narratives, including wildlife population trends. Section c (Trends) discusses rangeland and forest habitat trends.

Wildlife and Wildlife Habitat Relationships

Wildlife typically occupies or avoids habitats in predictable ways based on life history requirements of individual species. For instance, white-headed woodpeckers (*Picoides albolavatus*) are coniferous forest dwellers that tend to be associated with large-diameter ponderosa pine trees. Pronghorn antelope (*Antilocapra americana*) occupy habitats that provide low habitat structure such as low sagebrush communities or open grassland habitats (e.g., disturbed sagebrush steppe). Whereas pronghorn normally avoid dense shrub canopy cover, species such as greater sage-grouse (*Centrocercus urophasianus*) depend upon dense shrub canopy cover for hiding, nesting, thermal shelter, and secure travel. This predictable behavior is known as "wildlife and wildlife habitat relationships" and is often used to analyze impacts from land management practices.

In general, wildlife response to habitat condition is predictable and reasonably well understood for

most species. Knowledge of wildlife and wildlife-habitat relationships based on relevant habitat indicators will thus allow land managers to make informed predictions about impacts caused by fires, grazing use, development, recreational use, or forest management operations.

Unless specific local data is available, the BLM generally relies upon wildlife habitat relationships to analyze impacts within the Decision Area. Some of the most useful publications on wildlife-habitat relationship[2] include Maser *et al.* (1984), Thomas and Maser (1979), and Wisdom *et al.* (2000).

In addition to habitat relationships information, the BLM will also appropriately consider other federal, state, or private sector publications pertaining to wildlife management. For instance, the Oregon Department of Fish and Wildlife (ODFW) has published a series of management plans with state objectives for big game, cougar, and black bear. The ODFW has also recently published the Oregon Conservation Strategy which focuses on "habitat restoration and maintenance to address the needs of game and nongame species - healthy fish and wildlife populations need healthy habitats". Similar publications issued by the Washington Department of Fish and Wildlife, Partners in Flight, The Nature Conservancy, many other entities are literature that will likely influence future BLM actions.

Wildlife Habitat Security Issues

Because disturbances and introduced structures may adversely impact wildlife, the BLM is obligated to consider more than just physical and ecological attributes of plant communities. The BLM also considers how it will provide (1) reasonable protection from potential noise and harassment (intended or unintended) caused by resource uses and activities and (2) reasonable protection from potential adverse impacts caused by structural developments[3] associated with multiple use land management. Structural development and habitat security considerations are not necessarily associated with measurable plant community indicators. They are, nevertheless, important factors that may diminish the capacity of public land to support wildlife.

The potential adverse impacts of structures, roads, human activities, and other factors in combination (e.g. cumulative impacts) may result in particularly harmful impacts to wildlife. For example, research conducted in Wyoming indicates that oil or gas development exceeding about 1 well pad per square mile, with the associated infrastructure, results in calculable adverse impacts on greater sage-grouse breeding populations (Naugle 2006). It also probable that other energy-related developments such as power lines or meteorological towers may adversely affect wildlife because of collision hazards, avoidance reactions to overhead structures and/or, increased raptor predation caused by elevated hunting perches.

With this background, the BLM may then assess, evaluate, and/or monitor wildlife habitat health on public lands by considering the indicators[4] listed below. These factors apply to habitats for relatively common species as well as special status species, so they will not be repeated under the special status species (wildlife) section of this chapter (Section A-12).

Sagebrush steppe rangeland habitat indicators

- Distribution, abundance, and vigor of shrubs, grasses, and forbs (functional and structural plant groups)
- Percent shrub canopy cover
- Shrub height and maturity
- Relative proportions and spatial distribution of sagebrush steppe[5] supporting a shrubland

2 As new information is published and becomes available, the BLM will always use the most current information for impact analyses and to protect wildlife habitat values on public lands.

3 Structural development refers to any above-ground management facility such as fences, signs, power lines, wind energy generators, pipeline water tanks, livestock water troughs, etc.

4 Published BLM Technical References, Technical Notes, and other relevant scientific literature help the BLM define appropriate indicator metrics for wildlife.

5 Sagebrush steppe habitat may appear as a shrubland or grassland habitat type. Disturbance such as wildfire or mechanical treatment can temporarily modify land with inherent potential to support shrubs so that it appears to

conditions (>5 percent canopy cover) or grassland conditions (<5 percent canopy cover)

- Shrubland connectivity, or lack thereof, at fine and mid scales (small landscapes of hundreds of acres to larger landscapes of thousands of acres)
- Spatial distribution of shrublands at fine- and mid-scales
- Invasive/noxious plants
- Invasive woody plant absence or presence (especially western juniper in sagebrush steppe)
- Growth form and reproductive status of desirable mountain shrubs such as bitterbrush, mountain mahogany, serviceberry and others
- Timing, intensity, duration, and location of resource uses and activities
- Rangeland monitoring studies (typically indications of upward or downward trend for important plant species)
- Distance from water

Juniper woodland habitat indicators

- Distribution, abundance, and vigor of functional and structural plant groups (shrubs, grasses, and forbs)
- Percent juniper canopy cover
- Recruitment of young juniper
- Old growth juniper trees
- Invasive/noxious herbaceous plants
- Landform, slope, and aspect
- Timing, intensity, duration, and location of resource uses and activities
- Distance from water

Moist or dry forest habitat indicators

- Distribution, abundance, and vigor of trees, shrubs, grasses, and forbs (functional and structural plant groups)
- Percent canopy cover
- Forest habitat structure and age
- Distribution and abundance of standing dead trees (snags)
- Old growth trees
- Forest habitat connectivity or fragmentation
- Forest habitat patch size
- Landform, slope, and aspect
- Timing, intensity, duration, and location of resource uses and activities
- Distance from water

Riparian and wetland habitat indicators

- Distribution, abundance, and vigor of trees, shrubs, grasses, and forbs (functional and structural plant groups)
- Woody plant canopy cover, height, and maturity (important deciduous species such as willow, aspen, alder, cottonwood, and others)
- Herbaceous and woody plant recruitment
- Bank stability
- Availability of free drinking water and succulent green forage
- Timing, intensity, duration, and location of resource uses and activities

Factors Other Than Habitat Quality That May Limit Wildlife Populations

While quality wildlife habitat will likely sustain wildlife populations over several generations, some factors completely unrelated to physical habitat qualities might influence wildlife populations. For example, wildlife disease, accidents, predation, drought, severe winter or spring weather events, natural population cycles, and other mechanisms working outside of the Decision and Planning areas[6] may suppress wildlife

be grassland. Most of the rangeland in the Planning Area is classified as Snake River Plain sagebrush steppe (Miller and Eddleman 2000).

6 Examples may include habitat loss along migration corridors or habitat loss in other states or countries where certain species winter. For example, neotropical migra-

populations. Population limitations may occur temporarily (e.g., for a few years) or for very long periods (e.g., decades), even where healthy habitats on public lands are present.

b. Current Conditions and Population Trends

The Decision Area[7] contains the following general wildlife habitat types:

- About 86 percent is sagebrush steppe rangeland. Post-settlement western juniper currently occupies an undetermined amount of rangeland.
- About 9 percent is dry and moist conifer habitat.
- About 4 percent is barren rock outcrop.
- Slightly less than 1 percent is riparian habitat comprised of free-flowing streams, wetlands, or meadows.

Because plant, soil, climate, and landform characteristics are so variable in the Decision Area, a wide variety of wildlife species is able to meet their life history requirements. Blue Mountain forest habitats alone may support up to 378 species for breeding or migratory uses (Thomas and Maser 1979) and rangelands likely support over 200 more species for breeding or migratory uses (Maser *et al.* 1984). For this planning document, the BLM is only able to estimate the total number of wildlife species present within the Decision Area based on publications and relevant recorded observations. It is not possible to provide a highly detailed and accurate profile of all wildlife on public lands because of limited staff capabilities, limited wildlife survey data, wildlife movement, and uncertainties associated with scattered land ownership.

Existing habitat conditions have been and will continue to be influenced by (1) site potential as determined by soil, climate, and landform, (2) insects, wildfire, and plant disease, and (3) ongoing resource uses and activities such as livestock grazing, mineral extraction, recreational use, or forest management.

General Wildlife Habitat Values

Sagebrush Steppe Rangeland Habitats

General sagebrush steppe rangeland conditions are described Section A-6, Vegetation. This section examines relevant wildlife habitat considerations for such habitats.

The proportion and arrangement of sagebrush shrubland habitat (> 5 percent shrub canopy cover) and grassland habitat (< 5 percent shrub canopy cover) is one important index of sagebrush habitat health for wildlife. Of the total rangeland habitat present in the Decision Area, 30 percent (about 103,400 acres) currently exist as grassland and steppe communities and the remaining 70 percent (or about 243,000 acres) currently exist as shrubland communities. Virtually all existing grassland communities in the Decision Area are actually shrub steppe rangeland, which has been altered by disturbance (e.g., wildfire, prescribed fire, or mechanical treatment such as mowing and the seeding of native rangelands). There are no true grasslands per NRCS rangesite definitions in the Decision Area.

Because of the natural range of variability, the BLM may choose to manage sagebrush steppe habitats to promote values associated with shrublands or those associated with grasslands. Grassland habitats typically favor the needs of ranchers because cattle and sheep consume forbs and grasses. Livestock gain little or nothing from most shrubs, especially sagebrush. Sagebrush is a soil moisture and nutrient competitor that suppresses grass production. Sagebrush is also a vital source of forage, cover, structure, and security for numerous wildlife species (e.g., sage-grouse, grasshopper sparrow, and sage thrasher). This natural variability in the composition and structure of rangeland often presents a challenge to BLM decision-makers attempting to balance the needs of wildlife habitat, fire protection, and livestock production.

While healthy rangeland conditions for wildlife include native grassland habitats, most range-

tory bird populations may increase or decrease because of habitat change occurring in Central and South America.

7 Figures are derived from information shown under Chapter 2, Section A-6, Vegetative Communities.

lands should exist as complex shrubland communities that support shrubs, grasses, and forbs in order to meet broadly based wildlife habitat needs at landscape scales. Wildlife occupation in sagebrush steppe is typically tied directly to sagebrush canopy cover. For instance, at about 10 percent shrub canopy cover, non-native seedings have been shown to support a diverse community of grass-dependent and shrub-dependent wildlife species (McAdoo *et al.* 1989). Successful greater sage-grouse nesting efforts are associated with herbaceous understory cover and about 15 percent or more shrub canopy cover (Connelley 2000).

Sagebrush dependent (or near-dependent) wildlife within the Planning Area include:

- **Birds** – greater sage-grouse, sage sparrow (*Amphispiza belli*), brewer's sparrow (*Spizella breweri*), vesper sparrow (*Pooecetes gramineus*), black-throated sparrow (*Amphispiza bilineata*), lark sparrow (*Chondestes grammacus*), loggerhead shrike (*Lanius ludovicianus*), green-tailed towhee (*Pipilo chlorurus*), and sage thrasher (*Oreoscoptes montanus*)
- **Mammals** - sagebrush vole[8] (*Lemmiscus curtatus*), pygmy rabbit (*Brachylagus idahoensis*), Townsend's ground squirrel (*Spermophilus townsendii*), pallid bat (*Antrozous pallidus*), and pronghorn antelope

Focusing management attention exclusively upon true sagebrush-dependent wildlife tends to underestimate the relative importance of sagebrush to wildlife communities. About 100 to 190 species of rangeland wildlife either breed or feed within big sagebrush habitats, depending upon shrub structural character (Maser *et al.* 1984). Black-tailed jackrabbits (*Lepus californicus*), not considered sagebrush obligates, are most often associated with sagebrush shrubland cover and they are an important prey species for raptors or other predators. The sagebrush steppe ecological web of plants and animals is quite complex and proper management involves consideration of more than true sagebrush-dependent species.

8 Sagebrush voles have a strong affinity for sagebrush but may occur in areas lacking sagebrush overstory if grass understories are dense and well developed.

Sagebrush steppe species (other than sage-grouse) were addressed in the Oregon Greater Sage-Grouse Conservation Strategy as follows:

> Several articles have been published that provide descriptions of species associated with shrub steppe communities (Paige and Ritter 1999, Wisdom *et al.* 2000, Vander Haegen *et al.* 2001, Rowland and Wisdom 2002, Dobkin and Sauder 2004). These references provided the major source of information for this section, and their lists of species differ because of differing objectives and geographic emphasis. For example, Dobkin and Sauder (2004) list 37 and 24 species of birds and mammals, respectively that are closely associated with shrub steppe communities in the Intermountain West. Wisdom *et al.* (2000) list 16 species of birds, 10 mammals, and 5 reptiles that are associated with shrub steppe in the Interior Columbia Basin. More specific to this effort, Vander Haegen *et al.* (2001) identified 103 species of birds, mammals, reptiles, and amphibians that are generally associated with shrub-steppe communities and 49 species that are closely associated with sagebrush communities in Oregon and Washington (Table 21). In addition, they identified 41 species that depend on shrubs, primarily sagebrush, as key elements in their life history where shrubs are used either for nesting, foraging, or key winter habitat (i.e., sagebrush obligates). Therefore removal of shrub habitats due to fire, mechanical conversion, or invasion of exotic species may result in reduced population sustainability of these species, and can cause dramatic changes in the wildlife community. (Hagen 2005)

Western Juniper Woodland

Most juniper woodland habitats in the Planning Area are considered "post-settlement" stands that began to expand in Oregon roughly 130 years ago. In contrast, "old growth" juniper, which is much older and structurally different from post-settlement juniper, is typically located in

isolated rocky areas that have escaped wildfire. Old growth trees, which may be over 1,000 years old, occupy only a small fraction of the current total juniper distribution.

Post-settlement juniper grows on land that naturally supports sagebrush steppe rangeland. Consequently, the overwhelming majority of juniper within the Decision Area is technically considered an invasive woody plant growing outside of its normal distribution.

Experts in juniper management believe the current distribution is the result of many factors including fire suppression, improper grazing use, and climate change. Because of this invasive character, juniper presence has important implications for wildlife habitat health.

Based on Biology, Ecology, and Management of Western Juniper (Miller *et al*. 2005), post-settlement juniper expansion into rangeland will temporarily increase wildlife habitat diversity and animal diversity. For instance, juniper may support raptor nesting or big game winter use, and may provide habitat for a variety of common birds not usually found in rangeland such as chipping sparrow (*Spizella passerina*), northern flicker (*Colaptes auratus*), dark-eyed junco (*Junco hyemalis*), mountain chickadee (*Poecile gambeli*), and Cassin's finch (*Carpodacus cassinii*). Important sagebrush steppe species such as greater sage-grouse will also use lightly stocked (phase I) juniper habitat. However, gradually over time (50 to 100 years or more), this beneficial effect actually begins to pose a long-term threat for wildlife. In time, juniper will crowd out sagebrush and other important shrubby plant species, eventually diminishing the structure, extent, and health of rangeland habitat for wildlife. Although grasses and forbs may remain within certain post-settlement juniper locations where soils are deep and productive, shrubs will eventually die out due to juniper competition.

Perhaps the most significant potential adverse impacts are associated with habitat loss for greater sage-grouse. In addition to the direct loss of habitat over time, juniper probably provides elevated hunting perches for raptors, thereby increasing sage-grouse predation. This increased possibility of mortality has been a factor in influencing the decisions of several Oregon BLM districts to reduce juniper on low sagebrush, Wyoming big sagebrush, and mountain big sagebrush habitats near sage-grouse leks.

Because of the long-term consequences of juniper expansion and associated shrub species losses, the BLM should primarily consider retaining juniper habitat that qualifies as "old growth." Nevertheless, in certain local situations it may be appropriate for BLM to conserve patches of post settlement juniper to protect local wildlife values such as big game thermal cover, raptor nesting sites, or other non-game wildlife issues. The potential benefits of removal or conservation of post settlement juniper will be best determined on the basis of local considerations and cooperative discussions with interested publics.

Dry Conifer and Moist Conifer Habitats

Dry forest types are generally comprised of ponderosa pine in the lower to mid elevations with an increase of Douglas fir and western larch components in mid to upper elevations. Moist conifer habitats often have a component of drier site species such as ponderosa pine and Douglas fir. Moist forest habitat within the Decision Area includes grand fir and limited quantities Engelmann spruce, lodgepole pine, and/or sub-alpine fir.

Proactive fire suppression, improper grazing use, past timber management practices, and certain types of disease and insect attacks have adversely affected dry and moist forest habitat health for wildlife. Although annual effort has been made to reverse current overstocked forest conditions, funding and workforce constraints can be expected to limit wildlife habitat improvement for species typically associated with open park-like conditions and large diameter trees well into the foreseeable future. Forest habitat management for the benefit of wildlife may not always and necessarily involve promotion of open park-like conditions. Other equally important but different values should also be considered such as conservation of thermal cover, escape cover, and hiding cover.

Riparian Areas (Streams, Wetlands, and Meadows)

Riparian habitats comprise a very small proportion of the Planning Area but support a disproportionately large number of wildlife habitat requirements. Of the 378 terrestrial species known to occur in the Blue Mountains, 285 are either directly dependent upon riparian zones or utilize them more than other habitats (Thomas and Maser 1979). Of more than 360 terrestrial species known to occur in eastern Oregon's rangelands as a whole, over 280 species are either directly dependent on riparian habitat or utilize them more than other habitats (Thomas and Maser 1979). Riparian habitats within the Planning Area are very diverse in terms of plant composition and structure. Some areas almost exclusively support grasses, sedges, and rushes, whereas others may grow a variety of forbs, shrubs, conifers, as well as deciduous trees such as aspen and willow. The latter are normally some of the most valuable habitats because they support a large number of species.

Riparian habitat quality is highly influenced by a number of resource uses and activities including mining, livestock grazing, forest management, and recreational use. Overall, livestock grazing is the most influential authorized activity on public land due to its repetitiveness. Properly managed livestock grazing, where timing, intensity, and duration of grazing are controlled, can be compatible with wildlife habitat needs. Repeated late season or yearlong grazing use is not consistent with meeting wildlife habitat needs. Although riparian habitats within the Decision Area are improving, opportunities remain to promote proper functioning riparian areas. As stated under the fisheries section, BLM opportunities will be hampered in some situations where public land ownership is mingled with private in-holdings.

Unlike several other BLM Districts in Oregon, the Planning Area does not support playa habitat. Consequently, playa management issues relevant to wildlife in other parts of eastern Oregon will not need to be addressed in the land use plan supported by this AMS.

Canyons

The Planning Area supports several spectacular canyon environments with a high degree of landform and plant cover variation, portions of which occur within the Decision Area. The Snake, South Fork Walla Walla, Grande Ronde, and Burnt river drainages and Joseph Canyon are good examples. Species often associated with these dominating landforms include California bighorn sheep (*Ovis canadensis californiana*), mountain goat (*Oreamnos americanus*), Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*), Rocky Mountain elk (*Cervus elephus*), mule deer (*Odecoileus hemionus*), blue grouse (*Dendragapus obscurus*), chukar partridge *(Alectoris chukar*), and a host of non-game species (e.g., bat species). In general, the same climate and disturbance factors already described under rangeland and forest wildlife habitats influence forest and rangeland communities within canyon environments.

Common Vertebrate Wildlife Species and Population Trends

This section provides a series of general species and habitat accounts for relatively common wildlife. Refer to Section A-12 for similar treatment of special status wildlife species.

The BLM has not speculated about species population trends where the data available are insufficient or inconclusive, which is the case for most species considered. Normally, upward and downward population fluctuations may occur over time for most species. Under current conditions, the BLM is not aware of any highly controversial or significant local population trends associated with most common species. Where national or regional population concerns have been raised, they are discussed by species or habitats.

Common Bird Species

Upland Game Bird Species[9]

9 Greater sage-grouse and mountain quail are discussed under Section A-12, Special Status Species (Wildlife).

Chukar partridge are commonly associated with rocky canyons in mountainous terrain. They normally persist as breeding populations given sufficient free water and cheatgrass. Hungarian partridge (*Perdix perdix*), also known as the gray partridge, prefer a habitat of open, grassy areas in a cool, dry climate. Because it prefers agricultural lands, this partridge can be seen in seedings. California quail (*Callipepla californica*) are commonly associated with riparian areas and are moderately abundant on public lands. Mourning doves *(Zenaidura macroura)* are widespread and occupy a wide variety of habitats.

Raptors (predatory birds such as hawks, eagles, owls, and falcons)

Relatively common raptors are found in suitable rangeland, riparian, and forest habitats specific to their needs throughout most of the Planning Area. Common breeding species include red-tailed hawk (*Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), golden eagle (*Aquila chrysaetos*), northern harrier (*Circus cyaneus*), great horned owl (*Bubo virginianus*), and long-eared owl *(Asio otus)*. The rough-legged hawk (*Buteo lagopus*) is a relatively common winter resident.

Other less common resident breeders found locally include ferruginous hawk, western burrowing owl (*Athene cunicularia,)* and northern goshawk (*Accipiter gentiis*). These species are described briefly under Section A-12, Special Status Species (Wildlife).

Waterfowl, Wading Birds

Approximately 70 species of birds use wetland or open-water habitats during breeding and migration, provided surface water is present. Less than 1 percent of the Decision Area contains water, so habitat for these species is limited on public lands. Consequently, BLM management actions have little impact on overall local trends. Representative breeding species include Canada goose *(Branta canadensis)*, cinnamon teal *(Anas crecca)*, mallard *(Anas platyrhynchos)*, gadwall *(Anas strepera)*, and American avocet *(Recurvirostra americana*).

Neotropical Migratory Birds

Neotropical migratory birds are species that breed in North America and winter in Central and South America. For many species, breeding habitat and the string of sanctuaries along their migratory routes are rapidly disappearing due to development, fragmentation, and other factors. Recognizing the importance of conserving migratory birds, Congress in 2001 passed the Neotropical Migratory Bird Conservation Act (16 U.S.C. 703-711).. The USFWS, with assistance from an international advisory group, manages a grant program to implement the terms of this legislation.

Former US President Bill Clinton signed Executive Order 13186 in 2001, which directed executive departments and agencies to "take certain actions to further implement the [Migratory Bird Treaty] Act" and to "support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions."

Neotropical migratory birds are comprised of a wide variety of species including waterfowl, raptors, songbirds, shorebirds, and other bird groups. Table 2.21 provides a list of neotropical migratory bird species likely to occur within the Decision Area.

Common Mammal Species

Big Game Animals (mule deer, pronghorn antelope, Rocky Mountain goat, elk, moose)

Mule deer are widespread throughout the Planning Area and occur in a variety of habitats. Oregon Department of Fish and Wildlife has designated several "critical" winter ranges in association with the Snake River area and extending to Huntington and Keating Valleys (See Map 2.5). Most winter concentration areas occur at lower elevations in milder, relatively snow-free locations. Steep topographic relief and deep snowfall in surrounding mountain areas normally forces mule deer and other big game into highly restricted areas.

Table 2.21. Neotropical Migratory Bird Species Likely To Occur Within The Decision Area

Taxonomic Order	Common and Scientific Names
Gruiformes	Western Grebe (*Aechmophorus occidentalis*)
Ciconiiformes	Great Blue Heron (*Ardea herodias*), Great Egret (*Ardea alba*), Snowy Egret (*Egretta thula*), Cattle Egret (*Bubulcus ibis*), Black-crowned Night-Heron (*Nycticorax nycticorax*), Turkey Vulture (*Cathartes aura*)
Anseriformes	*Mallard* (*Anas platyrhynchos*), *Blue-winged Teal* (*Anas discors*), *Cinnamon Teal* (*Anas cyanoptera*), Northern Shoveler (*Anas clypeata*), Northern Pintail (*Anas acuta}*, Green-winged Teal (*Anas crecca*)
Falconiformes	Osprey (*Pandion haliaetus*), Sharp-shinned Hawk (*Accipiter striatus*), Cooper's Hawk (*Accipiter cooperii*), Swainson's Hawk (*Buteo swainsoni*), Red-tailed Hawk (*Buteo jamaicensis*), Ferruginous Hawk (*Buteo regalis*), American Kestrel (*Falco sparverius*), Prairie Falcon (*Falco mexicanus*)
Gruiformes	*American Coot* (*Fulica americana*)
Charadriiformes	Killdeer (*Charadrius vociferus*), Mountain Plover (*Charadrius montanus*), American Avocet (*Recurvirostra americana*), Spotted Sandpiper (*Actitis macularia*), Upland Sandpiper (*Bartramia longicauda*), Long-billed Curlew (*Numenius americanus*), Common Snipe (*Gallinago gallinago*), Wilson's Phalarope (*Phalaropus tricolor*)
Columbiformes	Mourning Dove (*Zenaida macroura*)
Cuculiformes	Yellow-billed Cuckoo (*Coccyzus americanus*)
Strigiformes	Burrowing Owl (*Athene cunicularia*), Short-eared Owl (*Asio flammeus*)
Caprimulgiformes	Common Nighthawk (*Chordeiles minor*), Common Poorwill (*Phalaenoptilus nuttallii*)
Apodiformes	Chimney Swift (*Chaetura pelagica*), Vaux's Swift (*Chaetura vauxi*), Rufous Hummingbird (*Selasphorus rufus*)
Coraciiformes	Belted Kingfisher (*Ceryle alcyon*)
Piciformes	Yellow-bellied Sapsucker (*Sphyrapicus varius*), Red-breasted Sapsucker (*Sphyrapicus ruber*)
Passeriformes	Olive-sided Flycatcher (*Contopus cooperi*), Western Wood-Pewee (*Contopus sordidulus*), Gray Flycatcher (*Empidonax wrightii*), Dusky Flycatcher (*Empidonax oberholseri*), Say's Phoebe (*Sayornis saya*), Western Kingbird (*Tyrannus verticalis*), Eastern Kingbird (*Tyrannus tyrannus*) Loggerhead Shrike (*Lanius ludovicianus*), Warbling Vireo (*Vireo gilvus*), Tree Swallow (*Tachycineta bicolor*), Violet-green Swallow (*Tachycineta thalassina*), Northern Rough-winged Swallow (*Stelgidopteryx serripennis*), Bank Swallow (*Riparia riparia*), Cliff Swallow (*Petrochelidon pyrrhonota*), Barn Swallow (*Hirundo rustica*), House Wren (*Troglodytes aedon*), Marsh Wren (*Cistothorus palustris*)
	Mountain Bluebird (*Sialia currucoides*), Townsend's Solitaire (*Myadestes townsendi*), Swainson's American Robin (*Turdus migratorius*), Sage Thrasher (*Oreoscoptes montanus*), Cedar Waxwing (*Bombycilla cedrorum*)
	Yellow Warbler (*Dendroica petechia*), MacGillivray's Warbler (*Oporornis tolmiei*), Common Yellowthroat (*Geothlypis trichas*), Yellow-breasted Chat (*Icteria virens*), Western Tanager (*Piranga ludoviciana*)
	Green-tailed Towhee (*Pipilo chlorurus*), Spotted Towhee (*Pipilo maculatus*), Chipping Sparrow (*Spizella passerina*), Brewer's Sparrow (*Spizella breweri*), Vesper Sparrow (*Pooecetes gramineus*], Lark Sparrow (*Chondestes grammacus*], Savannah Sparrow (*Passerculus sandwichensis*), Lincoln's Sparrow (*Melospiza lincolnii*], White-crowned Sparrow (*Zonotrichia leucophrys*), Black-headed Grosbeak (*Pheucticus melanocephalus*)
	Red-winged Blackbird (*Agelaius phoeniceus*), Western Meadowlark (*Sturnella neglecta*), *Yellow-headed Blackbird* (*Xanthocephalus xanthocephalus*), Brewer's Blackbird (*Euphagus cyanocephalus*), Brown-headed Cowbird (*Molothrus ater*), Bullock's Oriole (*Icterus bullockii*), American Goldfinch (*Carduelis tristis*)

Mule deer populations have generally remained stable over the long term, although some increases in numbers have occurred over the short-term. This trend is based on quantitative information from ODFW, USFWS, and other assorted surveys and data sources. At current population levels, deer populations are below state management objectives (pers. comm., Myatt 2008). Factors such as severe winters, drought, and loss of winter habitat due to wildfire suppression contribute to this trend. The ODFW continuously regulates "take" numbers and monitors the deer population to meet management objectives, with the overall goal of increasing herd capacity on public lands. White-tailed deer (*Odocoileus virginianus*), not to be confused with Columbian white-tailed deer (*Odocoileus virginianus leucurus*), are now found from Pendleton to the Grande Ronde River drainage and into the Snake River country. Although white-tailed deer are considered a separate deer species, they are known to interbreed with mule deer, which is a rising concern for biologist who maintain habitat and genetic diversity for mule deer populations.

Pronghorn antelope are widely distributed throughout much of Baker County in valleys, desert foothill habitats, and mountaintops. According to ODFW, the population is currently stable (pers. comm., Myatt 2008). Statewide, pronghorn numbers have been increasing throughout their natural range, which can be attributed to factors such as low hunting pressure, fire impacts, and specifications for proper fence construction that allow freedom of movement.

Rocky Mountain goats are found in high elevations of the Elkhorn Mountains and Hells Canyon of the Snake River drainage and are present within the Decision Area. Although mountain goats normally prefer higher elevation habitats, they have extended their range within the Planning Area into marginally suitable locations. Goat populations are reportedly stable or increasing, and are starting to disperse throughout suitable habitats in northeastern Oregon (pers. comm., Myatt 2008).

Rocky Mountain bighorn are present within the Decision Area. Optimal bighorn sheep habitat is visually open and contains steep and generally rocky slopes. Two adaptations of bighorn sheep substantially define their basic habitat requirements: (1) their agility on precipitous rocky slopes, which is their primary means of evading predators and (2) their keen eyesight, which detect predators. Relatively short legs and a stocky build allow agility on rocks but preclude the fleetness necessary to outrun predators in less rocky terrain. Consequently, bighorn sheep select open habitats that allow detection of predators at sufficient distances to allow them to reach safety if approached. Population trends are briefly discussed in Section A-12, Special Status Species (Wildlife).

Rocky Mountain elk are yearlong residents, with the largest concentrations occurring at Lookout Mountain, Pedro Mountain, Keating Valley, Hunt Mountain, Sumpter Valley, and Durkee/ Pleasant Valley. Elk are extremely popular big game animals. There are extensive elk populations and big game management units (BGMUs) located throughout the Planning Area where ODFW monitor and manage elk populations for hunter harvest. Elk populations in most BGMUs are reportedly stable or increasing, although some units are below state population management objectives (pers. comm., Myatt 2008). Currently, the BLM works with ODFW in elk population maintenance by providing a location for an elk feeding station(s), located partially on public lands, and by gaining input for rangeland projects to enhance elk habitat.

Moose (*Alces alces*) are recent pioneers in the Planning Area. The entire Eastern Oregon population currently consists of a little more than 30 animals. Oregon Division of Fish and Wildlife has collared several of these animals and is tracking their movements and breeding success. Limited population and distribution data are available. Areas likely to support moose occupation include forest habitats supporting perennial streams and well developed woody riparian habitat in the Elkhorn Mountains, Blue Mountain Range, Wallowa Mountains, and Grande Ronde River system. Because moose are new to the Planning Area, ODFW has not identified specific management direction for moose habitats or populations.

Table 2.22. Wildlife Habitat Trends and Reasons for the Expected Trends

Habitat type	Existing trends compared to the past	Primary reasons for trend	Principle wildlife affected
Sagebrush steppe rangeland	Slight to moderate decrease in availability of quality habitat	The cumulative effects of wildfire, prescribed fire, western juniper expansion, invasive annual plant expansion, localized improper grazing use, and rangeland development (to facilitate livestock grazing use) have generally degraded some habitats locally over time. Recreational use activities mainly along major river systems and in suitable rangeland habitats have likely resulted in lowered habitat quality. More public use reasonably translates into more adverse impacts to wildlife habitat.	Elk, mule deer, greater sage-grouse, sagebrush steppe wildlife
Dry conifer and moist conifer	Slightly upward trend for open park and conditions with large diameter conifers.	Overstocked forest stands because of fire control activities, improper grazing use, and insect or plant disease disturbance will slowly diminish over time as a result of BLM healthy forest initiatives.	Species dependent upon mature trees in open park environments will benefit over time.
Riparian	Slightly upward	Livestock grazing on public lands and uncontrollable adverse effects from adjoining private lands has reduced riparian habitat quality. Over time, the BLM has been able to modify livestock grazing permit terms and conditions that has improved riparian habitat. This improving trend can be expected to continue at a gradual pace.	Elk, mule deer, songbirds, greater sage-grouse.

Cougar and Black Bear

Cougars (*Puma concolor*) and black bears (*Ursus americanus*) are present throughout the Planning Area in low population densities. Data gathered by ODFW indicate that cougar populations are stable to increasing (pers. comm., Myatt 2008). Limitations placed on cougar harvest methods have allowed their populations to expand. This trend can be expected to continue under current management conditions.

Invertebrates

The following paragraphs on invertebrates have been excerpted from Interior Columbia Basin Ecosystem Management Project (ICBEMP) science documents (USFS and BLM 1997; 2000; 2003).

Little is known about individual invertebrate species. Some of the common groups of invertebrates are arthropods, mollusks, earthworms, protozoa, and nematodes. Adequate soil structure and chemistry is essential for soil invertebrates to survive. Factors that have caused some invertebrate declines include the use of pesticides, loss of litter and dead plant material, and decline in forbs attributable to grazing, range treatments, fire suppression, and disturbance of springs, wetlands, talus slopes, caves, and other special habitats.

Grazing can reduce grass, seed production, forbs, and dead plant material available to invertebrate herbivores and pollinators. Livestock use has caused localized soil compaction, especially in wet areas, which has affected soil-dwelling species such as earthworms, nematodes, snails, and slugs. Except for special status invertebrate species, the impact on invertebrates from these disturbances is largely unknown. The greatest

change to invertebrate habitat in rangelands is the conversion of grasslands and shrublands to other uses.

According to species estimates, approximately 15 percent of potential invertebrate species in the Planning Area have been identified (USFS and BLM 2000), with only a few of these having been studied, quantified, or had their ranges mapped. Of the known species, many were introduced accidentally or intentionally. The small size and mobility of invertebrates make them easy to introduce by vehicles, cargo, animals, wind, and other means. Exotic invertebrate species pose an increasing threat to native invertebrates through competition, displacement, and interbreeding, as well as posing a threat to the plants and wildlife that they may attack.

Invertebrates perform key ecological functions in the environment by decomposing wood and litter material that return nutrients to the energy cycle, and serving as food for other groups of animals. Other key ecological functions of invertebrates include turning over soil and increasing its productivity, pollinating flowers, and dispersing seed. The habitat requirements for invertebrates are generally at a scale so fine that it is difficult to predict how management activities will modify them.

c. Trends (Habitat)

Table 2.22 summarizes general wildlife habitat trends and their primary causal agents. Notions about past resource conditions (e.g., since the 1800s) and how they may have changed were made consistent with ICBEMP (USFS and BLM 2000) for this document.

Sagebrush Steppe

Sagebrush habitat values important to wildlife are at risk within the Planning Area due to a variety of factors including (1) increased wildfire frequency and intensity, (2) certain fire fuel treatments, (3) juniper encroachment into sagebrush steppe, (4) improper localized grazing management practices, and (5) an ever-expanding presence of invasive annual plants (USFS and BLM 2000). In fact, most sagebrush steppe wildlife species threatened by habitat loss and conversion are dependent upon sagebrush shrub canopy cover for their survival. In contrast, grassland habitats throughout much of the western United States are becoming abundant, mainly because of fire disturbance. The geographic extent of grassland habitat is increasing annually and fires that encompass hundreds of thousands of acres are not uncommon.

The Decision Area is comprised mainly of sagebrush steppe rangeland and there is virtually no true grassland habitat. Consequently, the loss of grassland habitat as identified by ICBEMP (USFS and BLM 2000) is not relevant to the Decision Area.

d. Forecast

In the reasonably foreseeable future, current wildlife habitat trends may or may not change substantially relative to mining activity, recreational use, energy development, and other uses. It is very difficult to predict how mining activity may change in response to commodity price changes. Similarly, OHV activity impacts may not be easy to predict, and could conceivably decline over time as energy costs continue to escalate. Then again, OHV enthusiasts may more intensely use nearby public land areas such as Virtue Flat simply because of close proximity to Baker City. Under the more intensive use scenario, OHV activities may increase physical habitat losses as well as diminish wildlife habitat security.

Depending upon the types of mitigation measures that may emerge for wind and other energy development, impacts to wildlife may or may not increase substantially. Placement of wind energy development sites and the resulting loss and/or fragmentation of shrub-steppe habitat could adversely affect a number of sage-steppe dependent species.

Healthy forest management initiatives will probably continue to make progress towards attaining open park-like forest habitat conditions favorable to certain wildlife. Progress on this front will probably continue at a slow pace because of limited staff and funding capabilities.

The combined expected adverse impacts of wildfires, land uses, and project developments in sagebrush steppe habitats may continue, but the extent and pace of decline is unknown. If the BLM exercises BMPs in wildlife habitat stewardship within sagebrush steppe rangeland, the declines may be less than what might be expected. Global warming and increased atmospheric carbon dioxide (i.e., climate change), which tends to favor invasive annual species (e.g., cheatgrass), may result in more uncontrollable fire-related impacts to wildlife habitat regardless of BLM actions.

e. Key Features

Physical features or wildlife use areas with importance to common and special status wildlife species are included in Table 2.23.

10. Special Status Species (Plants)

a. Indicators

The indictors for special status plants include population demographics, species range-wide distribution, habitat quality and distribution, fecundity, pollinator status, presence of invasive species, threats and impacts to the species, existence of recovery or conservation strategies or other formalized conservation planning tools, and changes in fire frequency and intensity.

The objectives of the BLM's Special Status Species Program are:

A. To conserve listed species and the ecosystems on which they depend.

B. To ensure that actions requiring authorization or approval by the BLM are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA of 1973 or other provisions of this policy (BLM 2001a).

b. Current Condition

The BLM, in cooperation with the USFS, has developed a new interagency special status species list for Oregon/Washington BLM and Region 6 of the USFS (BLM 2008). The interagency list is an attempt to coordinate management for rare species across land ownership boundaries. The current list, issued in February 2008, used new criteria to determine if species are sensitive and eliminated the categories of Bureau Assessment and Bureau Tracking Species. As a result, some previously listed species have come off the list and some species' status has changed from sensitive to strategic. There are now three categories of special status species for Oregon/Washington BLM and Region 6 of the USFS:

1. Federally listed species under the ESA

2. Sensitive species as designated by the State Director

3. Strategic species as designated by the State Director (BLM 2007b)

All documented or suspected federal candidate species, state listed threatened or endangered, and de-listed federal species are considered sensitive species under the new interagency criteria for special status species (BLM 2007b). Federally listed and sensitive species are proactively managed to avoid adverse impacts to these species, in accordance with BLM policy. Strategic species are not sensitive species for management purposes (BLM 2007b). Special management efforts do not need to be taken when strategic species are found. Strategic species only need to be recorded when they are located and their locations input into the Geographic Biotic Observations database (GeoBOB), which is the Oregon/Washington BLM database for special status species.

The BLM's sensitive species designation is a proactive attempt to manage for rare species to prevent their future listing under the ESA. Special status plants are routinely surveyed for as part of project clearances. Mitigation measures are instituted when they occur in areas

Table 2.23. Key Wildlife Habitat Features for Common and Special Status Vertebrates

Features and use areas	Values provided
1. Important Landforms	
Large canyons (Snake River, Grande Ronde River, Burnt River, Joseph Creek)	Big game summer and winter use, raptor nesting and wintering, chukar partridge, nesting habitat for forest and rangeland wildlife, seclusion from human disturbances
Rock outcrops, cliffs, talus, ledges	Habitat for California and Rocky Mountain bighorn sheep, mountain goat, swallows, raptor nesting, reptiles, bald and golden eagle roosting, and various other raptor species nesting
Caves, crevices	Bat life history needs
Flat to gently sloping landforms within 12 miles or less of greater sage-grouse leks	Sage-grouse nesting habitat (provided that suitable shrub, grass, and forb cover is present)
2. Important Use Areas	
Concentrated use areas (may apply to winter, spring, summer, or fall use)	Various geographic locations that support high numbers of mule deer, bighorn sheep, elk, pronghorn, sage-grouse, raptors, or other important species.
Greater sage-grouse leks	1- to 5-acre centers of annual breeding activity; low open habitat structure allowing sage-grouse good visibility.
3. Soil Types	
Deep soil inclusions	Dense shrub cover patches often valuable for pygmy rabbit, big game, songbird nesting
Lithic soil types	Low habitat structure with high forb production; often used by sage-grouse for breeding display, post-winter and pre-nesting foraging (sage-grouse hens), and winter forage
4. Important Plant Community Composition and Structure	
Shrubland habitats (≥5% shrub canopy cover)	Big sagebrush canopy cover at least 10% and tall enough to be above snow cover; supports sage-grouse winter use
	Big sagebrush[1] canopy cover ≥ 15% is associated with successful sage-grouse nesting and early brood-rearing, land-bird nesting activity, and big game cover
	Big sagebrush canopy cover ≥ 25% is associated with pygmy rabbit and sagebrush steppe wildlife occupation.
Grass / forb dominated habitats (<5% shrub canopy cover)	Pronghorn spring-summer-fall, elk winter, long-billed curlew nesting, upland sandpiper nesting
Mixed mountain shrubs such as mountain mahogany, bitterbrush, serviceberry, sumac, etc.	Mid to tall habitat structure; provides quality cover and food (including fruits) for game and non-game wildlife.
Old growth conifers	Bird nesting, bat roosting, and habitat for woodpeckers, raptors, squirrels, and marten
Post-settlement juniper	Thermal cover patches for mule deer & elk winter range, songbird nesting and feeding, ferruginous hawk nesting, potentially northern goshawk nesting
Snags	Bird and bat occupation, roosting, nesting, feeding
Dead and Down Woody Material	Bird foraging, mammalian denning activity, perching, hiding and thermal cover

Table 2.23. Key Wildlife Habitat Features for Common and Special Status Vertebrates

Features and use areas	Values provided
Springs and streams	Free drinking water and succulent green forage yearlong
Natural or man-made open water habitat	Migratory bird resting and feeding, free drinking water, bald eagle and osprey foraging
Riparian habitat associated with natural or man-made open water habitat	Waterfowl, shorebird, and songbird nesting
Cottonwood and aspen	Raptor and songbird nesting, neotropical migratory bird stopover during spring-fall migration, big game hiding cover and food

of planned management activities. Locations of special status plants that are found are entered into GeoBOB.

Federally Listed Plant Species

There are no documented occurrences of any federally listed threatened or endangered plant species in the Decision Area. Three species of federally listed threatened plant species are suspected to occur in the Decision Area and include Macfarlane's four-o'clock (*Mirabilis macfarlanei*), Spalding's catchfly (*Silene spaldingii*), and Howell's spectacular thelypody (*Thelypodium howellii ssp. spectabilis*). Macfarlane's four-o'clock is an endemic known only from the Snake, and Imnaha river canyons of Wallowa County, Oregon, and adjacent Idaho County, Idaho. It occurs on steep grassland habitats from 1,000 to 3,000 feet in elevation. Spalding's catchfly is a regional endemic known from remnant grasslands of eastern Washington and Oregon, northern and central Idaho, northwestern Montana, and southern British Columbia. It occurs on fine wind deposited soils at elevations from 1,380 to 5,100 feet. Howell's spectacular thelypody is a very narrow endemic known only from the Baker-Powder River Valley in eastern Oregon. It is currently found in five populations in Baker and Union counties, and has formally been found in the Willow Creek Valley in Malheur County. The species occurs on mesic alkaline meadow habitats at elevations ranging from 3,000 to 3,500 feet.

Sensitive Vascular Plant Species

While most of the Planning Area occurs in northeast Oregon, it also includes lands in southern Asotin County, Washington. The crossing of state lines complicates the management of rare plant species. Rare plant status is based upon their occurrence and abundance within a given state; therefore, a plant may be rare or sensitive in one state and common with no status in the neighboring state.

There are 26 sensitive vascular plant species documented in the Decision Area (Table 2.24). In addition, there are also 73 sensitive vascular plant species suspected to occur in the Decision Area (see Appendix 2.B).

The following are sensitive plants found in the **Rogersburg Area of southeastern Washington**:

Cross-haired rockcress (*Arabis crucisetosa*) is a regional endemic that occurs in western Idaho, eastern Oregon, and in Asotin County, Washington, where it is found mainly on the hills and mountains bordering the Clearwater and the Snake rivers (Washington State Natural Heritage Program [WANHP] 2008a). It is not considered rare in either Oregon or Idaho (Oregon Natural Heritage Information Center [ORNHIC] 2007; Idaho Conservation Data Center [IDCDC] 2008). The single population (consisting of five polygons) of this species in Washington occurs at Lime Hill on public lands. The habitat at this site is Idaho-fescue dominated canyon grassland, with scattered Ponderosa pine and Douglas fir. Threats include livestock grazing and competition with non-native plants. In addition, the construction of dams may have reduced lowland habitat around the Snake River.

Arthur's milk vetch (*Astragalus arthurii*) is a regional endemic that occurs in southeast Washington in Asotin County, northeast Oregon in

Table 2.24. Sensitive Vascular Plants Documented in the Decision Area

Scientific Name	Common Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	OR S Rank[3]	WA S Rank
Arabis crucisetosa	Cross-Haired Rockcress	WA-SEN		D	no status	S1
Astragalus arthurii	Arthur's Milk Vetch	WA-SEN		D	no status	S2
Astragalus asotinensis	Asotin Milk Vetch	WA-SEN		D	no status	S2
Astragalus cusickii var. cusickii	Cusick's Milk Vetch	WA-SEN		D	no status	S1?
Bolandra oregana	Oregon Bolandra	WA-SEN		D	S3	S2
Botrychium minganense	Mingan's Island Moonwort	OR-SEN	D		S3	no status
Bupleurum americanum	American Thorow Wax	OR-SEN	D		S1	no status
Calochortus macrocarpus var. maculosus	Green-Band Mariposa-Lily	SEN	D	D	S2	S1
Castilleja flava var. rustica	Country Indian Paintbrush	OR-STR	D		S1?	no status
Cheilanthes feei	Fee's Lip-Fern	SEN	S	D	S2	S1
Erigeron engelmannii var. davisii	Engelmann's Daisy	OR-SEN/ WA-STR	S	D	S1	S2
Hackelia cronquistii	Cronquist's Stickseed	OR-SEN	D		S3	no status
Hackelia hispida var. hispida	Rough Stickseed	WA-SEN		D	no status	S1
Lomatium rollinsii	Rollins' Lomatium	WA-SEN		D	S3	S2
Lomatium serpentinum	Snake River Canyon Desert Parsley	WA-SEN		D	no status	S2
Lupinus lepidus var. cusickii	Cusick's Lupine	OR-SEN	D		S1	no status
Mimulus cusickii	Cusick's Monkeyflower	WA-SEN		D	no status	S1
Mimulus patulus	Stalked-Leaved Monkeyflower	WA-SEN		D	S3	S1
Oenothera caespitosa ssp. marginata	Tufted Evening-Primrose	WA-SEN		D	no status	S1
Petrophyton caespitosum var. caespitosum	Rocky Mountain Rockmat	WA-STR		D	no status	S1
Pyrrocoma liatriformis	Palouse Goldenweed	WA-SEN/ OR-STR	D	D	S1?	S1
Pyrrocoma radiata	Snake River Goldenweed	OR-SEN	D		S3	no status
Ribes cereum var. colubrinum	Wax Currant	WA-SEN		D	S3	S1

Table 2.24. Sensitive Vascular Plants Documented in the Decision Area

Scientific Name	Common Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	OR S Rank[3]	WA S Rank
Rubus bartonianus	Bartonberry	OR-SEN	D		S2	no status
Rubus nigerrimus	Northwest Raspberry	WA-SEN		D?	no status	S1
Stanleya confertiflora	Biennial Stanleya	OR-SEN	D		S1	no status

1. ISSSSP = Interagency Special Status Sensitive Species Program: SEN = Sensitive in OR and WA; OR-SEN = Sensitive in OR only; WA-SEN = Sensitive in WA only; STR = Strategic in OR and WA; OR-STR = Strategic in OR only; WA-STR = Strategic in WA only

2. D = Documented occurrence = A species located on land administered by the BLM or the USFS based on historic or current known sites of a species reported by a credible source for which BLM and the USFS has knowledge of written, mapped, or specimen documentation of the occurrence. S = Suspected occurrence = Species is not documented on land administered by the BLM or the USFS, but may occur on the unit because: (1) BLM District or National Forest is considered to be within the species' range and (2) appropriate habitat is present or (3) known occurrence of the species historic or current) in vicinity such that the species could occur on BLM or USFS land.

3. State Rank characterizes the relative rarity or endangerment within the state of Oregon and Washington. Two codes (e.g. S1S2) represent an intermediate rank.

S1 = Critically imperiled (5 or fewer occurrences).

S2 = Imperiled (6 to 20 occurrences), very vulnerable to extirpation.

S3 = Rare or uncommon (21 to 100 occurrences).

Wallowa County, and central Idaho in Idaho and Nez Perce Counties (WANHP 2008a). It is not considered rare in either Oregon or Idaho (ORNHIC 2007; IDCDC 2008). Its distribution is Washington consists of one large scattered population on public lands at Lime Hill, one small population on state lands two miles up Joseph Creek, and four additional scattered populations that occur on private lands northwest of Rogersburg. The species occurs on dry grassy hills and stony meadows over basaltic parent material. The elevation for the species ranges from 800 to 3,700 feet. Dominate species on these grassland sites are bluebunch wheatgrass and Idaho fescue, with little to no shrubs present. Threats include livestock grazing and non-native plants.

Asotin milk vetch (*Astragalus asotinensis*) is a newly described species of milk vetch (Bjork and Fishbein 2006) endemic to the Snake River canyon in the Lime Hill area of Washington and in Idaho on Craig Mountain. It occurs in grassland communities dominated by bluebunch wheatgrass and Idaho fescue and appears to occur only on limy substrates (i.e., it has not been found on basaltic or other substrates). The elevation range for the species is from 1,200 to 3,000 feet. Threats include competition with non-native plants and livestock grazing.

Cusick's milk vetch (*Astragalus cusickii var. cusickii*) is a regional endemic occurring within the Snake River Canyon and its tributaries in Asotin County, Washington; adjacent lands in Idaho; and in Northeastern Oregon (WANHP 2008a). It is not considered rare in either Oregon or Idaho (ORNHIC 2007; IDCDC 2008). There are two large population centers for the species in Washington: on private land along Rattlesnake Creek and at Lime Hill, primarily on public lands. There are smaller populations in Washington located along the West Fork of Mentachee Creek, along the Grande Ronde River, and near the state line between Oregon and Washington in the vicinity of State Line and Bear creeks. This milk vetch is associated with big sagebrush, bluebunch wheatgrass, and Idaho fescue; occurs on dry grassy or basaltic rocky slopes; and can grow in the crevices or ledges of basalt cliffs and bare soil of roadways. Threats include livestock grazing and non-native plants.

Oregon bolandra (*Bolandra oregana*) is also a regional endemic species that occurs in the lower Columbia River drainage and along the Snake River in Idaho, Oregon, and Washington. It is not considered rare in Idaho (IDCDC 2008). Although it is not considered a conservation concern in Oregon, it is tracked by ORNHIC as a List 4 species (ORNHIC 2007). Oregon bolandra is known from four sites in Asotin County (WANHP 2008a): two in the Lime Hill area (one on state lands and the other on public lands) and two along Buford Creek (on private lands). It typically occurs in moist shaded rocky habitats at low elevations near water or in areas that are at least seasonally moist. Threats include timber harvest, clearing of riparian areas, non-native plants, and herbicide application.

Green-band Mariposa-lily (*Calochortus macrocarpus var. maculosus*) occurs in the Columbia River Plateau area of eastern Washington, eastern Oregon, and adjacent Idaho. In the Planning Area, it occurs along the Grande Ronde River and its tributaries in Oregon and Washington. This lily is considered sensitive in both Washington and Oregon (BLM 2008). It typically occurs on dry plains, rocky slopes, sagebrush steppe, and dry pine forests, usually on basaltic soils at elevations ranging from 1,000 to over 8,000 feet.

Fee's lip-fern (*Cheilanthes feei*) is a wide-ranging species whose distribution extends from the southwestern United States and northern Mexico north irregularly to Wisconsin and southern Alberta and southern British Columbia. It is a peripheral species considered sensitive in both Washington and Oregon (BLM 2008), where it is on the edge of its range. This fern occurs on calcareous cliffs, rock outcrops, and steep slopes with elevations ranging of 850 to 2,700 feet in Washington and Oregon. There is one current occurrence of Fee's lip-fern in Washington on the cliffs of Lime Hill, and two historical records for the species in Whitman County, Washington (WANHP 2008a). This species is more abundant in Oregon, where it occurs in the Snake and Imnaha River Canyons. Threats include loss of habitat from dam construction, competition with non-native plants, and possibly rock climbing.

Engelmann's daisy (*Erigeron engelmannii var. davisii*) is a regional endemic species known from the Snake River canyon in Idaho and Oregon as well as lower Joseph Creek in Washington. This species is sensitive in both Oregon and Washington (BLM 2008), but is not considered rare in Idaho (IDCDC 2008). The habitat for this daisy is open slopes, dry ridges, and rocky soils above rim rock. Sites are at low to moderate elevations up to 5,500 feet. There is one site for this species in Washington located near Mount Wilson. Engelmann's daisy is more abundant in Oregon where there are scattered populations located in Wallowa County. Noxious weeds are a threat to this species, including yellow star thistle, which is present near the Mount Wilson site.

Rough stickseed (*Hackelia hispida var. hispida*) is a regional endemic species known from the Snake River Canyon in Oregon, Idaho, and Washington. It is not considered rare in either Oregon or Idaho (ORNHIC 2007; IDCDC 2008). This species occurs on talus slopes, cliffs, and disturbed sites at elevations that range from 1,000 to 2,500 feet. There are two occurrences of this species in Washington: one at Lime Hill and the other along the Grande Ronde River between Box Canyon and Rattlesnake Creek. Heavy grazing may threaten the species, but its habitat of unstable talus may provide it protection.

Rollins' lomatium (*Lomatium rollinsii*) is a regional endemic species occurring in grasslands of the Snake and Salmon river canyons of west central Idaho, northeastern Oregon, and southeastern Washington. It is not considered rare in Idaho (IDCDC 2008). Oregon considers this species as being of conservation concern but not currently threatened or endangered (List 4; ORNHIC 2007). There are three known populations of Rollin's Lomatium in Washington, all of which are in Asotin County (WANHP 2008a). One large scattered population occurs at Rogersburg and Lime Hill extending up the lower Grande Ronde River. The other two populations in Washington occur north of Rogersburg, along the Snake River. There is also one historical record for this species at Fields Spring State Park. Rollin's lomatium occurs in canyon grasslands on steep to gentle slopes. Common associated species include blue-

bunch wheatgrass, Sandberg's bluegrass, Idaho fescue, and sometimes big sagebrush. Threats include grazing, agricultural development, and non-native plants. Yellow star thistle is present near the Rogersburg population.

Snake River Canyon desert parsley (*Lomatium serpentinum*) is a regional endemic that occurs along the Snake River and its tributaries in southeastern Washington, northeastern Oregon, and western Idaho. Oregon and Idaho do not consider it rare (ORNHIC 2007; IDCDC 2008). This species occurs in Asotin, Columbia, and Grant Counties in Washington and is known from historical records in Walla Walla and Whitman Counties (WANHP 2008a). There is one population consisting of three small subpopulations on public lands in Washington. These are located within the floodplain at the base of Lime Hill, growing from clefts in boulders and in talus of granite and basalt. These sites have little vegetation. The species generally occurs at low elevations near the river's edge in sandy or rocky soils. Threats include loss of habitat from dams, recreational use by boaters, non-native plants, and road widening.

Cusick's monkey flower (*Mimulus cusickii*) is a wide-ranging species occurring from the southern Warner Mountains of northeastern California north through Nevada to eastern Oregon, southeastern Washington, and Southwestern Idaho. It is peripheral in Washington. This species is not considered rare in either Oregon or Idaho (ORNHIC 2007; IDCDC 2008). There is one population of this species in Washington in the Rogersburg area and one historical record for the species in Klickitat County, Washington (WANHP 2008a). The habitat for Cusick's monkey flower is often steep unstable talus and scree slopes that are sparsely vegetated. These sites are sometimes utilized for rock fill and gravel materials, such as an area just west of the Rogersburg population. Threats include competition with non-native plants and rock and gravel operations.

Stalked-Leaved monkey flower (*Mimulus patulus*) is a regional endemic that occurs in Asotin and Okanogan Counties in Washington, Wallowa County in Oregon, and Nez Perce and Adams counties in Idaho (WANHP 2008a). Oregon considers the species as being of conservation concern but not currently threatened or endangered (List 4; ORNHIC 2007). Idaho rates this monkey flower as critically imperiled because of extreme rarity or because some factor of its biology makes it especially vulnerable to extinction (S1; IDCDC 2008). The species is found with Cusick's monkey flower south of Rogersburg near the base of Lime Hill. It occurs on seasonally moist seepy areas, moist basalt, and in fine gravels overlaying bedrock in small drainages. These areas are sparsely vegetated due to lack of soil. Its elevational range is from 800 to 2,000 feet. Threats include competition with non-native plants.

Tufted evening primrose (*Oenothera caespitosa ssp. marginata*) is a wide-ranging species whose distribution extends from eastern Washington south to California and east to Idaho and Colorado. Neither Oregon nor Idaho considers this species rare (ORNHIC 2007; IDCDC 2008). It was believed extirpated from Washington until recently rediscovered in Asotin and Klickitat counties (WANHP 2008a). Tufted evening primrose has been documented on public lands in the Rogersburg area and on private and state lands along the west flank of Lime Hill. It occurs on road cuts, dry hills, and rocky slopes both in open and wooded areas. Threats include non-native plants and road reconstruction or maintenance.

Rocky Mountain rockmat (*Petrophyton caespitosum var. caespitosum*) is a wide-ranging species whose distribution extends from southeastern Washington south to California, then east to Idaho, Montana, South Dakota, and south through Utah, Arizona, New Mexico, Colorado, and Texas. Neither Idaho nor Oregon considers it rare (ORNHIC 2007; IDCDC 2008). There is one documented occurrence of the species on public lands in Washington on Lime Hill. Rocky Mountain rockmat occurs on shelves of rock (both granitic and limestone) from the foothills to alpine summits. Threats to the species include rock climbing, mining, and non-native plants.

Palouse goldenweed (*Pyrrocoma liatriformis*) is a regional endemic of the Palouse region

whose range extends from eastern Washington into northern Idaho and northeastern Oregon. This species is considered strategic in Oregon (BLM 2008), with one record for this species in Wallowa County. Idaho considers it to be imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (IDCDC 2008). Plants referred to as Palouse goldenweed from the Snake River may be a different species from *Pyrrocoma liatriformis* found in the Palouse Prairie area of Idaho based on the presence of glands and scabrous and not villous leaves (Grey *et al.* 2005).

There are two populations of Palouse goldenweed in Washington. One (consisting of two subpopulations) is located on public lands in the southern portion of Lime Hill, while the other is located on public lands in Washington on the banks of the Grande Ronde River just downstream from the mouth of Rattlesnake Creek. The habitat for this species is open grasslands, often with scattered shrubs and sometimes coniferous trees. These sites are typically in good condition with a compliment of native species. Common associated species include bluebunch wheatgrass, Idaho fescue, snowberry, balsamroot, and sometimes ponderosa pine. Threats to this species include loss of habitat to agricultural development, competition with non-native plants, herbicide application, insect depredation, and livestock grazing.

Wax currant (*Ribes cereum var. colubrinum*) is a regional endemic of the Snake River Canyon occurring in Asotin County of southeastern Washington, northeastern Oregon, and west central Idaho. Oregon considers the species as being of conservation concern but not currently threatened or endangered (List 4; ORNHIC 2007). Idaho does not consider this wax currant to be rare (IDCDC 2008). There are three populations of this species in Asotin County. One population is located on public lands on Lime Hill, while the other two locations are on private lands. Wax currant occurs on dry rocky slopes often along streams in tall shrub-plant communities. Common associated species include Wood's rose, ninebark, ocean-spray, mock orange, bluebunch wheatgrass, and sometime ponderosa pine. This species occurs at elevations ranging from 1,000 to 3,500 feet. Threats to wax currant include competition with non-native plants, livestock grazing, and rock quarrying.

Northwest raspberry *(Rubus nigerrimus)* is a local endemic whose global range is limited to the Snake River Canyon in Garfield, Whitman, and Asotin counties of Washington (WANHP 2008a). There are two locations for this species in Asotin County. One is on private land located in Fisher Gulch, while the other is on public lands on Lime Hill. The Lime Hill site was identified in February 2003, when there were only a few leaves remaining attached to the plants. It is thus suggested that the identification of this species at this site be verified when the species is more easily identifiable (pers. comm., C. Bjork 20??). Northwest raspberry typically occurs in shrub or cottonwood dominated riparian areas on the lower portions of steep narrow drainages and sometimes along the associated moist lower slopes, at elevations ranging from 700 to 2,200 feet. Common associated species include Himalayan blackberry, whitebark raspberry, smooth sumac, willow, Wood's rose, black cottonwood, black hawthorn, ocean-spray, and stinging nettle. Threats to this species include loss of habitat from dam construction, road and railroad construction and maintenance, herbicide application, competition with non-native plants, and livestock grazing.

The following are sensitive plants found in **sagebrush habitats**:

Cronquist's stickseed (*Hackelia cronquistii*) is a regional endemic that occurs in the Snake River Plain Ecoregion of Oregon and Idaho. It is state listed as endangered in Oregon (ORNHIC 2007). A single occurrence of the species was identified in the Decision Area in 1997, which is its northern most occurrence. This species has its greatest abundance in BLM's Malheur Resource Area. Cronquist's stickseed typically grows on north facing slopes in sandy soils, in draws at elevations ranging from 2,000 feet to 3,200 feet, and in the shade of big sagebrush or Great Basin

wildrye. Threats to this species include herbicide application, OHV traffic, agricultural land conversion, grazing, and non-native plants.

Cusick's lupine (*Lupinus lepidus var. cusickii*) is a local endemic whose global distribution consists of five occurrences within a 2.5-mile radius of each other located north of Unity, Oregon. Four of the five occurrences are on public lands. This is the rarest plant species occurring on the Decision Area and is considered endangered in Oregon (ORNHIC 2007). There has been some controversy surrounding whether this was a valid species. Cusick's lupine appears to be restricted to eroding tuffaceous slopes and flats. These are areas of sparse vegetation, which usually have a few junipers, low growing perennials, and occasionally big sagebrush. Threats to this species include OHV traffic, non-native plants, agricultural conversion, and possibly herbivory.

The Institute for Applied Ecology (IAE) has established permanent monitoring transects for Cusick's lupine at three locations (Kaye and Gisler 2003). These permanent transects were located both inside and outside of exclosures to look at the effects of OHV traffic and grazing on the species. Transects were read from 1993 through 1998 and in 2002. Kaye and Gisler (2003) found little difference in mean plant density, height, and number of inflorescences between plants within and plants outside of the exclosures, except that most plants were lost on one transect that was established within an existing OHV trail. However, all populations monitored (both fenced and unfenced) experienced a sharp decline over the ten-year period (Kaye and Gisler 2003). A Challenge Cost Share proposal has been submitted to re-measure these transects in 2009.

Snake River goldenweed *(Pyrrocoma radiata)* is a regional endemic from the Snake River Plain and lower Blue Mountain Ecoregions of northeastern Oregon and adjacent southwestern Idaho. The state of Oregon considers this species endangered (ORNHIC 2007). Idaho considers it rare but not threatened, with up to 100 occurrences in the state (IDCDC 2008). The species grows on rolling hills, slopes, and ridges in big sagebrush and bunchgrass plant communities at elevations ranging from 2,100 to 6,000 feet. Soils in these areas are somewhat calcareous and often overlay a layer of shale. Threats to this species include grazing, herbivory (particularly by grasshoppers), OHV traffic, non-native plants, and perhaps altered fire regimes.

In 1991, the IAE established permanent monitoring transects for Snake River goldenweed on public lands in Baker County to determine the effects of livestock grazing on the species (Kaye 2002). Five transects were installed in an exclosure and five outside the exclosure and read from 1991 to 2001. Kaye (2002) found that plants that were unfenced and grazed were significantly smaller and flowered less than plants that were protected from grazing. Populations that were grazed also had a lower population growth rate than ungrazed populations. Kaye (2002) also found significant damage by seed predators who consumed at least 50 percent of the seed produced in five of the ten years of study. Grasshoppers also took a toll on the goldenweed, consuming 60 percent of plant material and lowering seed set in two of the eleven years of study. Both the seed predation and the grasshopper herbivory may have significant long-term impacts on populations of the species.

Biennial stanleya *(Stanleya confertiflora)* is a regional endemic species that occurs in the Snake River Plain Ecoregion of southeastern Oregon and adjacent southwestern Idaho. Both Oregon and Idaho consider it critically imperiled because of extreme rarity or because some factor of its biology makes it especially vulnerable to extinction (ORNHIC 2007; IDCDC 2008). There are eight occurrences of the species in Idaho located in Gooding, Owyhee, and Washington counties (Mancuso and Colket 2006). The species is more abundant in Oregon where it occurs in Malheur, Harney, and Baker counties (ORNHIC 2007). There are three occurrences of biennial stanleya in the Decision Area. It is more abundant to the south on the Malheur Resource Area.

Biennial stanleya is a true biennial that has alternating years when adult plants are abundant and years when juvenile plants are abundant (Meinke 2005). Annual abundance appears to be tied to

the amount of spring and fall precipitation a site receives (Meinke 2005). The species is restricted to pockets of shrink swell heavy clay soils, which are located within big sagebrush plant communities. These areas of heavy clay soils often have little vegetation, except in areas where medusahead rye (*Taeniatherum caput-medusae*) has become abundant. The flower color of the species varies in correlation with the geographic range of the species. Plants in the eastern portion of their range are yellow flowered, while plants in the western portion of their range are white flowered (Meinke 2005). Threats to this species include non-native plants, grazing, trampling, OHV traffic, insect herbivory, and altered fire regimes.

The following are sensitive plants of **sub-alpine habitats**:

American thorow wax *(Bupleurum americanum)* has a wide distribution occurring from Alaska and the Yukon south to Wyoming, primarily east of the continental divide. It is not documented to occur in Washington, while it is peripheral in Oregon with five locations statewide. Two occurrences are in Baker County (one on public lands on Hunt Mountain) and three are in Wallowa County. It is not considered rare in Idaho (IDCDC 2008). The species occurs in subalpine areas often growing on talus or thin lithosol soils and is typically associated with open coniferous forests and perennial herbaceous plants. There are few threats to this species due to its remote high elevation habitat, although potential threats include grazing and trampling by wildlife and possibly timber harvest and mining.

Country Indian paintbrush (*Castilleja flava var. rustica*) occurs in Oregon, Washington, Idaho, and Montana. It is not considered rare in Idaho or Washington (IDCDC 2008; WANHP 2008b). The only one occurrence of the species in Oregon is on public lands on Hunt Mountain. Country Indian paintbrush occurs on dry sagebrush and bunchgrass dominated flats and slopes, often in openings within coniferous forests. There are few threats to this species due to its remote high elevation habitat, although potential threats include grazing and trampling by wildlife and possibly timber harvest and mining.

The following are sensitive plants found in **coniferous forests habitats**:

Mingan's Island moonwort (Botrychium minganense) is a wide-ranging species occurring from Alaska, throughout boreal Canada, southward into all the western mountain states to Arizona, and eastward along the northern tier of states, to the Canadian Atlantic Provinces and New England. It is not consider rare in Washington (WANHP 2008b), but is considered rare but not imperiled in both Idaho and Oregon (IDCDC 2008; ORNHIC 2007). This moonwort occurs in a wide variety of habitats from moist roadsides, mesic meadows, and mature closed-canopy coniferous forests. There is one documented occurrence for this species in the Decision Area located near Cove, Oregon, where one plant was observed in 2003. Threats to this species include herbicide application, timber harvest, non-native plants, grazing, and road construction and maintenance.

The following are sensitive plants found in **Hells Canyon grasslands**:

Bartonberry (*Rubus bartonianus*) is a regional endemic known from Hells Canyon in both Oregon and Idaho. Both Oregon and Idaho consider it imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (ORNHIC 2007; IDCDC 2008). Globally, there are 19 occurrences of this species: ten in Oregon and nine in Idaho. One occurrence of bartonberry was located on public lands in 1977 on a tributary of Copper Creek. Seven of the ten sites in Oregon are within the perimeter of the Battle Creek Complex wildfire that burned in 2007. The effects of the fire or fire suppression on the species are unknown. Bartonberry occurs in moist draws and canyons, often on steep rocky slopes. These areas often have dense thickets of deciduous shrubs, sometimes with ponderosa pine and Douglas fir. Threats to this species include competition with non-native species (particularly Himalayan blackberry), browsing, fire, and perhaps fire suppression activities.

Sensitive Nonvascular Plant Species

No sensitive nonvascular plant species are documented to occur in the Decision Area.

Strategic Plant Species

The BLM manages strategic plant species differently than sensitive plant species. When strategic species are found, a location report is completed and entered into GeoBOB. It is the responsibility of the BLM State Office to compile data on these species and determine additional survey needs (BLM 2007b). Proposed actions requiring National Environmental Policy Act (NEPA) analysis do not have to consider effects to strategic species (BLM 2007b). Special status plant categories (i.e., sensitive and strategic) sometimes differ for a species depending on which state it occurs. There are three strategic vascular plant species documented to occur in the Decision Area and nineteen strategic vascular plant species suspected to occur in the Decision area. These are listed in Table 2.25.

In addition, there are seven strategic species of moss, three strategic species of liverworts, one strategic species of lichen, and six strategic species of fungi suspected to occur in the Decision Area. These are listed in Table 2.26.

Two of the strategic species of mosses are possibly documented to occur in the Decision Area. Both *Aloina bifrons* and *Bryoerythrophyllum columbianum* were found at Hat Rock State Park in 1980 and 1981; however, ORNHIC shows an imprecise polygon for these locations, which includes an 80-acre parcel of public land. It is unknown if these two rare moss species occur on this parcel of public land. If the species were documented on BLM or USFS lands in Washington or Oregon, they would automatically be converted to sensitive status for that state.

c. Trends

Plants are listed as sensitive due to their limited distribution or abundance within a given state and the presence of threats to the species perseverance. The major threats to the plant species listed in Tables 2.23 and 2.24 are competition with non-native plants, livestock grazing, insect predation, and altered fire regimes. Other threats include timber harvest, clearing of riparian areas, herbicide applications, habitat loss from dam construction, rock climbing, agricultural development, road construction and maintenance, rock and gravel operations, mining, and OHV use. Refer to Current Conditions section above for which specific threats have affected the populations of each plant species listed in Table 2.24.

The BLM has very little quantitative monitoring data of sensitive plants in the Decision Area to use to determine trends for the species discussed above. Some plant species such as the Asotin milk vetch are newly described and some of the other species found in the Rogersburg area were initially documented in the Decision Area only in the last few years. The only quantitative monitoring of the sensitive plants that has occurred in the Decision Area are Meinke's (2005, 2006) monitoring of stanleya, and the IAE's study of Snake River goldenweed (Kaye 2002) and of Cusick's lupine (Kaye and Gisler 2003). These studies looked at individual populations at specific locations and their results may or may not be applicable for all the species' populations in the Planning Area. The intent of these studies has been to determine life history for stanleya, effects of grazing on Snake River goldenweed, and effects OHV traffic on Cusick's lupine. They were not designed to provide overall population trends for these species; however, they do offer some insight into trends for local populations of these sensitive species.

Meinke (2007) included one stanleya site (at Unity) in the Decision Area in his study that included a total of six sites on the Vale and Burns Districts of the BLM and found that adequate spring precipitation was important for seedling establishment as well as maturation and flowering of mature plants. This study also anecdotally noted damage to plants from cattle due to browsing and trampling, with damage caused by browsing being more common at the Unity site than the other sites outside the Decision Area.

The IAE's study of the Cusick's lupine (Kaye and Gisler, 2003) looked at differences in plant performance within and outside of exclosures at Denny Flat and found little difference in plant size and population dynamics. This study did

Table 2.25. Strategic Vascular Plant Species in the Decision Area

Scientific Name	Common Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA
Allium robinsonii	Robinson's Onion	OR-STR	S	
Allium tolmiei var. platyphyllum	Flat-Leaved Tolmie's Onion	OR-STR	D	
Asclepias cryptoceras ssp. davisii	Davis's Milkweed	WA-STR	D	S
Balsamorhiza hookeri var. idahoensis	Hooker's Balsamroot	OR-STR	S	
Balsamorhiza rosea	Rosy Balsamroot	OR-STR	S	
Botrychium hesperium	Western Moonwort	OR-STR/ WA-SEN	S	
Carex atrosquama	Blackened Sedge	WA-STR/ OR-SEN	S	
Carex eleocharis	Involute-Leaved Sedge	OR-STR	S	
Carex physocarpioides	Russet Sedge	OR-STR	S	
Crepis bakeri ssp. idahoensis	Idaho Hawksbeard	WA-STR		S
Cryptantha thompsonii	Thompson's Cryptantha	OR-STR	S	
Erigeron engelmannii var. davisii	Engelmann's Daisy	WA-STR/ OR-SEN	S	D
Leptodactylon pungens ssp. hazeliae	Hazel's Prickly-Phlox	OR-STR	S	
Lupinus sabinianus	Sabin's Lupine	WA-STR		S
Lupinus sericeus var. asotinensis	Asotin Silky Lupine	WA-STR		S
Luzula orestera	Sierra Woodrush	OR-STR	S	
Mimulus washingtonensis	Washington Monkey-Flower	WA-STR		S
Penstemon deustus var. variabilis	Variable Hot-Rock Penstemon	OR-STR/ WA-SEN	D	S
Pyrrocoma liatriformis	Palouse Goldenweed	OR-STR/ WA-SEN	D	D
Senecio sphaerocephalus	Mountain-Marsh Butterweed	OR-STR	S	
Trifolium plumosum ssp. amplifolium	Bigleaf Clover	OR-STR	S	
Utricularia minor	Lesser Bladderwort	WA-STR/ OR-SEN	S	

1. ISSSSP = SEN = Sensitive in OR and WA; OR-SEN = Sensitive in OR only; WA-SEN = Sensitive in WA only; STR = Strategic in OR and WA; OR-STR = Strategic in OR only; WA-STR = Strategic in WA only

2. D = Documented occurrence = A species located on land administered by the BLM or the USFS based on historic or current known sites of a species reported by a credible source for which BLM and the USFS has knowledge of written, mapped or specimen documentation of the occurrence. S = Suspected occurrence = Species is not documented on land administered by the BLM or the USFS, but may occur on the unit because: (1) BLM District or National Forest is considered to be within the species' range and (2) appropriate habitat is present or (3) known occurrence of the species historic or current) in vicinity such that the species could occur on BLM or FS land.

note an overall decline in all plant populations of Cusick's lupine from 1998 to 2002, except for a site at Elm's Reservoir that increased slightly.

The study of Snake River goldenweed found that grazed plants were smaller, produced fewer flowers, and had smaller population growth (Kaye 2002). Grasshoppers and seed predators were also noted as causing extensive damage to the plants.

The extent of sensitive plant species distribution in the Decision Area is not entirely known, which makes determining trends difficult if not impossible. Not all suitable habitats have been searched, new species have been recently described, and species that were only suspected to occur in the Decision Area have been recently discovered. For example, four new locations of Snake River goldenweed and one new location of biennial stanleya were found in the Decision Area in the last two years, while no new locations for Cusick's lupine have been found in the last ten years in the Decision Area.

Table 2.26. Strategic Moss, Liverworts, and Fungus Species in the Decision Area

Scientific Name	Life form	ISSSSP[1] Status	Decision Area OR[2]	Decision Area WA
Aloina bifrons (1)	Moss	OR-STR	D?	S
Anomobryum julaceum	Moss	OR-STR	S	S
Anthelia julacea	Liverwort	OR-STR	S	
Bryoerythrophyllum columbianum (1)	Moss	OR-STR	D?	S
Collema curtisporum	Lichen	OR-STR	S	
Lophozia gillmanii	Liverwort	OR-STR	S	
Mnium blyttii	Moss	OR-STR	S	S
Orthotrichum euryphyllum	Moss	OR-STR	S	S
Orthotrichum holzingeri	Moss	OR-STR	S	S
Orthotrichum pellucidum	Moss	OR-STR	S	
Preissia quadrata	Liverwort	OR-STR	S	
Thelenella muscorum var. octospora	Lichen	OR-STR	S	
Arrhenia lobata	Fungi	OR-STR	S	
Gamundia leucophylla	Fungi	OR-STR	S	
Hydnotrya michaelis	Fungi	OR-STR	S	
Rhizopogon rogersii	Fungi	OR-STR	S	S
Rhizopogon subclavitisporus	Fungi	OR-STR	S	
Sclerotinia veratri	Fungi	OR-STR	S	

1. ISSSSP = SEN = Sensitive in OR and WA; OR-SEN = Sensitive in OR only; WA-SEN = Sensitive in WA only; STR = Strategic in OR and WA; OR-STR = Strategic in OR only; WA-STR = Strategic in WA only

2. D = Documented occurrence = A species located on land administered by the BLM or the USFS based on historic or current known sites of a species reported by a credible source for which BLM and the USFS has knowledge of written, mapped or specimen documentation of the occurrence. S = Suspected occurrence = Species is not documented on land administered by the BLM or the USFS, but may occur on the unit because: (1) BLM District or National Forest is considered to be within the species' range and (2) appropriate habitat is present or (3) known occurrence of the species historic or current) in vicinity such that the species could occur on BLM or FS land.

d. Forecast

The BLM does not have the quantitative monitoring data establishing population trends from which to predict the stability and persistence of sensitive plant species that occur in the Decision Area. It is not known if the low-elevation sites including around Rogersburg, sagebrush steppe habitats, and canyon grasslands are at risk from wildfire and increasing proliferation of non-native weedy plants. In general, low-elevation sagebrush steppe is very susceptible to conversion to annual weedy plants following wildfires. Stanleya, Cusick's lupine, and Snake River goldenweed all occur in the sagebrush steppe. This habitat and the plant species that inhabit it are threatened by wildfire, which reduces native plant cover and improves habitat for non-native weedy plant species. It is probable that Stanleya, Cusick's lupine, and Snake River goldenweed would not be able to compete as well as non-native plants at capturing and utilizing resources such as water and nutrients. In addition, weedy non-native plant species would decrease the wildfire return interval and increase the subsequent fire intensity. It is unknown how well these sensitive plants would cope with these more frequent and higher intensity wildfires. It could be hypothesized that since these plants did not evolve under these increased fire frequencies and intensities, they would not perform well under these changed conditions.

e. Key Features

The greatest concentration of sensitive vascular plants in the Decision Area has been documented in the Rogersburg Area of southeastern Washington, primarily on or near Lime Hill, which is a low elevation area located at the confluence of the Grande Ronde and Snake rivers. Some

Table 2.27. Special Status Fish Species

Common Name	Scientific Name	Federal Status	Washington Status[1]	Oregon Status[2]
Chinook Salmon – Snake River Spring/Summer Run Evolutionary Significant Unit (ESU)	*Oncorhynchus tshawytscha*	Threatened	C	Threatened
Chinook Salmon – Snake River Fall Run ESU	*Oncorhynchus tshawytscha*	Threatened	C	Threatened
Steelhead – Snake River Basin ESU	*Oncorhynchus mykiss*	Threatened	C	S-V
Steelhead –Mid Columbia ESU	*Oncorhynchus mykiss*	Threatened	C	S-V
Bull Trout	*Salvelinus confluentus*	Threatened	C	S-C
Redband trout	*Oncorhynchus mykiss gibbsi*	Species of Concern		
Pacific lamprey	*Lampetra tridentata*	Species of Concern		

1 Washington Status Definitions: C = Candidate; SS = Sensitive;
2 Oregon Status Definitions: S-US = Sensitive-Unclear Status; S-C = Sensitive-Critical; S-V = Sensitive-Vulnerable

unique geologic features in this area make it ideal for rare plants. Unlike much of the parent material for the surrounding landscape, Lime Hill is formed from limestone from Columbia River basalts. The area's unique parent material forms unusual calcareous soils, which provide the specialized habitats for the rare plants found there, most of which are regional endemics. The global extent of their distribution is the lower Snake River Canyon.

Additional important habitats for special status plants in the Decision Area are sagebrush steppe and subalpine forest and meadows. The limited subalpine habitat occurring in the Decision Area is located primarily on Hunt Mountain. Refer to the Current Conditions section above for details of habitat requirements for each specific special status plant species.

11. Special Status Species (Fish)

a. Indicators

Indicators for special status fish species are the same as those described for common fish species in Section A-8 in this chapter.

b. Current Conditions

Table 2.27 presents the key special status fish species that occur in the Decision Area. These include special status anadromous fish species such as the Snake River Basin and Mid Columbia steelhead and Snake River Chinook salmon. Bull trout, once referred to in this area as "Dolly Varden," occupy the headwaters and coldest water streams in the Planning Area. Native redband trout, a species of concern, inhabit most of the perennial streams in the Planning Area. The USFWS considers the Pacific lamprey as a "candidate species."

Special status fish species are found in various watersheds throughout the Planning Area. These watersheds and the fish species present are listed in Table 2.28, along with information on which watersheds contains designated critical habitat for the various species. Map 2.6 illustrates the location of special status fish species in the Planning Area while Map 2.7 illustrates streams with designated critical habitat for such species.

Snake River Spring/Summer Chinook

The final rule under ESA to list Chinook salmon as threatened was effective on May 22, 1992 (57 CFR 14653) and corrected on June 3, 1992 (57 CFR 23458) by the National Oceanic Atmospheric Administration (NOAA) National Marine Fish-

Table 2.28. Special Status Fish Species by Watershed

Watershed	Redband Trout	Chinook Salmon	Steelhead	Bull Trout	Designated Critical Habitat for Chinook (C), Steelhead (S), Bull Trout (BT)
Lower Snake Asotin	X	X	X	X	X (C, S, BT)
Lower Grande Ronde River	X	X	X	X	X (C, S, BT)
Walla Walla River	X	X (Chinook present but not listed)	X	X	X (BT, S)
Mid Columbia	X	X (Chinook present but not listed)	X		X (S)
Upper John Day	X	X (Chinook present but not listed)	X	X	X (BT, S)
Umatilla River	X	X	X	X	X (BT, S)
Upper Grande Ronde River	X	X	X	X	X (BT, S, C)
Wallowa River	X	X	X	X	X (BT, C, S)
Imnaha River	X	X	X	X	X (BT, C, S))
Hells Canyon	X	X (below dam)	X (below dam)	X	X (BT)
Brownlee Reservoir	X			X	X (BT)
Powder River	X			X	X (BT)
North Fork John Day River	X	X (Chinook present but not listed)	X	X	X (BT, S)
Lower John Day River	X	X (Chinook present but not listed	X		X (BT, S)
Burnt River	X				
Willow Creek	X				

eries Service (NMFS) (NOAA Fisheries). The final rule listing critical habitat for Chinook was effective January 27, 1994 (58 CFR 68543). That ruling was reconfirmed for spring/summer/fall Chinook as threatened on June 28, 2005 (70 CFR 37160) and for "Critical Habitat" for 19 ESUs, including the Snake River spring/summer/fall Chinook, on September 2, 2005.

Most adult spring Chinook salmon pass Bonneville Dam and enter the Columbia Basin in April and May (ODFW 1990). By June or July, the adults are holding in the rivers near spawning tributaries. Spawning usually occurs in August and September. Eggs incubate in the gravel over the winter and fry emerge between March and May.

Sport harvest has been closed in the Grande Ronde River Subbasin since 1974 in Oregon and 1977 in Washington. Three hatchery initiatives are currently under way in the Grande Ronde River Subbasin: the Lower Snake River Compensation Plan, Northeast Oregon Hatchery Program, and the Grande Ronde Endemic Supplementation Program.

Designated critical habitat for spring/summer Chinook salmon within the Lower Grande Ronde River Subbasin includes approximately 130 miles of rearing and migration habitat. Of these 130 miles, approximately 32.9 miles also serve as spring/summer Chinook spawning habitat. The major spring/summer Chinook salmon producing stream in the subbasin is the Wenaha River.

Spring Chinook salmon have been extirpated, at least functionally, from the Walla Walla Ba-

sin since the early 1920s (Nielsen 1950; Van Cleave and Ting 1960), although some adults were recorded in steelhead creel surveys as late as 1955 (Fish Commission of Oregon 1960). In 2001, the Confederated Tribes of the Umatilla Indian Reservation released more than 1,000 spring Chinook salmon into the Walla Walla River basin. The Tribes also built a fish hatchery just north of Harris Park on the South Fork to facilitate their restoration efforts. Adult fish have been released from this hatchery in the hopes that they will spawn in the South Fork.

In 2004, the first returning Chinook salmon returned up the South Fork of the Walla Walla River to spawn. One hundred and ten fish passed through the Confederated Tribes of the Umatilla Indian Reservation Nursery Bridge Dam fish ladder. Out of 225 redds counted in the basin in 2004, there were 41 redds from the fish facility to the South Fork trailhead, and 64 redds from the South Fork trailhead to Bear Creek. Out of 78 redds counted in the basin during 2005, there were 8 redds from the fish facility to the South Fork trailhead and 28 redds from the South Fork trailhead to Bear Creek. Since 2005, the returns in the fall have increased substantially. In 2007, there were 1,000 Chinook salmon that returned to the Walla Walla River, with approximately 30 percent expected to move into the South Fork.

Snake River Fall Chinook

Fall Chinook currently rear and spawn in the Lower Grande Ronde River up to Wildcat Creek (river mile [RM] 53). Identification of the spawning area is based on aerial surveys conducted annually by the USFWS and the Nez Perce Tribe.

Fall Chinook salmon may have been indigenous to the larger streams of the Lower Grande Ronde River Subbasin. Limited information is available on areas historically used by fall Chinook. There are 86.2 miles of designated critical habitat in the subbasin. This includes the only known spawning habitat in the subbasin: the Grande Ronde River below Rondowa (RM 82) and the lower 4.2 miles of Joseph Creek, where fall Chinook are believed to have historically spawned and reared.

Mid Columbia River Steelhead

In response to a court order, the NMFS published a proposal on February 15, 1998 to list the Mid-Columbia River Basin segments of summer steelhead under the ESA (PL 93-205). That ruling was reconfirmed and critical habitat was designated for the Mid Columbia River Basin steelhead on January 5, 2006 (71 CFR 834). The Mid-Columbia River population of summer steelhead includes the Walla Walla River and its tributaries in this Planning Area.

The South Fork Walla Walla River is a top producer of threatened Middle Columbia summer steelhead trout and provides high quality habitat for the species. The Walla Walla River population of the Mid Columbia Summer Steelhead ESU is classified as an "intermediate" sized population. Such a population has a mean minimum abundance threshold of 1,000 natural spawners with a sufficient intrinsic productivity (greater than 1.4 recruits per spawner at the threshold abundance level) to achieve a 5 percent or less risk of extinction over a 100-year timeframe (Carmichael 2006). Current production in the Walla Walla River population is concentrated in the North and South Fork Walla Walla rivers and Course and Mill creeks.

Bull trout

The USFWS published a final rule listing bull trout in the Columbia River Distinct Population Segment as a threatened species under the ESA (63 CFR 31647). The rule became final on July 10, 1998. The Columbia River population of bull trout includes fish found in the Grande Ronde, Umatilla, Walla Walla, John Day, Snake, Imnaha, Wallowa, and Powder rivers, as well as several tributaries within those watersheds. The final rule for "Critical Habitat" was designated on September 23, 2005 by USFWS, which includes portions of most of the streams mentioned above.

The South Fork Walla Walla River, including slightly over 3 miles that flow through the Decision Area, is a top producer of bull trout in the Walla Walla River Basin. The river is located in the Umatilla-Walla Walla Recovery Unit of the Columbia River population, which encompasses the entire drainages of the Umatilla and Walla

Walla rivers. In the Walla Walla Basin, the South Fork Walla Walla River accounts for 30 percent of the runoff but only 4 percent of the drainage area. While the main channel consists mainly of swift water over a gravel-boulder substrate, the river also contains a diversity of habitats for bull trout, including extensive side channeling, backwaters, abundant vegetation cover, and deep pools. One of the most important features of the South Fork for bull trout is that water temperatures do not exceed 59 degrees, even during the warm summer months. This is a unique characteristic for streams in the Umatilla-Walla Walla Recovery Unit of the Columbia River population, and is an important factor in the viability of the species. As such, the bull trout population status in the South Fork is described as "low risk." In comparison, the bull trout population in the North Fork Walla Walla River is at "high risk" of extinction and the population in Mill Creek is "of special concern." The status of the Umatilla bull trout populations was also categorized as "of special concern" in the North Fork Umatilla River, and as at "high risk" of extirpation in the South Fork Umatilla River and North Fork Meacham Creek (Buchanan *et al.* 1997). Washington Department of Fish and Wildlife considers the status of Mill Creek bull trout as "healthy" and Touchet River bull trout as "unknown" (USFWS 2004).

Redband Trout

The entire group of redband/rainbow trout has been recently classified into the rainbow grouping (*Oncorhynchus mykiss gibbsi*). Redband/rainbow trout is the interior (inland) rainbow trout, which can be differentiated from the coastal rainbow both electrophoretically and by meristic character differences such as the very fine scales and extra row of teeth on the tongue. The redband/rainbow's coloration is highly variable, most often there is a brick red coloring around the lateral line and dark colored parr marks (spots). The rainbow trout has a rainbow color around the lateral line and light colored parr marks. Spawning behavior appears to be most similar to that of rainbow and golden trout. All are spring spawners and require gravel riffles in which the female excavates a redd. Redband/rainbow trout have been listed as a sensitive species because their populations have diminished from historical levels.

Currens (1991) looked at the genetic variation within and among populations of redband/rainbow trout in the Burnt and Powder rivers. The populations showed consistent genetic characteristics of inland redband/rainbow trout of the Columbia and Snake River. There were local population differences between the two populations tested in Burnt River, but it was concluded that the Burnt River and Powder River populations are inland redband/rainbow trout (Currens 1991).

The current distribution of redband trout within the Planning Area is relatively unknown due to the lack of definitive stream surveys that determine fish presence/absence and genetic analysis of specimens captured in the field. Based on their widespread historical distribution, redband trout are assumed present in all streams within the Planning Area unless available information or data says otherwise. Additionally, hybridization with rainbow trout makes it difficult to visually identify redband trout and requires verification of field identification through genetic analysis.

Pacific Lamprey

Pacific lamprey occurred historically in the Grande Ronde River Subbasin. Remnant populations may persist in the subbasin but their distribution and abundance are unknown, making assessing this species distribution and habitat conditions difficult. No Pacific lampreys have been documented within waters managed by the Baker Field Office.

c. Trends

Snake River Spring/Summer Chinook

Historically, spring/summer Chinook salmon were distributed throughout much of the Lower Grande Ronde River Subbasin. Rearing habitat for spring/summer Chinook salmon may have occurred in other tributaries and further upstream from current habitat.

Changes in Chinook distribution in the Grande Ronde River Subbasin are somewhat subtle and difficult to map. Some areas historically used for Chinook spawning are now used primarily for seasonal rearing and migration due to human

modification of the habitat, which limits its use for spawning (J. Zakel, ODFW, personal communication, 2004).

Passage problems at Columbia and Snake River dams are the primary contributor to the decline in the Grande Ronde spring Chinook salmon population (ODFW 1990). Grande Ronde River anadromous fish must pass eight dams, four on the Columbia River and four on the Snake River, during upstream and downstream migrations. Out-of-subbasin harvest and both in-and out-of-subbasin habitat degradation have also contributed to the population decline (Ashe *et al.* 2000).

Within the Grande Ronde River Subbasin, riparian and in-stream habitat degradation, low stream flows, and poor water quality has severely affected spring Chinook salmon production potential. These problems are the result of water withdrawals for irrigated agriculture and human residential development, livestock overgrazing, mining, mountain pine beetle damage, channelization, recreation use (including OHV use), logging activity, and road construction/ maintenance. While many of these impacts have been reduced in recent years with management practices becoming more sensitive to fish and aquatic habitats, the effects of some past management activities remain.

Snake River Fall Chinook

Fall Chinook salmon may have been indigenous to the larger streams of the Lower Grande Ronde Subbasin. Limited information is available on areas historically used by fall Chinook. There are 86.2 miles of designated critical habitat in the subbasin. This includes the only known spawning habitat in the subbasin, the Grande Ronde River below Rondowa (RM 82) and the lower 4.2 miles of Joseph Creek, where fall Chinook are believed to have historically spawned and reared.

Mid Columbia River Steelhead

Summer steelhead have been on a very steady decline over the last 40 to 50 years. Stream conditions over the years have declined, probably impacting emergence and rearing of young smolts. Sediment and high stream temperatures are affecting the population and preventing population increases.

In the Walla Walla River Subbasin, summer steelhead historically spawned and reared throughout a large area of the middle and upper reaches of the main stem Walla Walla and Touchet rivers and their tributaries. Widespread habitat degradation resulting from irrigation, dryland farming, livestock grazing, and logging has reduced usable spawning habitat by approximately 50 percent (WDFW 1985).

Steelhead enter the Walla Walla River Subbasin from December through March, with peak numbers entering February through March (ODFW 1987). There are no accurate numbers of historical run sizes; annual runs are believed to have contained 4,000 to 5,000 fish (ODFW 1987). For run years 1977/1978 through 1986/1987, an estimated 1,090 to 1,817 native summer steelhead annually returned to the subbasin.

Low stream flow is the main limiting factor for summer steelhead. Naturally low stream flows in the summer months are severely compounded by extensive irrigation withdrawals. Normally, Oregon irrigators completely divert the main stem Walla Walla River at the Oregon/Washington border (Confederated Tribes of the Umatilla Indian Reservation 1990).

Bull trout

Bull trout distribution, abundance, and habitat quality have declined range wide. Several local extirpations have been documented, beginning in the 1950s. Bull trout continue to occur in the Klamath, Columbia, Jarbidge, and St. Mary-Belly rivers and Coastal-Puget Sound in the states of Idaho, Montana, Nevada, Oregon, and Washington.

Declines in bull trout distribution and abundance are the results of combined effects of habitat degradation and fragmentation, the blockage of migratory corridors, poor water quality, angler harvest and poaching, entrainment into diversion channels and dams, and introduced non-native species. Specific activities that continue to de-

press bull trout populations and degrade habitat include dams and other diversion structures, forest management practices, livestock grazing, agriculture, road construction and maintenance, mining, recreation use (including OHV use), and urban and rural development. Some threats to bull trout are the continuing effects of past land management activities.

Redband trout
Redband trout once inhabited the entire upper Columbia River system and areas of British Columbia and Northern California (Lusch 1985). Behnke (1979) suggests that the redband/rainbow trout was originally native throughout the interior reaches of the Columbia River Basin except where blocked by major falls.

Introductions of hatchery rainbow trout and subsequent hybridization along with habitat loss and degradation have largely eliminated pure redband trout populations in most of their original range (Bacon *et al.*, 1980. The redband/rainbow is currently found only in isolated sections of their historical habitat.

Pacific Lamprey
Historically, pacific lampreys are thought to be distributed wherever salmon and steelhead occurred. However, recent data indicate that distribution of the Pacific lamprey has been reduced in many river drainages. They no longer exist above many dams and other impassable barriers in west coast streams, including many larger rivers throughout Oregon and Washington and above dams in the upper Snake and Columbia rivers (USFWS 2008).

Current threats to pacific lamprey include passage at dams, dewatering and low flows, poisoning, poor water quality, dredging, stream and floodplain degradation, ocean conditions, and predation by non-native fish species (USFWS 2008).

d. Forecast
The productivity of streams in the Planning Area will remain below potential until habitat conditions and watershed processes are improved, and other sources of salmon/steelhead mortality are reduced. Passage at dams and impacts from commercial (and to a lesser degree, recreational) fisheries are significant sources of fish mortality. Activities with the potential to impact stream habitat must be designed to minimize negative effects, and restoration actions should be taken.

Many of the watersheds within the Planning Area are comprised of very little federal land. In fact, some of the most important watersheds that support anadromous fish species consist of less than 5 percent federal land (USFS and BLM). It is thus up to other landowners (state and private) to contribute in future attempts to improve aquatic habitats and increase native fish numbers, whether cooperatively with federal agencies or independently of one another.

e. Key Features
Special status fish are dependent upon the same general habitat attributes that are considered to the main "drivers" of fish production and sustainability identified under Section A-8 (Fish) of this chapter. More specific habitat needs for special status fish species are presented below.

Snake River Spring/Summer Chinook
Habitat loss and modification are the major factors determining the current status of salmon populations. Conservation and recovery of Pacific Northwest salmon depend on having diverse habitats with connections among those habitats. The salmonid lifecycle involves adults maturing in the ocean, migrating back to their home streams and spawning, embryos incubating, fry emerging, juveniles growing, and smolts migrating to the estuary to acclimate to saltwater and moving out into the ocean. Each life history phase may require use of and access to distinct habitats. Loss of any of these habitats reduces the diversity in salmon life histories, which influences the ability of these fish to adapt to natural and man-made change.

Chinook salmon need freshwater habitat that includes the following basic features:

- Cool, clean water

- Appropriate water depth, quantity, and flow velocities upland and riparian (stream bank) vegetation to stabilize soil and provide shade
- Clean gravel for spawning and egg-rearing
- Large woody debris to provide resting and hiding places
- Adequate food
- Varied channel forms

Chinook salmon also have specific habitat requirements for spawning, rearing fry/par, smolts, and adults, which are listed below:

Spawning:

- Substrate size: 2-in to 3-in is most prevalent and gradation ranges from 1-in to 4-in. Substrate must be stable to avoid shifting and damage to eggs.
- Water depth: Generally less than 36-in and more than 20-in.
- Stream feature: Tail of pool and occasionally within long runs.
- Velocity: More than 3-ft/sec.
- Water temperature: Optimum range is from 42°F to 51°F and the upper limit is 60.8° F.

Rearing Fry/Parr:

- Velocities: Slow but flowing water (edge of main channel).
- Water temperatures: Optimum range is from 53°F to 60°F and the upper limit is 77°F for short time periods.
- Feeding: Feed on all types of available invertebrates.
- Predatory considerations: Side channels and slack water areas provide optimum rearing conditions and typically provide a variety of habitat features that offer protection for the juvenile fish from predators. Main channel cover features that the fry use are voids in boulders and fallen trees along the edge of the stream.
- Depth: Variable but generally less than 4 feet.
- Stream feature: During the spring and summer, juvenile fish are primarily concentrated in back water areas such as side channels and in the main channel at the edges of the channel where velocities are lower. During the winter, the fish move to deeper water in the main channel and shelter in the interstitial spaces in the substrate of the channel bed (consequently, sediment free substrate is important). The side channels provide important places for both rearing and refuge during flood events.

Smolts:

- Velocities: Variable
- Water temperatures: Same as fry
- Feeding: On a variety of aquatic macro-invertebrates
- Predatory considerations: Travel generally at night to avoid terrestrial and aquatic predators
- Depth: Variable
- Stream feature: Main channel free of obstructions

Adults:

- Velocities: Variable
- Water Temperature: Same as fry
- Feeding: No feeding occurs once the adults enter fresh water
- Predatory considerations: More complex habitat features offers protection from predators
- Depth: More than 5-ft or in areas with at least 3 ft that have cover.
- Stream feature: Hold in main channels typically in logjams and deep holes in the vicinity of where they spawn

Mid Columbia River Steelhead

As with salmon, steelhead habitat requirements change as they go through different life phases. Adult steelhead need to have access to their natal streams. This means that streams must be free of barriers that would prevent migration because the majority of spawning occurs in the upper reaches of tributaries. Adults also need access to spawning gravel in areas free of heavy sedimentation with adequate flow and cool, clear water. Steelhead utilize gravel that is between 0.5 to 6 inches in diameter, dominated by 2 to 3-inch gravel. Escape cover such as logs, undercut banks, and deep pools for spawning adults is also important.

For steelhead eggs and pre-emergent fry, the most important consideration in terms of habitat is cool water with adequate DO. Fine sediment will smother developing embryos, so the area must not have excessive fine silt or sand. During their first summer, juvenile steelhead are typically found in relatively shallow areas with cobble and boulder bottoms. They reside at the downstream end or in riffles less than two feet deep. Juvenile steelhead prefer areas including woody debris accumulation such as logs or tree roots. Cover structures such as boulder clusters and root wads provide both summer and winter rearing habitats. Surface turbulence (or white water) provides another source of cover during the summer months. As juvenile steelhead grow, pools become an important habitat component, preferably those with abundant escape cover in the form of large woody debris, undercut banks, root masses, and large boulders.

Cool, clean water is essential for the survival of steelhead during all portions of their life cycle. Elevated water temperatures (>70° F) can greatly impair growth rates of juvenile steelhead. Warmer water also holds less DO and increases a fish's susceptibility to disease.

Bull Trout

Bull trout have more specific habitat requirements than most other salmonids. Habitat components that influence bull trout distribution and abundance include water temperature, cover, channel form and stability, substrate for spawning and rearing, and migratory corridors. Bull trout are found in colder streams and require colder water than most other salmonids for incubation, juvenile rearing, and spawning. Spawning and rearing areas are often associated with cold-water springs, groundwater infiltration, and/or the coldest streams in a watershed. Throughout their lives, bull trout require complex forms of cover, including large woody debris, undercut banks, boulders, and pools. Alterations in channel form and reductions in channel stability result in habitat degradation and reduced survival of bull trout eggs and juveniles. Channel alterations may reduce the abundance and quality of side channels, stream margins, and pools, which are areas bull trout frequently inhabit. For spawning and early rearing, bull trout require loose, clean gravel relatively free of fine sediments. Because bull trout have a relatively long incubation and development period within spawning gravel (greater than 200 days), transport of bedload in unstable channels may kill young bull trout. Bull trout use migratory corridors to move from spawning and rearing habitats to foraging and over-wintering habitats and back. Different habitats provide bull trout with diverse resources and migratory corridors allow local populations to connect, which may increase the potential for gene flow and support or re-establishment of populations.

Redband Trout

Redband/rainbow are similar to brook trout (*Salvelinus fontinalis*) in terms of requirements for food, space, cover, and individual territories that are afforded by the riffles and small pools of headwater streams (Bacon *et al.* 1980). The redband/rainbow appears to tolerate higher siltation conditions and select lower water velocity situations than what is typical for most trout.

The redband/rainbow trout appear to be more tolerant of high water temperatures than other salmonids. Some redband/rainbow populations in the desert basins of southeast Oregon have adapted to very high water temperatures through a unique survival mechanism and are known to inhabit intermittent, stagnant streams with temperatures as high as 83° F (Behnke 1979).

Pacific Lamprey
Pacific lampreys spawn in similar habitats to salmon: in gravel bottomed streams, at the upstream end of riffle habitat, and typically above suitable ammocoete habitat. Spawning occurs between March and July depending upon location within their range. The degree of homing is unknown, but adult lampreys cue in on ammocoete areas, which release pheromones that are thought to aid adult migration and spawning location. Both sexes construct the nests, often moving stones with their mouth. After the eggs are deposited and fertilized, the adults typically die within 3 to 36 days after spawning (USFWS 2008).

Embryos hatch in approximately 19 days at 59°F and the ammocoetes drift downstream to areas of low velocity and fine substrates where they burrow, grow, and live as filter feeders for 3 to 7 years, feeding primarily on diatoms and algae. Several generations and age classes of ammocoetes may occur in high densities. Ammocoetes move downstream as they age and during high flow events. Little is known about movement and locations of ammocoetes within stream substrates, although it is believed that they may move laterally (USFWS 2008).

12. Special Status Species (Wildlife)

a. Indicators
Section A-9, Wildlife, describes habitat indicators relevant to management of both common and special status wildlife species. In addition, the same wildlife and wildlife habitat relationships information discussed in Section A-9 also applies to special status wildlife species.

b. Current Conditions

Special Status Wildlife Species Narratives and Population Trends
Thirty special status wildlife (i.e., mammals, birds, and amphibians) species are suspected to occur or known to occur in the Decision Area. Table 2.29 is a complete list of special status wildlife species and their current status according to state and federal agencies including ODFW, WDFW, USFWS, and BLM.

As stated under Section A-9, about 9 percent of the Decision Area is forestland. Consequently, forested habitats will only supply a small fraction of the total area needed to sustain certain wildlife including wide-ranging species. For example, if gray wolf or California wolverine were to become permanent residents within the Decision Area, both species would require large, continuous tracks of land. As a result, the Decision Area will probably play only a minor role in conservation of these and other wide-ranging species. This does not mean that forest habitats in the Decision Area have low value for wildlife considerations for future land management. On the contrary, even relatively small forest patches may support valuable habitat for a variety of special status species. These forested areas also provide connectivity islands and transient habitat for variety of species.

In contrast to the limited forest habitat in the Decision Area, the remaining 91 percent of public lands supports riparian areas, sagebrush steppe, canyons, and rocky terrain. Because of the geographic extent of these habitats, BLM stewardship could have significant beneficial or adverse impacts on special status wildlife species that depend on these habitats.

General Rationale for Special Status Animal Designations
The BLM's Oregon and Washington special status species management objectives are to conserve listed species and the ecosystems on which they depend and to ensure that actions requiring authorization or approval by the BLM are consistent with the conservation needs of unlisted special status species. Furthermore, the BLM should design their actions in such a way that they will not contribute to the need to list special status species under the provisions of the ESA.

Special status wildlife management designations are assigned for many reasons, including limited distributions, populations occurring at

Table 2.29. Special Status Species (Wildlife) Occurrence Within the Planning and Decision Areas

Animal Names		Habitat Information		Current State and Federal Management Status				Occurrence Status	
Common Names	**Scientific Names**	**Habitat Association**	**Suitable Habitat Present on Public Land?**	**US FWS**	**BLM**	**ODFW**	**WDFW**	**Planning Area**	**Decision Area**
			MAMMALS						
Gray wolf	*Canis lupus*	Remote, generally forested habitats at the present time	limited	LE	S	E		Documented	Suspected
Canada lynx	*Lynx canadensis*	Coniferous forest, canyons	limited	LT				Documented	Suspected
California bighorn sheep	*Ovis canadensis californiana*	Sagebrush steppe, canyons	yes	SC	S	SC		Documented	Documented
Washington ground squirrel	*Sperm ophilus washingtoni*	Sagebrush steppe	limited	SC	S	SC		Documented	Suspected
Pygmy rabbit	*Brachylagus idahoensis*	Sagebrush steppe	yes	SC	S	SC		Suspected	Suspected
California wolverine	*Gulo gulo luteus*	Coniferous forest	limited		S	SC		Documented	Suspected
Fisher	*Martes pennanti*	Coniferous forest	limited	C	S	SC		Suspected	Suspected
American marten	*Martes Americana*	Coniferous forest	limited		S	SC		Documented	Suspected
White-tailed jackrabbit	*Lepus townsendii*	Sagebrush steppe, riparian	yes	SC	S			Documented	Documented
Preble's shrew	*Sorex preblei*	Sagebrush steppe	yes	SC	S			Suspected	Suspected
Western big-eared bat	*Corynorhinus townsendii pallescens*	Old growth conifer, caves	yes	SC	S			Documented	Suspected
Silver-haired bat	*Lasionycteris noctivagans*	Coniferous forest, riparian	yes	SC	S			Documented	Documented
Small-footed myotis	*Myotis ciliolabrum*	Grasslands, sagebrush steppe, juniper woodlands, pine-fir forests, agriculture, and urban areas	yes	SC	S			Documented	Documented

Table 2.29. Special Status Species (Wildlife) Occurrence Within the Planning and Decision Areas

Animal Names		Habitat Information		Current State and Federal Management Status				Occurrence Status	
Common Names	**Scientific Names**	**Habitat Association**	**Suitable Habitat Present on Public Land?**	**US FWS**	**BLM**	**ODFW**	**WDFW**	**Planning Area**	**Decision Area**
Long-eared myotis	*Myotis evotis*	Lower montane, riparian woodland, and upland woodlands, whitebark pine	yes	SC	S			Documented	Documented
Fringed myotis	*Myotis thysanodes*	Low desert scrub habitats to high elevation coniferous forest	yes	SC	S			Suspected	Suspected
Long-legged myotis	*Myotis volans*	Juniper and montane coniferous forest	yes	SC	S			Documented	Documented
Yuma myotis	*Myotis yumanensis*	Forest clearings and arid sites close to permanent streams, rivers and open water	yes	SC	S			Suspected	Suspected
		BIRDS							
Greater sage-grouse	*Centrocerus urophasianus*	Sagebrush steppe, riparian and wetland	yes	SC	S			Documented	Documented
Bald eagle	*Haliaeetus leucocephalus*	Riparian, canyons, conifer forest	yes	SC	S	S		Documented	Documented
Harlequin duck	*Histrionicus histrionicus*	Mountain streams	limited	SC	S	SC	PS	Documented	Suspected
Tricolored blackbird	*Agelaius tricolor*	Wetlands	limited					Documented	Suspected
Upland sandpiper	*Bartamia longicauda*	Montane meadows in coniferous forest	limited	SC				Documented	Suspected
Columbian sharp-tailed grouse	*Tympanuchus phaslanellus*	Sagebrush steppe and grasslands	limited	SC	S			Documented	Neither
Northern goshawk	*Accipiter gentilis*	Aspen, juniper, coniferous forest	yes	SC/C	S	S		Documented	Documented

Table 2.29. Special Status Species (Wildlife) Occurrence Within the Planning and Decision Areas

Animal Names		Habitat Information		Current State and Federal Management Status				Occurrence Status	
Common Names	**Scientific Names**	**Habitat Association**	**Suitable Habitat Present on Public Land?**	**US FWS**	**BLM**	**ODFW**	**WDFW**	**Planning Area**	**Decision Area**
Western burrowing owl	*Athene cunicularia hypugea*	Sagebrush steppe	yes	SC	S			Documented	Documented
Ferruginous hawk	*Buteo regalis*	Sagebrush steppe and juniper	yes	SC				Documented	Documented
Lewis' woodpecker	*Melanerpes lewis*	Ponderosa pine	limited	SC	S			Documented	Documented
White-headed woodpecker	*Picoides albolavatus*	Ponderosa pine	yes	SC	S			Documented	Documented
Mountain quail	*Oreortyx pictus*	Riparian	yes	SC	S			Suspected	Suspected
		AMPHIBIANS							
Columbia spotted frog	*Rana luteiventris*	Aquatic, riparian	yes	C	S			Documented	Documented

Current state and federal management status: USFWS – **LE**= federally listed Endangered, **LT**=federally listed Threatened, **SC**=species of concern, **C**= candidate for listing as Threatened or Endangered; **ODFW** – **E**=Endangered, **SC**= species of concern; **WDFW** – **PS**= priority species; **Occurrence Legend (per OR/WA BLM special status species designations): Documented** = species is present based on records and/or observations; **Suspected**= species could conceivably occur on suitable public land, but no information is available to verify breeding, migration, or transitory use of public land; **Neither**= species is neither suspected or documented

the edge of their range, habitat losses resulting from environmental impacts, suspected or documented population declines, or some combination of these factors. Special status species usually receive priority in BLM funding for determining distributions, abundance, and habitat preferences. Typically, information about special status species is gathered during normal fieldwork by BLM biologists or through contracts with qualified individuals.

In the case of formally listed species under the ESA, special status species management may be directed by law under USFWS recovery plans. In the case of non-listed special status species, policy and interagency cooperation under conservation agreements may direct management. Both kinds of management arrangements can and will influence land use and management actions in the Decision Area.

Special status species lists are prone to change as new inventory data are gathered. Therefore, the list of special status species in Table 2.29 will probably change over time. List changes may include (1) addition of new species, (2) delisting species (removal from special status), or (3) elevating species to federal or state threatened or endangered status.

The BLM may require adjusting land uses to provide the proper quality and quantity of habitat for special status species on public lands. Adjustments necessary depend on the (1) species, (2) their life history needs, (3) the seasons of use potentially affected, and (4) the nature of the land use allowed.

Because the BLM may need to consider a wide variety of species during the planning process, the potential impacts on land uses are quite variable. Examples of potential influences on land uses include:

- Adjustments of seasons, locations, or intensities of grazing use
- Locations, extent, and plant compositions of rangeland seeding projects
- Adjustments of the timing and location of minerals exploration activity
- Adjustments of permitted recreational uses
- Adjustments of forest harvest configurations, allowable sale quantities (ASQs)
- Snag retention for cavity-nesting birds or other animals
- Adjustments to locations and access for energy development

Species and Habitat Narratives

This section provides an overview of special status wildlife species including information about their populations and habitat requirements. For organizational purposes, mammal, bird, and amphibian narratives are grouped together under separate headings. For species listed below, the absence of statements about local population trend means insufficient data are available to draw any conclusions for the Decision Area at this time. Where sufficient information was available, national or regional population trends are described by species. Section A-9c discusses habitat trends for common wildlife that also apply to special status wildlife species.

Section C-1, ACECs, provides additional information pertaining to locally important special status species habitats. Areas of Critical Environmental Concern often provide quality habitat characteristics for special status species and are frequently designated for the protection of such habitats.

Special Status Mammal Narratives

Gray wolf (*Canis lupus*)

Currently, occupied gray wolf habitat is limited to very remote east-side forested locations of the Planning Area in association with the Snake River. A wolf pack that included both adults and pups was confirmed in northern Union County in July 2008, which was the first evidence of multiple wolves and wolf reproduction in Oregon since wolves were extirpated from the state in the mid-1940s. The 2008 observation did not occur in the Decision Area.

Wildlife biologists conducting a howling survey heard the simultaneous howls of both adults

and pups. The exact number of wolves was not determined, but it consisted of at least two adults and two pups. Biologists have been conducting regular surveys of the area since the howling was documented, and have infrequently observed wolf sign. State and federal biologists continue to monitor the area to determine the level of wolf activity.

Experts have long predicted that wolves from the expanding Idaho population would continue to cross the Snake River and enter Oregon. Biologists have been investigating evidence of wolves in northeast Oregon for some time. With the knowledge that gray wolves would likely reestablish in the near future a permanent residence in eastern Oregon, the ODFW Commission directed the development of a wolf conservation and management plan. Both the federal and state governments consider gray wolves in Oregon as an endangered species. According to the state conservation and management plan, ODFW will conclude that wolves are permanently established after four breeding pairs have been documented for three consecutive years east of the Cascade Range.

Wolves initially experienced population declines due mainly to conflicts with humans. This included human settlement, direct conflict with livestock, and lack of understanding of wolf ecology and habits and the subsequent eradication programs. The primary threat to wolves today is mortality from shooting and vehicle collisions (Wisdom *et al.* 2000). Human conflict still exists, most notably over livestock depredations and the associated economic losses. Concern over wolf depredation on big game also exists.

Canada lynx (*Lynx canadensis*)

There are no confirmed recent sightings of lynx within the Decision Area or Planning Area. Potential lynx habitat is extremely limited within the Decision Area and is located on Hunt Mountain. The Blue Mountains represent the southern extent of lynx distribution, which would explain the rarity of this species both historically and at the present (Brittell *et al.* 1989).

The USFWS listed the Canada lynx as threatened on March 24, 2000 (65 FR 16051). No critical lynx habitat per federal ESA requirements has been identified. As of fall 2001, the BLM and USFWS entered into a formal Canada Lynx Conservation Agreement, which specifies a variety of planning and conservation measures for land managing agencies, including the BLM. *The Scientific Basis for Lynx Conservation* (Ruggiero *et al.* 1994), prepared by an international team of experts in lynx biology and ecology, is the best available compendium and interpretation of current scientific knowledge about Canada lynx, its primary prey, and habitat relationships.

Primary vegetation that contributes to lynx habitat is subalpine fir types where lodgepole pine is a major seral species, generally between 4,100-6,600 feet in elevation (Ruediger 2000; Ruggiero *et al.*1999; Verts and Carraway 1998). Moist grand fir and Douglas fir types intermixed with subalpine types constitute secondary vegetation that may also serve as habitat (Ruediger 2000; Ruggiero *et al.*1999). Dry forest types (e.g., ponderosa pine and climax lodgepole pine) are not considered lynx habitat.

Hares comprise 33-100 percent of the lynx' diet and a hare density of greater than or equal to 0.5 hares/2.5 acre is likely required for lynx persistence (Ruggiero *et al.* 2000). Hares exploit early to mid-successional stages. Lynx foraging habitat consists of mixed conifer stands characterized by a dense, multi-layered understory that maximizes hare browse at both ground level and at varying snow depths (Ruediger 2000; Ruggiero *et al.*1999). Lodgepole pine is often a major component of this habitat.

Riparian areas, aspen stands, and high-elevation willow communities are important lynx prey habitats. Large, coarse woody debris is a common element of natal den sites. Hollow logs and root wads provide protection and thermal cover for kittens. Denning habitat must be in or adjacent to foraging habitat to be functional (Ruediger 2000).

Lynx seem to prefer to move through continuous forest, and frequently use ridges, saddles, and riparian areas. Home range sizes for lynx can be variable, but it appears that at least 6,400 acres of primary vegetation should be present to support survival and reproduction.

Risk factors for lynx include direct human threat (shooting, trapping, vehicle collisions), as well as changes in forage and denning habitat. Roads and trails have resulted in increased human access and activity in lynx habitat, particularly during critical winter months. Many of the existing routes are closed to motorized travel during certain times of the year but are open to over-the-snow travel and provide popular snowmobile opportunities. Packed snow trails made by snowmobiles can allow other predators, such as coyotes that would normally be excluded because of snow conditions, to compete with lynx for prey. Lynx use roads and packed trails for travel, which may make them more vulnerable to human-caused mortality. Fire suppression and logging have altered the mosaic of habitats needed for prey species and denning sites (Wisdom et al. 2000, USDI 2000).

California bighorn sheep (*Ovis canadensis californiana*)

Bighorn sheep generally inhabit open areas of rocky slopes, ridges, rim rocks, cliffs, and canyon walls with adjacent grasslands or meadows, and few trees (Verts and Carraway 1998). The species avoids dense forest communities. Their primary diet consists of bunchgrass, but also includes significant amounts of forbs and shrubs during the growing seasons. In the winter and spring, they will also utilize cheatgrass, which is an invasive annual plant. The distribution of escape terrain regulates the extent to which other habitat components are used. Most bighorn sheep use forage areas within 0.5 mile of escape terrain and generally not seen farther than 1.0 mile.

California bighorn sheep inhabit Burnt, Grande Ronde, and Snake river canyons. Existing populations are the result of relocations from the Hart Mountain National Wildlife Refuge in Lake County, Oregon.

In the past, disease transmission from domestic sheep contact contributed to bighorn sheep mortalities within the Decision Area. Domestic sheep allotments have since been moved and no domestic sheep in the Decision Area graze in proximity to bighorn sheep herds or potential bighorn habitat. Maintenance of adequate spatial separation between domestic sheep and bighorn sheep will be addressed in this planning process. Forage competition due to cattle grazing may at times be a local concern, although wild sheep and cattle generally use different landforms. On the other hand, new livestock water developments or other actions that attract additional livestock use within currently occupied bighorn habitat may be an issue.

California bighorn sheep populations have fluctuated locally due to the combined effects of disease and weak genetic diversity. While some local populations appear to be self-sustaining and stable, others may eventually disappear unless ODFW takes supplemental transplant actions (pers. comm., Myatt 2008).

Washington ground squirrel (*Sperm ophilus washingtoni*)

Washington ground squirrel occupation has not been documented in the Decision Area, but potential habitat may be available in Columbia Plateau sagebrush-grasslands. They occupy shrub-steppe habitat of the Columbia Basin ecosystem and are most abundant in areas of high grass cover, on deep soils with low clay content and high silt content. They feed on herbaceous vegetation (including cultivated plants), roots, bulbs, seeds, and insects (Natureserve 2008).

Washington ground squirrels are endemic to the Columbia Plateau, south of the Columbia River and east of the John Day River. The Oregon population occurs almost entirely on the Boardman Bombing Range (U.S. Naval weapons systems test facility managed by the U.S. Navy) and the Boeing tract (state-owned lands originally leased to Boeing, Inc., and subleased to an agricultural corporation). The species has been extirpated at most sites outside the bombing range and Boeing tract. The three main occupied areas with

Washington ground squirrel (two in Washington and one in Oregon) are highly disjunct, separated by more than 30 miles. The range contraction and disappearance of colonies is primarily the result of loss and fragmentation of habitat due to conversion of native grassland and shrub-steppe to agricultural uses (Natureserve 2008). The USFWS is working with private agricultural landowners in Morrow County to protect a large area of Washington ground squirrel habitat (Betts 1999).

Pygmy rabbit (*Brachylagus idahoensis*)

Pygmy rabbits have not been documented within the Decision Area, but may be present within suitable Wyoming, basin, and mountain big sagebrush habitats. Pygmy rabbits are sagebrush obligates, meaning that their life history is dependent upon forage and cover provided by big sagebrush shrubs. They tend to prefer dense sagebrush canopy cover at or in excess of 25 percent. Low sagebrush/big sagebrush complexes have proven to be productive pygmy rabbit habitats in Lake and Harney counties, Oregon. Soil type is also a major factor in habitat suitability. Soils need to be of the proper depth and texture to excavate for burrows. Burrows typically occur in loose coarse-silty and fine-loamy soil types derived from loess or glacial parent material. Burrows usually extend to no more than 3 feet in depth (WDFW 2003). Consequently, there is reason to believe that similar habitats within the Decision Area might also support the species. Habitat disturbance resulting from wildfire, prescribed fire, brush mowing, ROWs, and other surface-disturbing activities may reduce available pygmy rabbit habitat. The BLM should exercise caution in authorizing actions that would reduce or adversely alter habitats used by pygmy rabbits.

Environmental groups recently petitioned the USFWS to list pygmy rabbits as threatened or endangered under authority of the federal ESA; however, the USFWS concluded in response to the petition that listing was not warranted.

California wolverine (*Gulo gulo luteus*)

Wolverines inhabit dense coniferous forests and use open sub-alpine forests up to and beyond timberline. Typically, they use high elevation alpine wilderness areas in the summer and montane forest habitats in the winter (Copeland 1996). The species is associated with rocky outcrops, steep mountainous areas, and transition zones between primary cover types. Forested riparian zones at upper elevations are likely to be important forage habitats for these furbearers and provide relatively safe travel corridors that allow animals to move within and between watersheds. They most commonly use areas with a high diversity of microhabitats and high prey populations.

Wolverines regularly avoid human generated disturbance, and are sensitive to any disturbance; they will move natal den-sites several miles if disturbance is in the area of their den. Natal denning habitat includes open rocky slopes (talus or boulders) surrounded or adjacent to high elevation forested habitat that maintains a snow depth greater than 3 feet into March and April (Ruggiero *et al.* 1994). The wolverine is an opportunistic scavenger, with large mammal carrion the primary food source year-round. Prey items also include small and medium-sized mammals, birds and their eggs, insects, fish, roots, berries, and carrion. While foraging, they generally avoid large open areas and tend to stay within forested habitat at the mid and high elevations (greater than 4,000 feet) and typically travel 18-24 miles to forage/hunt (Ruggiero *et al.* 1994).

Wolverines are rare throughout all of Oregon, Washington, Idaho, and California. Recent sightings, tracks, and a road kills document their continued presence at low densities within these states (Csuti *et al.* 2001). Records for eastern Oregon include a partial skeleton and tufts of fur found near Canyon Mountain, Grant County (1992), tracks and a possible denning site discovered in the Strawberry Mountain Wilderness (1997), and tracks that were noted in the Monument Rock Wilderness (1997). While wolverines have not been documented within the Decision Area, there are areas of transient habitat.

Human intrusion within denning habitat during the winter is probably the primary threat to this

species (Wisdom et al. 2000). Disturbance effects are most likely to have adverse impacts on wolverines during winter; a critical time period since weather conditions are more extreme, food sources may be limited, thermoregulatory demands are high and reproductive females have the added energetic demands of developing fetuses, giving birth and nursing kits. Human disturbance during this challenging time could result in increased energy expenditures and negative impacts on wolverine survival and reproductive rates.

Fisher (*Martes pennanti*)

There are no known resident fisher populations within the Planning Area. Fishers were re-introduced onto USFS lands in the 1970s in the Minam and Eagle Creek drainages near Halfway, Oregon. The reintroduction effort was unsuccessful and the species never became established as a self-sustaining population. Although there is documented evidence that at least one individual fisher existed on the Wallowa-Whitman National Forest, there is no known or confirmed reproducing population. It is highly unlikely fisher are currently present within the Planning Area.

Fishers primarily use mature, closed-canopy coniferous forests with some deciduous component, frequently along riparian corridors. Fishers use a variety of resting sites such as hollow logs, rock piles, and snow dens, but the maternal den is usually in a tree (Natureserve 2008). Threats to the fisher include loss and fragmentation of habitat, mortalities and injuries from incidental captures, decreases in prey base, increasing human disturbance, and small isolated populations.

American marten (*Martes americana*)

Although American marten may potentially travel through tracts of forested land during the course of normal home range movements, there are no recent sightings of this species in the Decision Area. American marten are associated with complex, mature, and old growth conifer stands located at higher elevation (greater than 4,000 feet), and often associated with streams. The presence of snags and down logs is important as they provide suitable denning sites.

The American marten is closely associated with heavily forested east and north-facing slopes that contain numerous windfalls (Maser 1998). Martens spend a great deal of time in trees and can even leap from branch to branch between trees. They tend to avoid areas that lack overhead protection and the young are born in nests within hollow trees, stumps, or logs. Their diet consists of a variety of small mammals, particularly squirrels, as well as voles, mice, pika, and rabbits. Martens do not tolerate concentrated human use or habitat modification (Maser *et al.* 1981). While the historical and current density and distribution of marten in the Planning Area are unknown, they probably occur in low numbers.

White-tailed jackrabbit (*Lepus townsendii*)

White-tailed jackrabbits are uncommon to rare year-round residents of eastern Oregon and Washington. The species has been sighted around Huntington, Baker, and Keating Valley. In contrast to black-tailed jackrabbits, which normally occupy lower elevation basin and Wyoming big sagebrush habitats, white-tailed jackrabbits generally occur in moister, higher elevation sagebrush steppe, mainly in low sagebrush and mountain big sagebrush complexes. White-tailed jackrabbit populations have declined due to agricultural development and improper grazing practices that reduce native bunchgrass abundance and vigor. White-tailed jackrabbits feed on bunchgrasses and forbs in spring and summer and stems of woody plants in fall and winter.

Preble's shrew (*Sorex preblei*)

Preble's shrew is a small insectivore found in many different habitats types, which suggests that their habitat requirements may be related to some factor other than dominant vegetation type or soil moisture content. Preble's shrew usually occurs near permanent or intermittent streams in arid to semi-arid shrub/grass associations, as well as within dense high-elevation openings

in coniferous forests. Although Preble's shrew occur in eastern Oregon, they have not been documented within the Decision Area.

Western big-eared bat (*Corynorhinus townsendii pallescens*), Silver-haired bat (*Lasionycteris noctivagans*), Small-footed myotis (*Myotis ciliolabrum*), Long-eared myotis (*Myotis evotis*), Fringed myotis (*Myotis thysanodes*), Long-legged myotis (*Myotis volans*), and Yuma myotis (*Myotis yumanensis*)

It is possible that several sensitive bat species occur within the Decision Area including pale western big-eared bat, silver-haired bat, small-footed myotis, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis. Because very limited survey work has been conducted to date, little is known about bat distributions and abundance. Available habitats in the Decision Area do support features important to bats including roost sites, caves, mines, rock crevices, trees, lava tubes, and man-made structures such as barns, bridges, and eaves of buildings (Hoffmann *et al.* 1969; Swenson and Shanks 1979; Hendricks 2000; Hendricks *et al.* 2000; Hendricks and Kampwerth 2001).

Special Status Bird Narratives

Greater sage-grouse (*Centrocerus urophasianus*)

Greater sage-grouse breed, nest, rear young, and winter in suitable sagebrush steppe habitats within the Decision Area. The species, which is being considered for listing under the federal ESA, has undergone significant population declines in recent decades and currently occupies just over half of its historical range. Because so many different BLM authorizations potentially influenced the well-documented population declines throughout the western U.S., as well as the species' habitat requirements, sage-grouse are clearly a primary species of management importance in sagebrush steppe and riparian habitats.

Sage-grouse habitats and populations in the Planning Area are thought to be spatially isolated from other adjoining eastern Oregon sage-grouse sub-populations. Furthermore, within the Decision Area, they exist at the northern extent of the species range in northeastern Oregon. Both characteristics are usually high risk factors for state game management agencies and land managing agencies. Oregon Department of Fish and Wildlife annually counts sage-grouse attendance at certain leks to help determine population trends

Healthy nesting and brood rearing habitats for sage-grouse support a good complement of deep-rooted perennial grasses plus a variety of annual and perennial forbs (i.e., wildflowers) that provide structure, food, cover, and scent barriers to potential predators. Insects provide important protein sources for early brood rearing. Sagebrush canopy cover at 15 percent or more and with abundant herbaceous plant cover is associated with successful nesting efforts. Winter use areas and late brood-rearing habitats may successfully support sage-grouse use at lower sagebrush canopy cover values of approximately 10 percent. Refer to Connelley *et al.* (2001) and Hagen (2005) for detailed information on sage-grouse life history requirements and risk factors.

A wide variety of factors directly and indirectly affects sage grouse habitat and populations. These include natural population cycles, sagebrush control, livestock grazing use, water and fence development, drought, cold/wet spring weather, crested wheatgrass seeding management, invasive annual plants, wildfire and prescribed fire, nest predation, predator control, alternate coyote and raptor prey availability, power lines, energy development, rights of way, off-highway vehicle activities, West Nile Virus, and pesticide use.

According to ODFW data, greater sage-grouse productivity has recently declined within the certain watersheds, such as Pritchard Creek watershed. Monitoring data suggest that Oregon sage-grouse productivity has generally been in decline for the last 3 or 4 years. Only time can tell if this trend is simply a temporary cyclical change or a long-term decline. Within the Decision Area, sage grouse inhabit the Keating, Virtue Flat, Richland, Huntington and Denny Flat areas.

A cautious approach to managing the following BLM programs or authorizations, which potentially alter habitat conditions, may help conserve sage-grouse habitat qualities:

- New pasture fences, water developments, salting areas, livestock herding practices, and pipelines in native range used for nesting
- Authorization of temporary nonrenewable AUMs in native range used for nesting
- General grazing season use in native range used for nesting
- Prescribed fire or other treatments designed to reduce shrub competition within nesting and wintering habitat; especially Wyoming big sagebrush types (USFS and BLM 2000; Miller and Eddleman 2001; Connelly *et al.* 2000)
- Retreatment of existing seedings for the purpose of reducing shrub competition and enhancing livestock forage production when it is within winter range or nesting habitat
- Riparian/wetland area management
- Wildfire management, especially near or within remaining habitats exhibiting characteristics important to sage grouse
- Location of wind energy power generators and associated powerlines
- Location of OHV use areas
- Location of organized recreation activities

Bald eagle (*Haliaeetus leucocephalus*)

Although delisted under the ESA in 2007, bald eagles remain protected under the Bald and Golden Eagle Protection Act of 1962 and the Migratory Bird Treaty Act of 1918, which prohibits all activities that may disturb nesting and roosting bald eagles. Bald eagle activity within the Planning Area includes breeding, nesting, roosting, and winter use. Bald eagles use the Decision Area mainly for roosting and winter use; they currently breed and nest in close proximity to the Decision Area near Unity Reservoir. At some point, they may move their nest site to public lands. This area is within a Bald Eagle Management Area (BEMA) and is an ACEC. The main threats to bald eagles include recreation disturbance, commercial timber harvest, shooting, trapping, and forestland disturbances including insect infestation, disease, blow down, and wildfire.

Bald eagles nest in deciduous, coniferous, and mixed forest stands in large-diameter trees characterized by open branching and stout limbs. Nests are in dominant or codominate trees often located near a break in the forest such as caused by a burn, clear-cut, field edge (e.g. agricultural fields), or water. The majority of nest sites are within 1/2-mile of a body of water such as coastal shorelines, bays, rivers, lakes, farm ponds, dams (i.e., reservoirs, beaver dams, log jams, etc.) and have an unobstructed view of the water. Bald eagles prefer undeveloped areas with little human activity.

Winter foraging areas are usually located near open water on rivers, lakes, reservoirs, and bays where fish and waterfowl are abundant, or in areas with little or no water (i.e., rangelands, barren land, tundra, suburban areas, etc.) where other prey species (e.g., rabbit, rodents, deer, and carrion) are abundant. Communal roost sites contain large trees (or standing snags and utility poles have also been used) with stout lower horizontal branches for perching. A few to greater than one hundred bald eagles may use these roost sites, the larger number more likely during inclement weather. Perch trees used during the day possess the same characteristics as roost trees but are located closer to foraging areas.

The bald eagle's full recovery is threatened by habitat loss, disturbance by humans, pesticide and mercury contamination, decreasing food supply, electrocution, impacts with wind turbines, and illegal shooting. Even though such threats remain, breeding populations in most areas of the country are making encouraging progress. The following actions continue to be important conservation measures contributing to positive bald eagle population trends:

1. Avoiding disturbance to nests during the nesting season (January - August)

2. Avoiding disturbance to roosts during the wintering season (November - March)

3. Protecting riparian areas from logging, cutting, or tree clearing

4. Protecting fish and waterfowl habitat in bald eagle foraging areas

5. Developing site-specific management plans to provide for the long-term availability of habitat.

Oregon bald eagle recovery zones 14 (Snake River) and 9 (Blue Mountains) lie within the Decision Area. Recovery zone 14 currently meets the Oregon population goal to support six breeding pairs. Bald eagles can also be regularly found during the winter and breeding season within the Unity Reservoir Bald Eagle ACEC.

Harlequin duck (*Histrionicus histrionicus*)

The Decision Area is unlikely to contain breeding habitat for harlequin ducks. High elevation mountain streams and lakes in Wallowa County contain possible migratory use habitat for the species. Female harlequin ducks and their young typically live in oxbows and ponds adjacent to mountain streams until the ducklings are old enough to feed and travel in fast currents. Nests are located in woody debris in streams, overhangs in stream banks, or in adjacent tree cavities. Old growth and mature forest and woody debris are generally present at nest sites. Clear, clean water and an abundant aquatic food source appear essential for successful reproduction.

Tricolored blackbird (*Agelaius tricolor*)

Potential habitat for tricolored blackbirds is located in Umatilla County. The principle range of tricolored blackbirds is the Central Valley of California and surrounding foothills, with some inland colonies in southern California. It prefers to breed in freshwater marshes with emergent vegetation (cattails) or in thickets of willows or other shrubs. While rare in Oregon, the species has bred in Himalayan blackberry patches growing in and around wetlands.

Unlike the similar red-winged blackbird, tricolored blackbirds nests colonially, forming the largest colonies of any North American songbird. One colony was estimated to include over 200,000 nests. Populations of the species have decreased dramatically, declining by 37 percent from 1994 to 1997. This decline is due to the drainage of wetlands and conversion of former nest and roost sites to agriculture, and possibly due to control measures as the species is considered an agricultural pest in some areas.

Upland sandpiper (*Bartamia longicauda*)

While upland sandpipers occur regularly in the Planning Area, they have not been documented in the Decision Area. A pair was documented nesting near Ukiah in the 1990's, but they have not been found since. Upland sandpipers are rare breeders in eastern Oregon and are associated with montane meadows in lodgepole pine or ponderosa pine forest habitat.

In Oregon, the upland sandpiper nests in partly flooded meadows and grasslands, usually with a fringe of trees, and often in the middle of higher-elevation sagebrush communities. It may perch in coniferous trees or snags surrounding the nesting site. The species favors open, lightly grazed meadows with some forb growth, where it forages for grasshoppers and crickets. They also eat ants, berries, and seeds of grasses and forbs (Csuti *et al.* 2001).

The plowing of natural grasslands, increased urbanization, farming practices, and forest succession have contributed to the degradation and fragmentation of upland sandpiper habitat.

Columbian sharp-tail grouse (*Tympanuchus phaslanellus*)

Sharp-tailed grouse inhabit grasslands, prairies, mountain meadows, and, to a certain extent, sagebrush or woodlands with a grass understory. This

species seeks cover in brushy draws or riparian thickets. It uses agricultural fields, but generally disappears from land under cultivation.

Small resident populations of sharp-tailed grouse currently exist on private lands in the Wallowa Mountain area and on BLM's Boise District in Idaho (east of the Snake River). Several historic observations of sharp-tail grouse have been documented in the Decision Area, but no suitable habitat is currently occupied by the species. Columbian sharp-tailed grouse were originally distributed throughout land west of the Continental Divide (Hoffman and Thomas 2007). The species is now more limited due to such factors as disturbance, fragmentation, and habitat alteration.

Northern goshawk (*Accipiter gentilis*)

Productive and stable goshawk populations exist in the vicinity of Lookout Mountain, Pedro Mountain, Burnt River Canyon, Cove, Snake River, and Cable Creek. Forest and woodland management practices favorable for goshawk nesting requirements may sustain the species within the Decision Area

Goshawks nest in interiors of extensive, remote, mature, old-growth forests dominated by large trees with high closure on moderate slopes and with open understory. In areas with temperate climates, goshawks seem to avoid southerly aspect, perhaps to avoid high nest temperatures. Forest cover types used for nesting include deciduous, conifer, and mixed forest. While the goshawk is a forest habitat generalist, due to its large size and wingspan, it tends to avoid young, dense forests. Optimal habitat consists of forest stands with canopy cover greater than 60 percent, overstory tree sizes greater than 15 inches in diameter, and a presence of dead or defective trees greater than ten inches in diameter.

Goshawks typically select large trees with northerly exposures for nesting (Hayward and Escano 1989). Nesting pairs of goshawks in the northern Rocky Mountains often have 6,000-acre home ranges (Reynolds *et al.* 1992). Goshawks typically use three to nine alternate nest sites distributed among one to five different forest stands (Woodbridge and Detrich 1994). Optimal goshawk nesting habitat has approximately 30 acres for the nest site, 420 acres for the post-fledging area, and 5,400 acres for adjacent foraging habitat (Reynolds *et al.* 1992). The post-fledging area surrounds the nest site and used by the fledglings prior to independence from their parents, making it critical for the survival of young goshawks. These habitat features should be contiguous and meet habitat requirements to support a nest site and alternate nest sites.

Timber harvest is a direct threat to nesting goshawks as nests are destroyed by logging operations. Timber harvest also results in the decline in suitable foraging areas around goshawk nest sites (Wisdom et al. 2000). Fires that kill large trees and remove dense canopy cover also threaten goshawk habitat. Human disturbances to goshawk nests have been a suspected cause of nest abandonment (Reynolds et al. 1992).

Western burrowing owl (*Athene cunicularia hypugea*)

Western burrowing owls have been observed at Virtue Flat, Keating, Huntington, and Richland Valley extending to the Snake River. Although there are recorded observations of the species in the Decision Area, there are no existing records of nesting activity or recruitment. The western burrowing owl prefers flat-to-gently-undulating areas that have a high enough rodent population to support its lifecycle. Other needs include burrows in which they can build nests, short or sparse vegetation, and open terrain. The abandoned burrows of ground-dwelling mammals such as badgers, ground squirrels, and prairie dogs are ideal for nesting, resting, and storing food. Short vegetation and tall weedy areas, where insects and rodents are most common, ensure an adequate food supply when they are located within 3 miles of the burrows. Open terrain surrounding the burrows allows the owl to see approaching predators.

Ferruginous hawk (*Buteo regalis*)

Ferruginous hawk populations are reportedly declining throughout their breeding range. Evidence suggests their decline is due to the loss of breeding and wintering habitat, habitat fragmentation, urbanization, and the conversion of native rangeland to non-native communities. Ferruginous hawk populations in the Decision Area appear to be stable.

Ferruginous hawks prefer open rangeland habitats and may nest on the ground, on cliffs, or in juniper trees. A combination of sagebrush steppe shrublands and grasslands offer suitable habitat for these hawks and their prey. Pritchard Creek watershed, in particular, provides habitat and food sources able to support their life history requirements from spring through fall. Some studies have suggested that ferruginous hawks avoid dense vegetation that reduces their ability to see prey (Howard and Wolfe 1976; Wakeley 1978; Schmutz 1987). Intensive agricultural practices such as annual plowing and biennial fallowing exclude many prey species for ferruginous hawks. Vulnerability of prey decreases as taller small-grain crops replace shorter grasses (Wakeley 1978; Houston and Bechard 1984).

Lewis's woodpecker (*Melanerpes lewis*)

Lewis's woodpeckers have been observed in forested, lower montane forests that have been subjected to fire. Areas with suitable habitat for the species include Pedro, Lookout, Ironside, and Hunt mountains; Ukiah; and along the Grande Ronde River.

Source habitats for Lewis's woodpecker include old-forest, single-storied structural stages of ponderosa pine and multi-storied stages of Douglas fir, western larch, and riparian cottonwood woodlands. Unlike most woodpecker species, Lewis's woodpecker is an aerial insectivore and requires openings for foraging maneuvers. Their breeding distribution is strongly associated with the distribution of ponderosa pine. It is often classified as a specialist in burned pine forest habitat, although suitability of burned areas as habitat may differ with post-fire age, size, and intensity of burn and geographic region (Raphael and White 1984; Saab and Dudley 1998). Burned ponderosa pine forests created by stand-replacing fires seem to be highly productive source habitats compared to unburned pine or cottonwood riparian forest.

Newlon *et al.*'s (2005) study in aspen riparian woodlands found that Lewis's woodpecker nest-site selection was positively influenced by nest tree diameter and tree density and negatively influenced by increasing amounts of bare ground and woody stems, which are often more prevalent in riparian woodlands improperly grazed by livestock. However, these characteristics were not strong predictors of nest survival. Instead, nest initiation date and daily average temperature had the strongest influence.

Lewis's woodpeckers will use the shrub understory or the ground to glean terrestrial insects or fruits. The depth and relative softness of ponderosa pine sapwood compared to Douglas fir, true firs, and other pine species likely influences preference for ponderosa pine by the species (Parks *et al.* 1997).

The primary threat to the long-term persistence of Lewis's woodpecker populations is loss of habitat, especially in the form of recently burned pine forests, park-like ponderosa pine forests, riparian cottonwood stands, and oak woodlands. Primary causes of habitat degradation are likely timber harvest, fire suppression, cattle grazing, water regulation, and human development. These activities may result in the loss of nest and storage substrates, a reduction in the understory shrub community, a decrease in prey availability, or an increase in forest stand density, hence making it unsuitable for breeding habitat (Wisdom et al. 2000).

White-headed woodpecker (*Picoides albolavatus*)

Verified sighting of white-headed woodpeckers in the Decision Area have occurred on public lands in the vicinity of Cove. Potential habitat is available for the species in open canopy and open understory forest settings. Locations suitable

for their occupation include Pedro Mountain, Side Mountain, and the Grande Ronde River drainage.

White-headed woodpeckers live mainly in open and mature ponderosa pine and mixed ponderosa pine/Douglas fir forests (Frederick and Moore 1991; Groves *et al.* 1997). They feed on conifer seeds during the fall and winter. During other times of the year, flying insects are important. White-headed woodpeckers commonly excavate a new nest cavity each year and may begin several holes before selecting one for nesting. They usually excavate nest cavities in snags, but other commonly recorded substrates from Oregon, Idaho, and California include stumps, leaning logs, and dead tops of live trees (Frederick and Moore 1991; Dixon 1995a, 1995b; Milne and Hejl 1989).

The white-headed woodpecker is an uncommon permanent resident in forests of the Ochoco, Blue, and Wallowa Mountains and the east side of the Cascades, but suitable habitat is restricted. They are local west of the Cascade crest in upper reaches of the Umpqua River Basin, in the Siskiyou Mountains, and in the north part of the east slope of the Cascades (Marshall 1997, Marshall *et al.*, 2003).

Habitat loss and degradation are the primary threats to white-headed woodpeckers. Logging practices (such as clear-cuts, even-aged stand management, snag removal, and salvage logging) and forest fragmentation have contributed to local declines. Fire suppression over the past 50 years has altered fire regimes so the ponderosa pine forests are no longer maintained by frequent natural fires, but are being replaced by Douglas-fir and true fir developing in the understory, and are now susceptible to stand-replacement fire. For example, old growth ponderosa pine has declined 92-98 percent in the Deschutes, Fremont, and Winema National Forests (Dixon 1995b).

Mountain quail (*Oreortyx pictus*)

There is no evidence that mountain quail occupy the Decision Area. Mountain quail prefer open forests and woodlands with an ample undergrowth of brushy vegetation. It also inhabits thickets of chaparral and riparian woodland, meadow edges in forests, and brushy regrowth following timber harvest. Potential mountain quail habitat would include riparian areas associated with Pedro, Hunt, and Ironside mountains (around Ukiah), and along the Snake and Grande Ronde rivers.

Special Status Amphibian Narratives

Columbia spotted frogs (*Rana luteiventris*)

Columbia spotted frogs are subdivided into several subpopulations, two of which occur in Oregon. The Great Basin subpopulation of southeast Oregon is designated a federal candidate, while the northern subpopulation has no special status designation.

At one time, the Great Basin subpopulation was thought to inhabit suitable riparian areas of northeast Oregon including the Decision Area; however, recent surveys and genetic investigations refute this belief. Such studies confirm that the Decision Area supports the northern subpopulation of spotted frogs, which is widely distributed as far north as Alaska.

Based on field data, researchers found that although the two Oregon subpopulations are identical morphologically (e.g. shape, size, color, etc), they differ genetically and occupy different ranges. The Great Basin subpopulation is widely distributed in isolated, localized sites throughout southwestern Idaho (mainly in Owyhee County) and southeastern Oregon. Both subpopulations are highly aquatic and rarely found far from permanent natural or man-made water (e.g. reservoirs or mining ponds). They can also utilize intermittent streams and meadows in spring. Spotted frogs usually occupy the sunny, vegetated margins of streams, lakes, ponds, spring complexes, and marshes. In arid areas, the frogs utilize thick algal growth that floats on overflow pools or side channels for basking or cover.

Causes for the decline of the Columbia spotted frog include loss of habitat from altered hydrology due to agriculture, urbanization and water development; predation by exotic fish and amphibians, and physiological effects from changes

Table 2.30. Forecast of Wildlife Habitats and Populations

Animal species	Habitat(s)	Forecast
Canada lynx, gray wolf, fisher, American marten, California wolverine	Dry and moist conifer forest	Little or no relevant habitat change is expected because limited forest habitat is present on public lands. In general, public lands are expected to play a relatively minor role in the conservation of these species.
Washington ground squirrel	Sagebrush steppe	Little or no relevant habitat change is expected because limited and scattered habitat is present within the Decision Area.
Harlequin duck, upland sandpiper	Montane meadows, high mountain lakes and streams	Little or no relevant habitat change is expected because limited to no habitat is present within the Decision Area.
Tri-colored blackbird	Low elevation wetlands	Little or no relevant habitat change is expected because limited and scattered habitat is present within the Decision Area.
California bighorn sheep	Sagebrush steppe, canyons	California bighorn sheep habitat will remain suitable and occupied provided sufficient spatial separation is maintained between domestic sheep and bighorn sheep.
Pygmy rabbit, greater sage-grouse	Sagebrush steppe, riparian	The cumulative adverse effects of wildfire, prescribed fire, western juniper expansion, invasive annual plant expansion, localized improper grazing use, and rangeland development (to facilitate livestock grazing use) may be expected to continue.
Western burrowing owl, ferruginous hawk, white-tailed jackrabbit	Sagebrush steppe	Recreational use activities and energy development in suitable rangeland habitats have likely resulted in lowered habitat quality. Increased public use reasonably translates into more adverse impacts to wildlife habitat. Maintenance of a complement of shrublands and grasslands will likely sustain these species.
Preble's shrew	Sagebrush steppe and other undetermined habitats	Little information about the species is available and therefore forecast accuracy would be highly suspect.
Bald eagle, northern goshawk	Dry conifer forest, mature cottonwood trees	Existing management direction relative to riparian areas and forestland would maintain or improve existing habitat conditions.
Lewis's woodpecker, white-headed woodpecker	Dry conifer forest	Incremental improvement in forest habitat conditions is expected. Over time, BLM management actions to reduce forest overstocking will promote existence of open park-like conditions and large diameter trees. These are desired conditions suitable for occupation by these species, although Lewis's woodpecker prefer burned habitat.
Columbian sharp-tail grouse, mountain quail	Sagebrush steppe, riparian	Unless ODFW reintroduces these species, they will continue to be absent from the Decision Area.

Table 2.30. Forecast of Wildlife Habitats and Populations

Animal species	Habitat(s)	Forecast
American martin, wolf, fisher	Conifer forest, juniper woodland, aspen	Existing management direction relative to riparian areas and forestland would maintain or improve existing habitat conditions. Juniper control for the purpose of conserving sagebrush steppe could be implemented in a way that would maintain existing ferruginous hawk nest sites.
Bats	Trees, caves, buildings, rock outcroppings, mines; near water	Limited habitat should be maintained. Existing management direction relative to riparian areas and forestland would be expected to maintain or improve existing habitat conditions.
Columbia spotted frog	Ponds, springs, marshes and slow-flowing streams	Riparian areas are expected to improve as impacts are reduced. Existing management direction relative to riparian areas would be expected to maintain or improve existing habitat conditions.

in water chemistry and ultraviolet radiation. Impacts related to livestock grazing, trespass, and overgrazing may be, in part, responsible for population declines (Hayes et al., 1997). A probable cause of spotted frog decline is pesticides, herbicides, fertilizers and other chemicals that enter spotted frog habitat.

c. Trends (Habitats)

Section A-9c (Table 2.22) discusses habitat trends for common wildlife species that also apply to special status wildlife species. In general, the trend for special status species involves a decline in populations and/or habitat degradation, hence resulting in their special status. The section above under current conditions (Section A-12b) describing individual species and their habitat includes information on past and current threats that has potentially lead to their decline.

d. Forecast

Table 2.30 summarizes the forecast for wildlife habitats and special status species populations.

e. Key Features

Key features listed in for common wildlife in Section A-9 of this chapter also apply to special status wildlife species in the Decision Area.

13. Wildland Fire Ecology and Management

a. Indicators

National and state BLM fire policy requires current and desired resource conditions related to fire management be described in terms of five fire regimes (see Table 2.31) and three condition classes (see Table 2.32). The Fire Regime Condition Classification (FRCC) system measures the vegetation's degree of departure from reference conditions, or how different current vegetation is from a particular reference condition (Hann *et al.* 2008). This could result in changes to key ecosystem components such as vegetation characteristics, fuel composition, fire frequency, fire severity and pattern, and other associated disturbances, such as insect and disease mortality. The BLM uses the FRCC system to classify existing ecosystem conditions to determine priority areas for treatment as mandated by national direction.

The FRCC system is not an appropriate indicator for wildland urban interface (WUI) areas since these areas may be maintained in an altered vegetative state to protect life and property. Map 2.8 illustrates the Planning Area's FRCC and WUI areas.

Table 2.31. Historic Fire Regime Definitions

Historic Fire Regime	Fire Frequency	Severity
I	0-35 years	Low and mixed severity with less than 75% of the dominant overstory vegetation replaced
II	0-35 years	Replacement severity with greater than 75% of the dominant overstory vegetation replaced
III	35-200 years	Mixed and low
IV	35-200 years	Replacement severity
V	200+ years	Replacement and mixed severity

Table 2.32. FRCC Descriptions

FRCC	Condition Class Description
1	Fire regimes are within historic timeframes, and the loss of key ecosystem components from the occurrence of fire is low. Areas are considered to be healthy and functioning adequately.
2	Fire regimes have been moderately altered from their historic timeframes by either increased or decreased fire frequency and are at moderate risk of losing key ecosystem components. Areas are considered to be unhealthy, and their rate of deterioration is expected to increase moderately to rapidly.
3	Fire regimes have been significantly altered from their historic timeframes, and the loss of key ecosystem components is high. Areas are considered to be unhealthy and nonfunctioning.

Table 2.33. Baker Field Office Fire History

Fire Year	# of Fires	Acres burned	Fire Year	# of Fires	Acres burned
1980	16	1,340	1994	11	630
1981	15	4,083	1995	10	215
1982	8	62	1996	18	595
1983	16	1,468	1997	6	210
1984	8	11	1998	8	1,759
1985	11	379	1999	8	117
1986	14	2,000	2000	12	1,109
1987	12	627	2001	14	4,369
1988	15	2,640	2002	3	9
1989	14	584	2003	7	431
1990	17	604	2004	5	49
1991	19	871	2005	12	3,484
1992	16	2,991	2006	7	36,422
1993	3	0	2007	8	2,663
Total # of Fires (1980 - 2007) = 313			**Total Acres Burned (1980 - 2007) = 69,722**		

Source: BLM Wildland Fire Management Information System

b. Current Condition

Fire History

Between 1980 and 2007, an average of 2,490 acres has burned in the Decision Area each year, with a total of 69,722 acres burning during that 28-year period. Table 2.33 presents the number of fires for each year between 1980 and 2007, while Map 2.9 illustrates the areas burned over this period.

Between 1980 and 2007, 6,465 acres within the Decision Area burned more than once (Table 2.34).

Table 2.34. Fire Frequency, 1980-2007

Fire Frequency	Acres	Percent
Acres burned only once	59,875	90.25
Acres burned twice	6,041	9.11
Acres burned 3 times	421	0.63
Acres burned 4 times	3	< 1
Total	**66,340**	**100**

Between 1980 and 2007, lightning caused the majority of all fire starts within the Decision Area (Table 2.35).

Table 2.35. Fire Ignitions by Source, 1980-2007

Cause	Number	Percent
Natural (Lightning)	175	55.91
Human	138	44.09
Total	**313**	**100**

Fuels Management

The number of fuels and restoration projects is increasing in order to help address vegetation issues within the Decision Area. Projects within the fuels program in the past five years have focused on achieving two goals: reducing fire hazard with an emphasis on WUI areas and restoring and/or improving FRCC within the Decision Area. Treatment types include chemicals, seeding, prescribed fire, and mechanical methods. These treatments were completed for a variety of reasons including fuels reduction, protecting WUI areas, post-fire emergency stabilization and rehabilitation (ESR), and range infrastructure.

Emergency Stabilization and Rehabilitation

An active ESR program exists within the Decision Area. The size of the ESR program is in proportion to the severity of the wildfire season. Emergency stabilization is defined as "planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life and property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources" (620 DM 3.3E). These actions must be taken within one year following containment of a wildland fire. The objective of emergency stabilization is "to determine the need for and to prescribe and implement emergency treatments to minimize threats to life or property or to stabilize and prevent unacceptable degradation to natural and cultural resources resulting from the effects of a fire" (DM 620 3.4A).

Rehabilitation is defined as "efforts undertaken within three years of containment of a wildland fire to repair or improve fire-damaged lands unlikely to recover naturally to management approved conditions, or to repair or replace minor facilities damaged by fire" (620 DM 3.3M). The objectives of rehabilitation are to:

1. Evaluate actual and potential long-term post-fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildland fire damage;

2. Develop and implement cost-effective plans to emulate historical or pre-fire ecosystems consistent with approved land management plans, or if that is not feasible, to restore or establish a healthy, stable ecosystem in which native species are well represented; and

3. Repair or replace minor facilities damaged by wildland fire (620 DM 3.4B).

Restoration is the continuation of post-fire rehabilitation beyond the initial three years following a wildfire and is outside the scope of the ESR program (620 DM 3.3N)

Fire Management Plan

The Vale District Fire Management Program covers BLM, USFS, and state lands within the Planning Area, as well as fires on private land. The fire staff handles fire management responsibilities such as preparedness, suppression, and extended attack, with dispatching occurring from the Vale Dispatch Center, in Vale, Oregon, and Northeast Oregon Interagency Dispatch Center in La Grande, Oregon.

The suppression strategy currently in place for the Planning Area calls for Appropriate Management Response (AMR) on all wildland fires in accordance with management objectives and based on current conditions and fire location. Every wildland fire is assigned an AMR to protect firefighters, the public, values at risk, and to minimize suppression cost. The protection of human life is the single overriding priority, with the other priorities being communities, property and improvements, natural and cultural resource values, human health and safety, and the costs of suppression. Appropriate Management Response can vary from aggressive initial action to monitoring. Wildland Fire Use (WFU) management involves the management of naturally ignited fires to achieve resource benefits where fire is a major component of the ecosystem. Currently, there are no WFU areas in the Decision Area.

The BLM's Fire Management Plan (FMP), which the BLM updates periodically, describes fire and fuels management activities in the Planning Area. The FMP provides for firefighter and public safety and includes fire management strategies, tactics, and alternatives (AMR to wildland fires and identification of areas for WFU) based on direction outlined in the RMP. The FMP identifies values to protect and public health issues, describes fuels and restoration projects, and is consistent with resource management objectives. Suppression tactics outlined within the Vale District FMP vary by vegetation type and resource values at risk. Land use management direction from the Baker RMP (BLM 1989) influenced the portion of the FMP that includes lands managed by the Baker Field Office.

The Baker RMP (BLM 1989) did not address WUI issues. These issues emerged as the human population has expanded.

Fire Ecology

The Decision Area has seen an increase of annual grasses (cheatgrass and medusahead rye), as well as an accelerated fire return interval and frequency in annual grass infested areas. Fires that historically would occur in lower elevation sagebrush-perennial grass communities at a return interval of 50 to 85 years have shown a downward trend to the 5- to 25-year range in some locations. This has resulted in more aggressive suppression efforts by the Vale District in attempt to keep the remaining intact sagebrush communities from burning.

In contrast to the lower elevation sagebrush-perennial grass communities, there has been a significant lengthening of the historic fire return interval (> 100 years) within conifer forest, woodland, and higher elevation sagebrush perennial grass communities. As a result, there has been an increase in live and dead fuel loading within conifer forest stands and an increase in conifer encroachment into sagebrush and aspen plant communities. This situation has the potential to result in uncharacteristic fire size and/or fire severity should a wildfire occur. Fires would historically occur in the conifer forests and higher elevation sagebrush-perennial grass communities at a return interval of 5-35 years with a result of low and mixed severity fire effects.

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention but including the influence of aboriginal burning. The five natural (historical) fire regimes within the Planning Area are classified based on the average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on dominant overstory replacement. Table 2.36 describes the natural fire regimes within the Planning Area.

Table 2.37 describes the dominant potential vegetation types within the Planning Area and the historic fire regime they occupy by using

Table 2.36. Natural Fire Regime in the Planning Area

Fire Regime	Frequency (years)	Severity	Number of Acres
I	0-35	Low and Mixed	34,868
II	0-35	Replacement	123,638
III	35-200	Mixed and Low	27,580
IV	35-200	Replacement	212,045
V	200+	Replacement and Mixed	17,314

Landscape Fire (LANDFIRE) and Resource Management Planning Tools Project Biophysical Settings (BpS). The BpS represents the vegetation that may have been dominant on the landscape prior to Euro-American settlement and is based on both the current biophysical environment and an approximation of the historical disturbance regime.

Altered wildfire regimes are believed to be a significant influence on loss of sagebrush and habitat available to fish and wildlife and special status species (e.g., sage-grouse) in the Planning Area. Fire kills most species of sagebrush and repeated wildfires, fueled by encroachment by other vegetation communities (e.g., juniper) and exotic annual grasses and other exotic species, alter vast acres of sagebrush in the Planning Area. Annual grasses alter fire frequency from historic intervals of 35 to 100 years to shorter cycles of 5 or fewer years.

Coarse-scale FRCC classes have been defined and mapped by Schmidt *et al.* (2001) and include three condition classes for each fire regime. The classification is based on a relative measure describing the degree of departure from the natural (historical) fire regime. This departure results in changes to one (or more) of the following ecological components: vegetation characteristics (e.g., composition, structural stages); fuel composition; fire frequency, severity, and pattern; and other associated disturbance (e.g., insect-induced and diseased mortality, grazing, and drought).

The three condition classes within the Planning Area are based on low (FRCC1), moderate (FRCC2), and high (FRCC3) departure from the central tendency of the natural (historical) regime. Low departure is within the natural (historical) range of variability, while moderate and high departures are outside. To determine FRCC for Decision Area, an analysis of LANDFIRE National Data was completed. Currently, approximately 352,374 acres, or 85 percent of the Decision Area, are moderately to highly outside the historical range of variability (FRCC 2 and 3). This means that the historic fire regimes have been moderately to highly altered from their historic timeframes by either increased or decreased fire frequency and are at moderate to high risk of losing key ecosystem components.

Fire Management Units

Fire Management Units (FMUs) are specific land management areas defined by fire management objectives, management constraints, topographic features, access, values to protect, political boundaries, and fuel types. The FMUs were created based on similarities of the specific resource objectives identified in the Baker RMP (1989).

An interdisciplinary team within the Decision Area developed nine FMUs that serve to define public LANDFIRE management objectives, physical characteristics, resource values, and treatment actions necessary to achieve resource management objectives, as identified in the current Vale District land use plans. These FMUs, which are listed below, have dominant management objectives and pre-selected fire suppression strategies assigned to accomplish these objectives.

A-2 - Baker Scattered Tracts FMU

These lands are located throughout the Planning Area and consist of scattered BLM land parcels, intermixed with Private, USFS, Bureau of Reclamation, Bureau of Indian Affairs, and state lands. The Columbia and Snake rivers are the northern and eastern boundary of this FMU, respectively. The Baker scattered tracts extend

Table 2.37. Dominant Vegetation/BpS Historic Fire Regimes

Potential Vegetation Type	BpS	Historic Fire Regime
Bluebunch Wheatgrass/Mountain Big Sagebrush	Inter-Mountain Basins Montane Sagebrush Steppe	II
Idaho fescue/mountain big sagebrush	Inter-Mountain Basins Montane Sagebrush Steppe	II
Idaho fescue grassland	Columbia Plateau Steppe and Grassland	II
Bluebunch wheatgrass/Wyoming big sagebrush	Inter-Mountain Basins Big Sagebrush Steppe	IV
Bluebunch wheatgrass grassland	Columbia Plateau Steppe and Grassland	II
Idaho fescue/Wyoming big sagebrush	Inter-Mountain Basins Big Sagebrush Steppe	IV
Sandberg's bluegrass/rigid sagebrush	Columbia Plateau Low Sagebrush Steppe	IV
Basin big sagebrush	Inter-Mountain Basins Big Sagebrush Steppe	IV
Wetlands/Riparian Areas/sedges/willows/rushes	Inter-Mountain Basins Montane Riparian Systems	IV
Aspen	Rocky Mountain Aspen Forest and Woodland	III
Dry Mixed Conifer Forest	Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	I
Moist Mixed Conifer Forest	Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	III
Ponderosa Pine	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna – Xeric	II
	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna – Mesic	I
Juniper Woodland	Columbia Plateau Western Juniper Woodland and Savanna	V

to the town of Pendleton to the west and to the Planning Area boundary to the south. Vegetation is sagebrush, mixed conifer, annual rangelands, and Juniper woodland.

Over the last 28 years (1980 to 2007), 166 fires in the Baker Scattered Tracts FMU have burned 14,650 acres of public land for an average fire size of 88 acres. Communities at Risk in the FMU include Asotin, Baker City, Cove, Durkee, Halfway, Huntington, Keating, Pleasant Valley, Sticies Gulch, La Grande, Minam, Milton-Freewater, Rogersburg, Troy, and Richland-Sparta.

A-3 - Pedro Mountain and A-3a - Hunt Mountain FMUs

The Hunt Mountain FMU is located approximately 10 miles to the northwest of Baker City. The area is bordered to the west by the Wallowa-Whitman forest. The Pedro Mountain FMU is located approximately 25 miles southwest of Baker City and 10 miles south of the town of Durkee. These polygons are predominantly timber types, with scattered areas of mixed conifer and juniper, and are more than 95 percent surrounded by private property.

Over the last 28 years (1980 to 2007), 18 fires have burned 1,468 acres of public land for an average fire size of 82 acres within the A-3 and A-3a FMUs. No communities have been identified as being at risk in these FMUs.

B-5 - Farewell Bend, B-5a - Table Rock, B-5b - Burnt River, B-5c - Iron Mountain, B-5d - Powder River FMUs

Collectively, these five FMUs lie in a band along Interstate 84 (I-84), between Ontario and Baker

City and consists of scattered BLM land parcels, intermixed with private, USFS, and state lands. These FMUs are surrounded on three or more sides by private lands. The Farewell Bend FMU is located southwest of Huntington, Oregon, primarily on the south side of I-84. The Table Rock FMU is a few miles northwest of the Farewell Bend FMU, also on the south side of I-84. The Burnt River FMU starts approximately 5 miles southwest of the town of Durkee and lies entirely on the west side of Burnt River. The Iron Mountain FMU lies directly north of Durkee, almost entirely on the north side of I-84. The Powder River FMU sits a few miles north of the Iron Mountain FMU, and south of the Powder River. Vegetation is sagebrush, mixed conifer, and woodland juniper.

Over the last 28 years (1980 to 2007), 74 fires have burned 14,655 acres of public land for an average fire size of 198 acres within the five FMUs. Communities identified as being at risk in these five FMUs include Durkee, Huntington, Keating, and Pleasant Valley.

B-6 - Brownlee FMU

This Brownlee FMU occupies most of the land on the Oregon side (west bank) of Brownlee, Oxbow, and Hells Canyon Reservoirs. This polygon begins at the town of Huntington, Oregon, and continues north to the Hells Canyon Wilderness. The western edge is bounded by private lands in the southern portions and the Wallowa-Whitman National Forest to the north. The FMU is predominantly a grass fuel model. This polygon has high elevation grasslands to low river bottom areas of grass with scattered brush.

Over the last 24 years (1980 to 2007), 53 fires have burned approximately 38,496 acres of public land in the Brownlee FMU for an average fire size of 726 acres. Communities at risk include Halfway, Huntington, Oxbow, and Richland.

B-7 - Big Lookout Mountain FMU

This FMU surrounds Big Lookout Mountain, approximately 10 miles east of Durkee and 5 miles northeast of Weatherby, Oregon. The Big Lookout FMU is bounded by the Brownlee Reservoir FMU to the south and east and by private lands to the west and north. This polygon is predominantly a timber area with granitic soils and steep terrain. The timber type is predominantly Douglas fir, with some juniper encroachment on the perimeters. This area is a high recreational use area, thus the threat of human caused unplanned ignitions is greater than natural caused ignitions. Fire suppression activities are limited to air attack and or ground attack with very little if any off road travel due to the steep terrain and very limited access.

Over the last 28 years (1980 to 2007), five fires have burned 14 acres of public land for an average fire size of 3 acres. No communities have been identified as being at risk in this FMU.

c. Trends

See the discussion on fire history in Section b, Current Conditions, above for the overall trend in wildfires in the Planning and Decision areas, especially Table 2-19 (Baker Field Office Fire History) which identifies the number of wildland fires and acres burned within the Decision Area during the last 27 years. From 1980 to 2007, 313 wildland fires have burned approximately 69,722 acres (17 percent) of the Decision Area. The average yearly occurrence of fires in the Decision Area is 11 fires for 2,490 acres between 1980 and 2007.

Although there has not been a significant increase in the annual number of fire ignitions or acres burned over the past 28 years, the potential for more acres burned certainly exists. Fire frequency and fire severity are expected to be higher than what occurred historically due to the majority of the Planning Area being in FRCC 2 and 3. Invasion of annual grasses and conifer woodlands into shrub and grassland BpS as well as increased live and dead fuel loads within conifer stands are the primary factors for this potential trend.

d. Forecast

Wildland fire management options for the Baker Field Office typically include AMR; prescribed fire and possible future applications of WFU; non-fire fuels treatments that include mechani-

cal, biological, chemical, and biomass removal; post-fire rehabilitation and restoration; and community protection, assistance, and rural fire assistance. In an effort to minimize the impact of wildland fire and reduce the spread of invasive and noxious weeds, the Baker Field Office has available the ESR program. Collectively, the fire management program addresses current FRCC and impacts to other resources. It is expected that due to the current fire regime conditions within the Planning Area and factors outside the control of the fire program (e.g., invasive weed control, vegetation management issues, drought, grazing), FRCC categories would be maintained at or near their current condition.

Based on prolonged drought conditions and establishment of invasive species, it is anticipated that the potential for uncharacteristic wildfire effects will continue under present management in the lower elevation sagebrush plant communities. It is also anticipated that under continued management, live and dead fuel loadings within forest stands and conifer/juniper encroachment into aspen and higher elevation sagebrush communities will continue to occur, increasing the risk for wildfires with potentially uncharacteristic fire effects. Management actions to reduce fire severity, including green strips, hazardous fuel reductions, and rehabilitation, could slow the decline of resources.

d. Key Features

Key features include WUI Areas and special management areas within the FMUs. Special management areas include ACECs, wilderness study areas (WSAs), wild and scenic rivers, communication sites, and special status plant habitats (see Table 2.38).

14. Cultural Resources

a. Indicators

Cultural resources are locations of human activity, occupation, or use. They include expressions of human culture and history in the physical environment such as prehistoric or historic archaeological sites, buildings, structures, objects, districts, or landscapes. Cultural resources can be natural features or places with plants and animals that are considered important to a culture, subculture, or community.

One of the primary features of cultural resources involves the integrity of the cultural property. Another primary feature includes those characteristics that may qualify the property for listing on the National Register of Historic Places (NRHP). A third important feature is the cultural value of areas important to Native American or other traditional communities. Specific indicators for the condition of cultural resources include the loss or diminishing of these important cultural features. Such indicators include the extent or intensity of natural weathering, erosion, wildfire, ground disturbance, grazing, recreation use, fire effects, weed intrusion, unauthorized collection, intrusions to setting, and vandalism.

b. Current Condition

There are 487 identified cultural resource sites administered by the Baker Field Office, ranging in surface area from several acres to as little as a few square yards. These include sites that are prehistoric, historic, or multi-component (i.e., having both prehistoric and historic components). Of the 487 known sites, 16 percent have unknown condition, which reflects either legacy data where condition was not described or insufficient data was available about site condition. Condition of the remaining sites, as indicated by site records, is as follows: 54 percent were in excellent to good condition (for example, at least 60 percent of the site surface appeared little disturbed) and 30 percent were in fair to poor condition (more than 60 percent of the site surface appeared disturbed).

Since 1976, various archaeologists have subjectively identified site condition based on evidence for prior surface disturbance at the time of site recording. However, because few archaeological sites have been formally tested by subsurface investigations, past surface condition may not necessarily be an indication of the present potential of a site to retain deposits that would inform upon prehistoric or historic use and, thus,

Table 2.38. Key Features

FMU	WUI	ACEC	WSA	Wild and Scenic River	Communication Site	Special Status Plant
A-2	Asotin		None identified	Grande Ronde River Powder River Canyon	Hermiston Butte Lookout Mtn. Mount Emily Beaver Ridge	Snake River goldenweed Rollins' desert-parsley
	Baker City					
	Cove					
	Durkee					
	Halfway	Grande Ronde River				
	Huntington	Joseph Creek				
	Keating	Keating Riparian				
	Pleasant Valley	Powder River Canyon				
	Sticies Gulch	Oregon Trail				
	LaGrande	South Fork Walla Walla				
	Minam	Rogersburg-Lime Hill				
	Milton Freewater					
	Rogersburg					
	Troy					
	Richland					
	Sparta					
A-3		Hunt Mountain		North Powder River		
B-5						
B-5a	Durkee					
B-5b	Huntington	Oregon Trail				Snake River goldenweed
B-5c	Keating					
B-5d	Pleasant Valley					
B-6	Halfway		McGraw Creek			
	Huntington	Sheep Mountain				
	Oxbow	Homestead	Homestead		Lime Hill	Snake River goldenweed
	Richland		Sheep Mountain			
B-7						

be potentially eligible for the NRHP. Updated information and re-evaluation may be necessary if impacts to a site are proposed. A few examples are as follows:

- A prehistoric site that was previously disturbed superficially by a crested wheatgrass seeding project, and initially recorded in poor condition, could retain less-disturbed subsurface deposits that may yield important data about prehistoric chronology and land use patterns.
- A 1920 historic homestead site with decayed cabin remains, but intact debris scatters, may provide some information about architectural style and artifacts that inform upon period of use and connections to local or regional commodity markets.
- A historic emigrant trail, or late 19th century travel trail swale, could provide data about the development of transportation routes to developing communities and gold mining districts.
- In the case of visible wagon ruts and the historic route of the Oregon Trail, its locations would have both educational and interpretive value.

Most cultural resource sites have not been recently or formally evaluated for their eligibility for listing on the NRHP. Archaeological sites with potential to yield important information are typically considered eligible and are avoided during surface-disturbing activities.

Prehistoric Sites

The record for American Indian occupation of the Columbia Plateau and Great Basin extends back at least 11,500 years. Most of the public lands in the Planning Area are located at the interface of these two broad geographic areas, including the Blue Mountain Physiographic Province and the Umatilla Plateau. Although the archaeological record for the Blue Mountains and adjacent regions provides evidence of occupation during the early Paleo-Indian period, most archaeological sites recorded in the Decision Area likely date from 7,600 to 200 years ago.

At the time of Euro-American contact, peoples of the southern Columbia Plateau and northern Great Basin areas occupied and used the Planning Area on a seasonal basis. These peoples included the Umatilla, Cayuse, Walla Walla, Nez Perce, Northern Paiute, Northern Shoshone, and Bannock. Today, these tribal Nations have reservations in Oregon, Idaho, and Washington.

In general, Columbia Plateau cultures focused on riverine settlement patterns and relied on a diverse subsistence base of fish, game, and root resources. A settlement pattern of semi-permanent houses at low elevation winter villages, with temporary subsistence camps in the uplands at traditional fishing, hunting, and plant gathering grounds, dates back thousands of years. Annual subsistence activities were strategic and complex, as people moved over large areas to procure resources when they became available for harvest in geographically localized environments.

Great Basin peoples were highly mobile gatherers and hunters, following a seasonal cycle of movements designed to exploit available plant and animal resources in the most efficient manner. The fusion and fission of small groups during particular seasons in response to resource availability was characteristic of the Northern Paiute. Gathering seed and root plants and hunting were the main subsistence activities. Animals, especially hares, pronghorn antelope, mule deer, bighorn sheep, and insects, formed a major aspect of subsistence. Anadromous or resident fish were taken from the Snake River and interior drainages and lakes.

Common prehistoric archaeological site types in the Planning Area are lithic artifact scatters and toolstone procurement localities. Less common site types are rock shelters, rock art, rock features (i.e., pits and cairns), and housepits.

Historic Sites

National events have helped to mold the nature of historic resources within the Planning Area. Early explorers and fur traders traversed the Planning Area, followed by missionaries, emigrants, and military expeditions. Sites reflect the resources and activities that attracted

Euro-Americans to the region from the 1840s into the first half of the 20th century. The Planning Area contains historic features including transportation features such as historic trails and stage roads; mining and mining-related sites; and homesteads, ranches, and related facilities, including irrigation ditches.

The Oregon Trail became a key transportation route from the Snake River to the Columbia River for emigrants traveling to the Willamette Valley in western Oregon. Between 1843 and 1855, approximately 60,000 emigrants traveled along the trail through northeast Oregon. In 1978, Congress designated the Oregon Trail as a National Historic Trail.

In addition to the Oregon Trail, routes of several stage and wagon roads dating from the early 1860s to 1900 are present in the Planning Area. A network of freighting and stage roads was established and improved from Umatilla Landing on the Columbia River to gold mining camps, hamlets, and towns on the Grande Ronde and Powder rivers. The railroad was completed through the Planning Area in the 1880s, facilitating the growth of communities all along the railroad line from Huntington to Hermiston. At the turn of the century, a railroad line was built along the western shore of the Snake River to reach mines near Homestead. Most of the railroad route was inundated when Brownlee Reservoir was filled in the 1950s.

Seven locations on the Oregon Trail are currently designated as an ACEC. Two interpretive sites on the Oregon Trail include the National Historic Oregon Trail Interpretive Center (NHOTIC) at Flagstaff Hill, and the Echo Meadows Interpretive Wayside. Oregon Trail locations were identified using maps published in 1981 by the National Park Service. Oregon Trail route locations on public lands have wagon swales or unimproved traces that vary from about 1/4 to 1 mile in length. To date, no emigrant camps have been identified in the Decision Area. Four locations (Echo Meadows, Flagstaff Hill, Chimney Creek, and California Gulch) have wagon ruts or historic trace features in good condition. Other Oregon Trail resources in the Decision Area include the trail route at White Swan, historically altered by wagon and motorized vehicle travel, and two gradually eroding route segments west and northwest of Straw Ranch Creek. Volunteers have initiated studies of alternate early emigrant routes.

Early prospecting in the area occurred in 1861 when a party of miners discovered gold in gulches southwest of present day Baker City. A gold rush to the Blue Mountain region ensued, and the mining camp of Auburn was quickly established in Blue Canyon. Within three years, mining districts had been established throughout the present day Baker County region, in the Powder River, Burnt River, and Snake river drainages. These historic mining districts still contain remnants of past activities including prospects, shafts, adits, mining ditches, structures, foundations, and debris scatters. Historic placer and lode mining sites date from the late 1860s to the 1940s. Good condition features of the historic Auburn site and the El Dorado Mining Ditch are located partly on public lands.

By the late 1860s through 1870s, cattle and sheep were driven into the region and ranches and homesteads were established within the Planning Area. Large sheep operations were established in Umatilla County. Remnants of ranch or homestead operations include corrals, fences, line shacks and cabins, foundations, and debris scatters. Those who took up the earliest land and water claims in the lowlands built irrigation systems to water fields and grain crops. At the turn of the century in Umatilla County, the federal government launched a program to promote reclamation homestead settlements by developing major irrigation facilities to water dry uplands near the lower Umatilla River.

Common historic sites in the Planning Area that relate to homesteading and historic mining, dating from the late 1800s and early 1900s, include the remains of historic wagon roads, homestead and mining cabin sites, placer mines, ditches, and unassociated trash dumps. Less common historic sites include inscribed aspen trees, historic cemeteries, historic mining camps or buildings, and former sawmill sites.

c. Trends

Historic and prehistoric sites are nonrenewable resources affected constantly by natural factors and sometimes by human actions. Sites are susceptible to natural processes such as weathering, erosion, and animal activity, as well as many kinds of human activity (intentional or unintentional). As such, most sites tend to deteriorate over time.

The degree to which natural processes and human activities affect a site will depend upon the site type, the setting, and the nature of the process/activity. Natural processes are dynamic and therefore have a constant influence on sites. Sources of change to condition listed on site forms in the Planning Area include livestock or wildlife trampling, recreation use, motorized travel including ORV use, stream bank and reservoir shoreline erosion, historic mining, vandalism or looting (i.e., unauthorized collection), animal burrowing, natural erosion, weathering, and decay.

Most cultural resources identified through compliance activities associated with Section 106 of the National Historic Preservation Act are in stable condition because current management measures typically avoid or mitigate potential impacts. In these cases, the trend is towards a desired condition of protection.

Qualitative observations indicate that ground disturbance associated with recreational activity such as ORV use and concentrated grazing use in riparian areas contributes to a downward trend for some cultural resources. Qualitative observations also indicate the trend is downward for archaeological sites affected by natural stream or riverbank erosion, and for historic structural remains subject to ongoing weathering and decay.

d. Forecast

Projected increases in recreational and commercial use may contribute to illegal collection and inadvertent damage to cultural resources. Sites will continue to be susceptible to natural wind and water erosion, looting, and vandalism. Impacts to traditional cultural landscapes may occur during future energy developments. The lack of a well-defined travel management plan for ORV uses has the potential to result in impacts to archaeological sites.

e. Key Features

Prehistoric and historic archaeological sites are distributed across all watersheds in the Planning Area. Sites are commonly found in environmental locations influenced by the existing terrain and availability of water or resources of interest. For example, there is a high potential to find prehistoric and historic sites near any water body such as rivers, streams, springs, and lakes. Evidence of past use and occupation may also be found on ridges and areas with abrupt changes in topography. Although there are exceptions, cultural resources are less likely to occur on steep slopes and rocky exposures.

Prehistoric and historic archaeological properties are located on public lands within the boundaries of the Nez Perce-Snake River National Register District, and along Joseph Creek in Oregon. Properties in the National Register District include rock art, lithic scatters, and probable pit house or storage features in good condition. Cultural resources are among the important and relevant values identified for management in the Grande Ronde ACEC and the Powder River Wild and Scenic River Plan. The Oregon Trail and portions of the Auburn site and El Dorado Ditch, which are on public lands, are some examples of important historic properties in the Planning Area.

15. Paleontological Resources

a. Indicators

Paleontological resources include the fossil remains or traces of vertebrate and invertebrate animals and plants. Locations where fossils occur are known as localities. While erosion can expose fossils for discovery and scientific interpretation, wide dispersal of fossil remains due to disturbance can obscure scientific context. Geologic settings may also constitute a paleon-

tological resource when associated with fossils or significant processes that created contexts for fossil preservation.

The primary resource indicator for paleontological resources involves those characteristics that make the fossil locality or feature important for scientific use. Natural weathering, decay, erosion, and improper or unauthorized collection can remove or damage those characteristics that make the paleontological resource scientifically important.

b. Current Condition

There are 24 reported paleontological vertebrate and plant fossil localities on public lands in Baker County. Of particular interest are vertebrate fossils such as those of extinct mastodons or mammoths, horses, camelids, peccary, sloth, canids, beavers, turtles, and fish and associated plant fossils, such as leaf impressions or reproductive parts. Fossils are often associated with areas of land that naturally have very little vegetation, such as badlands, where erosion exposes the underlying layers.

Most of these localities have been exposed by water and wind erosion. The most prominent time period represented by vertebrate fossil localities in the Decision Area is the Miocene and Pliocene, from about 24 million to 1.8 million years ago. Some academic study of vertebrate and botanical paleontological resources on public lands has been undertaken.

The Baker Field Office does not allow unregulated collection of vertebrate fossils. Permits from the BLM are required for the collection of vertebrate fossils, including trace fossils. Qualified paleontologists and academic institutions can obtain permits from the BLM for collecting vertebrate and plant fossils or other scientifically significant specimens.

There is no known demand for hobby collection of common fossils such as fossilized wood, and there are no known areas of fossilized wood concentration in the Decision Area.

c. Trends

Paleontological localities have been and will continue to be affected and exposed by processes such as natural erosion. Recreational OHV use can contribute to further erosion and exposure of fossil localities, which may result in a downward trend.

d. Forecast

Projected increases in ORV recreational use may increase the risk of damage and unauthorized collection in areas where paleontological resources are present. Management actions to identify and protect sensitive areas or to mitigate impacts to paleontological resources would reduce the nature and degree of these impacts.

Exchange of isolated tracts of lands out of public ownership may forego or hamper opportunities for ongoing or future investigation of scientifically important fossil localities. Except for cyclical field inventory by professional paleontologists, demand for further academic study is undetermined.

e. Key Features

Paleontological localities are documented in the Durkee and Unity basins.

The BLM Handbook H-8270-1 provides for identification of areas according to their potential to contain vertebrate fossils or exceptional invertebrate or plant fossils. Surveys, geologic maps of favorable formations, exploration sites, and research reports may be used to identify these resources.

The geology of the Planning Area includes the Baker Terrane, Wallowa Terrane, and to a lesser extent the Olds Ferry Terrane (Bishop 2003, Orr and Orr 1999). These exotic terranes provide evidence for the ancient geologic origins of the Planning Area, dating back more than 200 million years.

Flows from the Tertiary, Clarno, and John Day period volcanoes, and the later Columbia River group, covered the region with thick deposits of lava and ash interspersed with plant and animal

fossil-bearing sediments (Orr and Orr 1999, p. 29). The most widely distributed unit in the Planning Area is the Columbia River Basalt Group, which consists of multiple extensive floods of lava that buried much of northeast Oregon 12 to 17 million years ago (Orr and Orr 1999). Miocene fossil bearing deposits are found in the vicinity of McKay Creek in Umatilla County, but do not extend to public lands. Lignite bed exposures in the Troy basin on the Grande Ronde River may contain plant fossils, but no such exposures have been identified on public lands. Later geologic events in the Planning Area include major Pleistocene flood deposits along the Columbia and Snake rivers, including the Missoula and Bonneville floods from 19,000 to less than 13,000 years ago (Bishop 2003, p. 228).

Exposures of the John Day/Clarno Group formations and Neogene sediment exposures have the potential to yield vertebrate and plant fossils of scientific interest. Portions of the Planning Area that are covered with Columbia River Basalt Group flows are less likely to yield fossils unless sedimentary interbeds are exposed.

16. Visual Resources

a. Indicators

The BLM visual resource management (VRM) system consists of the visual resource inventory stage and visual resource contrast rating stage. The inventory stage involves identifying the visual resources of an area and assigning them to inventory classes using BLM's visual resource inventory process. The process (described in detail in BLM Handbook H-8410-1) involves rating the visual appeal of a tract of land, measuring public concern for scenic quality, and determining whether the tract of land is visible from travel routes or observation points. The area's visual resources are then assigned to VRM classes with established objectives, as follows:

- **Class I Objective**: To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
- **Class II Objective**: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.
- **Class III Objective**: To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
- **Class IV Objective**: To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

The analysis stage involves determining whether the potential visual impacts from proposed surface-disturbing activities or developments will meet the management objectives established for the area, or whether design adjustments will be required. The BLM uses a visual contrast rating process (described in BLM Handbook H-8431-1) for this analysis, which involves comparing the project features with the major features in the existing landscape using the basic design elements of form, line, color, and texture. The analysis can then be used as a guide for resolving visual impacts. Once every attempt is made to reduce visual impacts, BLM managers can decide whether to accept or deny project proposals. Managers also have the option of attaching additional mitigation stipulations to bring the proposal into compliance.

The underlying reason for establishing VRM objectives is to ensure the visual value or scenic quality of the landscape is retained. Scenic quality is a measure of visual appeal. In the BLM system, a Class A, B, or C rating is assigned. Landscapes are rated within the context of the physiographic province in which they are located. The degree of harmonious visual variety and diversity in a landscapes landform, vegetation, and water features in terms of form, line color, and texture largely determines its rating. Additional rating factors include the influence of adjacent scenery and the scarcity and degree to which cultural modifications detract from or enhance the landscape. The scenic quality classes are as follows:

- **Class A**: Distinctive, high degree of visual variety;
- **Class B**: Common or typical, moderate degree of visual variety; and
- **Class C**: Minimal value or below average, low degree of visual variety.

b. Current Condition

The variety of landscapes across the Planning Area provides visitors and residents with a large variety of visual features in all classes of VRM management. This variety provides viewers with scenery that ranges from broad vistas of rolling sage brush/grassland to rugged basalt canyons to mountain peaks flanked by forests.

Visual Resource Management Class I, the most protective class, is usually associated with special areas such as wilderness areas, WSAs, wild and scenic rivers, and some ACECs. Class II and III areas are generally the scenic mountain ranges near communities and along high use waterways, interstates, state highways, and other well-traveled corridors in the Planning Area as well as some of the remaining ACECs. For instance, additional VRM policy is given to the sites of the Oregon Trail ACEC within the Decision Area, which manages the setting of this historic trail to VRM Class II. The remainder of the Decision Area is Class IV.

Table 2.39 reflects only the acreages and classifications for the Decision Area at the completion of the Baker RMP (BLM 1989). Since that time, there have been changes to these statistics in the form of land acquisition/disposal, and designation of wild and scenic rivers and ACECs.

Table 2.39. VRM Classes in the Planning Area as Identified within the 1989 RMP

Class	Acreage	Percent of Planning Area
I	0	0
II	151,711	35
III	75,156	17
IV	202,887	48
Total	**429,754**	**100**

Except for newly acquired public lands in some areas, the entire Decision Area has been inventoried according to BLM visual inventory guidelines. Most of the newly acquired lands fall within the Wallowa and Grande Ronde Wild and Scenic River boundaries, or within specially designated ACECs, which brought those lands under the protection of the visual designation of those areas. Previously inventoried public lands were assigned VRM classes with established guidelines through the Baker RMP (BLM 1989), along with the appended Powder River and Wallowa and Grande Ronde river management plans.

Table 2.40 identifies some of the acquired lands along the Grande Ronde and Powder rivers and the acreages that fell within established classification boundaries.

Table 2.40. Acquired Lands and VRM Management Assignment

Class	Acreage	Lands Acquired
II	6,641	Grande Ronde ACEC and Grande Ronde Wild and Scenic (Recreational)
II	971	Wallowa Wild and Scenic (Recreational)
Total	**7,612**	

Public perception of and concern for visual resources is critical in land use planning. The visual character of the Decision Area is valuable to a spectrum of recreation users and sightseeing travelers. Receptors sensitive to visual resources on public lands include people recreating and areas of human settlement. Recreation on public lands includes but is not limited to picnicking, wildlife watching, camping, biking, hiking, OHV use, fishing, hunting, rafting, power boating, and photography. The primary areas of human settlement in the Planning Area are along I-84 and state highways and include Baker City, La Grande, Pendleton, Milton-Freewater, Hermiston, and Enterprise. Numerous other smaller towns also exist throughout the Planning Area. In addition to these communities, people who recreate in the Decision Area represent other receptors sensitive to the quality of visual resources.

c. Trends

While much of the Decision Area still consists of areas with relatively undisturbed characteristics, decades of logging, grazing, fire suppression, road building, mineral extraction, uncontrolled motorized use, and the creation of infrastructure such as roads and utilities have left an imprint on the land and on the overall scenic quality. For the most part, however, the sparse population and relatively small population centers have left much of the region relatively natural appearing. The general condition of visual resources within the Decision Area can thus be considered stable.

Portions of the Decision Area not easily accessible by the public either through the lack of legal public access or due to terrain characteristics, have generally retained a higher level of natural appearance. In areas accessible by motorized use, increased and in some cases unauthorized OHV use has created a proliferation of new routes and trails, impacting scenic quality in some areas. The degree of such impacts varies with the amount of use and the accessibility of the areas.

The BLM analyzes all proposed projects in the Decision Area for their impacts to VRM classifications and includes, where possible, mitigation measures to design structures that blend in with the natural background to minimize disturbances to the visual landscape. This form of visual management has been and continues to be effective. Following the visual guidelines for each VRM class maintains or enhances the Decision Area's visual resources. Changes in the boundaries of the VRM classification areas due to the disposal or acquisition of lands over the last 20 years (primarily in the northern end of the Planning Area), however, has created the need for more detailed descriptions and mapping of these areas

d. Forecast

Anticipated future recreation and commercial growth will coincide with the need to address potential impacts to visual resources. Recreational use (motorized and non-motorized) and commercial activities could result in increased adverse impacts to scenic vistas and natural settings, especially foreground scenes, throughout the Planning Area. The numbers of new roads, trails, and routes will increase over time and motorized recreational use could eventually impact locations that are currently in near-natural condition. The scenic quality of areas desired by recreationists (e.g., popular campsites, easy access areas, and areas near water) would continue to degrade as use and method of access to these areas increases.

The future construction of long-term commercial developments and facilities, such as power lines, communication sites, mines, and wind farms could adversely affect the visual resources of the fore-, middle-, and background landscapes.

Assuming increasing commercial development and recreation use, greater long-term visual impacts will occur within the Planning Area. As more and more demands are placed on public lands by developers and recreationists, the BLM needs to develop management actions to protect sensitive visual resource values into the future.

e. Key Features

The condition of visual resources are more noticeable in certain parts of the Planning Area, including areas of high public use and visibility areas, such as those along interstate and state highways, rivers, reservoirs, or highly desired recreational areas. Other key features of the visual landscape that receive greater public attention include unique landforms, historic trails, pristine areas, and large solid blocks of public lands.

The Snake, Powder, Wallowa, Grande Ronde, and South Fork of the Walla Walla river canyons, as well as Joseph Creek canyon, are several of the Planning Area's key visual elements, and offer few public access points. These canyons are generally primitive and undeveloped. These and other rivers and streams in the Planning Area slice through the Grande Ronde Basalt Plateau of the Columbia River Flood Basalt Province, winding alternately through occupied and unoccupied valleys, deep canyons cutting through thick layers of basalt cliffs, and steep rugged hills. Riparian vegetation at the rivers edge contrasts

with hills of grass, sagebrush, and pockets or stringers of timber that provide distinct color changes associated with the seasons.

The erosion of the thick layers of basalt in conjunction with the unique lava dikes of the area have created unusual and interesting formations that add to the special uniqueness of the Planning Area and serve as scenic landmarks for canyon visitors. For example, OPRD identified the Wallowa and Grande Ronde rivers as containing "special attributes" for inclusion into the state scenic waterways system.

Vegetation in the Planning Area ranges from fir and pine trees in the uplands to high desert communities of sagebrush and hackberry in the lowlands. Ranches intermingled with public lands also add an interesting contrast to the landscape.

The Blue and Eagle Cap ranges of the Cascade and Wallowa mountains are also prominent landscape features in the Planning Area. These landscapes are towering landforms, weathered over time and are visible from most every location within the Planning Area. The remaining public lands contain important visual elements and contribute to providing open space views on plateaus and rolling hills.

17. Wilderness Characteristics

a. Indicators

Bureau of Land Management Instruction Memorandum (IM) 2003-275 provides guidelines to assess BLM lands for wilderness characteristics that are not currently managed for such characteristics (i.e., other than existing wildernesses and WSAs). Such assessment is based on determining if certain tracts of public lands contain wilderness characteristics of naturalness, solitude, and primitive recreation:

- **Naturalness**: Lands and resources exhibit a high degree of naturalness, are affected primarily by the forces of nature, and are areas where the imprint of human activity is substantially unnoticeable. The BLM has authority to inventory, assess, and/or monitor the attributes of the lands and resources on public lands, which, taken together, are an indication of an area's naturalness. These attributes may include the presence or absence of roads and trails, fences and other improvements, the nature and extent of landscape modifications, the presence of native vegetation communities, and the connectivity of habitats.
- **Outstanding Opportunities for Solitude**: Visitors may have outstanding opportunities for solitude [...] when the sights, sounds, and evidence of other people are rare or infrequent [and] where visitors can be isolated, alone, or secluded from others.
- **Outstanding Opportunities for Primitive and Unconfined Types of Recreation**: Visitors may have outstanding opportunities for primitive and unconfined types of recreation [...] where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.

Public lands possessing the above values may be managed to maintain some or all of those characteristics. Wilderness characteristics such as solitude, primitive recreation, and naturalness are a part of the land use planning process and will be evaluated and addressed along with all other resource values and uses. The BLM is authorized to consider this information when developing the affected environment section and the range of alternatives, or to analyze the environmental impacts to other resources.

b. Current Condition

Due to the "checkerboard" pattern of public lands in the Planning Area, few sections meet the minimum 5,000-acre criteria identified in the inventory process for consideration as containing wilderness characteristics. In addition, 20 years of open classifications for OHV use as well as concentrated local uses (e.g., grazing, timber harvest, recreation, etc.) have left few areas unscarred by the proliferation of roads and trails. Nonetheless, all lands associated with

projects (or as time permits) are assessed using the techniques and requirements identified in the wilderness characteristic review guidelines (IM 2003-275), regardless of size. To date, no public lands in the Planning Area outside of WSAs have been identified as having wilderness characteristics.

c. Trends

The possibility for wilderness characteristics to exist within the Decision Area is limited due to the broken and checkerboard nature of public lands as well as decades of an "open" OHV classification. In addition, because there have not been specific management actions to protect the potential wilderness characteristics of the Decision Area (outside WSAs), both authorized and unauthorized activities occurring in these areas may have reduced such characteristics.

d. Forecast

Future commercial development and recreation use may reduce or eliminate naturalness, solitude, and primitive recreation values in areas with wilderness characteristics that lie outside established WSAs if they are not managed specifically to preserve such values.

e. Key Features

The key features that determine wilderness characteristics (i.e., naturalness and outstanding opportunities for solitude and primitive and unconfined types of recreation) area identified above (under a. Indicators). Currently, no areas of public lands in the Planning Area outside WSAs have been identified as having wilderness characteristics; however, a full inventory has not been conducted. While wilderness characteristic inventories have been performed on a project-by-project basis during NEPA analysis, no areas have been identified as having wilderness characteristics through this inventory process.

18. Cave and Karst Resources

a. Indicators

The current Baker RMP (BLM 1989) does not address management of caves and karsts; however, the Federal Cave Resources Protection Act of 1988 requires federal agencies to identify and manage, to the extent practical, cave resources determined to be significant. Procedures for determining the significance of caves are found in 43 CFR Part 37. Significance is determined based on criteria for biotic, cultural, geologic, mineralogical, hydrologic, recreational, educational, or scientific values, features, or characteristics as defined in 36 CFR, Part 290.3 (c) and (d).

b. Current Condition

To date, no significant cave or karsts have been discovered within the Decision Area; however, no detailed inventories for caves or karsts have occurred. There is slight to moderate potential for the occurrence of these formations within the Decision Area.

c. Trends

Since no cave and karst resources have been identified within the Decision Area, there is no available trend data.

d. Forecast

If caves and karsts are present, it is anticipated that private spelunking clubs or organizations will be the most likely to discover these features and offer their location for BLM inventory and analysis.

e. Key Features

Key features for the existence of caves or karsts within the Decision Area are determined by the geology that exists. Within the Decision Area are large acreages of basalt lava flows as well as some areas of lime deposits. Along with other geological or climatological processes, there is a potential for these areas to contain cave or karsts features; however, no significant cave or karsts have been discovered within the Decision Area.

B. Resource Uses

1. Facilities

a. Current Level/Location of Use

Existing facilities throughout the Decision Area include numerous capital improvements such as roads signs, interpretive sites, boat ramps, trailheads, staging areas, bulletin boards, kiosks, potable water developments, and toilets. Most facilities developed within the Decision Area are associated with recreational or administrative activities. Additional "improvements" in the form of cattle guards, fencing spring developments, and gates are not generally considered "facilities." See the Section B-3, Livestock Grazing, for a discussion of these improvements.

Recreation facilities are situated throughout the Decision Area with only one fully developed campground (Spring Recreation Site) located on Brownlee Reservoir of the Snake River. Other developed and yet somewhat primitive sites contain combinations of such facilities as restrooms, fire rings, tables, bulletin boards/kiosks, and potable water. Most of these sites are located near water sources, such as those on the Snake River reservoirs (Airstrip, Bob Creek, Copper Creek, Spring, Swedes Landing, and Westfall) or along rivers (Heller Bar, Minam Station, Mud Creek, Palmer Junction, Rogersburg, and South Fork of the Walla Walla). Other developed areas include Echo Meadows, Bassar Diggins (on Lookout Mountain), and the Virtue Flat OHV Area. Table 2.41 lists these developed recreation areas and the facilities they provide. In addition, the BLM manages the Spring Recreation Site Guard Station/administrative site established for fire suppression activities as well as assisting with the Spring Recreation Site. This site contains barracks for seasonal firefighters, water, and septic. The BLM also manages NHOTIC located approximately 5 miles east of Baker City and the Baker Field Office and Wareyard located in Baker City.

b. Forecast/Anticipated Demand for Use

Overall trends show a gradual increase each year in visitor use at BLM developed recreation sites regardless of the amount of development. This use, however, fluctuates annually due to weather patterns, water levels of reservoirs and rivers, as well as fuel prices. Regardless of these fluctuations, it is expected that the demand for public campgrounds and other facilities or the improvement of existing campgrounds and facilities will increase.

Anticipated population increases, both within Oregon and neighboring states, would result in an increased demand for public lands available for recreation activities. To accommodate this increase, additional recreation facilities or improvements to existing facilities would be required, including but not limited to restrooms, picnic and camping areas, boat ramps, and parking/staging areas necessary for remote recreational pursuits such as equestrian and OHV/ over-snow vehicle (OSV) uses.

c. Key Features/Areas of High Potential for Use

Areas of high priority for recreation facility development or maintenance include access points along the Wallowa, Powder, and Grande Ronde rivers; facilities at the South Fork of the Walla Walla River trailhead; Virtue Flat OHV Area; and the sites located along the Snake River reservoirs. In addition, a number of locations throughout the Decision Area support a variety of dispersed recreational activities. Although no areas in these dispersed settings have been identified for capital improvements, as demand for recreational activities on public lands increases, developed campgrounds and day use areas could improve recreation experiences and provide necessary resource protection.

Table 2.41. Developed Recreation Areas on BLM Lands in the Planning Area

Name	Boat Ramp	Camp ground	Picnic Area	Rest-rooms	Drinking Water	Trailhead	Fishing Access	Other
Airstrip		X					X	
Bassar Diggins		X		X	X			
Bob Creek		X		X			X	
Copper Creek				X		X	X	
Echo Meadows						X		Interpretive site on the Oregon Trail
NHOTIC			X	X	X	X		Interpretive site and trail/fee area
Spring Rec.	X	X	X	X	X		X	Fee area
Swedes Landing		X		X			X	
Westfall		X		X			X	
Heller Bar	X	X		X			X	On state land but BLM manages facilities
Minam Station				X				Visitor Information
Mud Creek	X	X		X			X	
Palmer Junction	X	X					X	
Rogersburg							X	
South Fork Walla Walla			X	X		X	X	
Virtue Flat OHV Area				X				OHV Staging area

2. Forestry and Woodland Products

a. Current Level/Location of Use

The Baker RMP (BLM 1989) provides for the harvest and sale of various products including timber (sawlogs and clean chips) and special forest products (SFPs) such as firewood, posts, and poles. The RMP stated an ASQ of 24 million board feet (MMBF) of timber per decade to be harvested from a commercial-forest land base of 25,353 acres. The RMP also restricted commercial harvest on 3,914 acres and excluded commercial harvest on 3,977 acres to emphasize other resource values.

The total forested land base within the Decision Area is currently estimated at 62,626 acres. This figure includes both the 25,353-acre commercial land base and 37,273 acres considered woodlands. Woodlands are comprised of juniper and less productive coniferous forest not capable of producing a minimum of 30 cubic feet per acre of new growth per year. Woodlands are considered for the production of SFPs, but not timber products. Map 2.10 shows the location of forests and woodlands in the Planning Area.

The percentage of commercial forestland in the Decision Area is minimal (less than 1 percent) in relation to the total commercial forestland within the Interior Columbia Basin, in which the BLM oversees management of approximately six million acres of commercial forestland (Status of the Interior Columbia Basin, PNW-GTR-385, p. 56).

At the time the Baker RMP was approved in 1989, the Baker Field Office had a very active timber management and sale program. From 1950 to 1989, records indicate that approximately 118 MMBF of timber was harvested from the Decision Area (formerly the Baker District) for a decadal average of 3 MMBF. This volume was achieved through even-age management and/or overstory removal of the large, old growth trees. The 1989 RMP, however, suggested that the time-tested method of even-age management

was the preferred strategy and outlined that this was to be accomplished primarily through clear-cutting.

Soon after the RMP was to be implemented, the approach to public lands forestry experienced a paradigm shift, which has been called many things including "new forestry," "ecosystem management," and most recently "managing for forest health." This shift in forestry management reflects the public's recent demands that their forests be managed for a variety of resource values and not just as a timber crop. As a result, the goal of harvesting 24 MMBF per decade of timber from the Decision Area has not been achieved since the RMP's inception.

While forest products are still being produced from the Decision Area's forests, they are mainly a by-product resulting from the greater goal of forest health. This management strategy uses silvicultural prescriptions designed to restore forests to something reminiscent of their historic range of variability. These prescriptions concentrate on reducing understory stocking, while leaving the large, older tree component of the forest canopy intact. This type of management has yielded an average of 750 thousand board feet per year of smaller diameter logs over the past five years. The amount would have been smaller when considering that some of this volume has come from fire salvage.

Baker County was once a thriving timber community with as many as five mills operated solely by Ellingson Lumber Co., with other mills in the area ran by its competitors. However, Baker County's timber industry, like many counties throughout the west, is now a thing of the past. There are numerous reasons for this downturn, including the paradigm shift in forest management on public lands. While there are no longer commercial lumber mills operating in Baker County, a small infrastructure remains for timber harvesting and logs harvested from the Decision Area are trucked to neighboring counties where a few mills still operate.

Special Forest Products

The SFP program is currently a minor component of the Decision Area's forestry program. This program primarily consists of fuelwood harvesting, with occasional permits sold for the harvesting of juniper posts or lodgepole posts and poles. Since BLM forestlands tend to be intermingled with USFS lands, most people tend to acquire these products from the latter. A productive year of SFP sales for the Decision Area amounts to approximately 60 cords of fuelwood and 200 posts.

b. Forecast/Anticipated Demand for Use

Timber harvest volumes have declined across the Planning Area since the early 1990s, with the decline having been the most pronounced on federal lands during that period. However, as mentioned above, forest management does continue in the Decision Area. In fact, there is likely more forest and woodland acreage being actively managed today than before 1990, although the direction of management is much different. While current management includes some commercial timber harvest, the emphasis is now on restoring forest health through thinning of smaller trees and reduction of fuels to reduce wildfire hazard. It can thus be anticipated that this form of forest management will continue over the next few decades.

Demand for timber, while currently at a level below historic demands, should continue in the foreseeable future. However, it is unlikely that the Decision Area will have a need for an ASQ any time in the near future. Active management should continue in the present manner of forest restoration and fuels reduction. While changing political demographics affect forest policies on public lands, it is unlikely that the pursuit of healthy forests and the reduction of hazardous fuels will be abandoned.

Special Forest Products

The availability of firewood material is expected to increase due to the increase in mortality from insects and diseases. As stressed trees die, they lose their commercial value and are often available for firewood; however, only a small percentage

of these dying trees are within a reasonable distance of open roads and accessible for firewood use. Demand for firewood is often linked to energy costs, with the Baker Field Office having sold over double the firewood in FY 2008 compared to the previous five years. Even with this in mind, the overall demand for firewood in the Planning Area has remained minimal and is not expected to increase dramatically over the next few decades.

While on a national scale the demand for woody biomass for use as fuel in the renewable energy arena has increased, there is currently little demand at the local level. This lack of demand will not likely change unless the infrastructure needed to process and utilize this material is created locally.

c. Key Features/Areas of High Potential for Use

Most of the Decision Area's forestlands are in scattered parcels, many of which are 40-acre isolates. Because of this, some of these lands are essentially unmanaged due to difficulty in gaining access across private lands. There are a few "blocks" of forestland where BLM ownership is contiguous (i.e., the parcels are grouped together), such as the Lookout Mountain and Burnt River blocks.

3. Livestock Grazing

a. Current Level/Location of Use

There are currently 353 livestock grazing allotments containing 395,769 acres of public lands in the Planning Area. Map 2.11 illustrates the location of these allotments, while Map 2.12 provides greater detail for the majority of the allotments located in the southern portion of the Planning Area (primarily in Baker County).

Management Categories

Three selective management categories for allotments have been developed: Custodial (C), Maintain (M), and Improve (I). All allotments were grouped into these categories according to management needs, resource conflicts, potential for improvement, and Bureau funding and staffing constraints.

Custodial (C) category allotments: The BLM manages allotments in the C-category custodially to protect resource conditions and values. In the Planning Area, these allotments consist of small parcels of public land intermingled with larger tracts of private and/or state land. Due to the small amounts of public land involved in these allotments, often with limited public access, significant investments of time or money spent by the Baker Field Office on their management are not justified.

Maintain (M) category allotments: The BLM actively manages M-category allotments to maintain current satisfactory resource conditions and to ensure that resource values do not decline. In these allotments, current conditions are termed satisfactory or the allotment contains few if any sensitive resources. Although some investment in time or money would be justified in these allotments, they are not as high a priority as I-category allotments.

Improve (I) category allotments: The BLM manages allotments in the I-category to resolve a high level of resource conflicts and concerns and grant them the highest priority for funding and management actions. These allotments are either in unsatisfactory condition or contain significant sensitive resources, making them the BLM's highest priority for monitoring and range improvements. Although I-category allotments justify investments of time and money, the field office is limited in staffing and resources to address all management needs.

Two hundred twenty-six allotments encompassing 68,202 acres of public land were determined to be in the C category, 56 allotments encompassing 127,495 acres of public land were determined to be in the M category, and 71 allotments encompassing 200,072 acres of public land were determined to be in the I category. Table 2.42 shows the current numbers and acres of grazing allotments in each management category.

Table 2.42. Current Numbers and Acres of Grazing Allotments in Each Management Category

Category M	Category I	Category C
56 allotments	71 allotments	226 allotments
(16% of all allotments)	(20% of all allotments)	(64% of all allotments)
127,495 acres	200,072 acres	68,202 acres
(32% of the total acreage)	(51% of the total acreage)	(17% of the total acreage)

Allotment Management Plans

Allotment management plans (AMPs) have been developed to improve management on selected allotments. Roughly, 40 percent of the acres involved with grazing are managed through an AMP, with 30 AMPs having been completed for the Baker RMP (BLM 1989), 11 of which have been evaluated and revised between 1989 to 1999. In 1999, the standard and guides process was implemented (see below).

Rangeland Health Standards

The BLM, through the development of grazing regulations in 1995, was directed to develop state or regional standards and guidelines for rangeland health. The objectives of these regulations are to promote healthy, sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions; and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy rangelands. After a process that incorporated public participation and assistance from the Resource Advisory Councils, the BLM developed statewide standards and guidelines for Oregon and Washington (BLM 1997). Appendix 2.C lists these standards for rangeland health, which include:

- Standard 1 - Upland Watershed Function: Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.
- Standard 2 - Riparian/Wetland Watershed Function: Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.
- Standard 3 - Ecological Processes: Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.
- Standard 4 - Water Quality: Surface water and groundwater quality, influenced by agency actions, complies with state water quality standards.
- Standard 5 - Native T & E, and Locally Important Species: Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

About 53 percent of the Decision Area has been evaluated using the Standards for Rangeland Health. As shown in Table 2.43, these assessments indicated that 36 percent of allotments surveyed are meeting all standards, 61 percent are not meeting one or more standards, and 3 percent are not meeting one or more standards, but the cause is not current livestock grazing practices.

Riparian/wetland watershed function (Standard 2) is the most common cause of not meeting standards. Riparian areas within the Decision Area create a particular problem for grazing management. The riparian areas can receive heavy use by livestock because water is available and the vegetation remains green throughout the grazing season. Willows, aspen, cottonwoods, and other trees also provide shade. The PFC method is one method used to assess riparian

Table 2.43. Results on Evaluating Achievement of Rangeland Health Standards (April 2008)

Meeting All Standards	Not Meeting One or More Standards (Livestock a Significant Cause)	Not Meeting One or More Standards (Cause Other Than Current Livestock Grazing)
97 allotments	33 allotments	16 allotments
(76,215 acres)	(127,541 acres)	(6,742 acres)
36% of the area surveyed	61% of the area surveyed	3% of the area surveyed

areas within the allotments (see Section A-6, Vegetative Communities, for more info on the PFC method).

Riparian vegetation is considered the primary attribute affected by BLM management that contributes to stream channel stability, infiltration, subsurface inflow, solar inputs, thermal buffering, streambank stabilization, sediment filtration, erosion, overland flow, and run-off. The primary management activities that influence riparian plant communities are grazing, mining, recreation, fire, and activities that increase the presence and expansion of exotic vegetation and weeds. If these activities are managed appropriately, objectives to promote healthy sustainable rangeland systems, accelerate restoration, improve rangelands to PFC, and sustain the western livestock industry and communities can be achieved.

Licensed Use

The total active grazing preference for the Decision Area is approximately 47,500 AUMs. One AUM is the amount of forage necessary to sustain one cow or its equivalent for one month. In the 2007 grazing year, approximately 38,500 AUMs were actually authorized for use, and the rest were in nonuse. The potential grazing use is unknown. Rangeland monitoring information will determine the level of use allowable. As shown in Table 2.44, there are 282 grazing permits administered under Section 3 of the Taylor Grazing Act (i.e., are within a grazing district which was established under the provisions of the Act). These Section 3 permits are in Baker and Malheur counties, and a small part of southeastern Wallowa County. There are 76 grazing leases administered under Section 15 of the Act (i.e., outside of any established grazing district), which are within the Grande Ronde and Blue Mountain Geographic Units identified in the Baker RMP (BLM 1989). These leases are located in the six northern counties of the Planning Area (north of Baker County, including two counties in Washington) and are scattered among 7 million acres of private land, state land, and land managed by other agencies.

Season of Use

There are 353 livestock grazing allotments in the Decision Area containing 395,769 acres of public land. Of these, 226 allotments are C-category allotments, which include small and scattered federal acreages fenced in with larger tracts of private land. Annual grazing authorizations for these allotments contain a stipulation that states, "seasons of use and livestock numbers are not restricted as long as abuse to the public land does not occur." All other allotments have defined seasons of use designated in the conditions of 10-year grazing permits.

Monitoring of Utilization and Actual Use

Other than trend studies discussed earlier under the vegetative communities section, forage utilization and actual use records are used to monitor grazing use. These are described below:

- Forage utilization by livestock and wildlife following the grazing season is taken every 1-2 years on I-category allotments, every 3-5 years on M-category allotments, and usually not at all on C-category allotments.
- Actual use reports, which are mandatory reports grazing permittees must submit each year to record their actual livestock numbers and periods of use, are used to calculate the AUMs of use each year for I and M allotments.

Table 2.44. Section 3 Grazing Permits and Section 15 Grazing Leases

	Number of Permits or Leases	AUMs (Active Grazing Preference)	Acreage Currently Authorized for Grazing
Section 3 Permits	282 (79%)	44,376 (94%)	366,427 (93%)
Section 15 Leases	76 (21%)	2,977 (6%)	29,342 (7%)

Allotment evaluations, which incorporate trend, rangeland health, weather, and other data with the utilization and actual use data, are completed as needed to identify and correct resource problems. Evaluations are used to (1) compile and assess rangeland conditions and trends toward management objectives, and (2) recommend necessary adjustments in rangeland management.

Rangeland Improvements

The BLM will continue to construct rangeland improvements including fences, cattleguards, water pipelines, wells, spring developments, and stock ponds in the Decision Area, but limited funding has allowed only a few projects each year. Permittees privately fund a few more projects, but most rangeland improvement expenditures are currently going into maintenance of existing projects. Rangeland manipulation projects, including seedings and prescribed burns, are occasionally implemented for rangeland rehabilitation or improvement.

b. Forecast/Anticipated Demand for Use

Public land grazing privileges are expected to become more important and more valuable to livestock producers in this Planning Area. This is in response to trends such as (1) higher costs of alternative forage, such as hay or private land grazing, (2) higher costs of grain, resulting in long-term trends to minimize time in feedlots and rely more on rangelands, (3) higher costs of fuel, lessening opportunity to truck cattle away to distant locations for alternative forage, and (4) loss of agricultural land to urban development. While the demand for grazing on public lands to help make local livestock operations viable will likely increase in the future, other natural resource concerns will also insist on reduced livestock grazing. Confrontations between competing interests thus seem inevitable. The most likely outcome is a steady decline in the total number of AUMs authorized in the Decision Area due to management changes designed to bring about more resource protection.

c. Key Features/Areas of High Potential for Use

Where livestock grazing occurs in areas of intermingled public/private landownership patterns (with public lands being relatively small and surrounded by private lands), there usually is lower opportunity for intensive management. Livestock grazing is typically less restricted in such areas. The larger blocks of public land can be subjected to greater degrees of restricting livestock in favor of other public land management resources. Special status species whose habitat requirements conflict with intensive livestock use or soil types that are subject to compaction or erosion are examples of resource conflicts that may dictate restrictions on grazing. Managing to improve riparian zones is receiving increased emphasis. While riparian zones tend to receive more intensive use than uplands, uplands make up the vast majority of nearly all allotments.

Topography greatly influences livestock distribution, with the steeper mountain slopes receiving minimal grazing use and the flatter areas, especially those readily accessible to water, receiving more intense grazing use. Past allocations of livestock grazing may have been flawed by a failure to take into account the fact that all areas are not equally used by livestock, and many areas should never have been figured into the forage base for cattle because they receive little or no grazing use due to limited accessibility. Counting the forage from all lands, even areas of steep slopes, has resulted in over-allocations of grazing in some allotments. Development of more water sources has the potential to shift grazing from areas that have a history of heavy use to areas that were previously ungrazed or lightly grazed. Riding and salting can be employed to improve

livestock distribution, but has rarely been used in the Decision Area to the extent that it has made a noticeable difference.

4. Minerals

a. Current Level/Location of Use

Minerals are categorized as leasable, locatable, and saleable. Leasable minerals include oil, gas, geothermal, and some solid mineral resources such as coal. All energy and mineral resources of economic interest on Indian lands are leased. Locatable minerals can be staked by mining claims under the 1872 mining laws, as amended. Locatable minerals include precious and base metals and certain non-metallic minerals. Saleable minerals include common variety mineral materials such as sand, gravel, rock, and cinders.

Most of the public lands in the Planning Area are open to mineral entry under the mining laws. Lands open to mineral entry may include split estate lands in which the surface estate has become segregated from the mineral estate. The Planning Area contains 3,316,671 acres that include both federal surface and federal mineral estates and 408,119 acres of split estate lands that are composed of private surface and federal mineral estates.

A congressionally mandated mining claim patent moratorium is currently in place. While mining claims can continue to be located, and exploration and mining is still authorized, the BLM cannot accept or process mineral patent applications for mining claims while the moratorium is in effect.

Leasable Minerals

There are no fluid or solid mineral leases currently in the Planning Area; however, coal and geothermal resources are known to occur. Coal is limited to the Troy Basin in the northwest part of the Planning Area where it occurs as low-grade lignite within the Columbia River basalts. Currently, there is no coal production nor are there any geothermal leases or expression of interest in exploration or leasing these energy commodities.

Locatable Minerals

The metallic resources that occur within the Planning Area include gold, silver, copper, lead, zinc, tungsten, manganese, antimony, and chromium. Currently, small amounts of gold and chromium are mined in the Decision Area.

Recorded production from the various historic mining districts located in northeastern Oregon is approximately 3.5 million ounces of gold and 3.5 million ounces of silver. In addition, approximately 10,000 tons of copper were produced discontinuously from the Irondyke mine on private lands near the Snake River between 1897 and 1987, and approximately 2,000 tons of copper were produced from the Motherlode mine near Keating (Poorman/Balm Creek area) between 1907 and 1939.

Currently, there are 607 active mining claims in the Planning Area, 36 active notices of operations, and 7 plans of operations in various stages of completion. Map 2.13 shows the location of all active mining claims in the Planning Area.

Salable Minerals

The non-metallic common-variety mineral resources known to occur within the Planning Area include aggregate materials, pumice, limestone, marble, cinders/basalt, and zeolite. Currently, small amounts of pumice building stone, cinders, and basalt are being mined in the Decision Area. Two authorized community pits occur within the Decision Area. These are open to the public for purchase of small quantities of aggregate. One is located at Magpie Butte in Baker County and the other is located near Rogersburg, Washington. In addition, there are three free use permit sites for mineral material removal by state and county road departments.

b. Forecast/Anticipated Demand for Use

Leasable Minerals

While coal occurs in the Troy Basin, there is no anticipation of production over the next 10 to 15 years due to the low quality of the resource and cost to produce it. Oil, gas, and geothermal development are dependent on present and future discoveries and technology.

Locatable Minerals
The economics of locatable mineral resources vary over time, and can range from stable to volatile. For example, the value of gold tends to rise: a) when the dollar weakens relative to international currencies, b) during periods of political unrest, and c) as a hedge against inflation. The historic price trend for gold and other precious and base metals has been upward. It is likely this trend will continue into the near future. The interest in small-scale commercial and recreational prospecting and mining is expected to increase correspondingly.

Salable Minerals
In the near future, the demand for salable minerals will probably increase slightly within the Planning area. In general, increases the Planning Area's population drive the demand for salable minerals, which has only increased slightly over the last seven years. Increases in fuel prices that place more pressure on cash-strapped county resources while public demands for road maintenance remains the same or increases with continued population growth further increases demand for salable minerals. Such demands require material sources that are closer to the use area in order to reduce transportation costs.

c. Key Features/Areas of High Potential for Use
Leasable Minerals
Currently, there are no areas within the Planning Area with known potential for energy resource development. The potential for coal is limited to the Troy Basin in the northwest part of the Planning Area. Geothermal development is presently restricted to direct use applications (e.g., space heating) pending new technological development for use of low temperature binary systems.

Locatable Minerals
The eastern Oregon mineral belt is a zone of mineralization that is approximately 150-miles long and approximately 30-miles wide that extends from Canyon City on the south to the Snake River to the north. This area is the most conducive to locatable minerals in the Planning Area.

Salable Minerals
Salable minerals can be found throughout the Planning Area, with the greatest demand occurring near population centers. The type of end-use demand dictates the quantity and quality of mineral material required, which may not be located in close proximity to the end-use area.

5. Recreation

a. Current Level/Location of Use
Public lands in the Planning Area provide opportunities for a wide variety of outdoor recreation activities and related benefits. While most recreation users participate in dispersed recreation activities, either individually or in small groups, others participate in organized events as participants or spectators. Many types of dispersed and organized uses provide for a diverse range of visitor needs and expectations. Although the BLM manages a small percentage of the land base in the Planning Area, these public lands are an important resource for providing recreation opportunities to visitors. Opportunities to participate in unique recreation activities attract visitors from not only local areas, but from across the country.

Table 2.45 shows visitation estimates for the Decision Area. Approximately 189,000 recreational users visited the Decision Area in 2007. This estimate was derived from the Recreation Management Information System (RMIS), a BLM recreation database.

Table 2.46 shows total visitation to public lands in the Decision Area over a nine-year period by visits and visitor days. A visit represents one person's trip or visit, while a visitor day represents one person engaging in an activity for any part of one day.

The Baker Field Office has been collecting recreational use data since the late 1980s. However, most of the recreation data exists in the RMIS program that developed in the early 1990s. From the RMIS data, Table 2.47 summarizes

Table 2.45. Recreation Visitation (2007) - Number Recreation Area Annual Visitors

Recreation Area	Annual Visitors
1 Decision Area Total (includes all sites and dispersed uses)	189,163
2 Baker Extensive Recreation Management Area (ERMA)	47,965
3 Grande Ronde Wild & Scenic River Special Recreation Management Area (SRMA)	34,069
4 Powder Wild & Scenic River SRMA	1,323
5 Snake River Pools Complex, ERMA	94,236
6 Wallowa Wild & Scenic River SRMA	11,353

Source: BLM 2007d

Table 2.46. Nine-Year Visitation in the Decision Area (1998-2007)

Recreation Area	Visits	Visitor Days
1. Decision Area Total	3,028,907	6,081,686
2. Baker ERMA	923,558	1,768,960
3. Grande Ronde Wild & Scenic River SRMA	405,680	509,214
4. Powder Wild & Scenic River SRMA	27,215	58,723
5. Snake River Pools Complex, ERMA	1,590,830	3,680,900
6. Wallowa Wild & Scenic River SRMA	81,618	63,889

Source: BLM 2007d

the percentage of use that people spent in 2007 engaging in various recreation activities while visiting public lands in the Planning Area.

Developed Recreation Activities

While BLM places an emphasis on resource-based versus facilities-based recreation activities, developed facilitates do occur within the Decision Area, primarily in high use recreation zones. These "developed" facilities vary in the form of the amenities associated with the site, ranging from primitive developments (an area with a kiosk or sign to identify the site) to fully developed sites (campgrounds with potable water and toilets). See Table 2.41 for more details on the specific recreation facilities in the Planning Area.

Dispersed Recreation Activities

Dispersed recreation activities are activities that occur on public lands but are not located at developed sites or locations. These dispersed activities include, but are not limited to OHV use, camping, hunting and fishing, visiting interpretive and educational exhibits, touring historic trails, sightseeing, pleasure driving, rock hounding, photography, picnicking, hiking, mountain biking, snowmobiling, rafting, power boating, and general water play. This wide range of activities is possible because the lands within the Decision Area are generally accessible and offer a variety of settings suitable for different recreation activities.

Water-based Activities (Motorized and Non-Motorized Boating, Swimming, etc.)

Within the Decision Area, water-based activities are common in the form of both motorized and non-motorized recreation and include motor boating, whitewater rafting, canoeing, kayaking, fishing (see section below), and swimming. Many recreationists also seek areas near water for picnicking, camping, and nature viewing. With the creation of the Snake River Pools Complex (Brownlee, Oxbow, and Hells Canyon reservoirs), along with designated wild and scenic rivers, water-based activities on public lands are plentiful. Such activities are a much sought after pursuit in the arid setting of eastern Oregon.

Visitors participating in motorized boating comprised the greatest number of those recreating in the Decision area in 2007 (see Table 2.47). Most of these boaters visit the Snake River Pools Complex and are day users usually in the pursuit

Table 2.47. Visitation by Type of Use (2007)

Visitor Use Activity Groupings	Number of Participants	Visitor Days	Percentage of Use by Participants*
Boating/Motorized	124,087	32,842	65%
Fishing	88,634	57,756	47%
NHOTIC visitation	80,769	21,389	?? %
Camping & Picnicking	62,925	97,604	33%
Non-Motorized Travel	49,504	12,500	26%
Interpretation, Education & Nature Study	42,194	5,895	22%
Swimming & Other Water Based Activities	30,435	4037	16%
Specialized Non-Motor Sports, Events & Activities	13,551	1,435	7%
Boating/Non-Motorized	8,453	3,732	4%
OHV Travel	6,502	1876	3%
Unspecified	2,806	234	1%
Winter/Non-Motorized Activities	1,530	257	0.8%
Snowmobile & Other motorized Travel	635	212	0.3%
Total	**512,025**	**239,769**	**225.10%***

*The percentage may reflect a variety of activities occurring together, resulting in use totaling more than 100%.

Source: BLM 2007d

of fishing-related activities. The environment created by the Snake River Pools Complex gives a unique opportunity for water-based recreation that extends over a large area, beginning approximately at Farewell Bend, Oregon to the Hells Canyon Dam. The consolidation of these large bodies of water allows for settings of remoteness to boaters seeking seclusion in areas where roads do not parallel the reservoirs. Use on a pool-by-pool basis varies due to seasonal conditions and water levels of the reservoirs. Most of the motorized boating use that occurs in the Decision Area is documented at the Spring Recreation Site boat launch on the Brownlee Reservoir of the Snake River. In 2007, 3,181 boats with 10,179 people launched from this site. This use number dropped in 2008 to 2,276 boats and 7,283 people launching from the same site. Fuel prices and water levels are probably the cause of the decrease in numbers at the site. This use data, however, does not reflect the amount of launches from other locations on private or public lands, nor does it take into account the number of boaters who access the reservoirs from adjacent states. In addition, while the season of use on the reservoir is year long, the BLM ceases to collect use data after October in any given year.

Each year, the Grande Ronde and Wallowa rivers receive thousands of visitors who access the river corridors primarily by means of non-motorized watercraft, such as inflatable rafts, drift boats, or kayaks. In 2008, BLM's boater self-issue permit system recorded that 989 boats and 3,956 people floated the Grande Ronde River; approximately 75 percent of these users floated the Wallowa River, which is the 10-mile long gateway to the Grande Ronde River. These rivers offer rare, multi-day primitive float experiences for individuals with beginning to moderate skill levels. The primary boating season extends from early April to mid-July, except during drought years when low water flows shorten the season. The most popular segment used begins at Minam, Oregon, on the Wallowa River and continues downstream to the Mud Creek take-out on the Grande Ronde. The difficulty of rapids generally range from Class I to Class III and varies by river section and flow level, especially in years of extreme flows.

Fishing and Hunting

Fishing is a popular recreation activity in Oregon and in the Planning and Decision areas. Fishing for bass, crappie, catfish, salmon, steelhead, and trout primarily occurs on the larger rivers in

the Decision Area such as the Grande Ronde, Powder, Wallowa, and Snake rivers. Other rivers and streams in the Decision Area see fishing use as state open seasons for those rivers and streams permit. While fishing for catfish, crappie, and bass primarily occurs on the Snake River reservoirs, concentrated use for the pursuit of salmon, steelhead, and trout occur on the larger rivers. The variety of warm and cold-water fish species occurring within the Decision Area offer anglers opportunities to enjoy the challenge of targeting a specific species, or enjoying the variety of many species within the same general area. The seasons regulated by the state allow for fishing enjoyment throughout the Planning Area throughout the year.

Big game hunting is a major recreational activity and opportunities exist for hunting deer, antelope, elk, bighorn sheep, bear, and cougar. A limited number of antelope and a very limited number of bighorn sheep tags are issued in the Planning Area. Local, statewide, and out of state hunters come to hunt big game and game birds. Certain predators are also hunted, including coyotes, cougar, and bobcat.

Camping and Picnicking

Camping and day-use activities such as picnicking occur throughout the Decision Area in both developed and dispersed sites and at all times of the year. Such activities are often associated with other forms of recreation, such as boating, hunting and fishing, and OHV use, which partially explains the large number of campers in the Decision Area (see Table 2.47). For many individuals, however, camping or picnicking in the Decision Area is their main recreation pursuit. These individuals are attracted by the large amount of federally-managed lands in the Planning Area that offer a variety of settings from arid high desert to timbered forest conducive to many camping and picnicking opportunities.

Interpretation, Education, and Nature Study

The development of NHOTIC has prompted an increase in the number of visitors in search of interpretation and education opportunities in the Decision Area. In addition to NHOTIC, universities and special interest groups use the unique and varied characteristics of the Decision Area for education, nature studies, and historic studies. Finally, the Decision Area offers many opportunities for novices to enjoy and study the natural and historic surroundings.

Specialized Non-Motor Sports, Events, and Activities

Other activities including but not limited to archery shoots, historic re-enactments, mountain bike races, volunteer events, photography, wildlife viewing, rock hounding, and rock climbing occur within the boundaries of the Decision Area. These activities are usually dispersed in nature and occur throughout the Decision Area.

OHV Use

The Decision Area has some outstanding opportunities for recreational OHV use on system roads, unmaintained ways, and "open" OHV-use areas. The precise percentage of the visitors to the Decision Area who use OHVs at some point during their time spent in the Decision Area is unknown. According to the RMIS data (BLM 2007d), only 3 percent of those visiting the Decision Area engage in OHV travel (see Table 2.47); however, this estimate is derived from the use that occurs only at the 5,000-acre Virtue Flat OHV Play Area located east of Baker City. All other OHV use in the Decision Area associated with other forms of recreation ranging from hiking and hunting to fishing and sightseeing is not specifically documented. Taking into account that Oregon along with Washington and Idaho account for 5 percent of OHV participants across the country, it can be assumed that OHV use is high throughout the Decision Area.

With the exception of the designated Virtue Flat OHV Play Area, OHV use is dispersed throughout the Decision Area. Most visitors use OHVs to access recreation destinations by road and to tour remote jeep and historic trails. A large percentage of OHV use, however, occurs as support for other recreational pursuits. For instance, campers often bring along an OHV to explore or access otherwise inaccessible sites. Only a small number of OHV users are believed to travel cross-country (off roads or ways) as part

of their recreation activity, such as to retrieve game or for challenging, off-road play, which has led to resource impacts and conflicts among user groups.

OHV Designations: Under the current Baker RMP (BLM 1989), most of the public lands were classified as "open" for OHV use. The RMP classified OHV use as limited to existing roads and trails in some specially designated areas (e.g., Lookout Mountain, Burnt River Canyon, ACECs, and wild and scenic rivers). Other areas classified as "closed" include NHOTIC, WSAs, or where resources were threatened or required additional protection. Additional discretionary closures can and have been made in emergencies, such as cases of imminent resource damage or for fire rehabilitation.

The Virtue Flat OHV Play Area was established in 1980 and encompasses 5,000 acres of public lands, including 3,500 acres designated as "Intensive Use," and over 61 miles of trails. This area provides outstanding opportunities for all classes of OHV use (Class I, Class II [Jeeps, SUVs, etc.], and Class III) and every possible skill level. A growing number of Class II "rock crawlers" have discovered this area and the technical challenges it contains.

Winter Activities (Motorized and Non-Motorized)

The Decision Area A offers variety of winter activities in the form of cross-country skiing, OHV and OSV use, scenic driving, sightseeing, and sledding. All of these activities are dispersed in nature. Numbers of users in the pursuit of these types of recreational activities are not well documented within the Decision Area.

Commercial, Competitive, and Organized Group Recreation Uses

The BLM issues special recreation permits (SRP) permits in the Decision Area that allow specified commercial uses of public lands and related waters. On average, only 30 of such permits are issued each year. The BLM and the USFS Walla Walla Ranger District jointly manages most of these SRPs for rafting on the Wallowa and Grande Ronde wild and scenic river systems. The remaining permits issued by the BLM within the Decision Area are primarily hunting or fishing in nature.

The SRP program also administers a variety of commercial, competitive, and organized group uses within the Decision Area. While some of these SRPs, such as those issued to hunting outfitters and guides, are issued for use throughout the Decision Area, most are area or activity specific such as fishing, whitewater rafting, and horse packing. Permits for competitive events and special events are seldom requested, with only a few such events occurring in the Decision Area during the last 20 years. Some of these specialized events include wagon trains, archery shoots, and a few OHV races. Currently, there is a cross jurisdiction permitting system for commercial SRPs; however, no known permits have been issued for the Decision Area from other districts.

For the past 20 years, the Baker Field Office has been concerned with unauthorized commercial uses, which should otherwise be captured under the SRP program. There continues to be a number of non-permitted outfitters within the boundaries of the Decision Area that avoid obtaining legal authorization for commercial activities, which primarily consists of hunting and fishing ventures. Extensive efforts have been made to bring these unauthorized activities into compliance; however, the broken ownership patterns of land within the Planning Area and the relative isolation of public lands has made enforcement difficult.

b. Forecast/Anticipated Demand for Use

Recreation use in the both the Planning and Decision areas is expected to increase due to a combination of social and environmental conditions in Oregon and neighboring states and the overall growing trend of people seeking out public lands and the opportunities they contain. Without active management, natural resource conditions and the quality of the recreation experience would decline with increased recreation use.

Developed Recreation Activities

Developed recreation sites are primarily concentrated in high use areas along the Snake River reservoirs, wild and scenic rivers, Virtue Flat OHV play area, and NHOTIC. While information on the amount of use for these areas has been collected, there continues to be fluctuations of that use based on seasonal conditions, water flows, fuel costs, and accessibility. Generally, use patterns seem to be increasing in these areas as more people seek out recreational opportunities on public lands. Improvements made to developed sites in the Decision Area also aid in drawing recreational use, both local and nonlocal, to those areas and is expected to aid in the continued increase of the use of these sites. However, no future sites in the Decision Area have been identified for development.

Dispersed Recreation Use

Estimates have recreation use in the Decision Area increasing an average of 5 percent per year. A number of factors contribute to the anticipated increase in use, including the following:

- A increase in the population of Oregon
- Displacement from other recreation areas due to loss of opportunity or change in management
- Increasing leisure time and disposable income for the working population
- Increasingly active retired population with more disposable income
- Rapidly evolving forms of recreation and new vehicles/gear for pursuing recreation activities
- A focus on the importance of natural resource-based recreation due to the population becoming increasingly urbanized
- Increasing importance of recreation as a component of the local and regional economic base, surpassing traditional industries in many areas
- Increasing popularity of outdoor recreation as a family-oriented activity

Taken together, these factors will likely increase recreation usage and demands on natural resources. Camping, fishing, hunting, visiting parks, boating, OHV use, hiking, and biking are generally the major outdoor recreation pursuits, with their associated facilities often located on public lands outside of local communities. There is also an increased demand for developed facilities, including campgrounds, trails, and interpretive and education opportunities.

Water-based Activities (Motorized and Non-Motorized Boating, Swimming, etc.)

With the special designated areas as well as the numbers and size of reservoirs within the Planning Area, water-based activities will see the primary growth in numbers in the foreseeable future. Most every recreational activity on public lands is in some way associated with water, which serves as a magnet for a variety of recreational activities. Use patterns along reservoirs, lakes, rivers, and streams in the Planning Area indicate fluctuating yet steady increases in recreational pursuits. This increase of activities is most evident in the development of recreation sites along the reservoirs or imposing regulations in other areas to offset impacts from the increasing use. For instance, the Wallowa and Grande Ronde wild and scenic rivers have seen a 19 percent increase in visitor use between 2000 and 2008 (BLM 2007c). Although this and other water-based uses throughout the Decision Area fluctuate with the seasons and subsequent water levels, the increase in numbers over time is still evident.

Hunting and Fishing

The state fish and game agencies (i.e., ODFW and WDFW) who manage the game and fish species, as well as the numbers of tags issued for their take, partially influence the use numbers for hunting and fishing. Throughout Oregon, the number resident deer hunters have declined over the past 30 years, while sales of elk tags have remained relatively constant. The number of non-resident elk hunters has increased. Overall, the sale of both resident and nonresident deer and elk tags are anticipated to decline over the next five years. Nevertheless, hunting for deer and elk will likely remain popular recreational activities in the Planning Area as they are his-

toric and fundamental activities related to being in the "great outdoors." However, an EO issued on August 17, 2007 directed the BLM as well as the USFS and other federal agencies to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. With this new direction, hunting opportunities and activities in both the Planning and Decision areas could increase with time.

Camping and Picnicking

Overnight camping as well as day-use activities such as picnicking represent some of the primary uses of public lands. Usually associated with other recreational activities, camping and day-use activities are base activities that bring members of the public to the outdoors. These activities will likely show a steady upward trend over time as the population and recreational desires of that population increase.

Interpretation, Education, and Nature Study

The public demand for the maintenance or improvement of educational facilities will likely increase, albeit only slightly.

Specialized Non-Motor Sports, Events, and Activities

Little data are available that would lead to speculation on the future use levels associated with specialized non-motor sports, events, and activities. However, as technology improves for traditional, non-motorized uses or new forms of non-motorized use develops, a slight but steady increased in such uses is expected.

OHV Use

Recreational OHV use in particular has increased throughout the Decision Area. As a whole, trail systems, touring routes, and OHV play areas are in high demand. Vehicle tours of the Planning Area, which includes sections of the Decision Area, are another popular activity for both casual recreation users and organized groups.

In 1960, when the first United States national recreation survey was conducted for the Outdoor Recreation Resources Review Commission, off-highway motorized recreation was not even considered as a recreational activity. From 1982 to 2000/2001, driving motor vehicles "off-road" became one of the fastest growing activities in the country, growing in number of participants over 12 years old by more than 100 percent (Cordell 2005). Data on OHV use gathered by the 1999/2000 National Survey on Recreation and the Environment showed a 32 percent increase in such use when compared to data collected during the 1999/2000 survey. This represented a growth from about 27.3 million OHV users in 1994/1995 to about 36.0 million in 1999/2000. In addition, the proportion of people age 16 and older who said they participated in OHV recreation increased from 16.8 percent in 1999/2000 to 23.8 percent in 2003/2004. This resulted in a 42 percent increase in the number of OHV participants over the four years that elapsed between surveys, from 36.0 million to 51.0 million. Based on the latest data, more than 1-in-5 Americans (39.7 million people) age 16 and older participated one or more times in OHV recreation within the past year. Of these 39.7 million OHV users, Oregon, Washington, and Idaho accounted for 1.9 million users (Oregon 581,500, Washington 1,010,900, Idaho 320,800), or about 5 percent.

According to Motorcycle Industry Council reports, OHV annual sales more than tripled between 1995 and 2003, to more than 1.1 million vehicles sold in 2003 (Cordell 2005). Recreational enthusiasts are buying OHVs at a rate of 1,500 units per day nationwide, with nearly one-third of them doing so as first-time buyers of such vehicles. All-terrain vehicles (ATVs) continue to account for more than 70 percent of the OHV market. The number of OHVs in the United States grew nearly as fast, increasing 174 percent between 1993 and 2003. In just ten years, the number of OHVs has grown from fewer than 3 million vehicles to more than 8 million in 2003. Similar to sales, the number of ATVs in the United States represents about 70 percent of the total number of OHVs, not counting four-wheel-drive vehicles (Cordell 2005).

The trends documented in the United States suggest that OHV use and sales in and around

the Decision Area will continue to increase into the future as well. Planning for this increased demand would aid in the effective management of OHV use and potential impacts to the natural resources within the Decision Area.

Winter Activities (Motorized and Non-Motorized)

Winter activities in the Planning Area, both motorized and non-motorized, have been on an increase over the last decade. Much like OHV uses, OSVs have seen technological developments that make this activity more desirable by a larger proportion of the public. These developments, ranging from tracked OHVs and more powerful snowmobiles to lighter and more user-friendly snowshoes, continue to draw recreationists into the winter activities and subsequently to the public lands. These forms of recreation will likely experience a moderate increase in use into the future.

Commercial, Competitive, and Organized Group Recreation Uses

Although the demand for SRPs to perform commercial services on public lands has not significantly increased over the past 10 years, those activities are anticipated to increase in the future as the population continues to spend more time on public lands. The SRP activities often offer a specialized opportunity for the recreating public to experience activities that they themselves do not have the skills, equipment, or financial abilities to perform independently.

According to the BLM recreation report:

> [T]here has been a "growth" of tourism and recreation in the western states, especially on public lands. Region wide, tourism is one of the fastest, and in many cases, one of the few growing industries. In response to this economic reality, state and local initiatives to promote tourist attractions involving BLM administered lands are being developed with the stated objectives of attracting regional, national, and international visitors. (BLM 2000, p. 48)

In the Decision Area, an example of the above-mentioned response to the growth in tourism and recreation is the SRP process used for competitive and/or commercial events. Through the SRP process within the past few years, the BLM has authorized annual mountain bike races as well as historical reenactment events, such as the reenactment of wagon trains crossing the Oregon Trail. The BLM will probably receive more such permit applications for similar and other activities in the future. These events generally receive region-wide publicity with event organizers seeking out-of-area distribution and participation.

Special Designations

Designated special areas such as wild and scenic rivers and WSAs will continue to attract recreation visitors to the region. Increased advertising and marketing for these popular destinations will contribute to an increase in recreation use across the Decision Area. The potential for additional designated special areas, such as wild and scenic rivers, also boosts the potential for increased recreation in the area.

c. Key Features/Areas of High Potential for Use

The most popular recreation destinations include areas that contain water resources, developed facilities, play areas, and trails as well as places that are easily accessible yet provide a primitive experience. Other features that attract visitors include areas with high game populations, fishing opportunities, and areas open to OHV use. These kinds of areas make them a high priority for recreation use. Management of recreation in some of these areas is implemented through activity level/management plans; however, several of these plans are either incomplete or in need of revision to address new issues or needs.

Developed and semi-developed recreation areas within the Decision Area are few, with most of the sites occurring along the Hells Canyon/Oxbow and Brownlee Reservoirs along the Snake River. Some other sites occur along the Wallowa and Grande Ronde wild and scenic rivers. The remainder of developed sites occurs at Lookout

Mountain, South Fork of the Walla Walla River, and along the Oregon Trail site outside of the city of Echo, Oregon.

The BLM has access to little information about the areas and resources that represent some of the most popular destinations for dispersed uses in undeveloped areas. Although these dispersed sites and resources significantly contribute to the overall recreation opportunities available in the Planning Area, the BLM does not actively manage them for recreation uses and benefits. The use of dispersed sites continues to be a source of desired recreation due to the primitive nature of these areas and the feeling of isolation that they instill.

6. Renewable Energy

a. Current Level/Location of Use

On August 8, 2005, President Bush signed the Energy Policy Act (Energy Policy) of 2005. The legislation was written to promote dependable, affordable, and environmentally sound production and distribution of energy for America's future. Section 211 of Energy Policy calls for the Secretary of the Interior to approve non-hydropower renewable energy projects located on public lands with a generation capacity of at least 10,000 megawatts of electricity before the end of the 10-year period, beginning on the date of the Act's enactment.

The BLM initiated the preparation of a PEIS in October 2003 to address the impacts of the future development of wind energy resources on public lands. The PEIS also addressed the establishment of policies and BMPs as mitigation measures for potential environmental impacts and addressed the amendment of individual BLM land use plans. The Baker RMP was not amended by the PEIS; however, the Baker Field Office follows the policy and BMPs outlined in BLM IM Washington Office (WO) No. 2006-216, which encourages development of wind energy in acceptable areas. This IM was written in response to the Record of Decision (ROD) from the Wind Energy PEIS (BLM 2005b) and is consistent with the National Energy Policy of 2001 and the Energy Policy Act of 2005.

The Baker Field Office currently has three authorized ROWs for wind testing and monitoring, one pending wind energy testing application, and two pending development project applications.

The BLM also has direction and guidance for issuing ROWs for the development of other renewable resources such as solar energy systems. To date, there have been no applications for solar or other renewables in the Decision Area other than wind.

b. Forecast/Anticipated Demand for Use

The demand for alternative energy-related ROWs is predicted to increase nationally, including areas within the Decision Area that have potential for wind and solar energy. The demand for biomass and geothermal resources is likely to increase as well, but there have been no applications for these uses within the Decision Area.

c. Key Features/Areas of High Potential for Use

Locations of public lands with medium or high potential for wind energy development are available on wind energy maps associated with the Wind Energy Development PEIS (BLM 2003). The wind energy resource map for the state of Oregon shows areas within the Decision Area with high potential for wind energy development. This map can be found on the webpage, http://windeis.anl.gov/guide/maps/images/or50mwind.jpg. In general, public lands in the Planning Area are open to renewable energy development except for locations managed as avoidance and exclusion areas for ROW development.

Table 2.48. Miles of Trails, Roads, and Highways in the Planning and Decision Areas

Location	Trails	Roads	Highways
Planning Area	2,360.43 miles	29,782.22 miles	1526.87 miles
Decision Area	96.55 miles	1,005.65 miles	48.49 miles

7. Transportation and Access

a. Current Level/Location of Use

Highways, Roads, and Trails

Several highways cut across the Planning Area, traveling in various directions (see Map 1.1). Traveling north to south from Asotin, Washington in the northern border of the Planning Area, through La Grande near the center of the Planning Area, on south through North Powder, Baker City, and Huntington, Oregon near the southern end of the Planning Area involves several highways, including Highway 129, 3, and 82 and I-84. Traveling West to East from Boardman through Pendleton, La Grande, Baker City, Richland, and Halfway, and ending at Oxbow Reservoir on the Snake River, which is the eastern edge of the Planning Area boundary along the Oregon/Idaho border, involves the use of I-84 and Highway 86. Numerous other highways cut across various sections of the Planning Area, including Highway 244 that travels east from Ukiah and La Grande, Highway 3 that travels north from Enterprise to the Oregon/Washington state line turning into WA highway 129 to Asotin, Highway 86 that travels east from Baker City to the Oxbow Reservoir on the Snake River, and Highway 30 that travels southeast from Baker City towards Huntington. Due to the scattered ownership patterns of the Planning Area, numerous highways are used to access the majority of public lands that make up the Decision Area

In addition to the paved highways that cut across the Planning Area and provide access into portions of the Decision Area, a number of secondary roads contained within either county or BLM road systems, some paved and some gravel/dirt, also run through the Planning and Decision areas. There are also numerous, mostly unimproved "trails" or roads open for OHV and/or non-motorized use that allow access into the Decision Area. Table 2.48 provides the historical number of miles of highways, roads, and trails that are currently found in the Planning Area and those that cut across public lands (i.e., cut through the Decision Area). These roads and trails are currently being re-inventoried to confirm accuracy.

After the completion of the Baker RMP, a detailed analysis of the roads and trails throughout the Decision Area will occur based on the inventory currently underway. Utilizing that information, the Baker Field Office will develop a transportation management plan to identify and designate road and trail systems that will be utilized and what management actions or restrictions will be required on those roads and trails.

Access

The BLM cannot effectively administer public lands without legal and physical access. Methods used to acquire legal rights that meet resource management needs include negotiated purchase, donation, exchange, and condemnation. Acquisition alternatives include purchase of fee or less-than-fee interest above, on, and below the surface, as well as perpetual exclusive and permanent or temporary nonexclusive easements. Acquisitions of road or trail easements are probably the most frequently encountered access needs. Types of easements include road easements, scenic or conservation easements, sign locations, stream clearance projects, utility easements, hunting and fishing easements, and range improvements. Acquisition of access rights supports one or more of the following resources: lands, minerals, forestry, range, wildlife, recreation, and watersheds.

Access should be closed or restricted, where necessary, to protect public health and safety and to protect significant resource values.

Currently, access needs are prioritized and subsequently worked on when there are landowners willing to sell land in order to provide access to public lands and there are funds available to secure the access. Many of the easements acquired in the Planning Area are short term to administer

timber-related activities and do not secure public access. Most of the isolated parcels of public land lack legal access. Public complaints and inquiries regarding access to public lands within the Planning Area have increased significantly within the last five years. Not only does the public have limited access to public lands for recreation purposes, in many cases the BLM does not have legal access to manage or monitor areas that have resource values or authorized or unauthorized uses occurring on them.

Current transportation and access routes into and through the Decision Area consist of federal and state highways; BLM, USFS, and county road systems; as well as private roads. In addition, a proliferation of unmaintained roads and trails exist within the Decision Area. These roads and trails have developed over time due to increased public uses, improved equipment and technology, as well as motorized designations that allowed uncontrolled overland use. On going efforts to locate and inventory all roads and trail systems are underway throughout the Decision Area to determine impacts to resources as well as to improve information for the future travel management plan that will be completed after this RMP.

b. Forecast/Anticipated Demand for Use

Highways, Roads, and Trails

Public demand on the existing transportation system including interstates, highways, roads, and trails will likely increase in proportion to the number of users of public lands. The combination of all the existing road systems serves as conduits that directly benefit the multiple use and enjoyment of the public lands in the Planning Area. Increased travel across public lands by motorized and non-motorized equipment will increase the need to manage, maintain, and in some cases improve the current transportation system.

Access

Public demand for access will likely increase as the numbers of users of public land increases. With the increased pressure on public lands by motorized recreational use, the need to address where, when, and how to manage this use will be essential. The level of production and sales of motorized recreational vehicles in the Pacific Northwest will likely continue its steady increase, which will mirror the amount of motorized recreational use on public lands. Scenic driving and motorized vehicle exploration by recreational users will increase the need to provide appropriate areas or road/trail systems for this kind of use.

c. Key Features/Areas of High Potential for Use

Highways, Roads, and Trails

The highways and main roads that allow access to larger parcels of public lands receive the majority of use in the Decision Area. Some of these roads and highways include but are not limited to Highways 86, 245, 203, 82, 3 and I-84. Secondary paved and unpaved roads used heavily by the public primarily include Baker, Union, and Wallowa county roads, along with USFS and BLM road systems. The combination of these road systems create the access web for current uses and will continue to be the main influence for future use.

Access

Within the Decision Area, key areas that contain potential for motorized use are the larger tracts of public lands as well as areas that already contain existing road or trail systems. In addition, the BLM will need to address the need for potential public access to public lands that have lost access over time due to private land access closures so that these "land locked" tracts of public lands are available for public use. All road and trails systems through public lands that create continuity or connectivity to road and trail systems managed by state, private, or other federal entities have high potential for use.

8. Utility Corridors and Communication Sites

a. Current Level/Location of Use

An ROW is an authorization to place facilities over, on, under, or through public lands for construction, operation, maintenance, or termination of a project. Public lands are made available throughout the Planning Area for ROWs and corridors. With the exception of defined avoidance areas, the Decision Area is subject to ROW designations. Avoidance areas are areas where special environmental and/or management considerations exist such as ACECs as defined in the current RMP (BLM 1989, p. 46).

Currently, the Baker Field Office administers approximately 440 ROWs, issuing an average of ten new ROWs each fiscal year. These authorizations include such uses as roads, water pipelines, natural gas pipelines, powerlines, telephone lines, fiber optic cables, railroads, canals, ditches, and communication sites.

Transportation system authorizations include reservations made for state and federal highways and ROWs granted to counties and individuals for access roads. Several major ROW corridors, as identified and designated by the Western Utilities Group, exist within the Decision Area. The corridors designated in the current RMP (Baker 1989) were routes of existing powerlines, pipelines, and communication sites. These corridors are also in conjunction with interstate highways, state highways, and railroads. Applicants are encouraged to use the existing corridors where feasible. The designated corridor widths vary depending on the number of parallel facilities, but are a minimum of 2,000 feet (1,000 feet either side of existing centerlines, unless adjacent to areas identified as exclusion/avoidance areas).

The BLM, U.S. Department of Energy, USFS, and U.S. Department of Defense are currently preparing a PEIS to evaluate issues associated with the designation of energy corridors on federal lands in eleven western states. Based upon the information and analyses developed in this PEIS, each agency would amend its respective land use plans by designating a series of energy corridors. So far, the only proposed corridor identified in the draft PEIS that is in the Decision Area is the current, designated corridor along I-84.

Avoidance and exclusion areas for ROW development are currently identified within the Decision Area to protect resources and prevent unnecessary or undue environmental damages. Areas with important resource values are taken into consideration when processing ROW applications. Right-of-way exclusion areas include wilderness areas and wild river segments, while ROW avoidance areas include WSAs and ACECs. All ROW applications within scenic and recreation river segments should follow existing corridors where practical and will avoid proliferation of separate ROWs.

The following is a brief description of the communication sites that are currently located on public lands in the Planning Area. See Appendix 2.D for more details on the use and management of these sites.

- Lime Hill Communication Site is located approximately 37 miles southeast of Baker City and 3.8 miles northeast of Lime, Oregon, on a mountain ridge overlooking Brownlee Reservoir. The site is managed for two-way radio, microwave, cellular, cable television receive, and other low power broadcast uses.
- Gold Hill Communication Site is located approximately 26 miles southeast of Baker City overlooking I-84 and used exclusively to provide cellular phone service along I-84 and the immediate vicinity.
- Big Lookout Mountain is located approximately 12 miles southwest of Richland, Oregon, and used as a fire lookout and radio communication's site.
- Halfway/Richland Hill Communication Site is located a short distance off State Highway 86 at the summit between the towns of Richland and Halfway, Oregon, and is managed for two-way radio communication and microwave and cellular use.
- Sheep Mountain Radio Site is located approximately 47 miles northeast of Baker City and is

managed for two-way radio communications by the USFS (Wallowa-Whitman National Forest).

- Hermiston Butte Communication Site is located within the city limits of Hermiston, Oregon, and used for two-way radio transmissions by the City of Hermiston.

b. Forecast/Anticipated Demand for Use

In general, the requests for ROWs throughout the Decision Area will continue to increase in the reasonable foreseeable future. According to current BLM guidance (BLM WO IM No. 2006-216) and the President's National Energy Policy Act of 2005, the BLM's objective is to continue to make public lands available for needed ROWs where consistent with national, state, and local plans, and use ROWs in common to minimize environmental impacts and proliferation of separate ROWs. This guidance and policy also pertains to ROWs for alternative, renewable energy resources, such as wind, solar, geothermal, and biomass.

Right-of-way corridors will also be reviewed, carried forward, or modified where necessary, ensuring conformance with the PEIS for the Designation of Energy Corridors on Federal Land in 11 Western States (ROD not yet signed).

Terms and conditions that may apply to ROW corridors or development areas, including BMPs to minimize environmental impacts and limitations on other uses which would be necessary to maintain the corridor and ROW values, can be developed.

Planning for communication sites is ongoing. The BLM will engage in ROW development to access public lands for communication site development and maintenance on an as-needed basis. With the increasing public demand for communications coverage throughout the country, the probability of companies applying for communication use leases on public lands within the Planning Area is high. Telecommunication companies are looking to expand communications coverage along the I-84 corridor along with other areas in the Planning Area. New equipment to support data services over the wireless interface is being deployed and in certain cases where signals only cover about half the distance of the existing system, more wireless facility locations will be required to meet capacity objectives for coverage and network. These and other expansions will require siting new facilities on mountaintops and other structures to attain maximum coverage to meet the needs of federal, state, and local governments and the public for reliable telecommunications service. In addition, new mandates from the State of Oregon and Homeland Security for emergency telecommunications coverage may necessitate the need for additional sites.

c. Key Features/Areas of High Potential for Use

The location of communication sites is critical to attaining an optimum functioning telecommunications network. The communications wireless market is very competitive, with speed to market and location being important to all generation providers. Telecommunication companies locate their facilities on mountaintops, buildings, etc., at elevations that attain the most coverage for the consumers of digital products. The BLM plays an important role in meeting consumer demands for broadband coverage by permitting telecommunication companies to locate their communication sites on mountaintops, ridges, and in and on other locations on public lands.

The BLM encourages and prefers collocation at existing sites when possible and many sites have multiple users who are compatible with other users at the sites. However, there will be an increase in applications for new sites on public lands as these existing sites fill to capacity and more consumers utilize new and existing technology, especially in rural areas.

9. Land Tenure

a. Current Level

As mandated by Section 102(a) of the Federal Land Policy Management Act (FLPMA), public lands are to be retained in federal ownership, unless as a result of the land use planning procedure provided for in the Act it is determined

that disposal of a particular parcel will serve the national interest. Land may be identified for disposal by sale, exchange, state indemnity selection, or other authorized methods. Land types will be identified for acquisition based on public benefits, management considerations, and public access needs. Specific actions that meet land tenure adjustment criteria established in the Baker RMP will occur with public participation and made in consultation with local, county, state, and tribal governments.

The Planning Area contains a mixed-ownership land pattern. Although the potential for resource values may be high on some public land parcels, lack of access or isolation from other resources of these parcels make them very difficult to manage. Land tenure adjustments within the Planning Area help to resolve split mineral estate situations, consolidate public lands (through sale, exchange, or acquisition), acquire access, and resolve unauthorized use cases. Such adjustments are also important to local and state governments to consolidate ownership and to make lands available for public purposes.

Sale

The BLM manages public land sales under the disposal criteria set forth in Section 203 of FLPMA. Public lands determined suitable for sale shall be offered on the initiative of the BLM, identified in the RMP, and sold at not less than fair market value. Public lands classified, withdrawn, reserved, or otherwise designated as not available or subject to sale are unavailable. Any lands to be disposed of by sale that are not identified in the current RMP require a plan amendment before a sale can occur.

Sale authority under 43 CFR 2710.0-3 (a) authorized by FLPMA allows the BLM to sell public lands where, as a result of land use planning, it is determined that (1) the tract was acquired for a specific purpose but is no longer required for that or any other federal purpose, (2) disposal of such tracts shall serve important public objectives, including expansion of communities and economic development, and (3) such tracts are difficult and uneconomic to manage because of their location or other characteristics.

According to FLPMA, sales of public lands under 43 CFR 2710.0-6 shall be conducted under competitive bidding procedures. However, if the Secretary determines it necessary and proper in order to assure equitable distribution among purchasers of lands, or to recognize equitable considerations or public policies, lands may be sold by modified competitive bidding, or without competitive bidding. There are three methods of sales: competitive, modified competitive, and direct sale. The current RMP (BLM 1989, p. 74) identified potential land for disposal.

Acquisition

Acquisition of private land is authorized under section 205 (a) of FLPMA and can be pursued to facilitate various resource management objectives. Acquisitions, including easements, can be completed through exchange, Land and Water Conservation Fund (LWCF) purchases, donations, or receipts from the Federal Land Transaction Facilitation Act. In 1964, Congress established the LWCF (PL 88-578) to provide for the acquisition of public lands to meet the needs of all Americans for outdoor recreation and open space.

The Baker Field Office has received approximately $2,093,000.00 of LWCF monies to acquire 3,459.20 acres of lands within and adjacent to the Grande Ronde Wild Scenic River Corridor and the Grande Ronde ACEC. This is a nationally recognized LWCF project area that has received congressionally appropriated LWCF funds since FY1992. Table 2.49 identifies the lands acquired along the Grande Ronde River from LWCF monies while Table 2.50 lists the monies received from LWCF and other LWCF project accounts.

Exchange

Exchanges of public land are conducted under Section 206 of FLPMA, which requires a determination that the public interest will be well served by making an exchange. The Secretary, however, must consider better public land management and the needs of state and local people, including land needs for the economy, community expansion, recreation areas, food, fiber, minerals, and fish and wildlife. The Secretary must also find that the values and objectives that public

Table 2.49. Lands Acquired Along the Grande Ronde River from LWCF Monies

Date	Acres	Serial #	Value	Grantor	Title Accepted by US on
FY 1992	2,112.75	WA 47601	$820,000	Trust for Public Land	01/29/1993
FY 2004	360.00	OR57957	$180,000	The Conservation Fund (TCF)/Hensen	09/29/2004
FY 2008	986.45	WA63496	$975,000	The Conservation Fund (Odom)	09/16/2008
To Date	**3,459.20**		**$2,093,000**		

Table 2.50. LWCF Monies Received

Date	Received	Project #	Spent/ Re-program	What	Available
FY 1992	$938,000	H021	$821,000	Additional Tract Info Unavailable	$117,000
FY 2002	$500,000		$117,000	Reprogrammed to Sandy River (H059)	$500,000
FY 2004	$0	H021	$180,000	TCF/Hensen Property	$320,000
FY 2005	$500,000	H021			$820,000
FY 2008	$72,717	H072		Remainder from Mendieta Acquisition	
FY 2008	$82,283	H444		From Oregon State Office Emergency Inholdings	$975,000
FY 2008		H021	$975,000	TCF/Odom	$0
To Date	**$2,093,000**		**$2,093,000**		

lands or interests considered for exchange may serve if retained in federal ownership are not more than the values of the non-public lands or interests and the public objectives they could serve if acquired.

Public lands have potential for disposal when they are isolated and/or difficult to manage. Lands identified for disposal must meet public objectives, such as community expansion and economic development. The preferred method of disposal is land exchange. Other lands can be considered on a case-by-case basis. Disposal actions are usually in response to public request or application that results in a title transfer, wherein the lands leave the public domain.

In the 1990s, the BLM was involved in the Northeast Oregon Land Exchange. The biggest acquisition under this exchange was on Joseph Creek from Howard Coulson, located in T.5 N., R.44E., and T. 5N., R. 45E., Serial Number OR-51858-PO. The BLM was also involved in the Clearwater II Land Exchange and acquired 924.10 acres in Asotin County. These lands are close or adjacent to the Grande Ronde River. The BLM conveyed 69.82 acres in Garfield County, Washington, and 472.65 acres in Asotin County, Washington.

b. Forecast/Anticipated Demand for Use

The BLM engages in land exchanges only when such exchanges enhance public resource values and improve land patterns and management capabilities of both private and public lands within the Planning Area by consolidating ownership and reducing the potential for conflicting land use.

The small, isolated parcels of public lands in the Planning Area, especially those surrounded by large blocks of individually-owned private parcels, are the most likely to be considered for disposal in the future. The BLM would also consider the disposal of some isolated parcels near communities deemed necessary for community expansion and economic development. An increase in requests from such private individuals and communities to acquire public lands is expected.

c. Key Features/Areas of High Potential for Use

Public lands in the Planning Area have been placed into two land tenure classification zones (see Map 2.14). These zones categorize public lands for potential land tenure adjustments.

Zone 1: Contains the lands identified for retention and acquisition. These are lands that best serve the management missions of the BLM and have higher public values including multiple use, management efficiency, and public access to resources or have national, statewide, or regional resource values.

Zone 2: Contains lands that are inefficient to manage because of their small size or isolated location, or have no known or lower resource values. Those lands are available for disposal actions pending a site-specific environmental analysis. The preferred order of disposal is as follows:

1. Federal agency jurisdictional transfers
2. Transfers to state and local agencies
3. State exchanges
4. Private exchanges to acquire lands in Zone 1 that would enhance resource management programs or improve public service
5. Public sales

10. Land Use Authorizations

a. Current Level/Location of Use

Section 302 of FLPMA authorizes the use, occupancy, and development of public lands, through leases and permits, for uses not authorized through other authorities. Applicants can be state and local governments and private individuals. These uses of public lands include agricultural development, residential use (under certain conditions), commercial use, advertising, and National Guard use. Permits are usually short-term authorizations not to exceed three years. Baker Field Office issues an average of 10 agricultural permits every three years. Two filming permits were issued in fiscal year 2008, and there was one application for an apiary site.

Trespass

The BLM is responsible for realty trespass abatement, which includes prevention, detection, and resolution. The Baker Field Office has issued land authorizations such as leases and permits to resolve agricultural and occupancy trespass. Locations in the Planning Area where trespass may occur are in areas where private lands border public lands.

Short-term Permits

The BLM authorizes permits when uses of public lands will be short-term and involve little or no land improvement, construction, or investment. Permits have been a method used to clear up unauthorized use, stipulating that the applicant remove or halt the unauthorized use and rehabilitate the land if necessary. Currently, there are several agricultural permits authorized by the Baker Field Office with future intent to dispose of the land to the permit holder.

Long-term Leases

A lease is an authorization to possess and use public land for a fixed period. They are issued when there is going to be substantial construction, development, and improvement and there is an investment of large amounts of capital that will be amortized over time. The Baker Field Office has issued several lifetime occupancy leases in the Decision Area for inadvertent trespasses. The Recreation and Public Purposes (R&PP) Act allows state and local governments, as well as qualified nonprofit organizations, the opportunity to lease (and potentially patent) public land where there is a strong public need for a particular use. The Baker Field Office has several leases authorized under this authority, one for a sportsman shooting range and several for interpretive signs.

Recreation and Public Purposes Act

Recognizing the strong public need for a nationwide system of parks and other recreational and public purposes areas, Congress enacted the R&PP Act (68 Statute 173; 43 U.S. Code [USC] 869 et. seq.) in 1954 as a complete revision of the Recreation Act of 1926 (44 Statute 741). The BLM administers this act, which authorizes the sale or lease of public lands for recreational or public purposes to state and local governments and to qualified non-profit organizations. Examples of typical uses under the R&PP Act are historic monument sites, parks, campgrounds, schools, firehouses, law enforcement facilities, municipal facilities, hospitals, and fairgrounds. In the Decision Area, R&PP leases include landfills, shooting ranges, parks, recreational sites, and interpretive signs for the Oregon Trail.

b. Forecast/Anticipated Demand for Use

Based on trends and projected future demands, the lands and realty program may be greatly impacted throughout the life of the Baker RMP. Lands and realty actions will need to support resource objectives while providing customer service. Applications for R&PP leases will increase as communities expand, necessitating the need for more public purposes areas. The Planning Area may also see an increase in applications for filming permits and apiary sites on public lands. The BLM will continue to authorize agricultural permits for agricultural trespasses on public lands until the land under the agricultural permits can be disposed. Trespass is likely to occur in the Decision Area where the public lands are bordered by private lands.

c. Key Features/Areas of High Potential for Use

Through urban expansion, there is a high potential for communities to apply for R&PP leases for community parks; firehouses; recreational areas for picnicking, camping, and hiking; schools; golf courses; public works buildings; and other public uses. Any state or state agency or political subdivision of a state may purchase for recreational purposes up to 6,400 acres annually, and as many small roadside parks and rest sites, up to 10 acres each, as may be needed. In addition, any state agency or political subdivision of a state may acquire 640 acres annually for each public purpose program other than recreation.

11. Withdrawals

a. Current Level/Location of Use

Withdrawals are formal actions that set aside, withhold, or reserve federal land by statute or administrative order for public purposes. A withdrawal may remove areas from the public lands to be managed under the authority of another federal agency or department, but the land does not leave federal ownership. There are four major categories of formal withdrawals:

1. Administrative
2. Presidential Proclamations
3. Congressional
4. Federal Power Act or Federal Energy Regulatory Commission (FERC) Withdrawals

Withdrawals accomplish one or more of the following:

- Transfers total or partial jurisdiction of federal land between federal agencies
- Segregates (closes) federal land to some or all of the public land laws and/or mineral laws
- Dedicates land for a specific public purpose

Withdrawals are often used to preserve sensitive environmental values, protect major federal investments in facilities or other improvements, support national security, and provide for public health and safety. Withdrawals segregate a particular portion of public lands, suspend operation of the public land laws (i.e., withdraw from settlement, sale, location, or entry), and prevent any disposal of public lands or resources involved in certain types of land use application. Withdrawals remain in effect until specifically revoked.

Under FLPMA, withdrawal reviews are mandated, requiring the BLM to eliminate all unnecessary withdrawals and classifications. The BLM must ensure that a definite show of need support withdrawals, recommending revocation of withdrawals that lack sufficient justification. Before recommending a withdrawal continuation, the BLM must explore alternatives such as ROWs and interagency agreements. The current Baker RMP identifies withdrawal review (BLM 1989, p 54) and provides for continuation of the withdrawal review program. Examples of these withdrawals include power site reserves, FERC power projects, public water reserves (PWRs), and USFS administrative sites.

By EO dated April 17, 1926 (PWR 107), all public lands of the United States containing a spring or water hole needed or used for public purposes were included in a blanket withdrawal without identification of the lands affected. According to the EO, the land is "withdrawn from settlement, location, sale, or entry." Not all lands withdrawn under PWR 107 have been identified on Mater Title Plats; therefore, their location is not always known, which makes protection and management under this EO difficult.

A review conducted under the authority of Section 204(1) of FLPMA identified lands within the Decision Area no longer needed by the holding agency. Certain withdrawals identified could then be modified, extended, or revoked according to the processes outlined in Section 204(a) of FLPMA and further process guidance provided in BLM WO IM No. 96-145. The revocation or termination of these withdrawn lands would (1) provide an increased opportunity to use the lands for exchange, land disposals, mineral development, or other needs as indicated in the land use plan, (2) protect and manage valuable resources, and (3) allow for management by one agency, thereby reducing overhead costs.

Federal Energy Regulatory Commission Withdrawals

The authority of the Federal Power Act of 1920 established Federal Power Act or FERC (formerly the Federal Power Commission) withdrawals. Filing an application for hydroelectric power development with FERC automatically create such withdrawals. Section 24 of the Act provides the means to open power projects and waterpower withdrawals to settlement, sale, location, or entry subject to the potential future use of those lands for power development.

Hells Canyon Complex

The Snake River Canyon runs along the Oregon/Idaho border, from Farewell Bend near Huntington, Oregon, 130 miles north to Lewiston, Idaho. The hydropower complex, known as the Hells Canyon Complex, covers 90 miles of the Snake River and includes Brownlee, Oxbow, and Hells Canyon projects, reservoirs, and power plants, all of which are operated under the same license granted by FERC. Since the license expired July 2005, the Hells Canyon Complex is currently operating on annual licenses until the FERC relicense is issued. Idaho Power Company is the applicant for the relicensing of the Hells Canyon Complex (P-1971). Idaho Power Company filed the final license application for the Hells Canyon Complex in July 2003, with FERC finding the application ready for environmental analysis in October 2005 and completing a DEIS in July 2006. The BLM submitted mandatory terms and conditions (in accordance with Section 4e of the Federal Power Act) to FERC in January 2007. The FERC license will contain the BLM mandatory terms and conditions, which provide appropriate mitigation for project impacts to public resources managed by the BLM within the project area. The mandatory conditions filed include mitigations for terrestrial, aquatic, cultural, and recreation resources. These conditions include timelines and require active and regular participation by BLM staff throughout the life of the new FERC license (30 years).

Issues with BLM management on FERC withdrawn lands have been clarified by BLM's Oregon State Office memorandum indicating that the withdrawal is for project operations and not other BLM resource issues. Therefore, the BLM is responsible for management of all resource issues within the withdrawal not related to project operations, such as cultural resources, rangeland management, recreation facilities, additional ROWs, and noxious weed management.

Idaho Power Company proposed a modified FERC withdrawal for the project boundary in their final license application. The BLM suggested modifications to the Idaho Power Company's proposed changes regarding project boundary. In agreement with the BLM, FERC told Idaho Power Company to adjust the project boundary to include all recreation areas along the reservoirs, regardless of the location of county roads.

Thief Valley

The Thief Valley is located on the Powder River 16 miles north of Baker City. The dam is part of the Lower Division of the Bureau of Reclamation's Baker Project and was found feasible by the Secretary of the Interior on March 17, 1931, under the provisions of section 4 of the Act of June 25, 1910 (36 Stat. 836) and subsection B of the Act of December 5, 1924 (43 Stat. 702). President Hoover approved construction of Thief Valley Dam as a single purpose irrigation facility on March 18, 1931. The Baker Project consisted of two divisions, the Lower and the Upper. The Lower Division provides a water supply for about 7,300 acres along the Powder River about 10 miles northeast of Baker, Oregon. The Upper Division provides supplemental water for approximately 19,000 acres, near the city of Baker.

Thief Valley Dam stores the irrigation supply for the Lower Division and is the only federal facility of the Lower Division. The reservoir releases water into the river channel, from which it is diverted into the various canals of the district, some 8 miles downstream from the dam. All carriage and distribution facilities were privately constructed.

The dam operators currently have a preliminary permit application with FERC to construct a hydroelectric generating facility on the existing dam. The project would modify the existing facility to add a powerhouse and result in 1 mega watt (MW) capacity. The project is proposed to operate a run-of the-river mode using flows of the Powder River. This conflicts with the designated Powder River Wild and Scenic River management stipulations.

b. Forecast/Anticipated Demand for Use

There has been an increased interest in retrofitting existing irrigation dams with hydroelectric generating facilities in the Planning Area. Several applications are pending with FERC. The BLM will need to evaluate potential project impacts and participate in the licensing process to assure achieving appropriate mitigations for public resources.

Section 204 of FLPMA gives the Secretary the authority to make, modify, extend, or revoke withdrawals and mandates review of withdrawals. Interior Department Policy (DM 603) further requires that (1) all withdrawals be kept to a minimum, consistent with the demonstrated needs of the agency requesting the withdrawals, (2) lands shall be available for other public uses to the fullest extent possible, consistent with the purposes of the withdrawal, and (3) a current and continuing review of existing withdrawals shall be instituted. The BLM will manage the withdrawn lands in accordance with the objectives of the Plan whether the withdrawals are continued, modified, or terminated.

Due to the restrictive nature, the cost of processing, and the level at which a final decision is made, a withdrawal is used as a last resort. There may be a need, however, to withdraw other lands in the Decision Area such as river segments that may be determined eligible to be classified as "wild" under the National Wild and Scenic Rivers System, or newly designated ACECs or RNAs.

c. Key Features/Areas of High Potential for Use

The BLM must evaluate all proposed and existing hydroelectric projects for possible impacts to public resources. The BLM must also participate in the licensing or relicensing process to assure appropriate mitigations are placed on the new license and implemented appropriately.

A portion of the Thief Valley Dam has been set aside for recreational use. Camping, picnicking, and boat launching and mooring facilities have been constructed. The reservoir is stocked

with trout, largemouth bass, and black crappie. Large numbers of waterfowl use the reservoir, and ducks have established nests.

C. Special Designations

1. Areas of Critical Environmental Concern

a. Existing Areas of Environmental Concern
Federal Land Policy Management Act and BLM policy (BLM Manual 1613 [BLM 1988]) requires the BLM to give priority to the designation and protection of ACECs during the land use planning process. This plan revision will review current lands designated as ACECs and evaluate others to determine if they meet the criteria for designation.

Federal Land Policy Management Act Section 103 (43 USC 1702[a]) and 43 CFR 1601.0-5(a) describes ACECs as "areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards." Only public lands are included in ACEC boundaries. The BLM evaluates each nominated area to determine if it meets the relevance and importance criteria listed in BLM Manual 1613. To be considered a potential ACEC, a nomination must meet one or more of the relevance criteria and the importance criteria listed below:

Relevance Criteria (Does the area contain one or more of the following values?):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans);

2. A fish or wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity);

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relict plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features); and/or

4. A natural hazard (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the RMP process that it has become part of a natural process.

Importance Criteria (Does the value, resource, system, process, or hazard have substantial significance or value? Does it meet one or more of the following criteria?):

1. Does it have more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

2. Does it have qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

3. Has it been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

4. Does it have qualities that warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Does it pose a significant threat to human life and safety or property?

Designation of an ACEC does not automatically prohibit or restrict other uses in the area. The one exception is that a mining plan of operation is

required for any proposed mining activity within a designated ACEC. The ACEC designation is an administrative designation that is accomplished through the land use planning process. It is unique to the BLM in that no other agency uses this form of designation.

This analysis and the resultant findings for ACEC relevance and importance criteria has been performed pursuant to FLPMA Section 202 (43 USC 1712[c] [3]), 43 CFR 1610.7-2 and BLM Manual 1613 (BLM 1988).

The Baker RMP (BLM 1989) designated nine areas totaling 38,988 acres as ACECs. A plan amendment added the South Fork of the Walla Walla ACEC to the list of ACECs in 1992. Due to land acquisition within ACECs, as provided for in the RMP, there are currently 47,815.8 acres of public lands within the ten designated ACECs in the Decision Area. The names of these ten ACECs, the number of acres for each ACEC when designated and currently, and the importance and relevance criteria for which they were designated are presented in Table 2.51. Map 2.15 illustrates the location of these ACECs. A brief description of each ACEC follows the table.

Joseph Creek ONA/ACEC

The BLM designated public lands on Joseph Creek (3,360 acres) between Tamarack and Cottonwood creeks as an ONA/ACEC primarily to protect the natural riparian plant communities of Joseph Creek, and to protect wildlife habitat, high scenic qualities, and outstanding geologic system values for educational and recreational purposes. Natural riparian and upland vegetation in the canyon was to be maintained. An MOU with WDFW was to continue to maintain and improve wildlife habitat in the Chief Joseph Wildlife Management Area and identified BLM lands. Wildlife habitat was to be managed for deer, elk, bighorn sheep, eagles, and other raptors. Aquatic habitat for anadromous fish was to be maintained in a natural condition. Current figures show Joseph Creek ONA/ACEC contains 3,406 acres of public land. Added attention has been applied to Joseph Creek due to the ESA listing of steelhead and subsequent consultation with NOAA Fisheries.

The BLM has applied grazing restrictions within the canyon to protect Joseph Creek ONA/ACEC resource values. There is no grazing allowed within the canyon on the east half of the ACEC, while the west half of the ACEC uplands are partially leased with a stipulation limiting excess grazing use. The grazing lease includes approximately 2 miles of riparian area that is essentially inaccessible to livestock due to the greatly incised creek channel caused by steep adjacent uplands. As a result, the riparian area associated with Joseph Creek is currently in good condition and exhibits limited signs of grazing.

No road closures have been imposed in Joseph Creek ONA/ACEC, but the country is very rugged and limits access naturally. In addition, no applications for oil or gas leasing have been received and no timber harvesting has occurred in the ONA/ACEC.

Grande Ronde ACEC

The BLM designated public lands along the Grande Ronde River in Oregon and Washington and on the Snake River in Washington as an ACEC to promote protection of the area's unique natural, scenic, geologic, ecologic, and cultural resource values, and to protect wildlife habitat and enhance recreation opportunities. Geologic system values of the Goosenecks National Natural Landmark are also to be protected and included within the ACEC.

Within the ACEC, approximately 2,570 acres of public lands were included within the boundaries of the proposed Grande Ronde Wild and Scenic River (in Oregon). In 1989, the Omnibus Wild and Scenic Rivers Act passed and included 2,845 acres as designated in Oregon on the Grande Ronde River. Although the ACEC was originally 9,715 acres when designated, current figures show the Grande Ronde River ACEC to contain 17,036 acres of public land (5,667 acres in Oregon and 11,370 acres in Washington).

The Oregon section of the Grande Ronde River (from the USFS boundary to the Washington state line) that was included into the National Wild and Scenic Rivers System in 1989 comprises 17 percent of the original ACEC designation

Table 2.51. Existing ACECs in the Baker Field Office Planning Area

ACEC Name	Acres when Designated (1989)/ Current Acres (2008)	Relevance and Importance Criteria
Joseph Creek ONA (Outstanding Natural Area)/ ACEC	3,360 / 3,406	■ The natural riparian communities, wildlife habitat, scenic qualities, geologic system ■ Managed as ONA to protect riparian, wildlife, scenic, geologic values, recreation, and education opportunities
Grande Ronde ACEC	9,715 / 17,036 (2,570 acres are Wild and Scenic River designation)/(2,845 in Wild and Scenic)	■ Areas unique natural, scenic, geologic, ecologic, cultural resources, wildlife habitat ■ Enhance recreation opportunities ■ Visual resources river viewshed ■ Goosenecks National Natural landmark
Keating Riparian Research Natural Area (RNA)/ACEC	2,173 / 2,223 (includes 80 acres Balm, Clover, & Sawmill Creek as RNA) /(206 in RNA)	■ Riparian areas and wildlife habitat for research and education ■ 80 acres of Balm, Clover, and Sawmill creeks managed as RNA
Powder River Canyon ACEC	5,880 / 5,905 (2385 acres within Powder Wild and Scenic River) /(2,416 Wild and Scenic)	■ Raptor habitat, wildlife habitat, cultural resources ■ Scenic qualities
Unity Reservoir Bald Eagle Nest Habitat ACEC	360 / 356 (200 BLM/160 BOR)	■ Habitat for ESA listed bald eagle as described in the FS Bald Eagle Management Plan
Hunt Mountain ACEC	2,230 / 1,231	■ Habitat for mountain goats and big game ■ Habitat for sensitive plant species
Oregon Trail ACEC	1,495 / 1,607 (7 parcels)	■ Preserve historic resource and visual qualities on 7 parcels of public lands with remnants of the National Historic Oregon Trail
Sheep Mountain ACEC	5,398 / 5,289 (includes portion of Sheep Mountain WSA 5,209)	■ Outstanding scenic qualities ■ Wildlife and bald eagle winter habitat
Homestead ACEC	8,537/ 8,740 (5893.5 in Homestead WSA)	■ Outstanding scenic qualities, and wildlife, bald eagle, and sensitive plant habitat
South Fork of the Walla Walla River ACEC Plan Amendment	1,273 / 2,023	■ Fisheries, riparian, and wildlife habitat ■ Allow transplant of bighorn sheep ■ Special status species of plants and animals and cultural resources

along the river corridor. The Washington section of the river was not designated under the Wild and Scenic Rivers Act, but was included within the Wallowa and Grande Ronde Rivers Management Plan (BLM and USFS 1993) and protected by the Asotin County (Washington) shoreline committee.

The Wallowa and Grande Ronde Rivers Management Plan (BLM and USFS 1993) and BLM efforts since the plan's completion has significantly improved the resource conditions for which the Grande Ronde River was designated as an ACEC and a wild and scenic river. As recommended in the Baker RMP (BLM 1989), the BLM has acquired 7,321 acres within the boundaries of the ACEC. These lands were considered to be within the ACEC and have been managed consistent with the original ACEC designation.

Geologic system values of the Goosenecks National Natural Landmark were also to be protected in the Grande Ronde River ACEC. This landmark was designated in 1980 and illustrates regional uplift and forced entrenchment of the river. By definition, a National Natural Landmark is a naturally significant natural area designated by the Secretary of the Interior.

Public lands along the Grande Ronde River have been managed more intensively since the ESA listings of the Chinook salmon, steelhead, and bull trout. Inventory and assessment of most public lands began in 1991 with the first species listings. Particular attention was paid to livestock grazing leases, seasons of use, and general ecological conditions.

In 2002, a fire occurred at the day-use site known as Rogersburg, located at the mouth of the Grande Ronde River on the Snake River. A fire rehabilitation plan included weed treatments, seedings, and road closures. Monitoring in this area has shown improvement of resource values, although regular weed treatment is necessary to ensure continued improvements. Extensive plant surveys have revealed important populations of special status species in this area on up to Lime Mountain. Overall, 20 species of special status plants have been documented within the Grande Ronde ACEC and one just outside the ACEC. See Section A-10, Special Status Species (Plants), in this chapter for more details. Portions of two known high-quality plant communities as designated by the Washington Natural Heritage Program occur in the Grande Ronde ACEC.

Keating ACEC/RNA

The Baker RMP (BLM 1989) designated 2,173 acres of public lands on Balm, Clover, and Sawmill creeks in the Keating Valley area as an ACEC to protect riparian values and wildlife habitat. A combination of 80 acres of Balm, Clover, and Sawmill creeks within the ACEC were to be managed as an RNA to protect and maintain natural riparian ecologic systems for research and educational purposes. Currently, the ACEC consists of 2,223 acres and the RNAs in the ACEC consist of 206 acres.

Very little of the Keating ACEC/RNA is excluded from grazing as the area is generally included within pastures. Historic mining has resulted in the designation of a superfund toxic waste site in Balm Creek, which is in progress of cleanup and remediation. The Baker RMP (BLM 1989) suggested the need to withdraw 185 acres from mineral entry to protect the RNA values. Appendix 2.E of the Baker Proposed RMP/EIS (BLM 1986) identifies the precise location of these acres; however, no action has been initiated to implement withdrawal.

There are no known research plots or transects at this time within the RNA. The BLM has used the Balm Creek portion as an outdoor education site with the University of Aberdeen (Scotland).

Clover Creek: Proper functioning condition evaluations done in 2007 show the riparian area along Clover Creek to be functioning at risk with no apparent trend. The stream width to depth ratio was rated as too high, particularly where the stream was accessible by livestock.

Sawmill Creek: Based on PFC evaluations done in 2007, riparian areas along Sawmill Creek are functioning at risk in a downward trend. A perennial system would be expected for the ACEC portion of the creek based on drainage size and

catchment area; however, due to upstream water right diversions and entrenchment, the system is intermittent in nature.

Balm Creek: Based on PFC evaluations done in 2007, the riparian area of Balm Creek is functioning at risk with no apparent trend. Vegetation in the reach of creek in the ACEC was in good shape, particularly the herbaceous component, and there was sufficient matting along most of the reach; however, headcutting and lateral instability puts all of this vegetation in jeopardy. If not for the lateral and vertical instability, the stream may have rated as an upward trend. It was also noteworthy that private land downstream from the BLM portion of the creek may be having a negative impact on the channel stability.

An abandoned mine restoration project has been underway since 2005 to remove and treat heavy metals in tailings from an abandoned mine within the Balm Creek portion of the ACEC, and to prevent the hazardous materials from contact with riparian areas and entering Balm Creek. The concentrations of copper and zinc have killed fish (including sensitive fish species) in the stream. Continued restoration activity in 2006 has revealed an additional contaminated site area that requires removal. Approximately 20 acres have been rehabilitated, while work on an additional 20 acres is waiting for further funding. Long-term rehabilitation of the riparian area is expected after the project completion. All rehabilitated sites will be fenced to exclude livestock, and be planted and/or reseeded with native species.

Powder River Canyon ACEC

The BLM designated 5,880 acres of public lands in the Powder River Canyon between Thief Valley Reservoir and Highway 203 in the Keating Valley as an ACEC to protect wildlife habitat and cultural resources and to maintain scenic qualities while allowing for compatible recreational uses. Forage and habitat needs for big game, bald eagles, golden eagles, and other raptors are to be maintained or improved. Current figures show the Powder River ACEC to contain 5,905 acres of public lands, 2,416 acres of which are designated as part of the National Wild and Scenic Rivers System.

In 1989, the Powder River was designated as a Wild and Scenic River. Forty-one percent (2,385 acres) of the ACEC fell within the boundaries of this designation. The Powder Wild and Scenic River Management Plan (BLM 1994b) provides management protection for public lands within the river corridor.

The Powder River canyon was reviewed for PFC in 2002 and the river and adjoining riparian area were found to be in PFC; however, its tributaries on public lands were found functioning at risk, with an upward trend. Upstream from the ACEC and the wild and scenic segment of Powder River, Thief Valley Dam impacts the river flows and sediment, which limits point bars and sand distribution and has resulted in a high width to depth ratio.

Unity Reservoir Bald Eagle Management Area ACEC

Three hundred and sixty acres of public lands on the North Fork of Burnt River, a potential bald eagle nest area, were identified to be managed to protect habitat consistent with the ESA and the Pacific States Bald Eagle Management Plan (USFWS 1986). The BLM designated 200 acres of this area as an ACEC to protect the bald eagle habitat. The remaining 160 acres are under a Bureau of Reclamation project withdrawal for Unity Reservoir and are managed to protect bald eagle habitat. Current figures show that the Unity Reservoir Bald Eagle ACEC contains 356 acres of public lands.

The USFS completed a bald eagle management plan in 1985 for a nesting pair of bald eagles on USFS lands in the area (USFS 1985). The BLM cosigned the management plan, which suggested the designation of adjacent BLM lands with potential for bald eagle roost or nesting habitat as an ACEC, as occurred in the Baker RMP (BLM 1989). The management actions directed by the RMP are consistent with direction from the USFWS bald eagle management plan.

The BLM is currently partnered with the USFS on a fuels treatment project (Woodtick Village) that will be implemented as a stewardship project for some lands within the ACEC. The project was developed to improve forest health in the area, thus protecting bald eagle habitat in the long term.

Monitoring of bald eagle use of public lands in the ACEC has been intermittent. Surveys completed in 2006 did not indicate nesting eagles present in the Decision Area. Monitoring of the USFS nest site since 1984 shows varied nest success.

Hunt Mountain ACEC

The BLM designated public lands on Hunt Mountain as an ACEC to protect and maintain habitat for mountain goats and big game, and to protect habitat for sensitive plant species (American Thorow Wax [*Bupleurum americanum*] and Rustic paintbrush [*Castilleja flava var. rustica*]) identified by the Oregon National Heritage Program. To meet this goal, management of the ACEC involved continued exclusion of livestock grazing from the area, restricting timber harvest to protect wildlife and sensitive plant habitats, and limiting ORV use to designated roads and trails. While the ACEC was originally designated at 2,230 acres, current figures show it now contains 1,231 acres.

Since designation of the ACEC, no timber sales or fuels treatment were conducted on public lands on Hunt Mountain and no new roads have been authorized. While grazing has not been authorized within the ACEC, some trespass has been reported.

Oregon Trail ACEC

The Baker RMP (BLM 1989) designated seven parcels of public lands with remnants of the Oregon National Historic Trail as an ACEC to preserve their unique historic resource and visual qualities. A management plan for preservation, public information, and interpretation was prepared and implemented in 1989. Details of the management plan components were specified within the Oregon Trail Geographic Unit management actions and the BLM has made significant progress towards implementing the management actions identified in the plan. At its initial designation, the ACEC consisted of 1,495 acres of public lands. Current figures show the Oregon Trail ACEC contains 1,607 acres of public land. Fencing is in place to exclude livestock grazing at Flagstaff Hill and Echo Meadows.

The BLM established NHOTIC, which opened in 1992. The center is located at the previously named Flagstaff Hill and is operated by BLM specialists. Nearly 2 million visitors from all over the world have been to the center since its opening. Details of past and current operations can be obtained directly from the NHOTIC facility. As of yet, the Oregon Trail properties have not been nominated to the NRHP.

Sheep Mountain ACEC

The BLM designated public lands in the Sheep Mountain area (between Pine Creek and Oxbow Reservoir), including a portion of the Sheep Mountain WSA, as an ACEC to protect outstanding scenic qualities and maintain or improve wildlife and crucial bald eagle winter habitat. Although the ACEC was initially designated at 5,398 acres of public land, current figures show it contains 5,289 acres. The Sheep Mountain WSA encompasses 5,209 of these acres.

Homestead ACEC

The BLM designated public lands on the Snake River Breaks near Homestead (between Pine Creek and Nelson Creek) as an ACEC to protect outstanding scenic qualities and wildlife, bald eagle, and sensitive plant habitats. The area is managed to meet forage and habitat requirements for game and non-game species, as recommended by the ODFW. While the ACEC was initially designated at 8,537 acres, current figures show it to contain 8,740 acres of public land, of which 5,894 (67 percent) acres are within the Homestead WSA. The WSA is closed to OHV use and has been monitored periodically to assure its values are protected.

Most of the streams in the ACEC were dramatically affected by the 1996/1997 floods, with the lower end of the streams showing the remnants from a tremendous flow of rock and gravel. Mid-slope to upper headwaters of these streams

show little alteration and are in very good, if not almost pristine condition. Access is very limited to most streams due to topography and steepness, which also limits use by livestock to small areas for watering. There has been historical mining in this area and there are still several active private mining operations in the area. Past mining activities have affected several floodplains, side hills, and upper watershed areas.

Public lands in the Homestead ACEC adjacent to private lands are most impacted from livestock due to few existing fences; however, impacts from grazing are seen only at the mid slope pastures. The biggest change in vegetation due to grazing has been the shift from annual grasses to perennials. The forested sites and lower slopes of the ACEC near or below the powerlines are in good condition.

Recreational OHV use and hunting has created trails going uphill from Idaho Power power line roads. There has been extensive OHV use from off of Hess Road. Most resource damage has been caused in early spring when the area is still wet.

The Foster Gulch Fire burned 53,000 acres in 2006, including the entire Homestead ACEC. To aid in recovery after the fire, grazing was restricted from the area for 2 to 5 years. All rehabilitation actions were consistent with interim WSA and ACEC management guidelines. During the following year (2007), severe summer rainstorms caused extreme rilling, erosion, and mudflows onto the BLM campgrounds and the road along the Hells Canyon reservoir. This was widespread within the ACEC and was aggravated by the previous year's fire.

South Fork Walla Walla ACEC

The South Fork of the Walla Walla River Plan Amendment (BLM 1992) designated public lands along the South Fork Walla Walla River between the Umatilla National Forest boundary and Harris County Park as an ACEC. This designation was to protect fisheries, wildlife, riparian, and scenic values found within the area. Such protection was necessary because recreationists heavily used the area, which resulted in sustained impacts to the riparian areas and hillsides. The plan amendment and management plan specified detailed management direction for the ACEC.

Land acquisition in 1997 added 766 acres to the ACEC, including over 1 mile of river containing important fisheries, riparian, wildlife, and scenic values. Current figures show that the South Fork Walla Walla ACEC contains 2,023 acres of public land.

Multiple management actions have taken place since the designation of the South Fork Walla Walla ACEC. A significant change was the endangered species listing of steelhead and bull trout that use this portion of the river for spawning, rearing, and migration. Management of the ACEC has intensified and the river is extensively monitored for water quality, fish redds, sediment, and other qualities. Specific data is available in the BLM annual monitoring reports from 1999 to present. The Confederated Tribes of the Umatilla Indian Reservation re-introduced Chinook salmon in 2004. These fish now utilize the BLM-managed section of the river for spawning, rearing, and migration.

b. Potential ACECs

Some areas of the Decision Area have recently been identified that may meet the relevance and importance criteria to be considered as potential ACECs. If additional areas are identified in this planning process, such as during public scoping, they will be evaluated and if they meet the required relevance and importance criteria, they will be included in at least one alternative for the Baker RMP.

2. Backcountry Byways

a. Existingback Country Byways

Snake River/Mormon Basin Backcountry Byway

The Planning Area has only one backcountry byway. The Snake River/Mormon Basin Backcountry Byway consists of a loop that originates in Baker City, Oregon, travels east along Highway 86 (overlapping the Hells Canyon Byway), then turns and follows the Snake River Road that

Table 2.52. Road Segment Classification and Ownership of the Snake River/Mormon Basin Backcountry Byway

Road Segments Classification	Miles	Ownership	Miles
		BLM	0.00
Class I (can accommodate normal touring cars)	68.00	Other Federal	1.5
Class II (High clearance vehicles required)	62.00	State	65.00
Class III (Four wheel drive vehicles or other specialized vehicles required)	20.00	Local	83.50
Class IV (Single track trails)	0.00	Private	0.00

parallels the Brownlee Reservoir to the town of Huntington, Oregon. From there, the byway travels a short distance of I-84 to the Rye Valley turnoff, and proceeds along a county road through the Rye Valley/Mormon Basin area until it joins with Highway 245. Following Highway 245, the byway crosses over Dooley Mountain until it joins with Highway 7, which brings the route back to Baker City. The entire loop of the Snake River/Mormon Basin Backcountry Byway is 150 miles in length, 100 miles of which are designated as a back country road and 50 miles designated as an all American road. Table 2.52 presents road segment classifications, class descriptions, and ownership of the backcountry byway.

The current condition of the Snake River/Mormon Basin Backcountry Byway is stable. Baker County Road Department or Oregon Department of Transportation maintains most of the byway. Most travel on the byway occurs on sections of the road system that are part of the state highways/interstate system or along Brownlee Reservoir. The use of the byway is usually associated with other recreational pursuits such as hunting, fishing, camping, and sightseeing. Use is also seasonal. Conditions due to winter snows or spring rains keep a large portion of the byway unusable by most vehicles during much of the year.

Attempts have been made in the past to clearly identify the byway with directional signs and kiosks; however, this effort was abandoned due to expense related to wide-scale vandalism of these signs/sites. Identifying the byway on the Baker Resource Area Recreation Map has replaced the directional signs and has become a far more efficient and cost effective method of making the byway known to the public. Internet-based information is also available and, along with the map, has benefited those who seek byways for the driving experience.

b. Potential Back Country Byways

There are no roads or sections of roads identified for inclusion into the backcountry byways system. Any backcountry byway proposed during public scoping will be addressed in alternative development for the Draft RMP.

3. National Recreation Areas

a. Existing National Recreation Areas

In 1984, Congress designated 968 acres of the McGraw Creek WSA as wilderness. These acres originally consisted of public lands managed under a cooperative agreement with Wallowa-Whitman National Forest, but were later transferred to the USFS to be included into the Hells Canyon National Recreation Area.

No parts of the Hells Canyon National Recreation Area are currently located in the Decision Area. No other national recreation areas are located within the Planning Area.

Table 2.53. Designated Wild and Scenic Rivers in the Planning Area

River	Outstanding Remarkable Values	Administering Agency	Wild	Scenic	Recreational	Total miles
Grande Ronde River	Scenic, Recreation, Wildlife, Fisheries	BLM	9.0	—	15.9	24.9
		USFS	17.4	—	1.5	18.9
Powder River	Scenic, Recreation, Fisheries, Wildlife, Pre-Historic Cultural	BLM	—	11.7	—	11.7
Wallowa River	Scenic, Recreation, Fisheries, Wildlife	State of Oregon and BLM	—	—	10	10

b. Potential National Recreation Areas

There currently are no plans to designate any national recreation areas in the Decision Area. If any potential areas are identified during public scoping, they will be addressed in the planning process.

4. Wild and Scenic Rivers

a. Existing Wild and Scenic Rivers

In 1968, Congress enacted the National Wild and Scenic Rivers Act, which established a system for preserving outstanding free-flowing rivers. The Omnibus Oregon Wild and Scenic Rivers Act of 1988 amended the 1968 Act and designated the Grande Ronde River in Oregon from Rondowa downstream to the state-line and the Powder River between Thief Valley Reservoir and Highway 203 as components of the National Wild and Scenic River System. In addition, the Wallowa River from Minam downstream to its confluence with the Grande Ronde River was identified as a study river. After an eligibility and suitability study of the Wallowa River by the USFS, it too was included into the National Wild and Scenic River System on July 23, 1996. Table 2.53 summarizes these three wild and scenic rivers that flow though public lands in the Planning Area, while Map 2.15 shows their location.

Grande Ronde River

The Grande Ronde River was designated as a wild and scenic river from its confluence with the Wallowa River to the Oregon-Washington border on October 28, 1988. This section of the river offers outstanding scenery, rafting, salmon and steelhead fishing, wildlife winter range, and cultural resources.

Hunting is popular in this section of the Grande Ronde River. Mule deer, elk, black bear, cougar, and bighorn sheep are principal big game animals inhabiting the river corridor. Fishing is excellent late in the season after the water levels have receded. Hiking along side creeks and ridges offer limited day hikes, but there are no designated trails along the river.

Many Native American Tribes lived in the reaches of the Grande Ronde. Evidence of the cultural history can be glimpsed in the form of historic and prehistoric places and objects on the public lands. These cultural resource sites are fragile and irreplaceable, and the law protects this cultural history.

Powder River

The Powder River was designated as a wild and scenic river from Thief Valley Dam to the Highway 203 bridge on October 28, 1988. This 11.7-mile stretch of the river flows through a rugged canyon with geologic formations of spectacular beauty. Although access is limited, the river offers outstanding fishing and hunting opportunities. Rafting is rare due to access issues and limited river flows, but can occur in the early spring.

Wallowa River

The Wallowa River was designated as a wild and scenic river from the confluence of the Wallowa and Minam rivers downstream to the confluence of the Wallowa and the Grande Ronde rivers on July 23, 1996. The segment of the Wallowa

River is the gateway to the Grande Ronde Wild and Scenic River. The Wallowa offers incredible fishing, hunting, wildlife viewing and rafting, as well as a state park for camping and a county tour train. The primary launch site for the Wallowa and Grande Ronde corridors, as well as the BLM public contact station, are located on state lands at Minam.

The Wallowa joined Joseph Creek and the Minam, Lostine, Wenaha, and the Grande Ronde rivers as designated wild and scenic rivers within the Grande Ronde Basin. Only the Klamath and Smith River Systems in California, and the Deschutes in Oregon, are comparable in protection of a complete river system.

b. Potential Wild and Scenic Rivers

In addition to the three designated wild and scenic rivers that flow through public lands in the Planning Area, an eligibility review of other rivers and streams located within the Planning Area is underway. As part of the RMP planning effort, the BLM Interdisciplinary Team initiated a wild and scenic rivers inventory of all rivers and streams (perennial, annual, or ephemeral) that flowed through public lands within the Planning Area. This inventory was to determine if any of these waterways that flow through public lands meet the wild and scenic river eligibility criteria as identified in the Wild and Scenic Rivers Act of 1968, as amended.

Public participation in the wild and scenic rivers review process does not generally occur until the suitability phase of the process. Unless otherwise prescribed by statute (e.g., Section 5(a) of the Wild and Scenic Rivers Act), all eligible river segments are evaluated for suitability using the BLM RMP process. Following this stipulation, the results of this wild and scenic eligibility inventory will be included in the Baker RMP planning effort. The public will be given the opportunity to comment on the wild and scenic eligibility inventory results during the normal scoping process and throughout the environmental analysis and planning process for the RMP planning effort. Concerns voiced by the public will be included in deciding if those waterways determined eligible in this report are also suitable to be recommended to Congress for inclusion into the National Wild and Scenic Rivers System.

Once the eligibility report is finalized, it will be included into the administrative record of the Baker RMP.

5. Wilderness Areas

a. Existing Wilderness Areas

There are currently no identified wilderness areas within the Decision Area. In 1984, 968 acres of the McGraw Creek WSA were designated as a Wilderness Area. These acres, however, were originally managed under a cooperative agreement with Wallowa-Whitman National Forest and were later transferred to the USFS to be included into the Hells Canyon National Recreation Area.

b. Potential Wilderness Areas

While the WSAs discussed in the following section could be considered potential wilderness areas, only Congress has the authority to designate them as wilderness areas. It is thus outside the scope of this planning process to consider potential wilderness areas.

6. Wilderness Study Areas

a. Existing Wilderness Study Areas

There are currently three WSAs containing public lands within the Planning Area. These WSAs are identified in Table 2.54 and illustrated in Map 2.15. All of these WSAs exist along the Snake River Canyon above Oxbow and Hells Canyon Reservoirs. Their location and size do not lend themselves to be a large attraction to recreational users of the area by their designation alone. However, the large block of BLM lands associated with these areas is somewhat rare within the Planning Area and therefore is sought out by recreational users for hunting, horseback riding, hiking, and some primitive

Table 2.54. Existing WSAs in the Planning Area

Name	BLM Acres	USFS Acres	Total Acres
McGraw Creek WSA	497	—	497
Homestead WSA	7,001	7,654	14,655
Sheep Mountain WSA	7,040	—	7,040

camping. Except for a short segment of trail found in the Sheep Mountain WSA, the areas are closed to motorized use.

The WSAs in the Planning Area are currently stable but at risk. Increases in recreational motorized use and improved technology and capabilities of motorized equipment have coincided with increased evidence of encroachment into the WSAs. Additional information and education efforts have been aimed at informing the public of the limitations or bans of motorized use in the WSAs.

The future of the WSAs within the Planning Area is unknown. Only Congress can designate the WSAs into wilderness, or have the areas dedesignated and removed from the list of potential wilderness areas. Until that time, BLM's interim management policy (IMP) for WSAs will continue to guide management of the Planning Area's three WSAs. The possibility that these areas may be designated as wilderness will continue to be recognized in all affected land and resource use decisions.

McGraw Creek WSA

The McGraw Creek WSA is located 80 miles northeast of Baker City and 23 miles northeast of Halfway in Wallowa County, Oregon. The WSA consists of 497 acres of public lands. It is approximately 2.5 miles in length and varies from 50 feet to 0.75 mile in width. There are no private in-holdings and the subsurface mineral estate is federally owned. Hells Canyon Reservoir on the Snake River forms the WSAs eastern boundary, Hells Canyon Wilderness forms the northern boundary, and private land (patented mining claims) and other public lands border the WSA to the south and west.

Very steep, deeply dissected, narrow, rocky canyons characterize McGraw Creek WSA. Elevation increases from 1,600 feet at the reservoir to 4,960 feet at the WSA's western boundary. The northern forks of Copper Creek are the only perennial streams. There are no roads or trails in the WSA; however, a trail for non-motorized use runs north along the reservoir on the eastern boundary. Forest plant communities (e.g., Douglas, white, and grand fir and ponderosa pine) are found on the higher elevations and north-facing slopes in the WSA and along the upper portions of Copper Creek, which also supports dense, deciduous riparian vegetation in a mature to climax ecological stage. Rangeland plant communities are found on lower elevations and dryer slopes and consist primarily of grasses and scattered shrubs.

Homestead WSA

The Homestead WSA is located on the west side of the Snake River adjacent to State Highway 86, approximately 75 miles northeast of Baker City and 20 miles northeast of Halfway. The WSA contains 7,001 acres of BLM land and 7,654 acres of USFS land for a total of 14,655 acres

The WSA is almost 10-miles long, 5-miles wide at its widest point, and 400-yards at is narrowest point. Its average width is 2 miles. Private land and power site withdrawals borders the WSA on the east and south, USFS land on the west, and a 500 kV power line on the north. Two dead-end roads (1 mile each) enter the WSA along the southwest boundary.

Homestead WSA is on a north-south oriented hogback ridge with very short and steep drainages (0.5 to 2.5 miles) running east to west through rugged canyons. Most of the area lies on the east-facing slope that fronts Hells Canyon Reservoir. McClain Gulch, the WSA's major drainage, occurs on USFS lands, running 3 miles in a southern direction. Vegetation is diverse and includes a mixture of grasses (e.g., bunchgrass

cheatgrass, and wheatgrass), shrubs/plants (e.g., big sagebrush, elderberry, hawthorn, poison ivy, and snowberry), and trees (e.g., Douglas fir, white fir, and ponderosa pine). The trees consist predominately of old growth groves that are found on the moist, flatter areas of the WSA's steep draws.

Sheep Mountain WSA

Sheep Mountain WSA is located along State Highway 86, 65 miles northeast of Baker City and 15 miles east of Halfway in Baker County, Oregon. The community of Copperfield is 1.5 miles north of the WSA. This WSA contains 7,040 acres of public land and encloses two parcels of private land (200 acres) in the north-central portion of the WSA. The entire WSA has been designated as an ACEC due to containing outstanding scenic qualities, wildlife, and bald eagle habitat.

The WSA is 6 miles from north to south at its longest point, 3 miles wide at its southern boundary, and tapers to 0.25 mile with on the north. Private land surrounds much of the WSA, with public land bordering the southeaster border for 2.5 miles. A road traverses this ridgetop and converts into a trail at the border of the WSA, which then proceeds for approximately 0.3 mile north into the area, then converting into a trail that leads into the middle of the WSA.

Sheep Mountain dominates the WSA, towering 3,230 feet above the Snake River. Pine Creek drainage, forming a dramatic vertical ascent, borders the WSA on the west and northwest. Extremely steep slopes are found to the west, north, and east, while a ridgetop forms a more rolling landscape in the southeast corner of the WSA. Several seasonal creeks drain all sides of Sheep Mountain. Black Canyon Creek, the only perennial stream in the WSA, is a deeply incised drainage flowing north to south through the southern half of the area. A flat bench surrounds the headwaters of Black Canyon Creek creating a high 1,200-acre plateau. Several basalt pinnacles are evident on the northwest exposure of Sheep Mountain. Basalt terraces are found on the north and east slopes of the mountain.

The plant community on the flat bench area on top of Sheep Mountain is composed primarily of big sagebrush, squaw currant, snowberry, buckwheat, and blue bunch wheatgrass. Grassy slopes consisting of Idaho fescue and blue bunch wheatgrass are found on the south and west aspects adjacent to the flat. The timber in the WSA is predominately old growth, with 142 acres dominated by ponderosa pine and 81 acres dominated by Douglas fir. These trees are found on the moist, flatter areas of the steep draws and are considered economically non-operable for harvest; thus being excluded from the Decision Area's allowable cut base. Unfortunately, a fire in 2006 destroyed most of the large trees in the WSA.

b. Potential Wilderness Study Areas

The BLM historically has had the authority to inventory, assess, and recommend suitable public lands as WSAs; however, recent guidance clarified that this authority expired in 1991. With the passage of FLPMA in 1976, the BLM had 15 years to inventory and identify lands suitable for designation as wilderness by Congress. The BLM completed that inventory and review in 1991 and submitted it to Congress in 1993. Many of the WSAs identified Bureau-wide are still managed today under an IMP. The three WSAs in the Planning Area discussed above were from that 15-year period.

In 2001, the BLM issued new policies in the Wilderness Inventory and Study Procedure Handbook (H-6310-1). The handbook reiterated the BLM's authority to inventory, assess, and designate public lands as WSAs. These lands would then be available at any time for Congress to consider for designation as wilderness areas. The state of Utah and others challenged the authority of the DOI/BLM to designate and manage new (post 1993) WSAs as wildernesses, arguing that BLM completed the wilderness suitability process for public lands with the submission of recommendations to Congress in 1993. In the ensuing Utah Wilderness Settlement (April 2003), the DOI/BLM agreed that FLPMA does not allow identification or protection of new WSAs after 1993. In 2003, the BLM formally rescinded the

Wilderness Inventory and Study Procedures Handbook. Therefore, in this planning process, the BLM cannot consider or recommend additional public lands for designation as WSAs.

D. Social and Economic

1. Tribal Interests

a. Tribes with Interests in the Planning Area

Seven federally recognized Native American Tribes have indicated interest in public lands managed by the Baker Field Office, including the following Tribes:

- Confederated Tribes of the Umatilla Indian Reservation
- Nez Perce Tribe
- Burns Paiute Tribe
- Confederated Tribes of the Colville Reservation
- Confederated Tribes of the Warm Springs Reservation
- Shoshone-Paiute Tribes of the Duck Valley Reservation
- Shoshone-Bannock Tribes of the Fort Hall Reservation

Because the BLM manages lands ceded under treaties, or are within the historical and traditional use areas, it has a responsibility to consult with Tribes to consider the conditions necessary for Indian tribal members to satisfy treaty rights and continue traditional uses in areas of interest. Currently, tribal members may use public land resources for subsistence and cultural purposes, although the BLM may not know specific locations of such resources.

Tribes with off-reservation treaty rights and traditional interests within the Planning Area include the Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, and Confederated Tribes of the Warm Springs Reservation. The Shoshone-Bannock Tribes of the Fort Hall Reservation also have treaty rights for hunting on unoccupied federal lands. The Burns Paiute Tribe, Confederated Tribes of the Colville Reservation, Shoshone-Bannock Tribes, and Shoshone-Paiute Tribes have traditional interests in the Planning Area that need to be considered during land use and project planning under various federal laws, regulations, and EOs.

b. Treaty Rights and Interests

Native American interests in lands of the Decision Area include a wide range of economic, social, traditional, and religious practices. For example, these can range from the protection of burial and sacred sites, to access and sustainability of root gathering or fishing locations, or interest in water quality and ecological health that sustains fishery and wildlife habitat. Providing habitat requirements for treaty resource and access to traditional procurement locations is essential to the exercise of treaty rights and tribal interests.

Treaty rights are not rights granted from the United States, but rather are rights specifically reserved (retained) by the Tribes under the terms of treaties or agreements. Examples of off-reservation reserved treaty rights on unoccupied federal land include plant gathering, hunting and fishing rights at usual and accustomed places, and grazing rights.

In the latter half of the 19th century, the federal government negotiated treaties and agreements with specific Tribes and bands that historically occupied the region, though the federal government did not ratify or honor all treaties and not all Tribes or bands agreed with such treaties. Historically, specific Tribes and bands exclusively used and occupied portions of the Planning Area, while more than one Tribe or band used other areas. The Indian Claims Commission adjudicated aboriginal territories in the 1950s through the 1970s.

The United States and its agencies, including the BLM, have a trust responsibility with Indian Tribes. As a federal land managing agency, the BLM has the responsibility to identify and con-

sider potential impacts of BLM plans, projects, programs, or activities on Indian treaty rights and resources and areas of traditional cultural interest for maintaining the cultural practices, continuity, and identity of tribal communities. The BLM has the responsibility to ensure that meaningful consultation and coordination is conducted on a government-to-government basis with federally recognized Tribes. Through the consultation process, the BLM and Tribes identify issues and concerns about treaty rights and resources, sacred sites, traditional uses, and traditional cultural properties that need to be considered in land use or project plans.

An MOU between the Vale District Office and the Nez Perce Tribe provides for cooperative wildlife management on public land parcels adjacent to the Nez Perce Tribe's Precious Lands Management Area in northeast Oregon. Memorandums of understanding also exist for coordination and consultation on RMPs and issues between the BLM and the Confederated Tribes of the Umatilla Indian Reservation, Burns Paiute Tribe, and Confederated Tribes of the Warm Springs Reservation.

Geographically, areas of interest can be approximated to encompass broad areas of tribal interests and concerns. According to ICEBEMP (USFS and BLM 1997), tribal interest areas are open to ongoing interpretation, discussion, and consultation with Tribes on a project-by-project basis. Interest areas, which may be overlapping, have sometimes been called a Tribe's aboriginal territory, subsistence range, traditional use area, or zone of influence. By contrast, the term "usual and accustomed area" refers to Steven's treaty language rights and interests, which may help define the spatial extent of a Tribe's interest area (USFS and BLM 1997).

Since the signing of treaties and agreements, the availability and opportunity for access to natural resources and culturally significant places used by Tribes has changed. There has been a general decline in native fish, game, and plant species or their habitat, while land ownership patterns and extractive resource uses have dramatically altered the pre-contact landscape. The loss of resources or access to traditional places can affect Native American sociocultural activities associated with plant, fish, or animal procurement or traditional cultural practices.

c. Traditional Use and Sacred Sites

The Decision Area provides habitat for fish, wildlife, and plants of cultural importance to Tribes. There is little information available on specific traditional use locations or traditional practices by Native Americans exercising their rights and interests in the Decision Area. Identification of traditional use or traditional cultural properties is an ongoing process addressed during BLM and tribal consultation on individual projects. With one exception, the BLM is not aware of ongoing, current use of specific locations for resource gathering or religious and ceremonial practices occurring in the Decision area. Representatives of several Tribes have previously identified concerns about specific development projects or land tenure adjustments in the Decision Area. The Confederated Tribes of the Umatilla Indian Reservation have identified a specific location considered valuable for gathering culturally important traditional plants. Gathering cultural plants at this or other locations is secured by treaty.

No sacred sites have been formally identified to the BLM; however, this may be due in part to reluctance to identify specific locations. Tribes often consider traditional village locations and/or subsistence procurement localities to be important traditional cultural properties. The BLM may also be unaware of sacred sites or traditional resource procurement sites that may occur in the Decision Area.

Cultural plant habitat exists on public lands in the Planning Area, but the condition, distribution, abundance, and trend of cultural plant communities is often unknown. Various historical factors since European contact have affected the availability of cultural plants for tribal use within the Decision Area. The invasion of noxious weeds, exclusion of fire, impacts from resource extraction, and road building among other factors have

Table 2.55. Cultural Plant Ecological Groupings (Ethno-Habitats)

Habitat	Cultural Plants
Lithic soils	Sagebrushes such as *Artemesia rigida* and *Artemesia arbuscula*; geophytes such as biscuit root (*Lomatium sp.*), bitterroot (*Lewisia redivida*), and yampa (*Perideridia sp.*)
Wet/Moist Meadows	Camas, bistort, sedge, tobacco root, cow parsnip
Riparian	Chokecherry, currant, serviceberry, willow, red osier dogwood, elderberry, hawthorn, rose, Indian hemp
Wet Woodlands	Western spring beauty, yellow bell
Dry slopes and Grass-lands	Wild onion, sego or mariposa lily, balsamroot, hyacinth
Forested Areas	Huckleberry, black tree lichen, mushrooms, pine species

contributed to declines and dislocations in many of the plant species important to Tribes within the interior Columbia Basin region.

The importance of cultural plants has received relatively little recognition compared to terrestrial and aquatic resources. Cultural plants are those plants important to tribal groups for subsistence, economic, medicinal, and ceremonial purposes. Ethno-habitats are plant habitats defined by tribal people as having importance. Table 2.55 presents several cultural plant ethno-habitats, with some examples of key cultural plants.

Cultural plants occurring in non-forested habitats may be at risk from decreases in habitat that could influence harvestability. Plants such as biscuit root, bitterroot, and yampa are important to the maintenance of tribal culture. The ethno-habitat described as "wet meadows" is another community of concern. Occurrence of culturally important plant species may be measured through linkage with existing dominant overstory categories or associated soil types. Informal observation suggests that shallow lithosol soil types in the Planning Area are likely habitat for geophytic plants.

2. Public Safety

a. Abandoned Mines

Sources of data on abandoned mines include field surveys and inspections, U.S. Geological Survey reports and maps, U.S. Bureau of Mines reports, as well as state reports and databases. Some abandoned mines also present hazardous and toxic chemical hazards in addition to structures such as shafts, adits, winzes, tunnels, and pits that pose safety hazards to the public. Identifying and sealing, fencing, and signing unsafe abandoned mine sites and openings will likely continue at approximately the same rate as in recent years. Contaminated site remediation and abandoned mine closures will occur based on hazard ranking and available funding.

b. Waste Dumping

Solid waste issues include illegal dumping (either in conjunction with a residence or simply at a convenient location), dumping in reclaimed gravel pits, littering along roadsides, and small to large scale dumping in areas that are in-frequently visited by users or BLM personnel. Although there is no database detailing the locations of all the solid waste sites, the BLM knows the location of some sites. Most sites are small, generally less than one acre, and contain typical household garbage and debris. Hazardous materials generally consist of household chemical products in small quantities or regulated materials, such as petroleum products. A few sites in agricultural areas may have pesticide or herbicide containers. Sites are more of a problem if they contain unknown chemicals that need characterization. There has not been a significant increase in known sites. The BLM infrequently identifies new sites and cleans up known sites at times.

c. Hazardous Materials

Hazardous materials sites are locations on or near public land where hazardous or regulated materials are used, stored, or disposed. Hazardous materials sites can contamination air, soil, surface water, and groundwater resources.

There is no comprehensive database of hazardous materials sites within the Decision Area since no large-scale operations where mining materials/chemicals or agricultural chemicals are stored and used. Other types of hazardous materials sites include occupancy-related sites and shooting ranges, which are created without permits. No known hazardous material areas occur within the Decision Area other than the Powder River Sportsman Club, which is a shooting range authorized under an R&PP lease. Household dumps around ranches, burn sites, lab chemical dumps, and illegal dumps can also be hazardous materials sites. The number of known hazardous materials sites is not known as they can develop overnight in areas that are seldom seen, and may exist for years before discovery. Known sites remain in the same condition year after year (although unseen deterioration is probably occurring) until clean-up operations can be accomplished.

3. Social and Economic Conditions

The brief summary of the social and economic conditions presented in this section came from an in-depth social and economic analysis of the Planning Area. Appendix 2.E contains this report in its entirety. The analysis area or impact area for the report include Baker, Morrow, Umatilla, Union, and Wallowa counties in Oregon and Asotin County in Washington.

a. Demography

Population change in the Planning Area was relatively stable between 1970 and 2005. Over this period, population growth in Baker, Union, and Wallowa counties increased by 7, 27, and 11 percent, respectively, which was outpaced by both the state of Oregon (73 percent) and the nation (45 percent). The population of Umatilla and Asotin counties outpaced the nation but not the state (increasing by 64 and 58 percent, respectively), while Morrow County outpaced both the state and the nation (increasing by 162 percent). Figure 2.4 illustrates the county level changes in population and projections through 2030.

Population projections suggest all counties in the impact area will continue to remain stable or increase over the next 20 to 25 years. Between 2005 and 2030, Umatilla County is projected to increase the most (23,001 persons) while Morrow County will have the greatest increase as a share of its total population (70 percent). Baker County will increase the least in absolute terms (966 persons) and as a share of its population (6 percent). These projections reflect regional trends of minimal population growth except in Umatilla County, which is steadily urbanizing (James, Kent, and Associates 2006).

The population densities of all impact area counties are less dense than their respective states. In 2005, Oregon and Washington contained 37.9 and 94.6 persons per square mile, respectively. Asotin had the highest population density of all impact area counties in 2005 at 33 persons per square mile, followed by Umatilla at 22 persons per square mile and Union at 12 persons per square mile. The remaining counties were significantly less dense at 5.7, 5.3, and 2.2 for Morrow, Baker, and Wallowa counties, respectively (BEA 2005a).

The BEA estimates the flow of annual earnings of in-commuters and out-commuters for a given county. Commuting data shows Baker, Morrow, and Asotin counties received more income from people commuting out of the county in which they live. In this manner, they can be thought of as "bedroom communities" since income from people commuting out of the counties to work exceeds the income from those commuting into the counties (BEA 2005a). The small difference in income sources for Union and Wallowa counties suggests income generated by those commuting out is similar to income earned by those who live and work in these counties, in this manner commuting may be less a part of their day-to-day lives. Umatilla County can be described as an "employment hub" since income derived

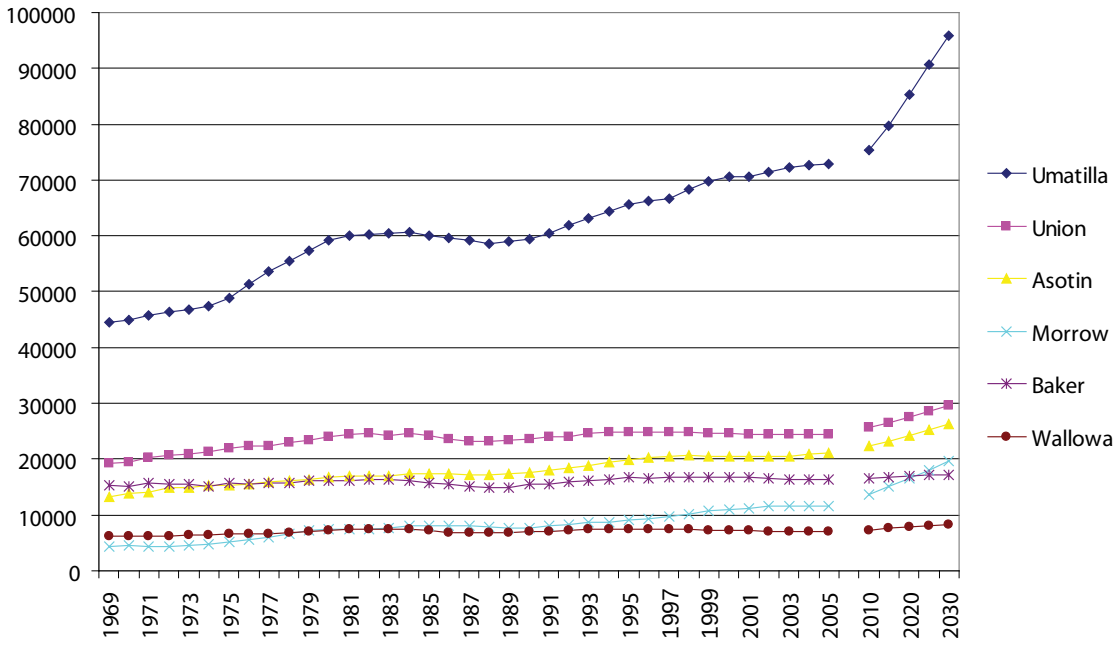


Figure 2.4. Population change for counties within the impact area (Source: Bureau of Economic Analysis [BEA] 2005; Portland State University 2004; State of Washington 2007)

from people commuting into the county to work exceeds the income from those commuting out of the county.

Within the impact area, the share of total population of all non-white races and Hispanics increased between 1990 and 2000. Race and Ethnicity are broken out separately since Hispanics can be of any race. At the county level, decreases were seen for several non-white races (Table 2.56). American Indian populations decreased in Baker, Union, and Wallowa counties. African American, Asian, and Pacific Islander populations experienced decreases over this period in Asotin, Wallowa, and Morrow counties, respectively. The share of the total population of Hispanic origin increased in all counties except Wallowa County. The increases in the Hispanic population accounted for 55 percent of the total population change in Morrow and Umatilla counties over this period.

b. Economic Specialization and Employment

Employment within the analysis area is distributed amongst industry sectors and displayed in Figure 2.5 (IMPLAN 2006). Communities that were specialized with respect to employment were identified by ICBEMP. Their method used the ratio of the percent employment in each industry in the region of interest (i.e., counties within the impact area) to an average percent of employment in that industry for a larger area (the reference region; BEA's Economic Areas). For a given industry, when the percent employment in the analysis region is greater than in the reference region, local employment specialization exists in that industry (USFS 1998). Using this criterion applied with 2006 data, Baker, Morrow, and Wallowa counties can be characterized as specialized with respect to the natural resource related sectors while Asotin, Baker, Union, and Wallowa counties are specialized with respect to sectors related to natural amenities. Over time, economic specialization has changed. The degree of change is reflected in Figure 2.5 where total employment in the six-county area is disaggregated into six industry sectors (BEA 2000).

Table 2.56. Racial and Hispanic Composition of 2000 Population and the Change Since 1990

	White	Black or African American	American Indian & Alaskan Native	Asian	Native Hawaiian & Other Pacific Islander	Some other race	Hispanic
Oregon	**87%**	**1.6%**	**1.3%**	**3.0%**	**0.2%**	**4.2%**	**8.0%**
Baker County	**96%**	**0.3%**	**0.7%**	**0.5%**	**0.1%**	**0.7%**	**1.9%**
Change from 1990	996	16	-7	36	9	81	44
Morrow County	**75%**	**0.2%**	**1.7%**	**0.5%**	**0.0%**	**20.2%**	**24.4%**
Change from 1990	1439	10	91	31	-5	1525	1841
Umatilla County	**82%**	**1.0%**	**3.2%**	**0.7%**	**0.1%**	**10.9%**	**16.1%**
Change from 1990	5144	353	274	76	1	3941	6193
Union County	**94%**	**0.5%**	**0.6%**	**0.9%**	**0.6%**	**1.5%**	**2.3%**
Change from 1990	313	23	-104	36	40	250	211
Wallowa County	**98%**	**0.0%**	**0.4%**	**0.0%**	**0.1%**	**0.2%**	**0.7%**
Change from 1990	225	0	-7	-20	1	6	-52
Washington	**82%**	**3.2%**	**1.6%**	**5.5%**	**0.4%**	**3.9%**	**7.5%**
Asotin County	**96%**	**0.1%**	**0.9%**	**0.5%**	**0.01%**	**0.6%**	**1.8%**
Change from 1990	2405	-31	-20	52	6	56	99

Source: U.S. Census 1990 and U.S. Census 2000

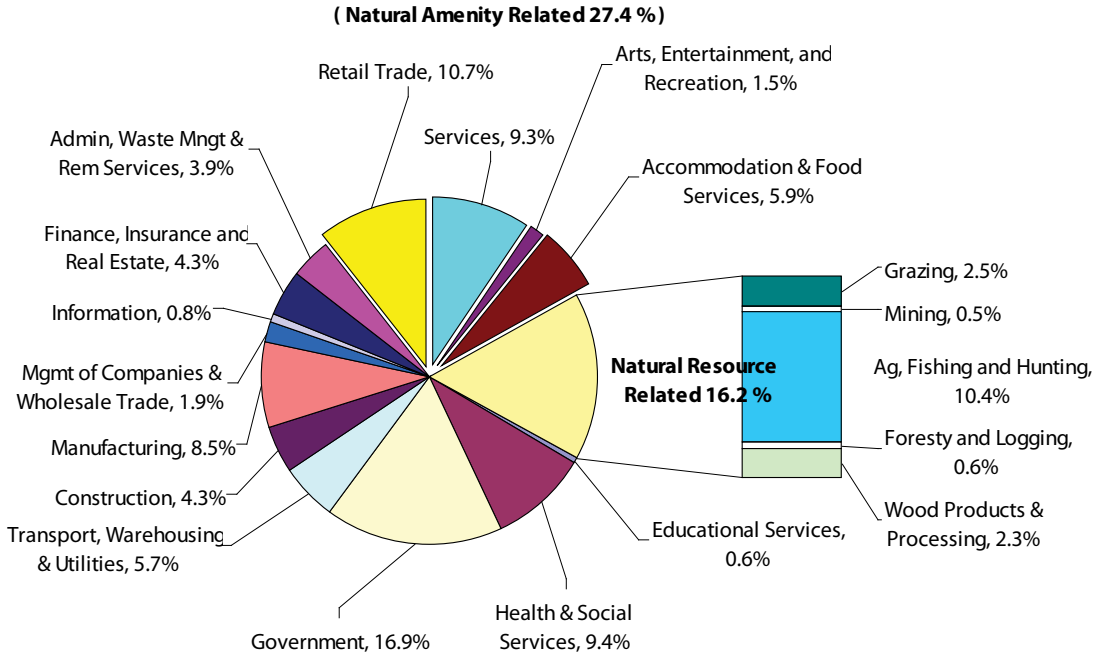


Figure 2.5. Impact area industry employment distribution, 2006 (Source: IMPLAN 2006)

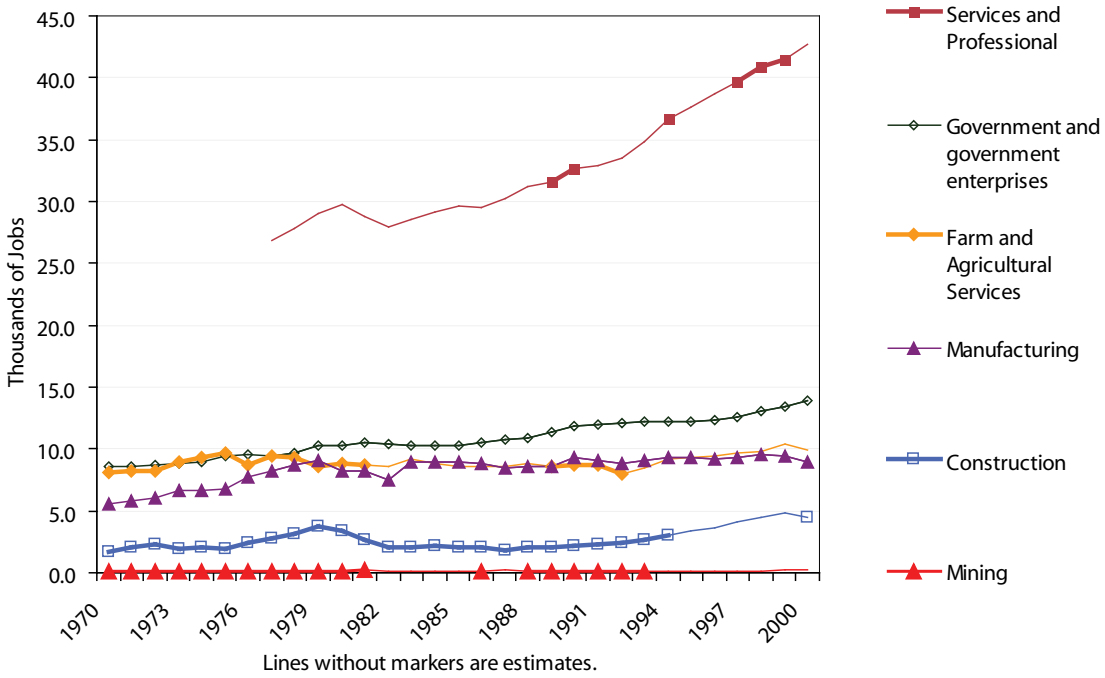


Figure 2.6. Employment history of the impact area (BEA 2000, estimates from Economic Profile System 2007)

From 1970 to 2005, total employment in the impact area increased by 88.6 percent (from 43,851 to 82,697 jobs classified as full and part-time employment). The state of Oregon saw an increase in total employment of 141 percent, or roughly 4 percent annually, over this period and the state of Washington increased by 150 percent or about 4.2 percent annually. Job growth between 1970 and 2005 in Asotin County outpaced the state and the nation. Morrow and Umatilla counties saw job growth over this period that outpaced the nation but not the state. Baker, Union, and Wallowa counties experienced job growth that was slower than both the state and the nation. The employment growth seen in all impact area counties combined (Figure 2.6[10]) was largely due to estimated increases between 1977 and 2000 in Service and Professional sector employment (includes Retail Trade, Health and Social Services and the combined Services sector mentioned above), which accounted for approximately 68 percent of new area employment. In addition, the share of total employment attributable to this sector increased by 6.1 percent, from 47.2 to 53.3 percent. Thus, the Service and Professional related sectors have been an important part of area employment. Jobs in the Government sector slightly increased in their share of total employment (by 0.7), indicating a steady economic specialization in the Government sector in the impact area.

Slight increases in the Farm and Agricultural Services, Mining and Manufacturing sectors did not keep pace with other sectors and translated into smaller portions of total employment in 2000, decreasing by 4.2, 0.1, and 3.3 percent, respectively. These natural resource related sectors have provided a small and slightly decreasing portion of total area employment while the Service and Professional sector has maintained a steady increase.

10 The numbers in Figure 2.6 are not directly comparable to the IMPLAN numbers in Figure 2.5 since IMPLAN data include farm and proprietor employment in addition to wage and salary employment. Similarly, the IMPLAN data also include estimates for non-disclosures that similarly include farm and proprietor employment in addition to wage and salary employment.

Figure 2.7. Average annual unemployment rates of six-county economic impact area

c. Economic Well-being and Poverty

As noted above, the Service and Professional sectors increased in their share of total employment while the Farm and Agriculture Services, Mining, and Manufacturing sectors experienced decreases between 1977 and 2000. The Service and Professional sector jobs, however, may not pay as much, which could decrease area economic well being. Within the impact area, the private sectors examined can be lumped into Goods-Producing sectors (e.g., Natural Resources, Construction, and Manufacturing) and Service-Providing sectors (e.g., Trade, Transportation, Utilities, Finance, Education, and Health). In 2005, the Goods-Producing and Service-Providing sectors paid average annual wages of $29,848 and $25,484, respectively (Bureau of Labor Statistics 2005). From these statistics, it is apparent that while the service sector accounts for an increasing share of total employment, these jobs do not pay as much.

Total personal income (TPI) and per capita personal income (PCPI) are useful measures of economic well-being. From 1970 to 2005, annual TPI in the economic impact area increased by $2.04 billion to $3.98 billion, and annual PCPI increased from $18,575 to $25,968 (all measures adjusted for inflation to 2005 dollars). This translates to a TPI increase of 51 percent (roughly 1.5 percent annually) and a PCPI increase of 40 percent (roughly 1 percent annually) over this period. In 2005, the average PCPI in the economic impact area was lower than the state of Oregon ($34,310) and the nation ($34,471), which can be explained by differences in cost of living in metropolitan verses the predominantly non-metropolitan economic impact area. Differences in non-metropolitan and combined metropolitan/non-metropolitan PCPI levels for Oregon and the nation explain the lower levels seen in the economic impact area (non-metropolitan for the state was $25,586 and for the nation was $26,115 in 2005; while metropolitan/non-metropolitan combined was $34,310 for the state and $34,471 the nation) (Bureau of Labor Statistics 2005).

Table 2.57. Share of Population Living Below Poverty Level and Change Between 1989 and 1999

	1999	1989	net change	change in share
Planning Area	**14%**	**16%**	**-822**	**-2.7%**
Oregon	**12%**	**12%**	**43873**	**-0.8%**
Baker, OR	15%	15%	218	0.01%
Morrow, OR	15%	15%	476	-0.3%
Umatilla, OR	13%	17%	-895	-3.9%
Union, OR	14%	16%	-346	-2.0%
Wallowa, OR	14%	16%	-76	-1.8%
Washington	**11%**	**11%**	**94437**	**-0.3%**
Asotin, WA	15%	19%	-199	-3.9%

Source: U.S. Census Bureau 2000

Table 2.58. Estimated Annual Employment Contribution by Resource Program

	Number of Jobs Contributed		
Resource Program	**Total Program**	**Estimated Impact of Local Residents' Recreation Activities [2]**	**Program Net of Local Resident Recreation**
Recreation	115.9	34	81.5
Wildlife and Fish Rec.	26.1	9	17.3
Grazing	15.1	—	15.1
Timber	20.9	—	20.9
Minerals	3.7	—	3.7
Ecosystem Restoration	0.3	—	0.3
Payments to States/Counties	4.9	—	4.9
BLM Expenditures	55.3	—	55.3
Total BLM Management[3]	**242.1**	**43.2**	**198.9**

2 Expenditures by local residents for recreation on public lands do not introduce "new" money into the economy. If local residents could not recreate on public lands, they would likely find other forms of recreation in the area and continue to spend their recreation dollars in the local economy. Therefore, these portions of employment (and labor income below) are not necessarily dependent on the existence of the opportunities provided by public lands.

3 Totals may not add due to rounding.

While PCPI is a useful measure of economic well-being, it should be examined alongside changes in real earnings per job. Since PCPI includes income from 401(k) plans as well as other non-labor income sources like transfer payments, dividends, and rent, it is possible for per capita income to rise, even if the average wage per job declines over time. While PCPI rose between 1970 and 2005, average earnings per job fell from $32,593 to $31,951 (values adjusted for inflation to 2005 dollars), indicating a possible decrease in area economic well-being (BEA 2005b).

From 1992 to 2000, average annual unemployment rates in the six county impact area fell along with national and state levels, except for a markedly increase to 7.7 in 1996. Unemployment after 1996 followed state and national trends through 2006 (Figure 2.7). Baker, Morrow, and Wallowa counties are at their lowest levels of unemployment since 1990, but remain above state and national levels of 5.4 percent and 4.6 percent, respectively. Umatilla and Union counties' 2006 unemployment levels (6.8 and 6 percent, respectively) were close to their 16-year lows of 6.2 and 5.4 seen in 2000; however, the

Table 2.59. Estimated Annual Labor Income Contribution by Resource Program

	Thousands of 2008 Dollars		
Resource Program	**Total Program**	**Estimated Impact of Local Residents' Recreation Activities**	**Program Net of Local Resident Recreation**
Recreation	$2,879	$944	$1,935
Wildlife and Fish Rec.	$634	$226	$407
Grazing	$204	—	$204
Timber	$542	—	$542
Minerals	$148	—	$148
Ecosystem Restoration	$6	—	$6
Payments to States/Counties	$168	—	$168
BLM Expenditures	$2,208	—	$2,208
Total BLM Management	**$6,788**	**$1,170**	**$5,617**

unemployment levels remained above state and national levels. Asotin County's unemployment level of 4.8 percent was the lowest of all impact area counties, and was lower than the state of Washington's unemployment level of 5 percent and the nation's 4.6 percent level (Bureau of Labor Statistics 2006).

While the number of people living below the poverty level in Baker and Morrow counties increased between 1989 and 1999, the share of those living below the poverty level remained stable in Baker County while decreasing in Morrow County (Table 2.57). In all other counties, the number and share of persons living below the poverty level decreased over this period. The largest decreases occurred in Asotin and Umatilla counties where the levels both fell by 3.9 percent. These declines in the share of individuals living below the poverty level were greater than reductions at their respective state's levels over this period. However, all three counties maintained levels of poverty greater the state in 1999 (U.S. Census Bureau 2000).

d. Contributions to the Area from BLM Management

The Decision Area contributes to the livelihoods of area residents through subsistence uses as well as through market-based economic production and income generation. Public lands provide products of value to households at no or low cost (permit fees) such as fuelwood, wood posts, and livestock grazing areas. Additional products with subsistence value may include fish, game, plants, berries, and seeds. Use of these products is often part of traditions that sustain local cultures (see Section D-1, Tribal Interests).

Employment and labor income contributions to the Planning Area's economy through market-based production were measured using the IMPLAN input-output model. Input-output models describe commodity flows from producers to intermediate and final consumers and include the direct, indirect, and induced contributions from BLM management in the Decision Area. Indirect contributions occur when a sector purchases supplies and services from other industries in order to produce their product. Induced contributions are the employment and labor income generated as a result of spending new household income generated by direct and indirect employment. The employment estimated is defined as any part-time, seasonal, or full-time job. In the following tables (Table 2.58 and 2.59), direct, indirect, and induced contributions are included in the estimated BLM contributions.

e. Environmental Justice

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement

of environmental laws, regulations, programs, and policies. Executive Order 12898 requires federal agencies to "identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

According to the Council on Environmental Quality's (CEQ's) Environmental Justice Guidelines for NEPA (1997), "minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis." Table 2.56 shows that Morrow and Umatilla counties' share of those identifying with some other race and Hispanics were greater than the state and economic impact area averages during 2000. Thus, the U.S. Census data suggest minority populations within the economic impact area meet the CEQ's Environmental Justice criterion.

The CEQ guidance on identifying low-income populations states "agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect." The discussion above on poverty noted the share of those living below the poverty level decreased between 1989 and 1999; however, county levels remained above their states in all impact area counties (Table 2.56). Thus, the U.S. Census data indicate low-income populations exist within the economic impact area.

3 Current Management Direction

A. Relevant Plans and Amendments

The main document that provides current management direction to the Baker Field Office over the Bureau of Land Management- (BLM-) administered public lands (public lands) is the Baker Resource Management Plan (RMP), which was completed in 1989. In addition, a number of other management plans and documents that amend or append the Baker RMP (BLM 1989) are also part of current management. All such plans and amendments that influence current management are presented below.

- Baker RMP (1989)
- Vale District Planning Updates for the Baker Resource Area (1991-1995, 2000)
- Powder River Management Plan (1993)
- Wallowa and Grande Ronde Wild and Scenic River Management Plan (Dec. 1993)
- South Fork Walla Walla River Area Plan Amendment (1992)
- Lime Hill Coordinated Activity Plan (2001)
- Oregon National Historic Trail Management Plan, Vale District (1989)
- Vale District Fire Management Plan (FMP) (2004)
- Final Environmental Impact Statement (FEIS) Vegetation Treatment on BLM in Thirteen Western States (May, 1991)
- Ironsides Grazing Management Environmental Impact Statement (EIS) (1981)
- Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS (PEIS) and Programmatic Environmental Report (2007).
- Northwest Area Noxious Weed Control Program (December 1985) and Supplement (March 1987).
- Interior Columbia Basin Ecosystem Management Project (ICBEMP) Draft EIS (DEIS) (May, 1997)
- ICEBEMP Supplemental DEIS (March, 2000)
- ICEBEMP FEIS (December, 2000)
- Lookout Mountain Forest and Rangeland Health Project and DEIS (Oct. 2002)
- Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 3039d) Listed Waters (May 1999)
- A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Strategy Implementation Plan (December 2006)

- Healthy Forests; An Initiative for Wildfire Prevention and Stronger Communities (August 2002)
- All valid and existing FMPs, Habitat Management Plans (HMPs), Endangered Species Recovery Plans, and Recreation Management Plans
- Noxious Weed Strategy for Oregon/Washington (1994)

B. Current Management Direction and Implementation

This section presents all management and implementation decisions currently followed to manage public lands in the Planning Area. These decisions are found in Tables 3.1-3.18. Most come from the current Baker RMP (BLM 1989), while the rest come from the various other documents listed above, as well as current policy. The decisions that are marked as "ongoing/current policy" or otherwise indicated as part of current management direction or implementation in the "Status" column of Table 3.1 will form the No Action Alternative in the Draft RMP (DRMP)/DEIS. The No Action Alternative will also include those decisions that were only partially completed or not completed/implemented (for various reasons) that are still part of current management. Those decisions that have been completed, amended, outdated due to new policy, or otherwise not currently valid will not be presented further in this and subsequent planning documents.

Tables 3.1 – 3.18 also includes a column asking if the decision is responsive to current issues. A "Yes" in this column indicates that the decision is responsive and will probably be common among all the alternatives analyzed in the DRMP/DEIS. A "Partially" in this column means that the decision only partially responsive to current issues and thus must be modified in some fashion to meet current management needs. Finally, a "No" in this column indicates that the decision is not responsive to current issues. Many of these decisions create opportunities for new management direction. Such opportunities for change are discussed in Chapter 4.

The current management and implementation decisions for the ten existing areas of critical environmental concern (ACECs) are found in Table 3.16 as well as under the specific resource or resource use where the decisions apply

Table 3.1 Physical Resources (Air, Geology, Soils, and Water)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Air Quality			
A. Management Decisions			
Under the Clean Air Act, (as amended, 1977), BLM-administered lands were given Class II air classification, which allows moderate deterioration associated with moderate population and industrial growth. BLM will manage all public lands as Class II unless they are reclassified under provisions of this Act.	Baker RMP	Ongoing/Current Policy	Partially The RMP may also need to contain management direction that indicates sensitivity to the importance of managing air quality in the higher populated areas.
All District Prescribed fire activities will comply with Oregon State Implementation Plan of the Clean Air Act and the Environmental Protection Agency's (EPA's) Interim Air Quality Policy on Wildland and Prescribed Fires.	Vale District FMP	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Continue to inventory and evaluate soil, water, and air resources on public lands.	Baker RMP	Ongoing/Current Policy	Yes
Coordinate soil, water, and air concerns and activities with other resources in all phases of management actions, from the planning stage to final monitoring of the results. Review all proposed resource projects and surface disturbing activities to ensure that soils and watersheds are protected, rehabilitated, or improved. Continue implementation of the Morgan Creek watershed plan.	Baker RMP	Ongoing/Current Policy Status of Morgan Creek Watershed Plan is unknown	Partially Coordination should also occur with adjacent land management agencies and air quality-regulating agencies.
Wildland fire managers must consider the effects of their actions on visibility in critical areas including Class 1 airsheds, restricted areas, and non-attainment areas.	Vale District FMP	Ongoing/Current Policy	Yes
Prescribed fire plans need to identify sensitive areas and provide operational guidance to minimize impact from smoke.	Vale District FMP	Ongoing/Current Policy	Yes

Table 3.1 Physical Resources (Air, Geology, Soils, and Water)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Burn registration and smoke emissions from prescribed fire activities are entered in the Fuel Analysis, Smoke Tracking, and Report Access Computer System (FASTRACS). Information is transmitted to Oregon State Department of Forestry.	Vale District FMP	Ongoing/Current Policy	Yes
Geology			
A. Management Decisions			
Grande Ronde ACEC			
Geologic system values of the Goosenecks National Natural Landmark will be protected.	Baker RMP	Ongoing/Current Policy	Partially Decision text needs to be clarified and management requirements for the Goosenecks National Natural Landmark need to be assessed
B. Implementation Decisions			
There are currently no implementation decisions for geology.			
Soil Resources			
A. Management Decisions			
Soils will be managed to maintain productivity and minimize erosion. Those watersheds or portions of watersheds where potential for either significant improvement or further degradation exists will be intensively managed to improve the soil, water and air resources. Priority will be given to meeting emergency watershed needs due to flooding, drought, or fire.	Baker RMP	Ongoing/Current Policy	Partially Need to re-evaluate the decision and up-date language and science
Continue to provide for recreational off-road vehicle (ORV) use in areas designated as open, only to the extent that maximum protection for soil and watershed is achieved through standard design features.	Baker RMP	Ongoing/Current Policy	Partially Need to re-evaluate the decision and up-date language and science

Table 3.1 Physical Resources (Air, Geology, Soils, and Water)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
B. Implementation Decisions			
Continue to inventory and evaluate soil, water, and air resources on public lands.	Baker RMP	Ongoing/Current Policy	Yes
Coordinate soil, water and air concerns and activities with other resources in all phases of management actions, from the planning stage to final monitoring of the results. Review all proposed resource projects, and surface disturbing activities to ensure that soils and watersheds are protected, rehabilitated or improved. Continue implementation of the Morgan Creek watershed plan.	Baker RMP	Ongoing/Current Policy	Yes
Water Resources			
A. Management Decisions			
Comply with EPA and Department of Environmental Quality requirements on water quality monitoring and non-point source pollution reductions as those regulations become established. Manage for water quality improvement to meet riparian objectives.	Baker RMP	Ongoing/Current Policy	Yes
South Fork of the Walla Walla River ACEC			
Establish appropriate baseline inventory on water quality data as recommended by the District Hydrologist.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Recreational developments design and construction must maintain water quality standards.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Continue to inventory and evaluate soil, water, and air resources on public lands.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.1 Physical Resources (Air, Geology, Soils, and Water)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Coordinate soil, water and air concerns and activities with other resources in all phases of management actions, from the planning stage to final monitoring of the results. Review all proposed resource projects, and surface disturbing activities to ensure that soils and watersheds are protected, rehabilitated or improved. Continue implementation of the Morgan Creek watershed plan.	Baker RMP	Ongoing/Current Policy	Yes
Develop watershed management plans for areas identified as having potential for either significant improvement or further degradation, Prepare watershed activity plans for integration into coordinated planning for geographic units.	Baker RMP	Ongoing/Current Policy	Partially Evaluate whether plans will be necessary if RMP guidelines are followed and site specific analysis is completed for individual project activities

Table 3.2. Vegetation (Vegetation Communities and Noxious Weeds)

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Vegetation Communities			
A. Management Decisions			
Riparian Communities			
Objectives for riparian habitat are more specific and vary by geographic units identified in the RMP, but generally they are for maintaining and enhancing riparian habitat by stabilizing streambanks and by increasing the vegetation structure. The RMP calls for riparian recovery plans to be developed and upward trends in stream riparian condition to be established.	Baker RMP	Riparian recovery plans were not written. Management actions have advanced general objectives, but monitoring of trend is lacking.	Partially Objectives should be revised to sub-basin or watershed level. Instead of committing to writing separate riparian recovery plans, the RMP will establish overall objectives and guidelines.
Management actions within riparian areas will include measures to protect or restore natural functions, as defined by Executive Orders 11988 and 11990 and the Oregon/Washington Riparian Enhancement Plan (1987).	Baker RMP	Ongoing/Current Policy	Partially While overall guidance and direction is probably still valid, the Riparian Enhancement Plan's goals and objectives need to be updated.
The Oregon/Washington Riparian Enhancement Plan 1987 provides overall guidance and direction for management of riparian areas within the Planning Area. The overall goal of this plan is to maintain, restore or improve riparian areas to achieve a healthy and productive ecological condition for maximum long-term multiple use benefits and values. The plan details several goals and objectives for the Planning Area including management and implementation strategies, proposed projects and monitoring. The plan meets or exceeds all goals and decisions set forth in this document.	Baker RMP	Ongoing/Current Policy	Partially While overall guidance and direction is probably still valid, the Riparian Enhancement Plan's goals and objectives need to be updated.

Table 3.2. Vegetation (Vegetation Communities and Noxious Weeds)

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Upland grass-shrub vegetation			
Managing upland grass-shrub vegetation to achieve a mid-seral plant community is the prevailing objective for nearly all of the various geographic units in the current RMP. In the Grande Ronde unit, the objective is for a late-seral plant community.	Baker RMP	Change in Management Direction. Current guidance is to use concepts of rangeland health.	No Decision needs to be revised to reflect the change to standards for rangeland health, using monitoring to help measure progress toward achievement of standards.
The RMP also mentions vegetation objectives to improve habitat for various wildlife species (deer, elk, grouse, and turkeys) in certain units.	Baker RMP	Ongoing/Current Policy	Partially Current concerns for sagebrush-dependent species are not adequately reflected in the RMP.
Joseph Creek ONA/ACEC			
Maintain natural riparian and upland vegetation in the canyon.	Baker RMP	Ongoing/Current Policy	Yes
South Fork of the Walla Walla River ACEC			
Riparian Communities			
Inventory existing species, conditions, and characteristics of the riparian plant community.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes
Prohibit indiscriminate cutting of live shrubs or trees within the riparian zone.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.2. Vegetation (Vegetation Communities and Noxious Weeds)

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
From the road intersection with the western BLM boundary (at the cattleguard) to the gate/barricade, minimize disturbance of the natural environment by focusing human use away from existing pockets of well established riparian vegetation in good condition. This will be done by designating parking and trails in established use areas and through the use of barricade signs and other public information as necessary.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes Needs assessment as to whether this is working
From the gate/barricade on upriver, maintain or enhance riparian vegetation by providing for control of recreation use through enforcement of the OHV designation, and establishment of barricades, signs and public information.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy No OHV use authorized off the trail	Yes Needs assessment as to whether this is working
B. Implementation Decisions			
Riparian Communities			
Implement the Oregon/Washington Riparian Enhancement Plan (1987) for the hydrologic units within the Planning Area.	Baker RMP	Ongoing/Current Policy	Partially New direction needs to be developed that is consistent with current direction and science
The following riparian areas have been identified for habitat recovery implementation over the next 7 to 10 years. In order of priority, these are: Morgan Creek, Burnt River, Dark Canyon, Deer Creek, Pritchard Creek, Fox Creek, Dixie Creek, Sisley Creek, Benson Creek, and Lawrence Creek.	Baker RMP	Partly Completed Work still needed on Pritchard, Dixie, Benson, and Lawrence creeks.	No A new priority list needs to be established; however, instead of naming streams in a priority list, the RMP could establish general guidelines for setting priorities.
Habitat recovery projects, including livestock exclusion fences, have been recently initiated on segments of the first four of these riparian areas.	Baker RMP	Completed	N/A
Of approximately 240 miles of riparian areas along perennial streams in the Planning Area, 70 percent have been inventoried and rated for condition and trend (refer to Table 5 for status, revised by recent inventories). The remaining 71 miles of riparian areas will be inventoried and rated (refer to Appendix F of the Baker 1989 RMP for an example of data gathered in riparian condition inventory). Inventories will be performed as funding is available.	Baker RMP	Ongoing/Current Policy	Partially Mileage needs to be updated using current GIS data, and additional policy on riparian/wetland management in BLM Manual 1737 needs to be incorporated.

Table 3.2. Vegetation (Vegetation Communities and Noxious Weeds)

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Baseline data obtained from inventories will be applied to the development of enhancement, or recovery, management plans which meet the goals and objectives of the Oregon/Washington Riparian Enhancement Plan. Management actions will be designed to restore natural riparian functions.	Baker RMP	Ongoing/Current Policy	Partially Goals and objectives of the Plan need to be updated and current policy on inventory and monitoring from BLM Manual 6600 needs to be incorporated.
Recovery plans will include but not be limited to riparian shrub plantings, instream structures, and riparian fencing; and may include major adjustments in grazing allotment management plans. Riparian areas will also be enhanced or maintained through less intensive methods, depending upon resource values and public concern. Less intensive management actions to improve or maintain riparian areas through constraints on other programs will include control of livestock through grazing systems, seasons of use, adjustment of numbers, and fencing; and design features for timber harvests such as buffer strips, overstory removal, salvage removal, and selective cutting and specialized logging systems.	Baker RMP	Ongoing/Current Policy	Yes BLM Manual 1737 provides additional policy on riparian/wetland management that may need to be incorporated
The following criteria will be considered for establishing needs and priorities for riparian recovery implementation in management plans: ■ Location, size, and significance of a riparian area relative to the watershed. ■ Ecologic and scenic condition relative to its potential to recover. ■ Classification as to potential to support anadromous fish. ■ Classification as to perennial or intermittent flows, ■ Other resource values.	Baker RMP	Ongoing/Current Policy	Partially Criteria #3 should probably include resident freshwater trout, specifically redband trout.

Table 3.2. Vegetation (Vegetation Communities and Noxious Weeds)

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Noxious Weeds			
A. Management Decisions			
Infestations of noxious weeds are known to occur on some public lands in the Planning Area. The most common noxious weeds are diffuse, spotted and Russian knapweed, yellow starthistle, Canadian thistle, whitetop and yellow leafy spurge. Control methods will be proposed and subject to site specific environmental analyses consistent with the Record of Decision on BLM's Northwest Area Noxious Weed Control PEIS and EIS Supplement. Control methods will not be considered unless the weeds are confined to public lands or control efforts are coordinated with owners of adjoining infested non-public lands. Proper grazing management will be emphasized after control to minimize possible reinfestation. Coordination and cooperation with county weed control officers will continue on a regular basis.	Baker RMP	Ongoing/Current Policy	No Management and control of weeds has advanced significantly since the 1989 RMP was written. There is thus a need new management philosophies and new NEPA documentation. There is also the need to incorporate management guidance from the Draft Vegetation Treatments Using Herbicides on BLM lands in 17 Western States PEIS and Programmatic Environmental Report, which includes all standard operating procedures and mitigation measures. Finally, guidance from the updated BLM Manual 517 needs to be included in future noxious weed management efforts.
B. Implementation Decisions			
There currently are no implementation decisions for noxious weeds.			

Table 3.3. Fish and Wildlife

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
After ESA listing of salmon, steelhead and bull trout the BLM (Oregon/Washington State Director) issued direction (via Instruction Memo [IM]) to all affected offices that their adoption and implementation of PACFISH and INFISH and the Biological Opinions was consistent with their current Land Use Plan and should be implemented accordingly. The Oregon State Office (OSO) IM for INFISH was adopted for only those lands with occupied and historic bull trout habitat. Where impacts were predicted to bull trout or native redband trout fish species; plans, direction and mitigations from INFISH were used in the development of the proposed activity.	State Director Memos	Ongoing/Current Policy	No A revised aquatic conservation strategy is provided by Oregon State Office and the regional Deputy Team that will be included in the plan revision. It will replace PACFISH and INFISH once consultations are complete. Manual 6840 (T&E Species Management) provides additional policy on listed species management.
All past and current projects and activities that involve fish bearing streams have been given management information, direction, restoration and mitigations that protect and restore fish habitat. Interdisciplinary (ID) teams analyze all proposed projects in the resource area. If the proposed project involves a fish bearing stream then the fish biologist is part of the ID team. The project is analyzed for fisheries and stream impacts and solutions to those impacts are resolved. In most cases, the impacts can be removed or decreased by adding guidelines, changing methodologies, or by added restoration or mitigation measures. INFISH has been used as a guideline to create fewer impacts and to refine projects so there is no impact to fish or fish habitat.	Baker RMP	Ongoing/Current Policy	Yes
Objectives for wildlife and fisheries habitat management will be consistent with BLM policy identified in BLM Manual 6500 (Wildlife and Fisheries Management)	Baker RMP	Ongoing/Current Policy	Yes The BLM also follows manual 6840 and Instruction Memorandum No. 2006-114.

Table 3.3. Fish and Wildlife

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
HMPs will be developed for economically important wildlife species, including mule deer, antelope, bighorn sheep, and grouse. Primary emphasis of many of the plans will be to ensure the availability of palatable shrubs and thermal cover for deer on crucial winter ranges in Baker County. Benefits will also accrue to many nongame species as a result of these habitat enhancement projects.	Baker RMP	Not completed due to change in management direction	No Current management direction has focused more on not making specific HMPs for wildlife species. However, there has been a State conservation strategy developed for sage-grouse and BLM OR/WA has adopted this plan via addendum.
Transplants of endemic wildlife and fisheries species, including bighorn sheep, antelope, and beaver into suitable habitats will be allowed in cooperation with the affected state wildlife agencies (i.e. Oregon Department of Fish and Wildlife [ODFW] and Washington Department of Wildlife [WDW]). Wild turkeys and brown trout which are not native to Oregon may also be transplanted into suitable habitat. Maintain enclosures that benefit wildlife habitat. Additional enclosures will be built as needed and as funds are available to meet site-specific needs or objectives.	Baker RMP	Not completed due to change in management direction	Partially Focus wildlife species suitable for endemic transplants have changed from the 1989 RMP. Maintenance of exclosures has not been done so new exclosures and projects will be evaluated more carefully to ensure proper project maintenance.
Continue identification of wildlife habitat requirements as other resource activity plans are prepared. Develop additional Cooperative Management Agreements with WDW and ODFW. Conduct inventories of isolated tracts of public land to determine wildlife resource values.	Baker RMP	Ongoing/Current Policy, except last sentence, which has not been accomplished.	Partially Need to clarify the last sentence. The only way BLM will conduct surveys on isolated tracts is when acquiring or disposing lands.

Table 3.3. Fish and Wildlife

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Maintain or enhance important anadromous and resident fisheries; increase habitat productivity; and emphasize coordinated management with other agencies and landowners. Restore, maintain or enhance fish habitat on 155 miles of streams that have anadromous or resident fish or the potential to support fish. Approximately 83 miles of fishery habitat have been inventoried. A summary of fish habitat condition and trend in the Planning Area is displayed in the geographic unit descriptions.	Baker RMP	Ongoing/Current Policy	Partially Miles of fish habitat needs to be updated using current GIS data. Habitat condition and trend should be displayed at the sub-basin or watershed level
	Joseph Creek ONA/ACEC		
Cooperation with the WDW will continue to maintain and improve wildlife habitat in the Chief Joseph Wildlife Management Area. Wildlife habitat will be managed for deer, elk, bighorn sheep, eagles, and other raptors. Aquatic habitat for anadromous fish will be maintained in a natural condition.	Baker RMP	Ongoing/Current Policy	Partially Decision needs to be updated to reflect current MOU with WDFW and clarify the Nez Perce involvement in the ACEC.
	Grande Ronde ACEC		
Habitat for bald eagles, raptors, game and non-game species, and anadromous fish will be maintained or improved in cooperation with federal and state agencies.	Baker RMP	Ongoing/Current Policy	Yes
	Keating Riparian RNA/ACEC		
Columbian sharp-tailed grouse reintroduction habitat in the ACEC will be maintained or improved through restrictions on livestock grazing (seasons of use, numbers, or fencing).	Baker RMP	Not Completed/ Implemented No reintroduction of grouse	No ODFW strategy for Columbian sharp-tailed grouse and mountain quail needs to be verified.

Table 3.3. Fish and Wildlife

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
		Powder River Canyon ACEC	
Forage and habitat needs for big game, bald eagles, golden eagles and other raptors will be maintained or improved.	Baker RMP	Ongoing/Current Policy	Yes Reword to clarify decision.
		Homestead ACEC	
The area will be managed to meet forage and habitat requirements for game and non-game species, as recommended by the ODFW and Wildlife.	Baker RMP	Not Completed/ Implemented No special restrictions or mgmt. provided for game and non game species	Yes
		South Fork of the Walla Walla River ACEC	
Fisheries			
Public informational signs, brochures, and articles concerning the values of the ACEC and the needs for special management will be used where appropriate to help ensure that public use is consistent with the values of the ACEC.	S.F. Walla Walla River Area Plan Amendment	Partially Completed: Signs installed and maintained, but no brochures available	Yes
Increase large woody debris and instream diversity as identified by the baseline data.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented Regular fish monitoring conducted, but no large woody debris installed.	Yes
Hazardous tree removal will be coordinated with fishery biologists to provide instream habitat diversity where needed.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.3. Fish and Wildlife

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Work with private landowners and the U.S. Forest Service (USFS) upstream to encourage the protection of the fishery habitat. It is important that the overall management of the watershed places a high priority on maintenance or even improvement of the fishery habitat that exists there.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Information needs to be updated. The Confederated Tribes of the Umatilla Indian Reservation should be included as a stakeholder.
Collect baseline data on condition and trend of fishery habitat.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Examine past use of the Salmon-Trout Enhancement Program (STEP) and coordinate with the ODFW as to its future use.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Decision needs to be updated
Wildlife Management			
Limit OHV traffic beyond the gate/barricade during severe winters, as determined necessary in cooperation with ODFW (between December 15 and March 15) to relieve stress on wintering elk.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes
Collect baseline data on wildlife species and habitats of the area.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes
If involved parties agree to transplant Rocky Mountain bighorn sheep, then BLM will allow transplant and provide habitat where available on public lands.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented No interest by ODFW	Yes

Table 3.3. Fish and Wildlife

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
B. Implementation Decisions			
The Wildlife Exclosure HMP and the Burnt River HMP were completed in fiscal year (FY) 1986. Project implementation was begun in FY 1987.	Baker RMP	Ongoing/Current Policy	Partially Need to determine if HMPs apply or ever did apply to fish species.
HMPs will be written for six crucial deer winter range areas - Keating, Powder River Canyon, Daly Creek, Durkee, Homestead- Sheep Mountain, Immigrant Gulch, and Pedro Mountain. Prepare and implement an HMP for Big Lookout Mountain deer summer range and bighorn sheep habitat.	Baker RMP	Not completed due to change in management direction	No
Prepare and implement HMPs for antelope, sage grouse, raptors, and bighorn sheep: including Virtue Flat-Pritchard Creek and Unity.	Baker RMP	Completed only for sage-grouse. Not completed for other species due to change in management direction	Partially
An HMP will be written for an Isolated Tracts Wildlife Program that will address scattered lands in Wallowa, Union, Umatilla, and Morrow Counties.	Baker RMP		No The BLM will survey and evaluate only during land disposals or acquisitions.
Upon successful establishment of transplanted wildlife species, specific management plans will be written and incorporated into broader HMPs.	Baker RMP	Not completed due to change in management direction	No Close coordination with State and federal agencies will be incorporated into this RMP whenever there is an interest of introducing transplant species.
Complete inventory of fishery habitat conditions. Improve fish habitat by a combination of projects and livestock grazing management; including adjustments in grazing seasons or systems to protect banks and vegetation, and to reduce soil erosion. Wildlife HMPs will include implementation of specific actions for improvement of important fisheries habitat.	Baker RMP	Ongoing/Current Policy	Yes BLM Manual 6600 provides additional policy on Inventory and Management.

Table 3.4. Special Status Species

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
The new categories for special status species from new Interagency (USFS R6 and BLM WA/OR) list are as follows: Federally listed species under the Endangered Species Act (ESA). Sensitive Species as designated by the State Director. Strategic Species as designated by the State Director. (BLM 2007)	IM # OR-2007-072 BLM Manual 6840	Ongoing/Current Policy	Yes
No action will be taken by the BLM that could jeopardize the continued existence of any federally listed threatened or endangered plant or animal species. The U.S. Fish and Wildlife Service (USFWS) will be consulted regarding actions that affect habitat of these species. State sensitive species will be managed as though they were officially listed pursuant to the ESA of 1973	Baker RMP	Ongoing/Current Policy	Partially National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) must be consulted as well as FWS. Sensitive species management is different from federally listed species management.
Avoid management actions which may result in disturbance and adverse impacts on crucial habitat for threatened, endangered, candidate, state listed and sensitive species. Conduct inventories, determine habitat needs, develop and implement HMP and monitoring on these species.	Baker RMP	Ongoing/Current Policy	Partially Clarify language of decision to coincide with Section 7 of the ESA and BLM Manual 6840 and 6800.
South Fork of the Walla Walla River ACEC			
Plants			
Discourage collection of wildflowers in the area by building public awareness through signing, brochures, public contacts, etc.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Initiate a special botanical study of the area to ensure a complete inventory of species present. Determine if special status plants are present, as well as acquiring baseline data on any special status plants.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.

Table 3.4. Special Status Species

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Complete a management plan for special status plants if necessary.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Establish a monitoring system to measure deviations from baseline data.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Fish			
Work with ODFW to collect baseline data on bull trout and margined sculpins.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Decision needs to be updated to include USFS and Confederated Tribes of the Umatilla Indian Reservation as stakeholders; update list of sensitive fish species present (steelhead, Chinook salmon), and address Confederated Tribes of the Umatilla Indian Reservation introduction of Chinook salmon.
Maintain quality of habitat for margined sculpin and bulltrout in cooperation with ODFW.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Decision needs to be updated to include USFS and Confederated Tribes of the Umatilla Indian Reservation as stakeholders and update list of sensitive fish species present (steelhead, Chinook salmon).
Monitor water temperature through use of USGS gauging station information.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

B. Implementation Decisions

Table 3.4. Special Status Species

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Plants			
Maintain and protect population localities of Haplopappus radiatus under OSO BLM policy for Threatened and Endangered (T&E) candidate species. Continue to identify locations and size of dispersed populations and potential threats to Haplopappus radiatus. Continue to inventory plants listed in Appendix A of the Baker RMP (BLM 1989).	Baker RMP	Ongoing/Current Policy	Partially Decision needs to be revaluated to determine which populations of Haplopappus radiatus are protected, identify other plant species needing protection update sensitive plant species list, and incorporate new information.
Wildlife			
Continue inventories initiated on sage grouse to determine nesting, brood rearing and wintering habitat areas. Maintain and monitor the existing platforms for ferruginous hawks and install new platforms. Inventory suitable habitat for Columbian sharp-tailed grouse. Reintroduce the species in cooperation with ODFW.	Baker RMP	Ongoing/Current Policy However, interest in sharp-tailed grouse has declined	Partially Decision needs to be updated to place more focus on sage-grouse, remove focus on sharp-tailed grouse, and include other wildlife of interest such as bat species and other migratory species that use the area's corridors for seasonal travel and migration
Continue implementation of the cooperative Bald Eagle Management Plan for Unity Reservoir Nesting Bald Eagles. Continue winter and spring inventories on bald eagles, Swainsons, and ferruginous hawks.	Baker RMP	Ongoing/Current Policy	Yes
Develop a HMP for Columbian sharp-tailed grouse introductions in areas where populations become reestablished. Develop a HMP for sage grouse to maintain or enhance breeding, nesting, and wintering areas.	Baker RMP	Not completed for sharp-tailed grouse due to change in management direction. Completed for sage-grouse	No Decision not necessary as no plan is needed for sharp-tail grouse and plan exists for sage-grouse.

Table 3.5. Wildland Fire Ecology and Management

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
Prescribed fire, planned or unplanned ignitions, will be used to meet other resource objectives, for example: to manipulate plant succession, increase habitat diversity, promote nutrient cycling, reduce fuel loads, control insect and disease infestations, control unwanted vegetation/weeds, and to reintroduce fire into a natural role.	Baker RMP	Ongoing/Current Policy	Yes Areas where Wildland Fire Use is desired to meet specific resource objectives need to be identified.
Full suppression will be implemented on fires that threaten high values at risk, such as private property, improvements, and areas with unique and/or special resource values. Modified suppression, through escaped fire analysis, will be implemented on areas with lower values at risk, and which are not covered by prescribed fire plans.	Baker RMP	Ongoing/Current Policy	Yes However, terminology has changed to "Appropriate Management Response."
Prepare and implement prescribed fire burn plans for the Planning Area to meet resource objectives in the RMP. Emphasize reduction of fuels to natural levels and conformance with the State Smoke Management Plan.	Baker RMP	Ongoing/Current Policy	Yes
Firefighter and public safety are the highest priority in every fire management activity.	Vale District FMP	Ongoing/Current Policy	Yes
Use fire to restore and/or sustain ecosystem health based on sound scientific principles and information, balance with other societal goals, including public health and safety, and air quality.	Vale District FMP	Ongoing/Current Policy	Yes Areas where Wildland Fire Use is desired to meet specific resource objectives need to be identified.
Provide an Appropriate Management Response (AMR) on all wildland fires, with emphasis on minimizing suppression costs, considering firefighter and public safety, benefits, and values to be protected consistent with resource objectives, standards and guidelines.	Vale District FMP	Ongoing/Current Policy	Yes

Table 3.5. Wildland Fire Ecology and Management

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Meet management goals and objectives through the use of prescribed fire, mechanical treatment, wildland fire use, chemical treatment, biological treatment, and cultural treatment.	Vale District FMP	Ongoing/Current Policy	Yes Areas where Wildland Fire Use is desired to meet specific resource objectives need to be identified.
Work collaboratively with communities at risk within the Wildland Urban Interface (WUI) to develop plans for reduction.	Vale District FMP	Ongoing/Current Policy	Yes
Work collaboratively with federal, state, and local partners to develop cross boundary management strategies and prioritize cross agency fire management priorities.	Vale District FMP	Ongoing/Current Policy	Yes Agreements with federal, state, and local partners are currently in place.
Allow wildland fire to protect, maintain, and enhance resources. Allow fires to function in its ecological role when appropriate for the site and situation.	Vale District FMP	Ongoing/Current Policy	Yes Areas where Wildland Fire Use is desired to meet specific resource objectives need to be identified.
Employ fire prevention strategies that reduce human ignitions with special emphasis in campgrounds and transportation corridors.	Vale District FMP	Ongoing/Current Policy	Yes
Use fire as a management tool to improve ecological condition of range ecosystems and maintain natural plant community diversity.	Vale District FMP	Ongoing/Current Policy	Yes Areas where Wildland Fire Use is desired to meet specific resource objectives need to be identified.
South Fork Walla Walla River Area of Critical Environmental Concern (ACEC)			
In case of wildland fire, use "light hand on the land" techniques which utilize hand lines, burn outs, and air tankers.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes Add limitations from ESA listed species management memo and MOU

Table 3.5. Wildland Fire Ecology and Management

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
No tractors will be authorized until the Area Manager or designated representative approves.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
No fire salvage will occur unless it meets the goal of ACEC management.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
After a fire, authorize immediate rehabilitation methods such as contour felling. Allow native plants to re-establish.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes However, post burn effects should be determined and specific stabilization and/or rehabilitation projects identified based on need
Study the fire history of the area and apply to the management of the ACEC values through prescribed fire if necessary.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Any prescribed fire will comply with State smoke management requirements.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Prepare and implement prescribed fire burn plans for the Planning Area to meet resource objectives in the RMP. Emphasize reduction of fuels to natural levels and conformance with the State Smoke Management Plan.	Baker RMP	Ongoing/Current Policy	Partially Emphasis statement should be removed as area of emphasis will be dependent on the purpose of the burn
Pending revision of the Elkhorn FMP, all unplanned ignitions will be managed as a wildfire.	Baker RMP	Not Implemented/Change in Management Direction	No Decision is unnecessary: AMR decision above will be adequate.

Table 3.6. Cultural and Paleontological Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Cultural Resources			
A. Management Decisions			
Protect and enhance cultural resources through management of cultural properties for information potential, public values, and conservation in ten management areas identified for high cultural values; including the Snake River National Register District; and sites in the Grande Ronde, Powder River, Keating, Burnt River, and Baker County geographic units.	Baker RMP	Ongoing/Current Policy Some protective measures have been taken and inventories conducted.	Partially Current management direction does not address adaptive management for monitoring, inventory or stabilization needs based upon past or current condition information and projected land uses.
Manage properties in the Snake River National Register District for conservation or information potential. Manage multiple and single component site types representing prehistoric and protohistoric upland/riverine occupation, primarily for information potential. Manage complex multiple component rock shelters and open sites, and the Auburn townsite for conservation or information potential. Historic mining and settlement sites, intact 1860-l 890 mining complexes and engineering features, and the El Dorado Ditch will be managed primarily for information potential and public values. Intact portions of the Oregon Trail will be managed for public values, with restrictions to preserve the historic resource.	Baker RMP	Ongoing/Current Policy	Partially The existing Baker RMP/ROD does not address identification and management for areas of traditional use or importance to Native American Tribes. Consultation with Tribes to identify traditional places of importance occurs only when a project specific undertaking is proposed.
Protect and maintain all National Register or National Register eligible cultural properties; implement cultural RMPs for priority management areas, ACECs and important properties; preserve important cultural properties through protection projects and actions; and evaluate potential areas or districts for National Register eligibility.	Baker RMP	Partially completed A cultural RMP for the Oregon Trail was developed and several measures implemented. No other cultural RMPs have been prepared. No potential areas or districts have been evaluated for National Register eligibility.	Yes

Table 3.6. Cultural and Paleontological Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Comply with federal laws, regulations and Bureau directives for considering the effect on cultural resources of all ground disturbing projects or activities on public land.	Baker RMP	Ongoing/Current Policy	Yes The management direction for most cultural resources is based upon identification and avoidance of sites during implementation of undertakings
South Fork of the Walla Walla River ACEC			
Evaluate the prehistoric property prior to development of projects or recreation management prescriptions for the ACEC area. When evaluation is completed, a specific use allocation will be made by amendment to the ACEC management plan.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented No formal eligibility evaluation of recorded prehistoric properties	Yes
Exclude vehicle use and surface disturbing actions from a one acre area by installing physical barriers (gate and fence) to protect the prehistoric property.	S.F. Walla Walla River Area Plan Amendment	Partially Completed	Partially Current physical and administrative restrictions have stabilized the area and enhanced protection.
Cultural inventories will be implemented immediately upon identification of appreciable improvement in ground surface visibility at locations within the ACEC. Newly acquired lands will be systematically inventoried and evaluated for cultural resource within one year or as soon as possible following the land acquisitions. If important cultural resources are found as a result of further investigations of Bureau lands, or upon acquired lands, the ACEC management plan shall be amended to incorporate management actions needed for the protection and preservation of such properties.	S.F. Walla Walla River Area Plan Amendment	Partially Completed Most of the acquired lands adjacent to the river have been inventoried.	Yes

Table 3.6. Cultural and Paleontological Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
The historic Elbow Creek stone chimney/hearth may be stabilized, interpreted, or adapted for recreation use. Cooperate with public interest groups and residents to implement a plan for preservation and adaptive use of the stone chimney.	S.F. Walla Walla River Area Plan Amendment	Not completed/ implemented	Partially Stabilization is only likely to be feasible if performed by volunteers. Opportunity for interpretation and effects of adaptive use need to be reassessed.
Complete cultural resource inventories of the area prior to development of recreation management plans or projects.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Evaluate all ground disturbing projects for potential impacts to cultural resources.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Archaeological monitoring of projects is required until more comprehensive studies are completed.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Coordinate with the Confederated Tribes of the Umatilla Indian Reservation to develop management objectives for cultural resources within the ACEC.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Prepare and implement a cultural RMP for ten areas with high cultural values; identifying management allocations, protection objectives, monitoring, and protection plans. Allocate cultural resource properties to current and potential scientific uses, management use, sociocultural use, public use (educational, recreational), conservation for future use, and discharged use. As additional data becomes available, identify new areas for cultural resource activity plans, and evaluate sites for nomination to the National Register.	Baker RMP	Partially Completed A cultural RMP for the Oregon Trail was developed, and several measures implemented. No other cultural RMPs have been prepared.	Yes

Table 3.6. Cultural and Paleontological Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Evaluate twelve sites and two potential archaeological districts for eligibility to the National Register of Historic Places.	Baker RMP	Partially Completed Except for the Snake River National Register District, no potential districts have been formally evaluated for National Register eligibility. The Oregon Trail sites have not been evaluated for National Register eligibility.	Yes
Continue information and education programs for protection of cultural resources.	Baker RMP	Ongoing/Current Policy	Yes
Paleontological Resources			
A. Management Decisions			
Paleontological localities will be protected through review of all surface disturbing proposals. Collecting of important vertebrate fossils will be allowed subject to existing restrictions and permitting requirements. Commercial or hobby collection of common fossils will be allowed subject to existing federal regulations.	Baker RMP	Ongoing/Current Policy	Yes Also develop and implement strategies to regularly monitor areas where important paleontological localities are identified
A regional data review and evaluation of the importance of known paleontological resources will be completed. Inventories for paleontological resources will be conducted in connection with individual project proposals. Important paleontological localities will be patrolled periodically to detect unauthorized uses or determine threats to the resource. Evaluation and protection of paleontological resources will be accomplished through coordination with professional paleontologists and the Oregon State Department of Geology and Mineral Industries. Volunteers may be used to assist in monitoring and inventories.	Baker RMP	Ongoing/Current Policy Monitoring is periodic, but infrequent. ORV uses occur in the vicinity of some paleontological localities. A district-wide cooperative agreement exists with the John Day Fossil Beds. Studies in cooperation with professional paleontologists and educational institutions have been conducted.	Partially There is a need to develop and implement strategies to regularly monitor areas where important paleontological localities are identified. Evaluate off road vehicle designations to determine whether or not limitations are needed at important paleontological localities.

Table 3.6. Cultural and Paleontological Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Localities containing vertebrate fossils, and paleontological resources which may provide important scientific information, will receive priority for protection and evaluation; in comparison to common invertebrate or common plant fossil localities which are not ordinarily the focus of protection measures.	Baker RMP	Ongoing/Current Policy	Yes

B. Implementation Decisions

There are currently no implementation decisions for paleontological resources.

Table 3.7. Visual Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
Visual resources in the Planning Area have been classified according to BLM's visual resource management (VRM) criteria. These criteria include scenic quality, visual sensitivity and viewing distance, and have resulted in four VRM classifications which are shown on Map 5 and listed in Table 10. Each classification defines management objectives and the degree of visual change that will be acceptable within a landscape: Class I Primarily for wilderness study areas (WSAs), research natural areas (RNAs), ACECs, outstanding natural areas (ONAs), and Wild and Scenic Rivers. (No projects will be allowed within these areas.) Class II Primarily for areas of high scenic quality. (Any project work within a Class II area cannot be visible to a casual visitor from any travel route.) Class III Primarily for areas considered important from an aesthetic view point. Not necessarily outstanding scenery. (Project work can be seen within a Class III area from travel routes. However, projects cannot be a focal point on the landscape.) Class IV Primarily for general scenic landscapes throughout much of BLM. (Project work within a Class IV area can be a focal point on the landscape to the casual visitor.) Class V Primarily for sites requiring reclamation (landfills, timber cuts, mining operational, etc.).	Baker RMP	Current Policy, except that VRM Class V has been dropped from the VRM classifications since the finalization of the 1989 RMP and the Planning Area base map was altered to accommodate this change.	Yes Reference to Class V needs to be removed
Although no VRM Class I Areas were identified from previous inventories, lands in the McGraw Creek Wilderness Area are managed as VRM Class I lands. Lands within river corridors on the Grande Ronde and Powder Wild and Scenic Rivers will be inventoried and classified appropriately for the protection of high scenic values.	Baker RMP	Class I VRM has been assigned to the designated Wild section of the Grande Ronde River and Wilderness Study Areas	Yes

Table 3.7. Visual Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
VRM Class Inventory Class I: 0 acres 0 % Class II: 151,711 acres 35 % Class III: 75,156 acres 17 % Class IV: 202,887 acres 48 % TOTAL: 429,754 acres 100 %	Baker RMP	Acreage needs updating	Partially Changes in ownership and designations and technology have created the need to review VRM in some areas. Some of the areas once assigned a higher classification might now require a lower rating. Some areas will not require re-evaluation due to protection measures and lack of change
Before the BLM initiates or permits any major surface disturbing activities on public land, an analysis will be completed to determine adverse effects on visual qualities.	Baker RMP	Ongoing/Current Policy	Yes Protection measures for visuals are considered in all activities and projects
Activities that will result in significant, long- term adverse effects in areas of high visual quality such as the Burnt River, Powder River or Snake River (canyons) will not be permitted.	Baker RMP	Ongoing/Current Policy	Yes However, departmental direction could in some cases over rule VRM classifications.
Activities within other areas of high visual quality that may be seen might be permitted if they do not attract the attention or leave long-term visual changes on the land.	Baker RMP	Ongoing/Current Policy	Yes This is accurate with the application of project mitigations to minimize impacts.
Activities in other areas may change the landscape but will be designed to minimize any adverse effects on visual quality.	Baker RMP	Ongoing/Current Policy	Yes
	Grande Ronde ACEC		
The visual resource will be protected within the viewshed corridor along the rivers; only those uses compatible with maintaining visual resource classifications will be allowed.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.7. Visual Resources

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
	Oregon Trail ACEC		
New uses incompatible with maintaining visual qualities or providing public interpretation will be excluded in an l/2 mile corridor.	Baker RMP	Ongoing/Current Policy	Yes
South Fork of the Walla Walla River ACEC			
Ensure that all resource activities meet the requirements of a VRM Class II area.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Each field management action should be proceeded by a VRM contrast rating inventory to assist in determining layout and design. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

B. Implementation Decisions

There are currently no implementation decisions for visual resources.

Table 3.8. Wilderness Characteristics and Cave and Karst

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Wilderness Characteristics			
A. Management and Implementation Decisions			
There are no management or implementation decisions for wilderness characteristics.	N/A	N/A	No
Cave And Karst Resources			
A. Management Decisions			
If significant caves/karsts are identified in the Planning Area, they will be managed in accordance with the Federal Cave Resources Protection Act of 1988. Determination of the significance of caves or karsts discovered will utilize the procedures found in 43 Code of Federal Regulations (CFR) Part 37. Significance is determined based on criteria for biological, cultural, geological, mineralogical, hydrological, recreational, educational, or scientific values, features, or characteristics as defined in 36 CFR, Part 290.3 (c) and (d).	Manual direction	Ongoing/Current Policy	No Not addressed in the old RMP but needs to be incorporated into the new one. Part of manual direction but not specifically targeted
B. Implementation Decisions			
There are currently no implementation decisions for cave and karst resource.			

Table 3.9. Forestry and Woodland Products

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
Harvest approximately 24,000 mbf (thousand board feet) of timber in a 10-year period from a commercial forest land base of 25,353 acres.	Baker RMP	Ongoing, but only partially implemented due to change in management direction	No Forestry management focus on public lands has changed from timber management to managing for forest health and fuels reduction. Having a timber "target" is thus no longer relevant.
Exclude timber harvest on approximately 3,304 acres.	Baker RMP	Ongoing/Current Policy	No This acreage was excluded due to economic non-operability. The timber industry has evolved over the past 20 years and new technologies may exist that make managing these areas feasible. A Decision Area-wide forest inventory is underway which may allow reclassification of operability.
Exclude timber harvest on approximately 673 acres which are within ACECs	Baker RMP	Ongoing, with the possible exception of the Unity ACEC, which is partially included in the Woodtick Village Stewardship Project.	No Excluding forest management in ACECs precludes the ability to respond to poor forest health conditions that may threaten the continued existence of the forest structure that makes the area special.
Adjust intensity of management for timber production on 25,353 acres to accommodate other significant resources.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.9. Forestry and Woodland Products

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Restrict harvest on 3,914 acres to emphasize important wildlife, watershed, riparian, and recreational values.	Baker RMP	Ongoing/Current Policy	Yes
Even-aged management would generally be practiced on the remaining 21,439 acres through the use of clear-cutting or shelter-wood harvest systems.	Baker RMP	Partially implemented Clear-cutting has been used for sanitation/ salvage following fires or insect epidemics. All other silvicultural prescriptions appear to have been thinning/ density management treatments.	No While clear-cutting and shelter-wood are proven methods of forest regeneration, they are rarely the preferred method when attempting to restore the historic range of variability of forests. Clear-cutting could be reserved for situations requiring sanitation or salvage harvest. It is also the appropriate silvicultural system for lodgepole harvest.
Approximately 37,273 acres of woodlands will be managed to produce an estimated lo-year harvest of posts, poles and other woodland products equivalent to approximately 9,800 cords. Activity would be concentrated in areas where cutting would benefit other resources.	Baker RMP	Partially implemented Special forest products (SFPs) have been harvested from woodlands, although not in pursuit of an Allowable Sale Quantity. Much woodland treatment (juniper) has been done by fuels shop with little product utilization.	No SFP sales are unpredictable and attempting to establish a target based on an unpredictable demand is pointless. The current strategy for juniper woodlands is one of forest and rangeland restoration via eradication of encroaching juniper. There is some utilization of this juniper as firewood and posts. In other regions, there is some use for other wood products and as hog fuel in biomass-fired power plants.

Table 3.9. Forestry and Woodland Products

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
About 4,000 acres of suitable woodlands would be excluded from harvest to protect mule deer winter range.	Baker RMP	Ongoing/Current Policy	Partially While it may be important to protect these woodlands for deer winter range, an absence of management may leave this habitat prone to loss from fire or insects and disease.
Joseph Creek ONA/ACEC			
Timber harvest will be excluded on 80 acres.	Baker RMP	Ongoing/Current Policy	Yes Restrict timber harvest to that which is needed to maintain the ACEC characteristics.
Grande Ronde ACEC			
Commercial timber harvest will be restricted to prescriptions that protect or enhance natural, visual, and cultural values.	Baker RMP	Ongoing/Current Policy	Yes May need to be more specific
Keating Riparian RNA/ACEC			
Commercial timber harvest will be excluded in the RNA.	Baker RMP	Not Completed/ Implemented	Yes Needs to be implemented
Commercial timber harvest will be restricted in the ACEC to prescriptions that protect or enhance riparian and wildlife values.	Baker RMP	Ongoing/Current Policy	Yes May need to be more specific
Unity Reservoir Bald Eagle Nest Habitat ACEC			
Firewood cutting, commercial timber harvest, and major development actions will be excluded.	Baker RMP	Not Completed/ Implemented Current WUI project with USFS treating in ACEC	Yes

Table 3.9. Forestry and Woodland Products

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
	Hunt Mountain ACEC		
Timber harvest will be restricted to prescriptions that protect wildlife and sensitive plant habitat.	Baker RMP	Ongoing/Current Policy No timber harvest	Yes
	Oregon Trail ACEC		
Commercial timber harvest is excluded on 5 acres and restricted on 75 acres.	Baker RMP	Ongoing/Current Policy	Yes
	Sheep Mountain ACEC		
Commercial timber harvest will be excluded on 200 acres.	Baker RMP	Ongoing/Current Policy No timber harvest	Yes
	Homestead ACEC		
Commercial timber harvest will be excluded on 600 acres.	Baker RMP	Ongoing/Current Policy No timber harvest	Yes
	South Fork of the Walla Walla River ACEC		
Reduces harvest on 120 acres of BLM timber lands from approximately 15% to approximately 1% to facilitate management for ACEC values.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.9. Forestry and Woodland Products

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Permit limited commercial harvest on the remaining 120 acres when such operations are compatible with maintaining ACEC values. This would amount to recovering the value, as sawlogs or firewood, of trees which need to be removed to preserve the ACEC experience or provide for visitor safety. Available harvest in the area would be reduced by 99%, but yearly timber removal of approximately 2 Mbf (equivalent to about 4 cords) would be permitted.	S.F. Walla Walla River Area Plan Amendment	Not completed due to change in management direction	Unclear
Artificially reforest with either commercial or non-commercial tree species and riparian shrubs to maintain ACEC values.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
If snags or green cull trees, which are important for wildlife, also pose a hazard for human use, consider removing the tree tops (by blasting or cutting) to reduce weight and wind resistance.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Close the area to fuelwood cutting except where prescribed for hazard tree removal.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Forest management activities on any future acquisitions of forestland would be governed by the above guidelines. Commercial activities would either be excluded or limited depending on location and accessibility of the tract.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Develop site specific Forest Management Plans on each of the 20 areas shown on Map 2. Forest Management Plans include a description of the current condition of forest stands within an area, define the desired future condition of those stands, set treatment priorities, and assess the environmental effects of practices which could be used to achieve the desired results. Other significant resources will be identified, and measures for protection or enhancement will be specified.	Baker RMP	Partially implementation with the Draft Lookout Mountain EIS (never finalized).	Partially Forest Management Plans are developed on a site-specific basis and are tied more to watershed boundaries than to the areas identified in the RMP.

Table 3.9. Forestry and Woodland Products

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Forested tracts which are identified in the Forest management Plans as high priority for treatment by timber harvest actions will be selected for five-year and annual timber sale plans. Other short range plans will include areas requiring treatments such as precommercial thinning, prescribed burning, and artificial reforestation. Timber sale contracts will contain provisions to require site preparation measures most likely to result in adequate natural regeneration. Areas with inadequate natural seed sources, or where natural regeneration is insufficient, will be artificially reforested (hand planted). Precommercial thinning and other cultural practices, will be performed, as funding permits, to maintain the allowable cut and to benefit other resources, particularly wildlife and watershed values.	Baker RMP	Partially implementation	Partially Five year and annual sale plans are developed and maintained yearly. Intermittent stand treatments are prescribed and implemented when a need is identified. All forest management activities assure adequate regeneration, including artificial regeneration if required. All forest management activities are performed to improve forest health and do not consider maintaining a future allowable cut.
Areas classified as woodlands which are within a Forest Management Plan boundary will be included in the plan. Management of other woodlands will continue to be custodial until all commercial forest was included in a plan, or unless concerns over a particular woodland area indicated a priority greater than an identified FMP area.	Baker RMP	Not Completed/ Implemented No Forest Management Plans have been completed.	

Table 3.10. Livestock Grazing

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
Continue to authorize grazing permits/leases for approximately 55,000 Animal Unit Months on 374 allotment/lease areas for livestock grazing. The level of authorized grazing will depend on future requirements of the associated resources for the land, including disposal, acreage being grazed and the results of monitoring.	Baker RMP	Ongoing Slight change to number of allotments	Partially Results of rangeland health determinations now also being used to adjust levels of authorized grazing.
All grazeable lands upon which grazing is not currently authorized will be considered for authorization upon receipt of an application.	Baker RMP	Current policy, except for lands acquired since 1989	Partially Apparent conflicts exist within areas that have been identified as no grazing allocated where there are wildlife or fisheries concerns. Also, lands acquired by the BLM since the 1989 RMP are not covered by this decision
Continue to restrict and exclude grazing in areas where the livestock grazing results in significant resource damage.	Baker RMP	Ongoing	Yes
Continue with categorization of all livestock grazing allotments and lease areas. As rangeland conditions and objectives change and other resource uses develop, a shift from one category to another will be considered.	Baker RMP	Category changes were made up to 2000 in the planning updates.	Yes
Allow rangeland users to develop range improvement projects as long as they are consistent with BLM objectives and are subject to environmental analysis and approval by BLM.	Baker RMP	Ongoing	Yes
Protect relict vegetation areas identified by the Natural Resource Conservation Service to preserve these areas. Evaluate each site individually to identify the management necessary for protection. Management action could include fencing or grazing system adjustments.	Baker RMP	Ongoing	Yes

Table 3.10. Livestock Grazing

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Livestock grazing will not be allowed on areas where vegetation manipulation occurs. Livestock will be deferred either by fencing treated areas, or by resting the treated pasture for 2 to 5 growing seasons (that is, if a pasture is rested for 3 growing seasons, cattle use would not be allowed until fall of the third year).	Baker RMP	Ongoing	Partially
	Joseph Creek ONA/ACEC		
Livestock grazing will be restricted through fencing and seasons of use.	Baker RMP	Grazing restrictions occur within the canyon. Uplands are partially leased with ACEC caveat	Partially Needs clarification as current allotment boundaries are awkward to manage. Conditions of ESA consultations also need to be included.
	Keating Riparian RNA/ACEC		
Livestock grazing will be excluded in the RNA.	Baker RMP	Not Completed/ Implemented Grazing has occurred intermittently	Yes Needs to be implemented.
	Powder River Canyon ACEC		
Riparian conditions will be maintained or improved by restricting livestock grazing through seasons of use, numbers, or fencing.	Baker RMP	Not Completed/ Implemented No grazing restrictions	Yes
	Hunt Mountain ACEC		
Livestock grazing will continue to be excluded.	Baker RMP	Not Completed/ Implemented Livestock trespass occurring	Yes Regular trespass monitoring is needed.

Table 3.10. Livestock Grazing

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
	Oregon Trail ACEC		
Livestock grazing will be excluded on 770 acres.	Baker RMP	Ongoing/Current Policy Livestock grazing is excluded at Flagstaff Hill and Echo Meadows. Fencing is in place to exclude livestock grazing at Flagstaff Hill and Echo Meadows	Yes
	South Fork of the Walla Walla River ACEC		
Grazing leases will no longer be issued on BLM lands within the ACEC boundary.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Livestock trailing permits will be considered as long as the trailing period is less than 1 day.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy No livestock is authorized or permitted in the ACEC	Yes
B. Implementation Decisions			
To implement grazing management systems on the 44 Improve (I) category allotments, range improvement projects include vegetative conversion on approximately 21,000 acres, 30 miles of fencing, 50 new spring developments, 10 reservoirs and 10 miles of pipeline.	Baker RMP	Partially completed Current guidance is to avoid specifying a list of future range improvement projects in RMPs.	Partially List of projects turned out to be too ambitious given funding constraints.
Allotment Management Plans are not scheduled for the Maintain (M) and Custodial (C) Category allotments in the Baker Resource Area.	Baker RMP	Ongoing/Current Policy	Yes Allotment Management Plans may include M-Category Allotments in the future, subject to time, funding, and work force, with I allotments still having priority.

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A. Management Decisions			
General Mineral Management			
Encourage and facilitate the development of public land mineral resources by private industry in a manner that satisfies national and local needs; and provides for economically and environmentally sound exploration, extraction, and reclamation practices. Mineral exploration and development can occur concurrently or sequentially with other resource uses.	Baker RMP& The Mining and Mineral Policy Act of 1970	Ongoing/Current Policy	Yes Decision is in accordance with laws and regulations as they are enacted. However, "by private industry" should be removed from decision.
Public lands will remain open and available for mineral exploration and development, unless withdrawal or other administrative action is clearly justified in the national interest.	Baker RMP The mining law of 1872 as amended	Ongoing/Current Policy	Yes
Ensure that mineral resource exploration and development does not cause unnecessary or undue degradation of the public lands.	Baker RMP 43 CFR 3809 Surface Mgmt.	Ongoing/Current Policy	Yes
Process permits, operating plans, leases, mineral patent applications, mineral exchanges, and other mineral use authorizations for public lands in a timely and efficient manner.	Baker RMP	Ongoing, except that Congress placed a moratorium on accepting patent applications.	Partially Congress imposed a moratorium on mineral patents in FY 1995, which is currently in place.
Ensure receipt of fair market value for mineral commodities, unless otherwise provided for by statute.	Baker RMP& 43 CFR 3600 Mineral Material Disposal	Ongoing/Current Policy	Yes
Management direction for specific mineral resource programs is based upon projected mineral exploration and development likely to occur over the next 10 to 15 years, the general mineral resource management objectives, and other resource objectives and allocations.	Baker RMP& 43 CFR 3600 Mineral Material Disposal	Ongoing/Current Policy	Yes

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Oil and Gas Leasing			
Approximately 919,823 acres of federal mineral estate are open for oil and gas leasing with standard protective stipulations (refer to Tables 6 and 7, and Map 12). Of this mineral estate open for leasing, approximately 703,884 acres are open, with standard protective stipulations only: 64,960 acres are open, with an additional summer season stipulation (restricting operations during the period May 15 to June 15); 132,029 acres are open for lease, with an additional winter season stipulation (restricting operations on the lease during the period November 1 to April 15); and 18,950 acres are open for lease, with a "no surface occupancy" stipulation. Approximately 16,531 acres of federal mineral estate are closed to leasing (nondiscretionary).	Baker RMP	Ongoing/Current Policy	Yes However, text should be modified for clarity and acreage needs updating
Geothermal Leasing			
Approximately 919,823 acres of federal mineral estate, of the 936,354 acres within the resource area, are open for leasing with standard and/or special protective stipulations, as will be determined by a site specific environmental analysis completed prior to the issuance of a lease. As a general rule, the same types of restrictions as those shown on Map 12 for oil and gas leasing will apply. However the anticipated small size of lease applications, if any, emphasizes the need for a site specific environmental analysis of the impacts from any proposed developments. Approximately 16,531 acres of federal mineral estate are closed to leasing (non-discretionary).	Baker RMP	Ongoing/Current Policy Acreage needs updating	Yes However, acreage needs updating

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Coal Leasing			
The Planning Area is not in a coal production area and no federal coal leasing will result from this plan. Any potential federal coal leasing will be guided by the federal coal management regulations (43 CFR 3425). Under these regulations, interested parties apply for a coal lease to the BLM Oregon-Washington State Office in Portland. The application area will be studied for acceptability utilizing four planning screens: (1) verification of coal development potential; (2) application of 20 unsuitability criteria; (3) surface owner consultation for split-estate lands; and (4) multiple-use trade-offs involving other resource values compared to coal.	Baker RMP	Ongoing/Current Policy	Yes However, acreage needs updating
Application of these screens would constitute an amendment to this RMP and would be subject to gubernatorial and public review. Areas studied would be designated as acceptable or non-acceptable for further consideration for leasing. Assuming that some areas were found to be acceptable (with or without additional stipulations on mining and reclamation), the applicant maintains interest, and evidence of surface owner consents were provided, then these lands could be offered for competitive lease by the Secretary of the Interior. Any resulting operations must comply with all federal and state laws and regulations dealing with coal mining and reclamation.	Baker RMP	Ongoing/Current Policy	Yes
Locatable Minerals			
An estimated 392,222 acres of public domain and 512,715 acres of split-estate (private surface with federal mineral estate) are presently available for location under the mining laws or Public Law 359. Acreage under power site classifications and withdrawal are only available for location under Public Law 359 filing. An estimated 6,400 acres of public land with privately owned mineral estate could be developed at the discretion of the owner.	Baker RMP 43 CFR 3730 Mining in Powersite Withdrawals	Ongoing/Current Policy	Yes However, acreage needs updating

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A withdrawal from mineral entry under the mining laws on 907.31 acres of mineral estate in the Keating and Oregon Trail geographic units will be pursued, subject to valid existing rights.	Baker RMP	Ongoing/Current Policy	Unclear This is really a lands action not minerals. Minerals only does the mineral report. The same thing can be accomplished with a visual right-of-way (ROW).
Ensure that locatable mineral resource exploration and development does not cause unnecessary or undue degradation of the public lands.	Baker RMP	Ongoing/Current Policy	Yes
Mineral Materials			
Mineral material production will be maximized consistent with demand and protection of other resource values. Mineral material sales and free use permits will be authorized to qualified applicants for removal of common varieties of sand, gravel, stone, and cinders from the existing community pit and other existing quarry sites. New community pits will be developed in response to demand, if compatible with protection of other resource values.	Baker RMP	Ongoing/Current Policy	Yes
	Joseph Creek ONA/ACEC		
A "no surface occupancy" restriction for all gas exploration and development will be applied.	Baker RMP	"No surface occupancy" restrictions noted	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis.

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
	Grande Ronde ACEC		
A "no surface occupancy" restriction will be applied to oil and gas exploration or development.	Baker RMP	'No surface occupancy' noted	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis. Also need to determine if the Washington section of the river was withdrawn from mineral entry.
	Keating Riparian RNA/ACEC		
A withdrawal from mineral entry will be pursued on 185 acres to protect the RNA.	Baker RMP	Not Completed/ Implemented No mineral withdrawal	Yes
	Powder River Canyon ACEC		
A "no surface occupancy" restriction will be applied to mineral leasing and development.	Baker RMP	'No surface occupancy' noted	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis.

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
	Unity Reservoir Bald Eagle Nest Habitat ACEC		
Seasonal restrictions will be applied to oil and gas exploration and development.	Baker RMP	Status Unknown	Yes However, the entire area should not be restricted; the only the areas with active nests should receive seasonal restrictions, and then only in the form of buffers
	Oregon Trail ACEC		
No surface occupancy restrictions will be applied to oil and gas leases and development.	Baker RMP	Completed/Ongoing	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis.
No mineral material development will be allowed.	Baker RMP	Completed/Ongoing	Yes
A withdrawal from mineral entry under the mining laws will be sought for 721.81 acres of public land for Trail sites at Flagstaff Hill, Straw Ranch, and Echo Meadows.	Baker RMP	Partially Completed BLM lands at NHOTIC (Flagstaff Hill) are withdrawn from mineral entry. No mining claims at Straw Ranch; withdrawal not completed	Yes Process withdrawals for Straw Ranch and Echo Meadows. However, the same purpose can be accomplished with a Visual Resource ROW.
Seek relinquishment of current material site ROW on 160 acres at Echo Meadows.	Oregon Trail Mgmt. Plan	Completed	Yes

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Mining Monitoring Plan for Virtue Flat and Lime Mineral Priority Management Areas	Oregon Trail Mgmt. Plan	Routine monitoring of mining operations. No formal plan completed.	No There is no need for a separate plan as action is addressed by routine monitoring of mining operations.
	Sheep Mountain ACEC		
Seasonal restrictions for oil and gas exploration and development will be applied.	Baker RMP	Ongoing/Current Policy Seasonal restrictions for oil and gas noted	Yes However, this is located within a WSA; consequently, there are currently no leases for Oil and Gas and it is highly unlikely that any will be issued in the future.
	Homestead ACEC		
Seasonal restrictions will be applied to oil and gas exploration and development	Baker RMP	Ongoing/Current Policy Seasonal restrictions for oil and gas noted	Yes However, this is located within a WSA; consequently, there are currently no leases for Oil and Gas and it is highly unlikely that any will be issued in the future.
	South Fork of the Walla Walla River ACEC		
All new oil and gas leases subject to standard protective stipulations plus a special "no surface occupancy" stipulation for all public land within the ACEC boundary, presently about 1,256.69 acres, plus an additional 302 acres of private surface with Federal Minerals Estate.	S.F. Walla Walla River Area Plan Amendment	Completed	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis. In addition, acreage needs updating

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Prohibit development of mineral material resources within the ACEC boundary, unless needed on an "emergency basis," to protect ACEC values. This area has no known potential for the occurrence of locatable mineral resources therefore withdrawal from mineral entry under the U.S. Mining laws, as amended, is not proposed.	S.F. Walla Walla River Area Plan Amendment	Completed	Yes
B. Implementation Decisions			
General Mineral Management			
Evaluate proposed withdrawals from mineral entry, according to criteria and procedures outlined in Section 204 of the Federal Land Policy and Management Act (FLPMA), as amended (Public Law 94-579).	Baker RMP	Ongoing/Current Policy	Yes However, withdrawals should only be used when there is no other action that will accomplish the desired outcome
Continue to implement monitoring plans for three WSAs. Prepare additional monitoring plans, contingent on funding, shall be developed on any designated wilderness areas, ACECs and mineral priority management areas.	Baker RMP	Ongoing/Current Policy	Yes However, text should be modified for clarity
Increase monitoring of active mining operations to 2 or more compliance inspections per year, contingent on increased funding.	Baker RMP	Ongoing/Current Policy	Yes However, text should be modified for clarity
Oil and Gas Leasing			
Update the automated oil and gas lease stipulation files to implement leasing decisions. All exploration applications will receive environmental review prior to authorization.	Baker RMP	Ongoing/Current Policy	Yes
Geothermal Leasing			

Table 3.11. Minerals

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Process geothermal lease applications on a case by case basis. Complete a site specific environmental analysis prior to the issuance of a lease.	Baker RMP	Ongoing/Current Policy	Yes
Coal Leasing			
Inventory for coal on BLM tracts having lignite potential, contingent on funding. The coal inventory information should be considered during development of the Grande Ronde Wild and Scenic River Plan and the Grande Ronde and Joseph Creek ACEC management plans.	Baker RMP	Ongoing/Current Policy	Yes However, text should be modified for clarity
Mineral Materials			
Develop site specific mining and reclamation plans for all new pits and quarries. Periodically review mining and reclamation plans on existing pits and quarries.	Baker RMP	Ongoing/Current Policy	Yes
Prepare an overall monitoring plan for mineral material development.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Recreation			
A. Management Decisions			
Provide or enhance recreational opportunities for hunting, fishing, swimming, floating, boating, hiking, and sightseeing.	Baker RMP	Ongoing/Current Policy	Yes However, text needs to be clarified to address recreational activities in general since there are too many to mention
Implement and develop site specific management plans for Special Recreation Management Areas (SRMAs); and the Extensive Recreation Management Area (ERMA) that contains high recreational values	Baker RMP	Ongoing/Current Policy	Partially There is a need to assess the current SRMA and ERMAs for appropriateness as well as reviewing areas for establishing SRMAs, ERMAs or RMZs.
Developed and Dispersed Recreation			
Limit camping to a 14-day stay.	Baker RMP	Ongoing/Current Policy	Yes
Inventory recreation resources.	Baker RMP	Ongoing - Annually	Yes
Develop recreation facilities on identified key parcels of public land.	Baker RMP	Ongoing/Current Policy	Yes
Boating Use Allocation			
Use of the Wallowa, Grande Ronde, and Powder wild and scenic rivers would not impact the Outstandingly Remarkable Resources for which the rivers were designated. These management actions/ directions are based on a monitoring plan that contains "triggering" mechanisms designed to impose a change in management to protect the resources of the rivers when a limit based on the	Wallowa, Grande Ronde, and Powder Rivers Mgmt. Plans	Ongoing/Current Policy	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Limits of Acceptable Change inventory process is reached. The implementation of these "triggered" management actions is not designed to permanently limit or impact the use of the resources, but is designed to find the point at which the maximum amount of use that the resource can sustain without permanent negative impacts. Some of the actions that could be imposed for a period of time could then later be lifted if the resource "healed" and could once again sustain an increase in use pressure. Mandatory fire-pans and toilet systems, as well as a mandatory permit requirement and party size limitation, were imposed.			
The use of motorized watercraft through the designated "Wild" sections of the Wallowa and Grande Ronde rivers is prohibited.	Wallowa, Grande Ronde, and Powder Rivers Mgmt. Plans	Accomplished by BLM, USFS, and Oregon State Marine Board	Yes However, text need to be clarified since the 10-mile section of the Wallowa river is "OPEN" to motorized use.
Motorized Recreation			
BLM-managed lands are designated as either "Open," "Limited," or "Closed" to motorized use through all BLM RMP efforts. These designations are defined by the BLM's National off-highway vehicle (OHV) Strategy (2000) as: Open: The BLM designates areas as "open" for intensive ORV use where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.	Baker RMP BLM Manual Descriptions CFRs	Ongoing/Current Policy	No Designations are not appropriate for resource concerns or the amount of use that has developed over the years

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Limited: The agency designates areas as "limited" where it must restrict ORV use in order to meet specific resource management objectives. These limitations may include: restricting the number or types of vehicles; limiting the time or season of use; permitted or licensed use only; limiting use to existing roads and trails; and limiting use to designated roads and trails. The BLM may place other limitations, as necessary, to protect resources, particularly in areas that motorized OHV enthusiasts use intensely or where they participate in competitive events. It is important to note that many acres of public lands designated open, limited to designated roads and trails, or limited to designated roads may not be available to the general public because access is dependent upon permission granted by an adjacent landowner. Closed: The BLM designates areas as "closed" if closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce use conflicts. These designations are incorporated in the BLM's 8340 Manual (issued May 25, 1982) which provides land managers with general guidance in managing ORVs on public lands.			
Special Recreation Permits			
No actions or management of Special Recreation Permits (SRPs) are specifically identified for the Planning Area. Existing BLM policy includes the following criteria for issuing SRPs: Type of public service to be provided by the permittee or applicant and consistency with management goals and objectives. Ability of that person to provide the service and make a business profit Safety of commercial customers. BLM workload in administering and monitoring permits. Other ramifications of that decision.	BLM Manual	Ongoing/Current Policy	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
General decisions to issue SRPs are on a case by case basis.	BLM Manual	Ongoing/Current Policy	Yes
Dispersed Recreation Management			
Dispersed Recreation use is not specifically identified in the 1989 RMP and has been largely unrestricted and unmanaged in most of the Decision Area. The BLM manages dispersed recreation in the form of primitive camping areas, day use areas, interpretive sites, as well as the network of trails that developed over time with the "open" classification for OHV use.	Baker RMP	Ongoing/Current Policy	Yes
Commercial, Competitive and Organized Group Recreation Uses			
Requests for SRPs are processed on a first-come, first-served basis.	BLM Manual	Ongoing/Current Policy	Yes
Before events are permitted, National Environmental Policy Act (NEPA) analysis is conducted, taking into consideration the nature of the event, potential impacts on resources, conflicts with other events, and potential impacts on the quality of other visitors' experience.	BLM Manual	Ongoing/Current Policy	Yes
The objective of the permitting system is to satisfy recreational user demands within allowable use levels in an equitable, safe, and enjoyable manner while minimizing adverse resource impacts and user conflicts.	BLM Manual	Ongoing/Current Policy	Yes
Five-year permits are commonly issued for events that do not require significant changes from one year to the next.	BLM Manual	Ongoing/Current Policy	Yes
Outfitter guide permits are currently handled on a statewide basis with little or no coordination.	BLM Manual	Ongoing/Current Policy	Yes
Recreation fees, including cost recovery for large events, are collected and managed under the Federal Lands Recreation Enhancement Act (FLREA).	FLREA	Ongoing/Current Policy	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Plan Objectives and Management Decisions			
The Baker Resource Area Management Plan addresses recreation management with objectives and decisions promoting recreation use and development as that use warrants. This is all done in conjunction with information/education efforts to make the users aware of the natural resources in the resource area along with the role the BLM plays in managing resources. BLM kiosks and/or interpretive panels conveying such information have been installed at numerous locations throughout the resource area, primarily in areas of high use or special status. For example, along the Snake River Reservoirs, Virtue Flat OHV Play Area, and the Wild and Scenic River Systems. Information, brochures, and maps are distributed from the front desk, the Vale District web-site, other state/federal agencies and local visitor centers.	Baker RMP and Subsequent Mgmt. Guidance	Ongoing/Current Policy	Yes
Specific actions taken to date include primitive campground facilities at Bassar Diggins, Mud Creek, and Palmer Junction. Developed or semi-developed sites have been constructed along the Snake River Reservoirs (Brownlee, Oxbow, and Hells Canyon) which include boat ramps, tables, fire rings, vehicle and tent camping depending on the amenities of the site. In addition, staging areas for OHV use have also been developed at the South Fork of the Walla Walla River (for class I OHVs) and the Virtue Flat OHV Play Area (for all classes of OHVs). Several SRPs for guided hunting, fishing, hiking, archery shooting events, and horseback tours have been granted over the years throughout the Planning Area with the primary permits being hunting and fishing. Several easements/ROWs have been acquired at different locations within the Planning Area	Baker RMP	Ongoing/Current Policy	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
to ensure access to recreational areas for the general public. The general guidance for the recreational use in the Resource Area is to provide as many recreation opportunities as possible without undue environmental degradation to those resources. Efforts to ensure the safety of the recreational users to public lands are an ongoing endeavor with specific actions including identifying and mitigating potential hazards.			
OHV Management			
The BLM uses the land use planning process to make OHV designations, including road and trail designations and re-designations. All public lands within the Planning Area must be designated as "open," "limited," or "closed" to OHVs. Open designations are used only in limited areas that have been selected for intensive OHV use, where there are no compelling resource protection needs, user conflicts, or public safety issues that warrant limiting cross-country vehicle travel.	Baker RMP	Ongoing	No Contrary with current OHV management and will need to change under the national direction via the new RMP
Most of the planning area is classified as "Open" or "Limited" to existing or designated routes. Areas designated as closed to OHV use include WSAs, wild sections of Wild and Scenic Rivers, designated wilderness, and Oregon Trail Geographic Units, as well as some areas with significant resource needs. At a minimum, the OHV designations for WSAs must be limited to ways and trails that were in existence at the time of inventory. OHV use is limited in special areas such as ACEC, Wild and Scenic Rivers, WSA, with some additional limitations within the Geographic Units of planning area. Approximately 287,611 acres are designated as "Open", 138,042 acres as "Limited" and 3,594 acres are identified as "Closed" from the 1989 RMP.			

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Ensure the use of ORVs on public lands is in accordance with the authority and requirements of Executive Orders 11644 and 11989 and regulations contained in 43 CFR 8340.	Baker RMP BLM Manual	Ongoing/Current Policy	Yes
Approximately 287,611 acres of public land are designated as "open" to ORV use.	Baker RMP	Ongoing, but contrary with current OHV management.	No The acreage totals have changed due to land disposals and acquisitions.
ORV use is designated as "limited" on 138,042 acres of public land. Vehicle travel is restricted in the following areas to existing road and trails, year long: West Fork Burnt River (Map 5)-560 acres. Denny Flat (Map 5) - 1,260 acres. Burnt River Canyon (Map 5)44,340 acres Lookout Mountain/Soda Lake (Map 5)-34,850 acres Virtue Flat (Map 5)-3,560 acres South Virtue Flat (Map 5)-700 acres McGraw Creek/Homestead/Sheep Mountain (Map 5)-24,059 acres Powder River Canyon (Map 5)-6,230 acres Deer Creek (Halfway) (Map 5)-3,460 acres Joseph Creek (Map 6)-3,210 acres Grande Ronde River (Map 6)-9,715 Keating Riparian (Map 6)-2,173 acres Unity Reservoir Bald Eagle Habitat (Map 6)-200 acres Hunt Mountain (Map 6)-2,230 acres Oregon Trail (Map 6)-l ,495 acres	Baker RMP	Ongoing/Current Policy	Yes, However, acreage needs updating

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
ORV use is designated "closed" on 3,594 acres of public lands. Public lands (507 acres) at the proposed National Historic Oregon Trail Interpretive Center (NHOTIC) area have been previously designated as "closed" to vehicle use except for administrative and approved uses. Vehicle travel will not be allowed in the following areas, to protect unique natural values and riparian habitat, and to minimize soil erosion: Grande Ronde River (Map 6)-3,444 acres Joseph Creek (Map 6)-l 50 acres	Baker RMP	Ongoing/Current Policy Acreage needs updating	No Acreages and boundaries have changed and need to be reassessed due to acquisitions within special areas
ORV use in WSAs is guided by the Bureau's "Interim Management Policy and Guidelines for Lands Under Wilderness Review." Areas designated as wilderness through legislation would have ORV use restricted by the specific legislation and/or Bureau's "Wilderness Management Policy."	Baker RMP	Ongoing/Current Policy	Yes
	Joseph Creek ONA/ACEC		
Land immediately adjacent to Joseph Creek will be closed to ORV use (150 acres); remaining lands will be limited to designated roads for ORV use.	Baker RMP	Not Completed/ Implemented The 150 acres have not been officially closed to OHV use.	Yes Needs to be implemented
Recreational use would be limited to fishing, hiking, and observational activities along Joseph Creek. Camping locations will be restricted to protect riparian habitat.	Baker RMP	Not Completed/ Implemented Limitations on recreation use have not been applied.	Yes However, text needs to be clarified (limit to low-impact recreational use).
	Grande Ronde ACEC		
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
		Keating Riparian RNA/ACEC	
Camping will be excluded in the RNA.	Baker RMP	Not Completed/ Implemented Grazing has occurred intermittently	Yes Needs to be implemented
Recreational use in the RNA will be limited to observational activities.	Baker RMP	Not Completed/ Implemented Recreational use not limited	Yes Needs to be implemented
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented
		Powder River Canyon ACEC	
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented
		Unity Reservoir Bald Eagle Nest Habitat ACEC	
ORV use will be limited to designated roads and trails and seasonal road closure restrictions will be applied.	Baker RMP	Not Completed/ Implemented	Yes Needs to be implemented
		Hunt Mountain ACEC	
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
	Oregon Trail ACEC		
ORV use will be limited to designated roads and trails.	Baker RMP	Partially Completed Roads and Trails not designated, mapped, or signed. ORV use is restricted by fencing at Echo Meadows and Flagstaff Hill.	Yes
Prohibit hunting at Flagstaff Hill	Oregon Trail Mgmt. Plan	Ongoing/Current Policy	Yes
	Sheep Mountain ACEC		
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented
	Homestead ACEC		
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented
	South Fork of the Walla Walla River ACEC		
Do not maintain or repair Bridges #2, #3, #4 on the South Fork of the Walla Walla River.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Maintain the first bridge for public and all vehicle use.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
No camping will be permitted on BLM lands, until such time we can provide for it, so it's consistent with ACEC management.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy No camping at trailhead, federal register issued	Yes
Close the river corridor from the cattleguard to the gate/barricade to discharge of firearms.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Establish law enforcement program to enforce the ORV designation, camping and shooting prohibition. This law enforcement effort would be in cooperation with the Umatilla County Sheriff, Oregon State Police and Umatilla National Forest.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy BLM law enforcement covers area	Yes
Establish a facilities maintenance program in cooperation with Umatilla County Parks Commission, ODFW, and Wildlife and the Umatilla National Forest.	S.F. Walla Walla River Area Plan Amendment	Partially Completed Agreement made with Umatilla National Forest for maintenance of trailhead	Yes
Short-term Recreation Management			
Remove the 4th bridge.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Construct a gate/barricade to facilitate this limited access between the stream gauging station and Bridge #2.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Continue to allow OHVs, equestrians, mountain bikes and hikers to use the remaining bridges until their removal.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Work with the Umatilla National Forest to amend ROW ORE 017223 and to repair and/or modify the trail on the North side of the river to provide access for OHVs, equestrians, mountain bikes and hikers.	S.F. Walla Walla River Area Plan Amendment	Partially Completed USFS ROW was maintained. The USFS no longer authorized OHV use due to trail design limitations/trail still needs to be improved for Class 1 OHV use	Partially However, USFS intentions need to be clarified in this decision
Upon completion of the preceding action, remove bridges #2 and #3.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Monitor remaining bridges safety and structural integrity annually until removed.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy Only Bridge 1 remains, it is maintained consistent with BLM standards	Yes
Long-term Recreation Management (after all bridges have been removed)			
Provide access to OHVs, equestrians, mountain bikes and hikers on the trail on the north side of the river and on the existing road where it's on the north side of the river.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes However, this decision needs to be assessed and BLM's intent clarified
Construct a gate on the Elbow Creek road before it intersects the South Fork of the Walla Walla River road to limit access.	S.F. Walla Walla River Area Plan Amendment	Completed But needs maintenance	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
B. Implementation Decisions			
The lower segment of the Grande Ronde River from the Oregon-Washington State line to the Snake River, and portions of the Snake River and Joseph Creek, have been identified by the National Park Service (NPS) in its Nationwide Rivers inventory as suitable for study for wild and scenic values. The BLM recommends that these rivers be established as study rivers under Section 5(a) of the Wild and Scenic Rivers Act. Following establishment, BLM recommends that a study be authorized and completed to determine the suitability of these streams for inclusion in the National Wild and Scenic Rivers System. Should the study indicate the rivers, or segments thereof, to be suitable, Congress may designate them as wild, scenic or recreations rivers as appropriate.	Baker RMP and River Mgmt. Plans	Ongoing/Current Policy	Yes Incorporate findings of the Eligibility report
A 33-mile segment of the Snake River, from the USFS boundary to Asotin, Washington, is a Section 5(a) Study River under the Wild and Scenic Rivers Act. The study for this river segment was completed by the NPS and submitted to Congress on April 26, 1985.	Baker RMP	Ongoing/Current Policy	Unknown Needs to be determined via USFS contacts
Provide interim protection of the natural character of BLM lands along these rivers, pending determination of the rivers' suitability for designation.	Baker RMP	Ongoing/Current Policy	Yes Implemented at the time of "eligibility" determination
Continue cooperative management of the Wallowa and Grande Ronde rivers with the USFS. The BLM will have an active role in managing public lands along the river from a few miles upstream of Wildcat Creek to the confluence of the Snake River.	Baker RMP and Wallowa and Grande Ronde River Plan	Ongoing/Current Policy	Yes
Recreation Area Management Plans will be developed or implemented for SRMAs, and thirteen recreation areas within the Baker ERMA (refer to Map 5). Continue implementation of the Oregon Trail management plan. Designated management areas and the primary associated recreational attractions are:	Baker RMP	Partially Completed Plans completed include South Fork of the Walla Walla ACEC, Virtue Flat RAMP (pending), Grande Ronde River (Oregon and Washington), Powder River, Oregon Trail Interpretive Center.	Partially Need to determine if need for specific plan development is still necessary or required for all areas.

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
SRMAs Oregon Trail-National Historic Trail Grande Ronde River- National Wild & Scenic Study River in Washington National Wild & Scenic River (Oregon Segment) Powder River-National Wild & Scenic River Baker Resource Area ERMA Spring Recreation Site-Campground, water base facility S.F. Walla Walla-Campsite, water base facility Bassar Diggins-Campsite, trail head Snake River Breaks			
Burnt River-Fishing, Hunting -Water base Sheep Mtn.-Hunting, Sightseeing - Primitive setting Homestead-Hunting, Sightseeing - Primitive setting Lookout Mtn.-Hunting, Sightseeing - Primitive setting Virtue Flat-ORVs Denny Flat-ORVs Snake River Breaks-Hunting, Sightseeing - Primitive setting John Day River-Fishing, Hunting - Water base Brownlee Reservoir-Fishing -Water base Hells Canyon Reservoir-Fishing - Water base			
OHV Management			
All public lands in the Planning Area are designated as identified by this Record of Decision; and publication of the designation order in the Federal Register.	Baker RMP	Ongoing/Current Policy	Partially Need to incorporate new national OHV directions into RMP development
Install ORV designation signs in areas that have high potential for unauthorized use.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Facilities			
A. Management Decisions			
Facilities are developed and maintained as needed or as funding becomes available.	Baker RMP	Ongoing/Current Policy	Yes
Facilities are planned, designed, constructed, operated, and maintained so as to protect public safety, provide user safety, protect the environment, conserve and protect the resources, and enhance the productivity and use of the public lands	Baker RMP	Ongoing/Current Policy	Yes
	Oregon Trail ACEC		
No campgrounds will be developed within l/4 mile of the Oregon Trail in the ACEC.	Baker RMP	Ongoing/Current Policy	Yes
Mark and sign Oregon Trail	Oregon Trail Mgmt. Plan	Ongoing/Current Policy The route on public land has been marked.	Yes
Develop day use interpretive facilities on public land at Flagstaff Hill, Echo Meadows, and California Gulch	Oregon Trail Mgmt. Plan	Partially Completed Facilities are in place at NHOTIC (Flagstaff Hill) and Echo Meadows but not California Gulch	Partially No day use facility was developed specifically on BLM lands at California Gulch because the USFS developed an interpretive facility at the adjacent Blue Mountain segment.

Table 3.12. Recreation and Facilities

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
South Fork of the Walla Walla River ACEC			
From the road intersection with the western BLM boundary (at the cattleguard) to the gate/barricade, develop intensive recreational facilities such as parking areas, restrooms and trailhead/staging area and information center about the ACEC. These developments should occur within the currently disturbed areas. They should have minimal impacts to the existing riparian vegetation.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
From the gate/barricade to the intersection of the eastern/north eastern BLM boundary and the road, permit limited recreational facilities, (restrooms and trails), while emphasizing protection of the ACEC values.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Establish a facilities maintenance program in cooperation with Umatilla County Parks Commission, ODFW, and Wildlife and the Umatilla National Forest.	S.F. Walla Walla River Area Plan Amendment	Partially Completed Agreement made with Umatilla National Forest for maintenance of trailhead	Partially This has changed some need assessment and corrections. ODFW should be removed from the list

B. Implementation Decisions

There are currently no implementation decisions for facilities.

Table 3.13. Renewable Energy

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
A. Management Decisions			
The BLM initiated the preparation of a PEIS in October 2003 to address the impacts of the future development of wind energy resources on public lands. The Programmatic EIS also addressed the establishment of policies and best management practices (BMPs) as mitigation measures for potential environmental impacts and addressed the amendment of individual BLM land use plans. The 1989 Baker RMP was not amended by the PEIS; however, the Baker Office follows the policy BMPs that are outlined in BLM IM Washington Office (WO) - 2006-216. This IM was written in response to the Record of Decision from the Wind Energy PEIS and the policy, consistent with the National Energy Policy of 2001 and the Energy Policy Act of 2005, is to encourage development of wind energy in acceptable areas. The BLM also has direction and guidance for issuing ROWs for the development of other renewable resources such as solar energy systems. To date, there have been no applications for solar or other renewable in the Baker Field Office other than wind.	Wind Energy PEIS IM WO-2006-216	Ongoing/Current Policy	Yes
B. Implementation Decisions There are currently no implementation decisions for renewable energy.			

Table 3.14. Transportation and Access

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Transportation			
A. Management Decisions			
	Powder River Canyon ACEC		
Incompatible uses, including new road development, within the canyon and adjacent upland will be excluded to protect natural and cultural values.	Baker RMP	Ongoing/Current Policy	Yes
Unity Reservoir Bald Eagle Nest Habitat ACEC			
No new roads will be developed.	Baker RMP	Status Unknown	Yes
	Oregon Trail ACEC		
No new road access will be developed.	Baker RMP	Ongoing/Current Policy	Yes
B. Implementation Decisions			
There are currently no implementation decisions for transportation.			
Access			
A. Management Decisions			
Acquire additional legal access as required to meet management objectives. Negotiated purchase of an agreement is the preferred method to acquire needed access. Generally acquire permanent access to lands within land tenure Zone 1. Acquire the minimum rights needed, for public and administrative access and ROW width, to meet management objectives.	Baker RMP	Ongoing/Current Policy	Partially Acquisition of road or trail easements are probably the most frequently encountered access needs, including road, scenic or conservation, sign location, stream clearance projects, utility, hunting/fishing, and range improvements easements. Identified lands in Zone 1 may not still meet current management objectives.
B. Implementation Decisions			
Specific access needs will be identified during the preparation of resource activity plans and the area transportation plan. Activity plans will address the desired level of rights needed (public vs. administrative) and the desired location of access routes.	Baker RMP	Ongoing/Current Policy	Partially The BLM cannot effectively administer public lands without legal and physical access.

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Utility Corridors and Communication Sites			
A. Management Decisions			
All utility/transportation corridors identified by the Western Regional Corridor Study are currently occupied and will be designated without further review. Corridor widths vary depending on the number of parallel facilities, but are a minimum of 2,000 feet (1,000 feet either side of existing centerlines, unless adjacent to exclusion/avoidance areas described below). Applicants will be encouraged to locate new facilities (including communication sites) adjacent to existing facilities and sites to the extent technically and economically feasible.	Baker RMP	Ongoing/Current Policy	Partially Corridor widths need to be evaluated.
Public lands are available for local ROWs, including multiple use and single use utility/ transportation corridors following existing routes, communication sites and roads, unless within the exclusion/ avoidance areas described below. ROW exclusion areas: Wilderness Areas Wild river segments ROW avoidance areas: WSAs ACECs Scenic and recreation river segments	Baker RMP	Ongoing/Current Policy	Partially Need to include VRM Class I & II avoidance/exclusion areas and any special management areas not already addressed in RMP.
All ROW applications should follow existing corridors where practical and will avoid proliferation of separate ROWs.	Baker RMP	Ongoing/Current Policy	Yes
	Oregon Trail ACEC		
ROWs will avoid the Oregon Trail.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
South Fork of the Walla Walla River ACEC			
ROW grants and renewals shall be limited to the area necessary for operation and maintenance will consider the protection of public safety and ensure any use authorized shall be consistent with the ACEC values as designated.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy USFS ROW for trail on the north side of the river is maintained. Boise Cascade (Forest Capital) retains ROW from Harris Park to Elbow Creek. Authorization for land owner access issued; limited yearly access through casual use if criteria are met.	Yes
B. Implementation Decisions			
Prior to granting or renewing a ROW, the applicant must submit plans, maps or other information related to the use of the proposal for evaluation by the BLM. Each ROW shall be limited to the area necessary for operation and maintenance, will consider the protection of public safety and ensure the use authorized will do no unnecessary damage to the environment.	Baker RMP	Ongoing/Current Policy	Partially The BLM currently has ROW applications in for major power lines/ gas pipelines/wind energy projects, and there are routing conflicts with ACECs/Oregon Trail, etc.
Each ROW shall contain terms and conditions requiring compliance with environmental quality standards applicable to Federal or State law. Such terms and conditions are intended to provide efficient management of the lands subject to the ROW and to protect the interest of individuals living in the area as well as the public interest in the Federal lands.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Land Tenure			
A. Management Decisions			
Lands in the Planning Area have been placed into two land tenure classification zones. Refer to Map 7 for mapping of zones under this plan. The zones categorize the public lands for potential land tenure adjustments. Zone 1: Retention/Acquisition Zone. A total of 409,153 acres are in this zone. These are lands that best serve the management missions of the BLM and have higher public values; including multiple use, management efficiency and public access to resources; or that have national, statewide or regional resource values. For example, lands that have significant values for threatened or endangered species, cultural resource sites, wildlife habitat, timber resources, riparian zones, recreation resources or mineral production were placed in this zone. Lands within Wild and Scenic River boundaries, wilderness areas, WSAs, ACECs, ONAs and RNAs will be retained in public ownership. In the remainder of Zone 1 no land sales or desert land entries will occur, however, the following actions will be permitted where disposal of the tract will serve an important public objective. They are, in order of preference: BLM/Other Federal agency jurisdictional transfers Transfers to State and local agencies (Recreation and Public Purpose [R&PP] and other actions) State exchanges Private exchanges to acquire other Zone 1 lands that would enhance resource management or improve public service. Emphasize acquisitions through donation, exchange or purchase to increase public land holdings in these areas.	Baker RMP	Ongoing/Current Policy	Partially Text needs to be clarified. Adding another zone for lands that generally have low or unknown resource values should be considered. This land is potentially suitable for disposal by such methods as public agency jurisdictional transfers, or state indemnity selection (state in lieu selection), or R&PP lease or patent, exchange or sale unless significant other issues with resource values are identified. Acquisition for the benefit of another Federal agency must be shown to be in the public interest. The values of acquisition must outweigh the values of the disposal: Acquisition of public lands to be managed by the BLM will meet program objectives for management for recreation resources, wilderness, cultural resources, wildlife habitat, riparian or wetland areas, or threatened or endangered species; the exchange will result in better Federal land management; where possible, the exchange will provide access to public lands.

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Zone 2: Disposal Zone. A total of 20,601.42 acres are in this zone. These are lands that are inefficient to manage because of their small size or isolated location, or that have no known or lower resource values. These lands appear to meet the disposal criteria cited in section 203 (a) of FLPMA. These lands will be available for disposal actions pending a site-specific environmental analysis. If the site-specific analysis determines that national, statewide or regional resource values exist, the land will be placed in Zone 1 for future management. The preferred order for disposal actions is: 1. BLM/Other Federal agency jurisdictional transfers 2. Transfers to State and local agencies (R&PP and other actions) 3. State exchanges 4. Private exchanges to acquire lands in Zone 1 that would enhance resource management programs or improve public service. 5. Public sales 6. Desert land entries			In determining which public lands should be retained by the BLM and which lands require further study to determine their suitability for retention or transfer, it should be considered whether the lands are being actively managed by the BLM and are of importance to current or future resource management programs. The location of the public lands in relationship to local communities should also be considered.
This plan utilizes certain criteria for categorizing public land for retention or disposal, and for identifying acquisition priorities. This list is not considered all inclusive, but represents the major factors evaluated. They include: Public resource values that will benefit an enhance the range management, wildlife habitat, watershed, recreation, forestry, mineral, cultural resource, endangered, threatened, or sensitive plant and animal, and wilderness programs; Access to public lands should be enhanced by acquiring key tracts or easements that would assure the public legal access to blocks of public lands. Improved access will generally increase recreational use in areas where an intermingled ownership pattern now restricts public use;	Baker RMP	Ongoing/Current Policy	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Amount of public monetary investments in facilities or improvements on public land and the potential for recovering those investments; Difficulty or costs in time and money in the effective managerial administration of the lands; Suitability or desirability of the land for management by another governmental agency; Significance of any subsequent land use decisions in stabilizing, enhancing, or hindering existing or potential businesses, social and economic conditions, and/or lifestyles;			
Need for future mineral development; Encumbrances on the land, including, but not limited to, R&PPs and small tract leases and other leases and permits, ROWs, and withdrawals; Consistency of the decision with cooperative agreements and officially approved or adopted plans, programs or policies of other agencies; Suitability and need for change in land ownership or use for purposes including, but not limited to, community expansion or economic development, such as residential, commercial, industrial, or agricultural (other than grazing) development; and State and local governmental requests and recommendations for retention or disposal of BLM administered public land.			
Exchanges			
■ Exchanges of public land are conducted under Section 206 of FLPMA which requires that: ■ A determination that the public interest will be well served by making an exchange. ■ Lands to be exchanged are located in the same state. ■ Exchanges must be for equal value, although under certain conditions, the lands or interests in lands may be approximately equal value or cash payments to equalize values may be waived. ■ Make exchanges only when they will enhance public resource values and only when they improve land patterns and management capabilities of both private and public lands within the Planning Area by consolidating ownership and reducing the potential for conflicting land use.	Baker RMP	Ongoing/Current Policy	Partially The determination of suitability of lands for exchanges should be done in a site-specific environmental assessment. To be in conformance with the Plan, an exchange must be shown to be in the public interest and meet the disposal criteria: Lands selected for disposal must be suitable for disposal under criteria established by policy, law, or regulation: No mining claims or record under section 314 of FLPMA Lands not encumbered by a withdrawal or other special designation Lands with no known cultural resources sites suitable for National Register

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
			designation Lands which, because of their location or other characteristics, are difficult or uneconomic to manage as part of the public lands Land not suitable for management by another Federal department or agency Lands not flood areas or do contain wetlands that preclude disposal.
■ Evaluate all exchange and other land acquisition proposals to determine if the acquired lands will: ■ Facilitate access to areas retained for long term public use. ■ Enhance congressionally designated areas, rivers or trails. ■ Be primarily in the Retention Zone. Acquisition in the ■ Disposal Zone will only be considered if the action leads to and/or facilitates long term needs or program objectives. ■ Facilitate national, state and local BLM priorities or mission statement needs. ■ Stabilize or enhance local economics or values. ■ Meet long term public land management goals as opposed to short term. ■ Be of sufficient size to improve use of adjoining lands, or resource management programs or improve public service. ■ Allow more diverse use, more intensive use, or a change in uses to better fulfill the Bureau's mission.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
■ Maintain or enhance important and recognized public land values. Especially noteworthy are identified, designated, special or high interest value areas. ■ Enhance the opportunity for new or emerging public land uses or values. ■ Contribute to a wide spectrum of uses or large number of public land users. ■ Facilitate management practices, uses, scale of operations or degrees of management intensity that are viable under economic program efficiency standards. ■ Secure for the public significant water related land interests. These interests will include lake shore, river front, stream, pond, or spring sites.			
Sales			
Public land to be sold must meet one or more of the criteria cited in Section 203 (a) of FLPMA: (1) such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another Federal department or agency; or (2) such tract was acquired for a specific purpose and the tract is no longer required for that or any other Federal purpose; or (3) disposal of such tract will serve important public objectives, including but not limited to, expansion of communities	Baker RMP	Ongoing/Current Policy	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would serve by maintaining such tract in Federal ownership.			
Sell public land when the following criteria are met: (1) it is required by national policy; (2) it will achieve disposal objectives on a timely basis and where disposal through exchange would cause unacceptable delays; or (3) it is determined that disposal through exchange is not feasible.	Baker RMP	Ongoing/Current Policy	Yes
The preferred method of selling public land is by competitive bidding at public auction to qualified purchasers. However, modified competitive bidding procedures may be used when there is not legal public access to a tract, when necessary to avoid jeopardizing an existing use on adjacent land, or to avoid dislocation of existing public land users.	Baker RMP	Ongoing/Current Policy	Yes
Public land may be sold by direct sale when: Such land is needed by state or local governments; or Direct sale is needed to protect equities arising from authorized use; or Direct sale is needed to protect equities resulting from inadvertent, unauthorized use that was caused by surveying errors or title defects; or There is only one adjacent landowner and no legal public access.	Baker RMP	Ongoing/Current Policy	Yes
No public land will be sold for less than fair market value.	Baker RMP	Ongoing/Current Policy	Yes
	Grande Ronde ACEC		
Adjacent lands or inholdings may be acquired to enhance wildlife habitat, cultural resources, and recreational opportunities.	Baker RMP	Partially Completed 7321 acres acquired	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
		Powder River Canyon ACEC	
Adjacent lands or inholdings may be acquired to protect identified values.	Baker RMP	Not Completed/ Implemented	Yes
		Oregon Trail ACEC	
Adjacent lands, or lands in the Oregon Trail geographic unit, may be acquired to protect intact segments of the Oregon National Historic Trail; these lands would be incorporated into the ACEC, and the same special management prescriptions or restrictions will be applied	Baker RMP	Ongoing/Current Policy Private land in holdings were acquired at Flagstaff Hill.	Yes Acquisition of easements would be from willing property owners only
Acquire lands or access easements to enhance opportunities for public use of the Oregon Trail. Emphasize acquisition of intact Oregon Trail remnants on private lands within Virtue Flat, California Gulch, Flagstaff Hill and other locations.	Oregon Trail Mgmt. Plan	Partially Completed Easements or acquisitions have occurred at Flagstaff Hill and Echo Meadows.	Yes Acquisition of easements would be from willing property owners only
		Sheep Mountain ACEC	
Adjacent lands or inholdings may be acquired to benefit bald eagle habitat.	Baker RMP	Ongoing/Current Policy No acquisitions thus far	Yes
		South Fork of the Walla Walla River ACEC	
Seek to acquire unimproved private lands within the ACEC to enhance and/or protect natural values and further management objectives. Acquire from willing owners through purchase, exchange or donation. Acquire conservation easements to prevent incompatible use or development of private land when fee title acquisition is not possible.	S.F. Walla Walla River Area Plan Amendment	Completed 766.3 acres acquired with river miles included.	N/A

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Acquire private land with improvements (buildings, etc.) only when they pose a specific & significant threat to the management objectives of the ACEC. Acquisition priorities are: Tracts that front the South Fork of the Walla Walla River. Forested tracts. Rangeland tracts.			
B. Implementation Decisions			
All land tenure adjustment actions will be preceded by field inventories, environmental assessments, and public notification procedures.	Baker RMP	Ongoing/Current Policy	Yes
Acquisition of lands by donation, exchange or purchase, in priority order, are: Within Wild and Scenic River corridors, Wilderness Areas and WSAs and ACECs. Within critical wildlife habitat areas Within high recreation use areas Within high scenic areas	Baker RMP	Ongoing/Current Policy Lands were acquired within wild and scenic river corridors, ACECs, critical fish habitats, and high recreation use and scenic areas	Yes
Land Use Authorizations			
A. Management Decisions			
Assure that all uses of the public land are authorized.	Baker RMP	Ongoing/Current Policy	Yes

Table 3.15. Lands and Realty

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Authorize by permit or lease existing or potential use, such as agricultural use, of the public lands if the following criteria are met: The use does not conflict with riparian area management, important wildlife habitat, recreational use of public lands, or other significant resource values. The use is compatible with historical use on adjacent private lands. The use would maintain or enhance other resource values, such as providing habitat requirements for game and non-game wildlife species.	Baker RMP	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Prior to granting or renewing a lease or permit, the applicant must submit plans, maps or other information related to the use of the proposal for evaluation by the BLM. Each lease or permit shall be limited to the area necessary, will consider the protection of public safety and ensure that the use authorized will do no unnecessary damage to the environment.	Baker RMP	Ongoing/Current Policy	Yes
Each lease or permit shall contain terms and conditions requiring compliance with environmental quality standards applicable under Federal or State law. Such terms and conditions are intended to provide efficient management of the lands subject to the lease or permit and to protect the interest of individuals living in the area as well as the public interest in the Federal lands.	Baker RMP	Ongoing/Current Policy	Yes
Install signs on public land boundaries in areas of high public use or that have high potential to incur unauthorized use.	Baker RMP	Ongoing/Current Policy	Yes
Withdrawals			
A. Management and Implementation Decisions			
There are currently no management decisions addressing Federal Energy Regulatory Commission withdrawals.	N/A	N/A	No The BLM is required to participate in licensing and relicensing of hydropower projects on public lands and to evaluate project impacts and submit mandatory terms and conditions and recommendations to protect and enhance public resources affected by the projects.

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
All ACECs			
A. Management Decisions			
Nine areas totaling 38,988 acres are designated as ACECs. A management plan will be prepared for each ACEC which will provide a comprehensive management prescription. Portions of the nationally designated Grande Ronde Wild and Scenic River and Powder Wild and Scenic River are within the boundaries of the Grande Ronde ACEC and Powder River Canyon ACEC, respectively.	Baker RMP	Partially Completed Management plans completed only for the Oregon Trail and South Fork Walla Walla ACECs and Powder and Grande Ronde Wild and Scenic Rivers (incorporates most of the associated ACECs).	Partially Update acreage (as shown). There are now 10 ACECs. Land acquisitions have resulted in current public acreage within designated ACECs, totaling 47,815 acres. Portions of two WSAs are found in the Sheep Mountain and Homestead ACECs.
B. Implementation Decisions			
Management plans for the Grande Ronde ACEC, Joseph Creek ONA/ACEC, and Powder River ACEC will be prepared within four years of completion of the Baker RMP. Continue implementing management prescriptions and actions for the Oregon Trail ACEC, as addressed in the existing Vale District Oregon National Historic Trail Management Plan.	Baker RMP	Partially Completed Management plans completed for Powder and Grande Ronde Wild and Scenic Rivers (incorporates most of the associated ACECs) and Oregon Trail ACEC.	Yes
Joseph Creek ONA/ACEC			
A. Management Decisions			

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Public lands on Joseph Creek (3,360 acres), between Tamarack and Cottonwood Creeks are designated and will be managed as an ONA/ACEC primarily to protect the natural riparian plant communities of Joseph Creek; and to protect wildlife habitat, high scenic qualities, and outstanding geologic system values for educational and recreational purposes.	Baker RMP	Completed/Ongoing	Yes ACEC appropriate for these values. ONA criteria needs evaluation acreage needs adjustment. Consider expanding ACEC boundaries.
Natural riparian and upland vegetation in the canyon will be maintained.	Baker RMP	Ongoing/Current Policy	Yes
Land immediately adjacent to Joseph Creek will be closed to ORV use (150 acres); remaining lands will be limited to designated roads for ORV use.	Baker RMP	Not Completed/ Implemented The 150 acres have not been officially closed to OHV use.	Yes Needs to be implemented
Recreational use would be limited to fishing, hiking, and observational activities along Joseph Creek. Camping locations will be restricted to protect riparian habitat.	Baker RMP	Not Completed/ Implemented Limitations on recreation use have not been applied.	Yes However, text needs to be clarified (limit to low-impact recreational use).
A "no surface occupancy" restriction for all gas exploration and development will be applied.	Baker RMP	"No surface occupancy" restrictions noted	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis.

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Livestock grazing will be restricted through fencing and seasons of use.	Baker RMP	Grazing restrictions occur within the canyon. Uplands are partially leased with ACEC caveat	Partially Needs clarification as current allotment boundaries are awkward to manage. Conditions of ESA consultations also need to be included.
Timber harvest will be excluded on 80 acres.	Baker RMP	Ongoing/Current Policy	Yes Restrict timber harvest to that which is needed to maintain the ACEC characteristics.
Cooperation with the WDW will continue to maintain and improve wildlife habitat in the Chief Joseph Wildlife Management Area. Wildlife habitat will be managed for deer, elk, bighorn sheep, eagles and other raptors. Aquatic habitat for anadromous fish will be maintained in a natural condition.	Baker RMP	Ongoing/Current Policy	Partially Decision needs to be updated to reflect current MOU with WDFW and clarify the Nez Perce involvement in the ACEC.
Grande Ronde ACEC			
A. Management Decisions			
Public lands on the Grande Ronde River (9,715 acres) in Oregon and Washington, and on the Snake River in Washington, are designated and will be managed as an ACEC. Within the ACEC, approximately 2,570 acres of BLM lands are tentatively included within the boundaries of the Grande Ronde Wild and Scenic River. Final boundaries will be developed as part of the Congressionally required river management plan, which will be completed by 1992.	Baker RMP	Partially Completed/ ongoing ACEC = 17,036 acres of public lands Oregon section of river designated as Wild and Scenic River (1989). River management plan completed for entire river. Covers 17% of the ACEC	Partially Acreage needs to be updated due to land acquisitions.

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
The ACEC is managed to promote protection of the area's unique natural, scenic, geologic, ecologic, and cultural resource values; and to protect wildlife habitat and enhance recreation opportunities.	Baker RMP	Ongoing/Current Policy	Partially Update management actions to include ESA consultation requirements. Add special status plants and ESA listed Fish and Wildlife as rational for ACEC
Adjacent lands or inholdings may be acquired to enhance wildlife habitat, cultural resources, and recreational opportunities.	Baker RMP	Partially Completed 7321 acres acquired	Yes
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes
A 'no surface occupancy' restriction will be applied to oil and gas exploration or development.	Baker RMP	'No surface occupancy' noted	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis. Also need to determine if the Washington section of the river was withdrawn from mineral entry

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Commercial timber harvest will be restricted to prescriptions that protect or enhance natural, visual, and cultural values.	Baker RMP	Ongoing/Current Policy	Yes May need to be more specific
The visual resource will be protected within the viewshed corridor along the rivers; only those uses compatible with maintaining visual resource classifications will be allowed.	Baker RMP	Ongoing/Current Policy	Yes
Habitat for bald eagles, raptors, game and non-game species, and anadromous fish will be maintained or improved in cooperation with federal and state agencies.	Baker RMP	Ongoing/Current Policy	Yes
Geologic system values of the Goosenecks National Natural Landmark will be protected.	Baker RMP	Ongoing/Current Policy	Partially Decision text needs to be clarified and management requirements for the Goosenecks National Natural Landmark need to be assessed
Keating Riparian RNA/ACEC			
A. Management Decisions			
BLM lands on Balm, Clover, and Sawmill Creeks (2,173 acres), in the Keating Valley area, are designated and will be managed as an ACEC to protect riparian values and wildlife habitat.	Baker RMP	Partially Completed ACEC designated but no ACEC management plan Grazing has occurred in the Balm creek portion, limiting riparian recovery, and subsequent superfund recovery site has impacted 20 acres.	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
To protect and maintain natural riparian ecologic systems for research and educational purposes, a combination of 80 acres of Balm, Clover and Sawmill Creeks within the ACEC will be managed as an RNA.	Baker RMP	Ongoing/Current Policy	Yes However, need clarification of RNA criteria and management roles
Camping will be excluded in the RNA.	Baker RMP	Not Completed/ Implemented	Yes Needs to be implemented
Recreational use in the RNA will be limited to observational activities.	Baker RMP	Not Completed/ Implemented Recreational use not limited	Yes Needs to be implemented
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented
A withdrawal from mineral entry will be pursued on 185 acres to protect the RNA.	Baker RMP	Not Completed/ Implemented No mineral withdrawal	Yes
Livestock grazing will be excluded in the RNA.	Baker RMP	Not Completed/ Implemented Grazing has occurred intermittently	Yes Needs to be implemented.
Commercial timber harvest will be excluded in the RNA.	Baker RMP	Not Completed/ Implemented	Yes Needs to be implemented

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Commercial timber harvest will be restricted in the ACEC to prescriptions that protect or enhance riparian and wildlife values.	Baker RMP	Ongoing/Current Policy	Yes May need to be more specific
Columbian sharp-tailed grouse reintroduction habitat in the ACEC will be maintained or improved through restrictions on livestock grazing (seasons of use, numbers, or fencing).	Baker RMP	Not Completed/ Implemented No reintroduction of grouse	No ODFW strategy for Columbian sharp-tailed grouse and mountain quail needs to be verified.
Powder River Canyon ACEC			
A. Management Decisions			
Public lands in the Powder River Canyon (5,880 acres), between Thief Valley Reservoir and Highway 203 in the Keating Valley, are designated and will be managed as an ACEC. Within the ACEC, 2,385 acres of BLM land are included in the Powder Wild and Scenic River.	Baker RMP	Completed/Ongoing ACEC designated but no ACEC management plan River Management Plan covers 41% of the ACEC.	Yes Acreage needs updating
The ACEC will be managed to protect raptor habitat, wildlife habitat, and cultural resources and to maintain scenic qualities while allowing for compatible recreational uses.	Baker RMP	Ongoing/Current Policy	Yes
Adjacent lands or inholdings may be acquired to protect identified values.	Baker RMP	Not Completed/ Implemented	Yes
Incompatible uses, including new road development, within the canyon and adjacent upland will be excluded to protect natural and cultural values.	Baker RMP	Ongoing/Current Policy	Yes
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A "no surface occupancy" restriction will be applied to mineral leasing and development.	Baker RMP	'No surface occupancy' noted	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis.
Riparian conditions will be maintained or improved by restricting livestock grazing through seasons of use, numbers, or fencing.	Baker RMP	Not Completed/ Implemented No grazing restrictions	Yes
Forage and habitat needs for big game, bald eagles, golden eagles and other raptors will be maintained or improved.	Baker RMP	Ongoing/Current Policy	Yes Reword to clarify decision.
Unity Reservoir Bald Eagle Nest Habitat ACEC			
A. Management Decisions			
BLM lands on the North Fork of the Burnt River (360 acres), a potential bald eagle nest area, will be managed to protect habitat consistent with the ESA and Pacific States Bald Eagle Management Plan. To protect the bald eagle habitat, 200 acres of the area is designated and will be managed as an ACEC. The remaining 160 acres are under a Bureau of Reclamation project withdrawal for Unity Reservoir, and will also be managed to protect bald eagle habitat.	Baker RMP	Partially Completed ACEC designated but no ACEC management plan The BLM is cosigner of USFS Bald Eagle Management Plan which calls for restrictions as specified	Yes
ORV use will be limited to designated roads and trails and seasonal road closure restrictions will be applied.	Baker RMP	Not Completed/ Implemented	Yes Needs to be Implemented
No new roads will be developed.	Baker RMP	Status Unknown	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Seasonal restrictions will be applied to oil and gas exploration and development.	Baker RMP	Status Unknown	Yes However, the entire area should not be restricted; the only the areas with active nests should receive seasonal restrictions, and then only in the form of buffers
Firewood cutting, commercial timber harvest, and major development actions will be excluded.	Baker RMP	Not Completed/ Implemented Current WUI project with USFS treating in ACEC	Yes Needs to be Implemented
Hunt Mountain ACEC			
A. Management Decisions			
BLM lands on Hunt Mountain (2,230 acres) are designated and will be managed as an ACEC to protect and maintain habitat for mountain goats and big game, and to protect habitat for sensitive plant species identified by the Oregon National Heritage Program.	Baker RMP	Completed/Ongoing ACEC designated but no ACEC management plan	Yes However, acreage needs updating
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes Needs to be implemented
Livestock grazing will continue to be excluded.	Baker RMP	Not Completed/ Implemented Livestock trespass occurring	Yes Regular trespass monitoring is needed.
Timber harvest will be restricted to prescriptions that protect wildlife and sensitive plant habitat.	Baker RMP	Completed/Ongoing No timber harvest	Yes
Oregon Trail ACEC			
A. Management Decisions			

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Seven parcels of public lands with remnants of the Oregon National Historic Trail (1,495 acres) are designated and will be managed as an ACEC to preserve the unique historic resource and visual qualities of these areas.	Baker RMP	Completed/Ongoing	Yes
A management plan for preservation, public information, and interpretation will be implemented.	Baker RMP	Completed Oregon Trail Management Plan finalized in 1989	Yes
No campgrounds will be developed within l/4 mile of the Oregon Trail in the ACEC.	Baker RMP	Ongoing/Current Policy	Yes
Mark and sign Oregon Trail	Oregon Trail Mgmt. Plan	Ongoing/Current Policy The route on public land has been marked.	Yes
Develop day use interpretive facilities on public land at Flagstaff Hill, Echo Meadows, and California Gulch	Oregon Trail Mgmt. Plan	Partially Completed Facilities are in place at NHOTIC (Flagstaff Hill) and Echo Meadows but not California Gulch	Partially No day use facility was developed specifically on BLM lands at California Gulch because the USFS developed an interpretive facility at the adjacent Blue Mountain segment.
ORV use will be limited to designated roads and trails.	Baker RMP	Partially Completed Roads and Trails not designated, mapped, or signed. ORV use is restricted by fencing at Echo Meadows and Flagstaff Hill.	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Prohibit hunting at Flagstaff Hill	Baker RMP	Ongoing/Current Policy	Yes
No surface occupancy restrictions will be applied to oil and gas leases and development.	Baker RMP	Completed/Ongoing	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis.
No mineral material development will be allowed.	Baker RMP	Completed/Ongoing	Yes
A withdrawal from mineral entry under the mining laws will be sought for 721.81 acres of public land for Trail sites at Flagstaff Hill, Straw Ranch, and Echo Meadows.	Baker RMP	Partially Completed BLM lands at NHOTIC (Flagstaff Hill) are withdrawn from mineral entry. No mining claims at Straw Ranch, withdrawal not completed	Yes Process withdrawals for Straw Ranch and Echo Meadows. However, the same purpose can be accomplished with a Visual Resource ROW.
Seek relinquishment of current material site ROW on 160 acres at Echo Meadows.	Oregon Trail Mgmt. Plan	Completed	Yes
Mining Monitoring Plan for Virtue Flat and Lime Mineral Priority Management Areas	Oregon Trail Mgmt. Plan	No formal plan completed.	No There is no need for a separate plan as action is addressed by routine monitoring of mining operations.
Commercial timber harvest is excluded on 5 acres and restricted on 75 acres.	Baker RMP	Ongoing/Current Policy	Yes
New uses incompatible with maintaining visual qualities or providing public interpretation will be excluded in an l/2 mile corridor.	Baker RMP	Ongoing/Current Policy	Yes
Livestock grazing will be excluded on 770 acres.	Baker RMP	Completed	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
No new road access will be developed.	Baker RMP	Ongoing/Current Policy	Yes
ROWs will avoid the Oregon Trail.	Baker RMP	Ongoing/Current Policy	Yes
Adjacent lands, or lands in the Oregon Trail geographic unit, may be acquired to protect intact segments of the Oregon National Historic Trail; these lands would be incorporated into the ACEC, and the same special management prescriptions or restrictions will be applied	Baker RMP	Ongoing/Current Policy Private land in holdings were acquired at Flagstaff Hill.	Yes Acquisition of easements would be from willing property owners only
Acquire lands or access easements to enhance opportunities for public use of the Oregon Trail. Emphasize acquisition of intact Oregon Trail remnants on private lands within Virtue Flat, California Gulch, Flagstaff Hill and other locations.	Oregon Trail Mgmt. Plan	Partially Completed Easements or acquisitions have occurred at Flagstaff Hill and Echo Meadows. No other acquisitions have occurred.	Yes Acquisition of easements would be from willing property owners only
Sheep Mountain ACEC			
A. Management Decisions			
BLM lands in the Sheep Mountain area (5,398 acres between Pine Creek and Brownlee Reservoir), including a portion of the Sheep Mountain WSA, are designated and will be managed as an ACEC to protect outstanding scenic qualities, and maintain or improve wildlife and crucial bald eagle winter habitat.	Baker RMP	Completed/Ongoing ACEC designated but no ACEC management plan WSA is 98% of ACEC WSA monitored and protected for WSA values which match with ACEC values	Yes However, acreage needs to be updated and decision reviewed and clarified.

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Seasonal restrictions for oil and gas exploration and development will be applied.	Baker RMP	Ongoing/Current Policy Seasonal restrictions for oil and gas noted	Yes However, this is located within a WSA; consequently, there are currently no leases for Oil and Gas and it is highly unlikely that any will be issued in the future.
Adjacent lands or inholdings may be acquired to benefit bald eagle habitat.	Baker RMP	Ongoing/Current Policy No acquisitions thus far	Yes
Commercial timber harvest will be excluded on 200 acres.	Baker RMP	Ongoing/Current Policy No timber harvest	Yes
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes
Homestead ACEC			
A. Management Decisions			
BLM lands on the Snake River Breaks near Homestead (8,537 acres between Pine Creek and Nelson Creek) are designated and will be managed as an ACEC to protect outstanding scenic qualities, and wildlife, bald eagle and sensitive plant habitat.	Baker RMP	Completed/Ongoing ACEC designated but no ACEC management plan WSA is 67% of ACEC WSA monitored and protected for WSA values which match with ACEC	Yes However, objectives need to be reviewed and clarified

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
The area will be managed to meet forage and habitat requirements for game and non-game species, as recommended by the ODFW and Wildlife.	Baker RMP	Not Completed/ Implemented No special restrictions or management provided for game and non game species	Yes
Seasonal restrictions will be applied to oil and gas exploration and development	Baker RMP	Ongoing/Current Policy Seasonal restrictions for oil and gas noted	Yes However, this is located within a WSA; consequently, there are currently no leases for Oil and Gas and it is highly unlikely that any will be issued in the future.
ORV use will be limited to designated roads and trails.	Baker RMP	Not Completed/ Implemented No formal OHV designation	Yes
Commercial timber harvest will be excluded on 600 acres.	Baker RMP	Ongoing/Current Policy No timber harvest	Yes
South Fork Of The Walla Walla River ACEC			
A. Management Decisions			
BLM lands in the South Fork of the Walla Walla River (1,256.69 acres) are designated as an ACEC to protect the fisheries, wildlife, riparian, and scenic values found within the area.	S.F. Walla Walla River Area Plan Amendment	Completed/Ongoing Current acreage after land acquisition is 2,023.	Yes, However, acreage needs to be corrected and details regarding access, listed fish, and reintroduced fish need to be updated.
Lands and Realty Management			

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Seek to acquire unimproved private lands within the ACEC to enhance and/or protect natural values and further management objectives. Acquire from willing owners through purchase, exchange or donation. Acquire conservation easements to prevent incompatible use or development of private land when fee title acquisition is not possible. Acquire private land with improvements (buildings, etc.) only when they pose a specific & significant threat to the management objectives of the ACEC. Acquisition priorities are: Tracts that front the South Fork of the Walla Walla River. Forested tracts. Rangeland tracts.	S.F. Walla Walla River Area Plan Amendment	Completed 766.3 acres acquired with river miles included.	N/A
ROW grants and renewals shall be limited to the area necessary for operation and maintenance will consider the protection of public safety and ensure any use authorized shall be consistent with the ACEC values as designated.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy USFS ROW for trail on the north side of the river is maintained. Boise Cascade (Forest Capital) retains ROW from Harris Park to Elbow Creek. Authorization for land owner access issued; limited yearly access through casual use if criteria are met.	Yes
Oil and Gas Leasing and Mineral Management			
All new oil and gas leases subject to standard protective stipulations plus a special "no surface occupancy" stipulation for all public land within the ACEC boundary, presently about 1,256.69 acres, plus an additional 302 acres of private surface with Federal Minerals Estate.	S.F. Walla Walla River Area Plan Amendment	Completed	Yes However, this needs to be examined further - If we allow exploration and development, we must allow some form of surface occupancy. This could be accomplished on a case-by-case basis. In addition, acreage needs updating

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Prohibit development of mineral material resources within the ACEC boundary, unless needed on an "emergency basis," to protect ACEC values. This area has no known potential for the occurrence of locatable mineral resources therefore withdrawal from mineral entry under the U.S. Mining laws, as amended, is not proposed.	S.F. Walla Walla River Area Plan Amendment	Completed	Yes
Grazing Management			
Grazing leases will no longer be issued on BLM lands within the ACEC boundary.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Livestock trailing permits will be considered as long as the trailing period is less than 1 day.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy No livestock is authorized or permitted in the ACEC	Yes
Recreation Management			
Do not maintain or repair Bridges #2, #3, #4 on the South Fork of the Walla Walla River.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Maintain the first bridge for public and all vehicle use.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
No camping will be permitted on BLM lands, until such time we can provide for it, so it's consistent with ACEC management.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy No camping at trailhead, federal register issued	Yes
Close the river corridor from the cattleguard to the gate/barricade to discharge of firearms.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Establish law enforcement program to enforce the ORV designation, camping and shooting prohibition. This law enforcement effort would be in cooperation with the Umatilla County Sheriff, Oregon State Police and Umatilla National Forest.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy BLM law enforcement covers area	Yes
Establish a facilities maintenance program in cooperation with Umatilla County Parks Commission, ODFW, and Wildlife and the Umatilla National Forest.	S.F. Walla Walla River Area Plan Amendment	Partially Completed Agreement made with Umatilla National Forest for maintenance of trailhead	Yes
Short-term Recreation Management			
Remove the 4th bridge.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Construct a gate/barricade to facilitate this limited access between the stream gauging station and Bridge #2.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Continue to allow OHVs, equestrians, mountain bikes and hikers to use the remaining bridges until their removal.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Work with the Umatilla National Forest to amend ROW ORE 017223 and to repair and/or modify the trail on the North side of the river to provide access for OHVs, equestrians, mountain bikes and hikers.	S.F. Walla Walla River Area Plan Amendment	Partially Completed USFS ROW was maintained. The USFS no longer authorized OHV use due to trail design limitations/trail still needs to be improved for Class 1 OHV use	Partially However, USFS intentions need to be clarified in this decision

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Upon completion of the preceding action, remove bridges #2 and #3.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Monitor remaining bridges safety and structural integrity annually until removed.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy Only Bridge 1 remains, it is maintained consistent with BLM standards	Yes
Long-term Recreation Management (after all bridges have been removed)			
Provide access to OHVs, equestrians, mountain bikes and hikers on the trail on the north side of the river and on the existing road where it's on the north side of the river.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes However, this decision needs to be assessed and BLM's intent clarified
Construct a gate on the Elbow Creek road before it intersects the South Fork of the Walla Walla River road to limit access.	S.F. Walla Walla River Area Plan Amendment	Completed But needs maintenance	Yes
Facilities			
From the road intersection with the western BLM boundary to the gate/barricade, develop intensive recreational facilities such as parking areas, restrooms and trailhead/staging area and information center about the ACEC. These developments should occur within the currently disturbed areas. They should have minimal impacts to the existing riparian vegetation.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
From the gate/barricade to the intersection of the eastern/north eastern BLM boundary and the road, permit limited recreational facilities, (restrooms and trails), while emphasizing protection of the ACEC values.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Establish a facilities maintenance program in cooperation with Umatilla County Parks Commission, ODFW, and Wildlife and the Umatilla National Forest.	S.F. Walla Walla River Area Plan Amendment	Partially Completed Agreement made with Umatilla National Forest for maintenance of trailhead	Partially This has changed some need assessment and corrections. ODFW should be removed from the list
Scenic Values Management			
Ensure that all resource activities meet the requirements of a VRM Class II area.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Each field management action should be proceeded by a VRM contrast rating inventory to assist in determining layout and design. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Fisheries Management			
Public informational signs, brochures, and articles concerning the values of the ACEC and the needs for special management will be used where appropriate to help ensure that public use is consistent with the values of the ACEC.	S.F. Walla Walla River Area Plan Amendment	Partially Completed: Signs installed and maintained, but no brochures available	Yes
Increase large woody debris and instream diversity as identified by the baseline data.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented Regular fish monitoring conducted, but no large woody debris installed.	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Hazardous tree removal will be coordinated with fishery biologists to provide instream habitat diversity where needed.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Work with private landowners and the U.S. Forest Service (USFS) upstream to encourage the protection of the fishery habitat. It is important that the overall management of the watershed places a high priority on maintenance or even improvement of the fishery habitat that exists there.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Information needs to be updated. The Confederated Tribes of the Umatilla Indian Reservation should be included as a stakeholder.
Collect baseline data on condition and trend of fishery habitat.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Examine past use of the Salmon-Trout Enhancement Program (STEP) and coordinate with the ODFW as to its future use.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Decision needs to be updated
Riparian Management			
Inventory existing species, conditions, and characteristics of the riparian plant community.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes
Prohibit indiscriminate cutting of live shrubs or trees within the riparian zone.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
From the road intersection with the western BLM boundary (at the cattleguard) to the gate/barricade, minimize disturbance of the natural environment by focusing human use away from existing pockets of well established riparian vegetation in good condition. This will be done by designating parking and trails in established use areas and through the use of barricade signs and other public information as necessary.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes Needs assessment as to whether this is working

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
From the gate/barricade on upriver, maintain or enhance riparian vegetation by providing for control of recreation use through enforcement of the OHV designation, and establishment of barricades, signs and public information.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy No OHV use authorized off the trail	Yes Needs assessment as to whether this is working
Wildlife Management			
Limit OHV traffic beyond the gate/barricade during severe winters, as determined necessary in cooperation with ODFW (between December 15 and March 15) to relieve stress on wintering elk.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes
Collect baseline data on wildlife species and habitats of the area.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes
If involved parties agree to transplant Rocky Mountain bighorn sheep, then BLM will allow transplant and provide habitat where available on public lands.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented No interest by ODFW	Yes
Fire Management			
In case of wildland fire, use "light hand on the land" techniques which utilize hand lines, burn outs, and air tankers.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes Add limitations from ESA listed species management memo and MOU
No tractors will be authorized until the Area Manager or designated representative approves.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
No fire salvage will occur unless it meets the goal of ACEC management.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
After a fire, authorize immediate rehabilitation methods such as contour felling. Allow native plants to re-establish.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes However, post burn effects should be determined and specific stabilization and/or rehabilitation projects identified based on need
Study the fire history of the area and apply to the management of the ACEC values through prescribed fire if necessary.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Any prescribed fire will comply with State smoke management requirements.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Forest and Woodland Management			
Reduces harvest on 120 acres of BLM timber lands from approximately 15% to approximately 1% to facilitate management for ACEC values.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Permit limited commercial harvest on the remaining 120 acres when such operations are compatible with maintaining ACEC values. This would amount to recovering the value, as sawlogs or firewood, of trees which need to be removed to preserve the ACEC experience or provide for visitor safety. Available harvest in the area would be reduced by 99%, but yearly timber removal of approximately 2 Mbf (equivalent to about 4 cords) would be permitted.	S.F. Walla Walla River Area Plan Amendment	Not completed due to change in management direction	Unclear
Artificially reforest with either commercial or non-commercial tree species and riparian shrubs to maintain ACEC values.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
If snags or green cull trees, which are important for wildlife, also pose a hazard for human use, consider removing the tree tops (by blasting or cutting) to reduce weight and wind resistance.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Close the area to fuelwood cutting except where prescribed for hazard tree removal.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Forest management activities on any future acquisitions of forestland would be governed by the above guidelines. Commercial activities would either be excluded or limited depending on location and accessibility of the tract.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Special Status Species			
Plants			
Discourage collection of wildflowers in the area by building public awareness through signing, brochures, public contacts, etc.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Initiate a special botanical study of the area to ensure a complete inventory of species present. Determine if special status plants are present, as well as acquiring baseline data on any special status plants.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Complete a management plan for special status plants if necessary.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Establish a monitoring system to measure deviations from baseline data.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented	Yes However, decision needs to be reevaluated to determine if still appropriate.
Fish			

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Work with ODFW to collect baseline data on bull trout and margined sculpins.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Decision needs to be updated to include USFS and Confederated Tribes of the Umatilla Indian Reservation as stakeholders; update list of sensitive fish species present (steelhead, Chinook salmon), and address Confederated Tribes of the Umatilla Indian Reservation introduction of Chinook salmon.
Maintain quality of habitat for margined sculpin and bulltrout in cooperation with ODFW.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Partially Decision needs to be updated to include USFS and Confederated Tribes of the Umatilla Indian Reservation as stakeholders and update list of sensitive fish species present (steelhead, Chinook salmon).
Monitor water temperature through use of USGS gauging station information.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Cultural Resources Management			
Evaluate the prehistoric property prior to development of projects or recreation management prescriptions for the ACEC area. When evaluation is completed, a specific use allocation will be made by amendment to the ACEC management plan.	S.F. Walla Walla River Area Plan Amendment	Not Completed/ Implemented No formal eligibility evaluation of recorded prehistoric properties	Yes
Exclude vehicle use and surface disturbing actions from a one acre area by installing physical barriers (gate and fence) to protect the prehistoric property.	S.F. Walla Walla River Area Plan Amendment	Partially Completed	Yes Current physical and administrative restrictions have stabilized the area and enhanced protection.

Table 3.16. Areas of Critical Environmental Concern

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Cultural inventories will be implemented immediately upon identification of appreciable improvement in ground surface visibility at locations within the ACEC. Newly acquired lands will be systematically inventoried and evaluated for cultural resource within one year or as soon as possible following the land acquisitions. If important cultural resources are found as a result of further investigations of Bureau lands, or upon acquired lands, the ACEC management plan shall be amended to incorporate management actions needed for the protection and preservation of such properties.	S.F. Walla Walla River Area Plan Amendment	Partially Completed Most of the acquired lands adjacent to the river have been inventoried.	Yes
The historic Elbow Creek stone chimney/hearth may be stabilized, interpreted, or adapted for recreation use. Cooperate with public interest groups and residents to implement a plan for preservation and adaptive use of the stone chimney.	S.F. Walla Walla River Area Plan Amendment	Not completed/ implemented	Partially Consider working with volunteers as the opportunity arises. Re-assess opportunity for interpretation and effects of adaptive use.
Complete cultural resource inventories of the area prior to development of recreation management plans or projects.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Evaluate all ground disturbing projects for potential impacts to cultural resources.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Archaeological monitoring of projects is required until more comprehensive studies are completed.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Coordinate with the Confederated Tribes of the Umatilla Indian Reservation to develop management objectives for cultural resources within the ACEC.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes
Water Quality Management			
Establish appropriate baseline inventory on water quality data as recommended by the District Hydrologist.	S.F. Walla Walla River Area Plan Amendment	Completed	N/A
Recreational developments design and construction must maintain water quality standards.	S.F. Walla Walla River Area Plan Amendment	Ongoing/Current Policy	Yes

Table 3.17. Special Designations (Other than ACECs)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
Back Country Byways			
A. Management Decisions			
The Baker Field Office has only one Backcountry Byway. The current condition of the Snake River/Mormon Basin Backcountry Byway is stable. Most of the byway is maintained by Baker County Road Department, or Oregon Department of Transportation. Although seasonal in nature due to some of the remote areas that the byway travels through, use along the byway is moderate. The identification of the byway on the Baker Resource Area Recreation Map has taken the place of the directional signs and has become a far more efficient and cost effective method of identifying the byway. Those who seek byways for the driving experience have benefited from the development of this map as well as internet-based information. Current direction is to maintain or enhance the Byway where use demands or opportunities develop.	Manual direction	Ongoing/Current Policy Byway was dedicated after Baker RMP	Yes
B. Implementation Decisions			
There are currently no implementation decisions for back country byways.			
National Trails			
A. Management and Implementation Decisions			
Management and Implementation decisions for the Oregon National Historic Trail are described under the Oregon Trail ACEC. There are no other designated National Trails on BLM lands in the Planning Area.			
Wild And Scenic Rivers			
A. Management Decisions			
A full range of resources and activities are managed within the boundaries of the following Wild and Scenic Rivers: Wallowa River (The confluence of the Minam and Wallowa Rivers downstream to the confluence of the Wallowa and Grande Ronde Rivers) Grande Ronde River (The confluence of the Grande Ronde and Wallowa River downstream to the Oregon/Washington Stateline) Guidance for resources within the designated corridor was to maintain or enhance not only the Outstandingly Remarkable values for which the rivers were designated, but to apply this management direction to all of the resources contained there in.	Wallowa and Grande Ronde Wild and Scenic Rivers Mgmt. Plan Baker RMP	Ongoing/Current Policy	Yes

Table 3.17. Special Designations (Other than ACECs)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
A full range of resources and activities are managed within the boundaries of the following Wild and Scenic River: Powder River (Thief Valley Reservoir downstream to highway 203) Guidance for resources within the designated corridor was to maintain or enhance not only the Outstandingly Remarkable values for which the rivers were designated, but to apply this management direction to all of the resources contained there in.	Powder Wild and Scenic River Mgmt. Plan Baker RMP	Ongoing/Current Policy	Yes
B. Implementation Decisions			
Implementation decisions exist in the wild and scenic river management plans.	Wallowa and Grande Ronde Wild and Scenic Rivers Mgmt. Plan Powder Wild and Scenic River Mgmt. Plan	Ongoing/Current Policy	Yes
Wilderness Study Areas			
A. Management Decisions			
The BLM's Interim Management Policy (IMP) for WSAs has and will continue to guide management in the three WSAs in the Planning Area: the McGraw Creek WSA, Homestead WSA, and Sheep Mountain WSA.	Baker RMP BLM Manual	Ongoing/Current Policy	Yes
The possibility that these areas may be designated as wilderness will be recognized in all affected land and resource use decisions.	Baker RMP BLM Manual	Ongoing/Current Policy	Yes

Table 3.17. Special Designations (Other than ACECs)

Current Management Decision	Source	Status	Is decision responsive to current issues?/Comments
The IMP identifies six provisions that apply to the interim management of lands under wilderness review: ■ Lands under wilderness review must be managed so as not to impair their suitability for preservation as wilderness. ■ Permitted activities in WSAs (except grandfathered and valid existing rights) are temporary uses that create no new surface disturbance nor involve permanent placement of structures. ■ Those grazing, mining, and mineral leasing uses that existed on October 21, 1976, may continue in the same manner and degree as on that date, even if this would impair wilderness suitability. ■ Lands under wilderness review may not be closed to appropriation under the mining laws in order to preserve their wilderness character. ■ Valid existing rights must be recognized. ■ All lands must be managed to prevent unnecessary or undue degradation.	IMP / BLM Manual	Ongoing/Current Policy	Yes
Section 603 (c) of FLPMA requires that WSAs be managed to maintain their suitability for wilderness designation and prevent unnecessary degradation. To ensure suitability, the BLM manages WSAs under its Interim Management Policy (IMP) for Lands under Wilderness Review. The BLM must manage all WSAs so as not to impair their suitability for preservation as wilderness. Current management direction and actions within the planning unit supports the protection of the WSAs of the resource area and current conditions are stable. All actions on lands under wilderness review will be processed in accordance with the BLM Manual H-8550-1, entitled Interim Management Policy for Lands under Wilderness Review (IMP).	BLM Manual	Ongoing/Current Policy	Yes

B. Implementation Decisions

There are currently no implementation decisions for WSAs.

Table 3.18. Social and Economic

Current Management Decision	Source	Status	Is decision responsive to current issues?/ Comments
Tribal Interests			
A. Management And Implementation Decisions			
There are currently no management decisions addressing Tribal Interests.	N/A	N/A	No
Public Safety			
A. Management Decisions			
Continue working with the Abandoned Mine Lands program	Baker RMP	Ongoing/Current Policy	Yes
There are currently no management decisions addressing solid waste sites or hazardous materials.			
B. Implementation Decisions			
There are currently no implementation decisions for abandoned mines, solid waste sites, or hazardous materials.			

4 Management Opportunities

A. The Ability of Current Management Direction to Achieve Desire Conditions and Address Resource Demands

The Baker Resource Management Plan (RMP) will revise and/or update the management decisions presented in Chapter 3, which will be the No Action Alternative in the Draft Environment Impact Statement (DEIS)/Draft RMP (DRMP). Many of the decisions in Chapter 3 are still timely and management actions are working well. Those decisions will be brought forward as actions common to all alternatives in the DEIS.

The intent of this planning process is to create decisions that will update management direction for resources and resource uses and provide management direction for newly acquired lands, actions not addressed in previous plans, or where conditions (including the availability of new information or science) have changed extensively.

The current management direction as presented in Chapter 3 was closely reviewed by the planning team to determine if such decisions adequately address current issues and concerns in the Planning Area, including those identified by the public during scoping for the AMS. Decisions identified in Chapter 3 (Tables 3.1 – 3.18) as not addressing current issues and concerns create opportunities for new management direction. Such new management direction will be the basis for alternative development in the DRMP/DEIS.

1. New Management Direction

While a number of issues and concerns faced by the Baker Field Office are adequately covered by current management direction, many are not. In some cases, minor or moderate changes to the current decision would be sufficient in bringing the decision up to date. These types of opportunities for change were addressed in Chapter 3, Tables 3.1 - 3.18. There are, however, a number of instances where no decision exists to address current issues or concerns. New decisions must thus be created during this planning process. New management direction from where such decisions will emerge is presented below and was developed after reviewing what currently exists and considering issues and concerns identified by the public during scoping for the AMS. These suggestions for new decisions will serve as a starting point in the development of alternatives in the next stage of the planning process. Not all resources and resource uses are listed below; only those that were identified as needing new management direction are discussed.

a. Resources

Air Quality

Federal and state law and regulations regulate air quality. Current management direction for the BLM is to conduct activities in accordance with those state laws and regulations to adhere to air quality standards. Smoke management restrictions are becoming more stringent to adhere with the Oregon Smoke Management Plan, which needs to be addressed in this planning process. No "restricted areas" (areas for which permits to burn on forestland are required year round), "designated areas" (principal population centers), or "special protection zones" (buffer zones around non-attainment areas) currently exist on or near the Planning Area. In 2009, Oregon Department of Forestry burning rules will change, with Baker City, La Grande, Burns, John Day, and Pendleton being designated as smoke sensitive receptor areas.

An increasing need for prescribed fire as well as energy sources on Planning Area lands is likely to conflict with increasingly stringent air quality regulations as the population in northeast Oregon continues to grow.

The BLM will continue to manage all public lands as Class II areas unless they are reclassified under the provisions of the Clean Air Act. However, given the current concern for air quality in population centers, the population growth of northeast Oregon, and the changes in the Oregon Smoke Management Plan, the RMP may need to contain management direction that indicates sensitivity to the importance of managing air quality in higher populated areas.

Vegetation Communities

Future management of vegetation communities should address standards for restoration (primarily of rangelands) and fire rehabilitation. Specifically, the Baker Field Office could consider standards that promote the use of native plant species in seeding mixes. This would benefit native wildlife species, decrease non-native plants, and improve habitat for special status plants. The Southeast Oregon RMP has a standard that 75 percent of acreage seeded will be comprised of native species seed mixes. The Baker Field Office could consider something similar in this planning process, including a definition of what constitutes a native plant species. Identifying areas that are priorities for restoration, which would involve identifying restoration opportunities, may also be considered.

Forests and Woodlands

While the BLM continues to manage forests on public lands under the principles of multiple use and sustained yield as required by the Federal Land Policy Management Act (FLPMA), these principles have taken on a different interpretation from when the current RMP was released. The Forest Management section of the Baker RMP (BLM 1989) focuses on the sustained yield component, which was the emphasis at that time. While the concept of sustained yield is still an important component of Baker Field Office's forestry program (as well as a basic tenet of forestry), there is more emphasis placed on managing forest health for the benefit of all resources. This type of management results in restoring forests to some semblance of their range of historic variability, with timber production being a by-product. As a result, this current planning effort needs to include decisions that address this new emphasis in forest and woodland management. In addition, forests should be managed for fuels reduction and forest health, which incorporates an emphasis on the many other resources found in the forest.

There are no current management decisions that consider juniper removal and the conservation of aspen species. These areas need management to restore, maintain, or enhance plant communities to their historic range of variability. Management prescriptions should be designed to reduce or remove juniper from sites where it has encroached and to expand aspen stands in allocations where it is found. Options for use of juniper material in the wood products and biomass industries should be explored.

Noxious weeds

Management and control of weeds has advanced significantly since the 1989 RMP was written. Changes that need to be undertaken including the addition of new management philosophies and new National Environmental Policy Act (NEPA) documentation, including the following:

- Integrated Weed Management: Utilize multiple control methods to maximize results, reduce costs, and chemical input.
- 2007 National Vegetation Programmatic EIS (PEIS): Incorporate the use of additional chemicals as authorized by this PEIS.
- Oregon Vegetation PEIS: Incorporate additional methodologies and chemicals as they become available (estimated to be completed spring 2010).
- Coordination: Continue coordination with interested/affected parties including CWMAs, state, county, adjoining landowners, and other interested parties.
- Early Detection Rapid Response: Utilizing this technique reduces costs, chemical inputs, and potential weed spread.
- Biocontrol: Emphasize biocontrol on expansive weed infestations where chemical or other means of control are no longer cost effective.
- Prevention: Include as a primary control technique to reduce weed introductions.
- Update Priority Weeds: The weed situation has changed with new species becoming more important and control becoming effective on others.
- Aquatic Weeds: Develop appropriate responses as establishment occurs (does yet exists within the Planning Area).
- Invasive Species (fish, wildlife, or plants): Setup the groundwork for a new program as species become established or to prevent establishment.

Invasive Species

Other than noxious weeds, no planning decisions were made in the existing Baker RMP (BLM 1989) regarding invasive species. Invasive species of all kinds including insects, aquatic invertebrates, aquatic weeds, and various pathogens have become serious public concerns since the RMP was written in 1989.

In order to address invasive species, the current planning process needs to include adoption of new management philosophies and preparation of NEPA documentation, such as listed below:

- Develop an integrated management approach involving all resource programs. Utilize multiple control methods to maximize results, reduce costs, and minimize the spread of invasive species on public land and waters.
- Coordinate with interested/affected parties including federal/state agencies, counties, adjoining landowners, and other interested parties.
- Emphasize education and prevention; include as a primary control technique to reduce invasive species introductions.
- Inventory/Surveys: coordinate with other agencies for new potential invaders to the region
- Early detection rapid response: utilize this technique to reduce costs and invasive species spread.
- Biocontrol: use biocontrol agents if they exist for a particular species that has established on public land.
- Follow management guidance in updated BLM Manual 517 (2007).

Fish

Cooperation among the various land managers within the Planning Area is essential to improve fish habitat. Many watersheds have only a small portion managed by the BLM. The BLM will seek cooperation from lessees and the public to include

considerations for fish habitat in all plans. The Baker Field Office has an opportunity to work with local watershed councils on projects that will improve fish-bearing streams, regardless of land ownership.

The BLM will develop a new aquatic conservation strategy to be implemented with the new RMP to help guide all current activities and future projects to protect water quality and fish habitat. It is important that this information be shared with all local management groups and state agencies. It will provide helpful guidance for protecting the resources when implementing projects.

Water quality and quantity are important elements of good fish habitat. Without improvements in water quality and quantity, fish populations in the Planning Area cannot improve. The BLM along with other state and federal agencies are bound to adhere to the Clean Water Act and to implement projects where there is no negative affect to water quality. Water quantity is mostly governed by the counties through their irrigation departments. Many streams have no flow or very little flow at the end of summer, which becomes lethal to most fish species. Over time, the BLM should try to work with these agencies to get flow modifications to fish bearing streams to improve fish habitats.

The Planning Area has been completing land and management assessments over the last ten years through the rangeland standards and guide assessment (BLM 1997). Stream surveys and assessment of uplands have determined that livestock grazing is having a direct impact on fish-bearing streams and riparian areas. Based upon this conclusion, changes to grazing practices are being implemented to improve habitat conditions. Continued monitoring will determine if there is a need for additional management changes. While most areas that support anadromous fish species are in good to excellent condition, the areas that support native resident species are the areas that need the most improvement.

The desired future condition of fish bearing streams in the Planning Area is that they are able to reach their potential for supporting native fish species. To produce good water quality and good stream habitat, the BLM needs to administer its programs and activities to meet these goals. Since the BLM only manages a small percentage of waterways and riparian areas in the Planning Area, cooperation with other land owners/managers is vital.

Wildlife

The BLM will continue to rely upon new or existing wildlife Habitat Management Plans (HMPs) where needed. The BLM can greatly diminish the need for separate wildlife HMPs; however, by properly describing in the Final EIS (FEIS) desired wildlife habitat conditions based on vegetative characteristics or health and analyzing how attainment of those conditions would affect other resource activities and uses. This shift in the source of management direction would allow the BLM to attain desired wildlife habitat conditions without a need for additional activity plan documents. Since BLM staff capabilities are limited, such streamlined approaches to effective wildlife habitat management are needed.

Updated and well-defined project or resource activity design features need to be crafted to protect wildlife habitat values. Writing good quality design features that are sensitive to wildlife needs may substantially reduce potential adverse impacts to wildlife and wildlife habitat from activities such as off-highway vehicle (OHV) use, wind energy development, mineral extraction, and fire fuels treatments. The existing RMP provides very limited wildlife protection measures outside of wildlife HMPs.

For rangeland grazing use and wildlife habitat issues, reliance upon regulatory guidance already in the rangeland standards and guidelines (BLM 1997) will allow the BLM to effectively conserve and protect wildlife habitat values. The Baker Field Office should clearly define what kind of habitat conditions conform to the rangeland standards and guidelines and fundamentals of rangeland health relative to wildlife. Many of the most effective rangeland conservation measures

relevant to wildlife can be introduced at the time of grazing permit renewal (e.g. proposed projects and grazing use).

About 86 percent of the Planning Area is comprised of sagebrush steppe habitat variations that support fairly common and special status species of wildlife. Management proposed in the updated RMP should elevate the need to address sagebrush steppe wildlife communities involving big game, greater sage-grouse, upland game, and non-game vertebrates at risk instead of single species. Existing management direction needs to be adjusted because so many other wildlife species in addition to big game are dependent upon healthy public rangeland. Sagebrush habitat loss, fragmentation, and adverse alteration have increased substantially within the western United States since the current Baker RMP was signed in 1989.

Further, management direction adjustment is needed to allow the BLM to address desired sagebrush steppe wildlife habitat conditions at multiple spatial scales. Measurable and attainable desired habitat conditions should be introduced in the new RMP that may be applied at the grazing allotment pasture, watershed, and Planning Area scales. This approach will promote the ability to conduct meaningful individual and cumulative effects analyses.

Special Status Species

The Baker RMP (BLM 1989) needs to be updated with the current status of species listed under the Endangered Species Act (ESA) by area, ongoing consultation decisions, and current project design. Management guidance for the conservation/protection of newly listed species should be provided and the opportunity or requirement to comply with future listings, consultations, and agreements should be left open. Improved management is needed to protect terrestrial and aquatic habitats to satisfy federal obligations to protect and recover listed species, Migratory Bird Treaty Act species, and birds of conservation concern, as well as to reduce the spread of invasive species.

The BLM needs to address management concerns for special status plant species. Increases in recreation use, including OHV activities, could adversely affect plant species. The increasing number of people expected to visit the Decision Area each year may disturb special status species during breeding, nesting, birthing, or rearing seasons, which are critical times for all wildlife species. Special status plant populations could decrease due to soil compaction; introduction of toxic substances such as motor oil, gasoline, or detergents; and uprooting or pruning of individual plants. Other land use management concerns include livestock grazing, energy development, and mineral extraction. Expected increases in mining poses a threat to terrestrial and aquatic habitat quality, which in turn would affect sensitive species, such as special status bats. Finally, the BLM should consider mitigation measures that address potential impacts due to various types of energy development within the Decision Area.

Wildland Fire Ecology and Management

The general desired wildland fire condition is to have ecosystems that are a low risk of losing ecosystem components following wildfire and that function within their historical range. In terms of Fire Regime Condition Classification (FRCC), the desired wildland fire condition is to trend to a lower FRCC using the least intrusive method possible. In other words, the desired condition is to move lands in FRCC 3 to FRCC 2 and lands in FRCC 2 to FRCC 1 through fire and non-fire treatments, where wildland fire use (WFU) is the preferred method of treatment, when feasible. Inside some fire management unites (e.g., those with wildland-urban interface areas), the general desired condition is to have limited potential for values to be threatened by wildland fire, usually through some modification of fuels.

In all fire management decisions, strategies, and actions, firefighter, and public safety would be the first and highest priority. The full range of management strategies and actions would be used to protect firefighter and public safety. This priority overrides all other strategies and actions. Further, the full range of fire management actions,

consistent and integrated with other resource considerations and planning decisions, would be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components.

The following should also be considered in the DRMP/DEIS when addressing wildland fire ecology and management:

- Include management actions that continue incorporation of Standards for Rangeland Health.
- Continue to develop new management actions to restore sagebrush and native plant communities to compete with annual invasive plant species. This would be in association with wildlife and vegetation management strategies included in tiered direction from the Greater Sage Grouse Species National Policy and Guidance (BLM 2000).
- The Vale District fire program should continue to develop future planning for community risk and assistance in considerations with community wildfire protection plans.
- Areas where WFU is desired to meet specific resource objectives need to be identified.

Cultural Resources

While the present management direction is effective in conserving and protecting cultural resource values in the context of specific actions, it has been less effective in protecting resources where permitting or other compliance measures are not required. In addition, the current Baker RMP (BLM 1989) does not address identification and management for areas of traditional use or importance to Native American Tribes. Consultation with Tribes to identify traditional places of importance occurs only when a project specific undertaking is proposed.

A more proactive approach to cultural resource management could include the following:

- Establish conditions of design for roads, trails, facilities and other proposed undertakings to minimize impacts to important archaeological and historical resources.
- Consider the significance of cultural sites and tribal interests when determining priorities of land acquisitions from willing sellers.
- Inventory high probability areas when lands are acquired into public ownership.
- Establish priorities for landscape level Section 110 inventories and evaluation from which scientifically based conclusions can be made about the past. Such areas could include, but are not limited to Unity basin, Wallowa River, uplands south of Burnt River, and uplands south of lower Pine Creek.
- Establish conditions for prioritizing sites and areas for monitoring and updating records. Such areas and site types could include, but are not limited to Snake River National Register District, lower Grande Ronde River, Powder River ACEC, and rockshelters.
- Conduct proactive inventories in areas of high probability and/or potential high use, which have not been previously inventoried.
- Develop partnerships with communities, Tribes, scientific and educational institutions, and other interested parties.
- Identify priority sites for physical protection measures, including stabilization, in areas such as, but not limited to, the Grande Ronde and Powder Wild and Scenic Rivers.
- Pursue an active role for tribal involvement in site protection and stabilization.
- Establish goals for National Register evaluations and nominations that reflect the potential cultural and historical significance of geographic areas or watersheds.
- Evaluate OHV designations to determine whether limitations are needed at important historic properties.
- Identify locations of traditional religious and cultural importance in consultation with Tribes who have traditional interests in the Planning Area.

Paleontological Resources

In order to better manage paleontological resources, the following could be implemented:

Develop and implement strategies to regularly monitor areas where important paleontological localities are identified.

- Continue cooperation with paleontological community for studies of paleontological localities in the Planning Area, including cooperation with John Day Fossil Beds National Monument.
- Evaluate OHV designations to determine whether limitations are needed at important paleontological localities.

Visual

Some sections of the Decision Area may have incorrect or inconsistent visual resource management classifications, due mainly to the Baker RMP (BLM 1989) focusing on special areas, large tracts of land, and proximity to the main traveled routes. It was thought that the remote areas from the main routes were less visible and accessible; therefore, specific protection of visual resources was not seen as critical to the protection of those areas. As it turns out, some of those more remote areas are relatively pristine in nature and probably should be assigned to VRM Class II or III, instead of Class IV. The criteria for drawing VRM class boundaries are also inconsistent. For example, it would be better to draw the boundaries of the VRM classes to the ridgelines of major mountain ranges and scenic vistas, rather than use arbitrary criteria such as pre-determined distances from the main traveled routes, for drawing VRM class boundaries. This would protect the scenery all the way up to the ridge tops instead of just the foreground and middle ground, as seen from the traveled routes, and would provide an opportunity to re-evaluate viewsheds around communities. Existing management decisions are somewhat inadequate. Opportunities to improve the quality of the information that decisions are based on and to modify existing decisions include the following:

- Review/Update inventory information on scenic quality in areas where class designation is believed to be inconsistent with management needs: Current manual guidance on scenic quality ratings differs somewhat from the guidance that existed at the time of the previous inventory.
- Update visual sensitivity ratings: Visual sensitivity is partially determined by use volume and by type of user. With the increase in population and in recreation use within the Planning Area, visual sensitivity has increased.
- Display more comprehensively inventory information in GIS layers with more precise boundary identification.
- Reevaluate designated management classes to ensure that pristine areas are protected since many of the Class III and IV areas are pristine in nature.
- Develop management actions that would protect pristine or high quality scenic areas.

Wilderness Characteristics

Management of wilderness characteristics needs to be incorporated into the current planning process. The guidance to manage wilderness characteristic outside of wilderness areas or wilderness study areas (WSAs) was not established when the Baker RMP (BLM 1989) was written. Wilderness characteristics could be analyzed either by project (currently underway) or in an all-encompassing sweep of the Decision Area.

The BLM can make a variety of land use plan decisions to manage for wilderness characteristics, such as by establishing VRM class objectives to guide the placement of roads, trails, and other facilities or by establishing conditions of use to be attached to permits, leases, and other authorizations to achieve the desired level of resource protection. Wilderness characteristics can also be managed by designating lands as open, closed, or limited to OHVs to achieve a desired visitor experience.

b. Resource Uses

Livestock Grazing

The Baker Field Office should make the following considerations in this planning effort in regards to the range program (i.e., livestock grazing):

- Blocking up land through exchanges and land sales would create a more easily manageable range program. The efficiencies gained from such actions would allow better, more intensive management of the larger blocks of public land in the Planning Area.
- Management actions in upland plant communities need to be balanced with the needs of riparian plant communities, and management can be set up to allow enough flexibility to deal with both upland and riparian objectives as needed.
- Areas previously excluded from grazing could potentially be grazed under some circumstances, but there may be other areas where grazing might need to be excluded for some specified period or indefinitely.
- Grazing guidelines need to be addressed for newly acquired lands.

Minerals

The Baker Field Office should make the following considerations in this planning effort in regards managing mineral resources:

- Consider the establishment of a designated recreational gold prospecting area. A designated site would be managed under separate recreation program guidelines and not under the 43 CFR 3809 Surface Management Regulations.
- Increase the number of community pits to better serve urban growth and energy development with preference for areas that can be monitored, maintained, and reclaimed consistent with the site plan.
- Continue to actively remediate active mining claims and address safety issues.
- Add appropriate restrictions for mineral exploration and development within designated ACECs.
- Place high priority on NEPA documentation for mining plans of operations for timelier turnaround in order to comply with timelines to meet regulations and policy.
- Review for adequacy the notice and plan reclamation performance bonds as prescribed in §3809 regulations.
- Fund a surface protection specialist for compliance monitoring of notices and plans.
- Review current mineral material sites and prepare an overall monitoring plan for pit and quarry development and remediation

Recreation

This current planning effort will identify criteria for reducing conflicts between recreation users and other uses on public lands. The BLM will identify priority actions and recreation site improvements and address the potential for using permits or Recreation and Public Purposes leases to address recreation-related opportunities.

Most recreation opportunities within the Decision Area are unmanaged and unrestricted. As the population of recreationists continues to increase, management improvements can be made through designations such as special recreation management areas (SRMAs), extensive recreation management areas (ERMAs), and other zoning frameworks to address recreation uses and impacts on recreation destinations. Designating areas specifically for recreation purposes provides a diversity of settings consistent with a range of recreation opportunities. Recreation designations are appropriate to implement for the entire Decision Area.

- Dispersed Recreation: The BLM uses the Recreation Opportunity Spectrum (ROS) planning framework to provide and maintain a diversity of recreation opportunities on public lands. Using the ROS framework, geographic areas are delineated based on current or desired environmental settings.

Settings are managed to create or maintain recreation opportunities that are dependent on specific resources or environmental conditions of a particular area. Areas may be zoned for commercial recreation, organized group activities, and competitive events. The ROS management framework is also used to manage landscapes for their uniqueness and the diverse recreation opportunities that they provide. While some locations would best be managed for developed recreation opportunities, others would be managed for primitive experiences and solitude such as hiking, camping, float boating, fishing, and hunting, which are all popular recreational pursuits in the Decision Area.

- Special Recreation Management Area: The BLM uses SRMAs to identify areas where intensive visitor management, resource protection, and facility developments may be required. Site-specific activity plans are prepared for each SRMA designated by an RMP, which would identify recreation, access, and resource management concerns in the area. The BLM would assess identified areas and resources for designation as an SRMA. Existing activity plans for areas of the Decision Area can be reviewed and revised as necessary. Special Areas (congressional or secretarial designation or areas which require special management), either in existing SRMAs or ERMAs could also be designated through this planning effort. Special Recreation Management Areas within the Decision Area include the Snake River reservoirs, Wallowa and Grande Ronde Wild and Scenic Rivers, the National Historic Oregon Trail Interpretive Center, and the Powder River Wild and Scenic River. Recreational activities in these areas are based on the areas opportunities, but include primary uses such as historic interpretation, whitewater rafting, hunting, fishing, and primitive camping.

- Extensive Recreation Management Areas: These are areas where only minimal regulatory constraints would be placed on visitors. The majority of BLM lands in the Planning Area would be considered ERMAs where BLM actions are limited to custodial management such as signing and securing public access. The opportunity to experience public lands in an unconfined manner is an increasingly rare resource that the BLM has the ability to manage for, while protecting significant and sensitive resources. Extensive recreation management areas provide important opportunities to experience public lands in an uncontrolled environment, at least in perception, where visitors have the freedom of choice in recreation activity or location. Key areas for acquisition of property, access, or conservation easements may be identified. Changes in resource condition, use levels, demand or recreation opportunities may trigger future planning. Extensive recreation management areas in the Decision Area include the Snake River Reservoirs; Virtue Flat OHV Area; the Sheep Mountain, Homestead, and McGraw WSAs; the South Fork of the Walla Walla River area; and the Burnt River, Denny Flat, and Bassar Diggins areas. All of these ERMA areas contain a multitude of opportunities including, but not limited to fishing, hunting, sightseeing, camping, off road vehicle use, and areas of a primitive setting.

- Special Recreation Permits (SRPs): These are managed to provide for a diversity of outdoor recreation opportunities throughout the Decision Area that are consistent with protecting and sustaining the significant and sensitive resources of the area. The development of a permit classification system could be evaluated to assess permit requests, and where feasible, authorize and administer compatible permit proposals. Areas could be allocated based on large-scale permitted activities, including but not limited to competitive recreation activities and commercial guiding services. Activities authorized under an SRP would be consistent with objectives of the recreation program and recreation management plans.

- OHV Management: The BLM defines appropriate access to public lands through the land use planning process. At minimum, the new RMP will implement management prescriptions to divide the Decision Area into OHV area designations of open, limited, or closed. A network of designated roads would be designated for each limited area through

the RMP planning process (after the RMP via the travel management plan; as an interim measure, routes would be "designated to existing" until the travel management plan could be finalized). In cases where route designation is not practicable as part of the RMP, route designations would be deferred to implementation plans. In areas where no legal public access exists, motorized access routes or trails may not be identified and motorized use could be prohibited until legal public access is acquired.

- Benefits-based management is an innovative framework for guiding recreation and visitor services planning and management as it is an outcome-based, collaborative, and business oriented approach to managing recreation. It engages recreation service providers as partners in managing quality recreation settings to produce desired recreation experiences, and personal, social, economic, and environmental benefits. Recreational opportunities are provided to benefit communities, economies, and the environment. The revised Baker RMP could incorporate elements of benefits-based management, including the following:
- Specific management initiatives such as travel plans, recreation zoning, travel management areas, developed sites, and improved interpretation and education could be considered to improve opportunities, reduce conflict, while protecting or enhancing other resource values. Opportunities exist to collaborate with or maintain partnerships with interest groups; communities; and federal, state, and local agencies to enhance or contribute to achieving desired recreation outcomes.
- Existing SRMAs were designated primarily because of traditional and estimated demands at the time of 1989 RMP. The current planning process should consider a framework that will identify existing recreation niche opportunities and determine the viability of listed SRMAs and new SRMAs. Special Recreation Management Areas would assist in protecting resources from the impacts of recreation use and in improving recreational opportunities, experiences, and benefits for the recreationist.
- Recreation along travel corridors and developed sites remains popular. As potential visitation to these sites increases, management of the areas may need to focus more on providing defined recreation experiences.
- Different recreation experiences and opportunities exist for the Snake River Reservoirs area and the Wallowa/Grande Ronde River where recreation is one of the principal management objectives. Recreation niche opportunities should be evaluated and identified. Interdisciplinary management objectives and guidelines should be developed and SRMA viability for existing and potential recreation activities should be determined. Similar actions should take place for the Wallowa/Grande Ronde River area, focusing on its dispersed recreation opportunities.

Renewable Energy

The President's National Energy Policy encourages the development of renewable energy resources, including wind energy, as part of an overall strategy to develop a diverse portfolio of domestic energy supplies for our future. As a result, the demand for alternative energy-related rights-of-way (ROWs) is predicted to increase nationally, which can potentially involve portions of the Decision Area that have potential for wind and solar energy. The demand for biomass and geothermal resources is also expected to increase, although there is currently no application for these uses in the Decision Area. Through the land use planning process, the BLM has the opportunity to designate areas for renewable energy projects or to determine which areas would not be available or would be available with specific terms and conditions.

The BLM plays a vital role in managing and facilitating access to energy resources not only through its leasing function for energy minerals, but also through the issuance of ROWs that authorize private wind and solar energy producers and transporters to build the necessary infrastructure on public lands to produce or transport energy. Bureau of Land Management Washington Office (WO) Instruction Memorandum (IM) 2006-216

provides guidance for implementing the Wind Energy PEIS and on processing ROW applications for wind energy projects on public lands.

Transportation and Access

Due to the checkerboard nature of public lands in the Planning Area, a number of access issues need to be addressed in this planning process. Some access issues can be addressed by doing the following:

- Identify access routes or areas that the Baker Field Office needs to acquire for management purposes as well as public access.
- Access across private and state land would be acquired by easements, in the form of donation, purchase of rights, exchange, or reciprocal ROW grants.
- Priority areas or routes will be identified for access acquisition and acquired when there is a willing seller and funds available to do so.
- Interim route designations to "existing roads and trails" needs to be incorporated into the new RMP prior to the development of the travel management plan
- Develop new GIS layer to identify correct land base and designations for OHVs
- Develop interim travel system guidance until an official Travel Management Plan can be created and implemented.

Utility Corridors and Communication Sites and Land Use Authorizations

Based on trends and projected future demands, the lands and realty program may be greatly impacted throughout the life of the Baker RMP. Lands and realty actions will need to support resource objectives while providing customer service. Considering the following actions in the current planning process will partially address some of the concerns:

- Determine where and under what circumstances authorizations for use, occupancy, and development may be granted.
- Evaluate designated corridors and carry through the corridors that would be preferred for developing ROWs and terms and conditions for these corridors that would minimize environmental impacts and limitations.
- Evaluate and if necessary designate areas for communication sites and/or wind energy/solar projects.
- Designate ROW avoidance and exclusion areas.

With the large number of varying ROWs and other land use authorizations, it is important that all environmental resources and concerns be taken into consideration. Loss of resources or environmental damages may be prevented if compatible uses are analyzed and, where possible, consolidated. Avoidance and exclusion areas are currently identified within the Planning Area to protect resources and prevent unnecessary or undue environmental damages. Areas with important or sensitive resource values are taken into consideration when processing applications; however, the land use plan identifies areas up front that would warrant no or limited land use authorizations. This planning process gives the BLM and public an opportunity to review the current avoidance and exclusions areas and determine if updating or modification is needed. Right-of-way avoidance and exclusion areas will be designated following identification of important or sensitive resource values. Right-of-way grants within avoidance areas may be subject to restrictive stipulations. All areas not identified as avoidance or exclusion will be available for ROWs and could be subject to multiple-use terms on a case-by-case basis.

According to current BLM guidance (BLM WO-IM No. 2006-216) and the President's National Energy Policy Act of 2005, the BLM objective is to continue to make public lands available for needed ROWs where consistent with national, state, and local plans, and use ROWs in common to minimize environmental impacts and

proliferation of separate ROWs. This guidance and policy also pertains to ROWs for alternative, renewable energy resources, such as wind, solar, geothermal, and biomass.

Right-of-way corridors will also be reviewed, carried forward, or modified where necessary ensuring conformance with the PEIS for the Designation of Energy Corridors on Federal Land in 11 Western States (ROD not yet signed).

Terms and conditions that may apply to ROW corridors or development areas, including best management practices to minimize environmental impacts and limitations on other uses which would be necessary to maintain the corridor and ROW values, can be developed. Utility corridor widths should be re-evaluated. These may be reduced in size and may be limited to valid existing ROW widths or the accumulation of ROW widths where a particular utility corridor is bordered on both sides by special management areas. Where impacts to sensitive resources cannot be mitigated, corridors will not be designated. A comprehensive conflict analysis would determine where sensitive environmental concerns exist.

Hydropower/Federal Energy Regulatory Commission (FERC) re-licensing (e.g., Hells Canyon Complex) and new licenses (e.g., Thief Valley) will be addressed during this planning process. The BLM will continue to actively participate in the Hells Canyon Complex Re-licensing. This will also require active participation in the implementation of the license and the BLM mandatory terms and conditions and recommendations. Details of conditions are to be shown in each resource: fish and wildlife, cultural resources, and recreation.

Land Tenure

During the current planning effort, the following land tenure decisions should be addressed:

- Reevaluate selected lands and possible additional lands for disposal. Additional lands need to be a separate list from the original disposal list that qualifies under the Federal Land Transaction Facilitation Act (FLTFA) of 2000.
- Identify for disposal, lands that are difficult/uneconomic to manage.
- Identify lands for retention and lands for acquisition.
- Identify community expansion and open space needs of local communities.

The lands that are identified for disposal in the current planning effort are available for disposal under FLTFA, which amended FLPMA to allow retention of receipts received by the BLM from sale of land or interests in land identified prior to July 25, 2000. Therefore, it is necessary that these lands be identified for disposal separately in the revised plan to take advantage of FLTFA.

Through the planning process, the BLM and public have the opportunity to review the current zones identified in the 1989 RMP. The zone concept may be expanded to include an additional zone that would provide flexibility for the authorized officer to consolidate lands through exchange for non-federal lands within retention zones for areas with higher resource values. Exchanges or acquisitions may be made to create "well blocked" public land areas where scattered public land parcels now exist. The guidelines for adjustment within the zones would be reviewed and criteria to streamline consideration of land tenure adjustment proposals would be developed.

All lands that might be of value to local communities or counties could be identified during this planning effort and evaluated for future community expansion or open space needs. Coordination with city and county planners is essential for this effort.

Withdrawals

Current BLM policy is to minimize the acreage of public land withdrawn from mining and mineral leasing and, where applicable, to replace existing withdrawals with ROWs, leases, permits, or cooperative agreements. Now that the FLMPA

review process is complete, when Congress decides on the recommendations from the field offices, actions can occur to manage the lands according to the current land use plan. The planning process will allow the BLM and public to determine management of these lands should they come back under the jurisdiction of the BLM.

The BLM and public also have the opportunity to review the lands that were designated as ACECs in the 1989 Plan and to either carry the withdrawal recommendation forward or find other means of protecting the resources associated with the designations.

Hydropower licensing and relicensing

Hells Canyon Complex Hydropower Relicensing-
The BLM completed detailed long and short-term assessment of Idaho Power Company and FERC's submissions regarding project impacts to BLM managed resources and submitted them to Idaho Power Company and FERC. These documents are on file with FERC as well as at the BLM office. Management opportunities were considered and described in the BLM submissions where possible. In many areas, it is necessary for the applicant to provide a more detailed local assessment and management plan. These will include BLM and other agencies and tribes. Since the project life is most likely 30 years, unknown impacts and issues must be considered and mitigated as the project progresses through time, therefore adaptive management is included within the BLM submission.

Thief Valley
The proposed hydropower powerhouse on Thief Valley could impact BLM managed resources downstream, as well as be in conflict with the Wild and Scenic River designation.

There is potential for future applications for hydropower licenses. The BLM's mandate requires assessment of potential project impacts and submission of mandatory mitigation conditions and recommendations to FERC for inclusion into licenses.

c. Special Designations

Areas of Critical Environmental Concern
The existing ACECs will be reevaluated to determine if they still meet the relevance and importance criteria.

The BLM will consider additional areas for ACECs not currently designated in the Baker RMP (BLM 1989). These areas, as well as any others nominated through the scoping process, will be evaluated to determine whether they meet the relevance and importance criteria identified in BLM Manual 1613 and FLPMA. They will be reviewed to determine whether they contain special status species and/or habitats, threats or risks from management or other sources, and how they contribute to the larger picture of conserving representative communities found in the Blue Mountain Ecoregion.

Joseph Creek ACEC
Current management seems adequate to protect designated tracts of land within Joseph Creek ACEC. If flight monitoring or other on the ground monitoring (during livestock use period) continues, it should be possible to assess compliance with livestock allotment plans for the inaccessible areas of the ACEC. If this does not happen, conditions for which the ACEC was designated could deteriorate. Important resources could decline if livestock congregate in the riparian area along the narrow confines of Joseph Creek. Currently, there are no fences to exclude the ACEC lands from adjacent grazed properties (both private and public lands); however, natural barriers exist.

The BLM has acquired additional acreage in the vicinity of the Joseph Creek ACEC in the form of the Colson property, totaling 1,634 acres. The BLM currently manages this land without livestock leases, but has inventoried and treated for noxious weeds. Overall, however, the area is without management direction until the completion of the revised Baker RMP. It contains similar important resource features found in Joseph Creek ACEC, including important riparian areas, ESA listed fisheries habitat, and wildlife habitat,

and thus should be considered for inclusion as part of Joseph Creek ACEC during this planning process.

In the Preplan Analysis for the Baker RMP (BLM 2003), the Nez Perce Tribe recommended considering expanding the ACEC to include the remaining scattered tracts of BLM lands between the Joseph Creek ACEC and the Snake River. These lands are intermingled with acquired lands the Nez Perce Tribe considers "Precious Lands" that contain similar resources and values as the public lands within the Joseph Creek ACEC. The BLM should evaluate these lands, along with the recently acquired Colson property, for presence of appropriate relevance and importance values in this planning process.

Consideration should also be given to expanding the ACEC to include the upper portions of Green Gulch due to the presence of Davis' Fleabane and a number of other rare plants.

The BLM should also consider the following grazing management actions to assure the resource values of Joseph Creek are protected in the future:

- Continue implementing Section 7 monitoring requirements: This requires monitoring grazing on the allotment at least three times per season, completing all forms for utilization, and recording all information on the forms. Utilization monitoring and use supervision (allotment inspection) will occur at the beginning of the season, during mid-season, and at the end of the season on this allotment, when applicable.
- Conduct Utilization Monitoring: Utilization monitoring for herbaceous and shrub species should be accomplished at pre-determined sites at the end of the grazing season using the key forage plant method when livestock grazing has occurred. The BLM has developed utilization monitoring standards that will be used to monitor grazing allotments from 1999-2009. Thresholds of upland herbaceous vegetation use should be 50 percent, riparian herbaceous vegetation use should be 45 percent, and browse/shrubs use should be 30 percent.
- Prevent standards from being exceeded: If at any time during the grazing period utilization indicates that the standard is close to being achieved, the authorized officer should notify the grazing lessee and take appropriate and necessary action to prevent the standard from being exceeded. This type of action may include moving livestock from the pasture or allotment, shortening the season of use, or constructing fence to exclude livestock from the area.
- Continue with the agreement with the Nez Perce Tribe to collect the Joseph Creek water quality data for BLM: The BLM should work with other agencies and the watershed councils to coordinate stream temperature monitoring, prevent duplication, and get the most extensive monitoring within the basin.
- Implement PACFISH/INFISH and the Biological Opinions monitoring on BLM tracts during required years: This includes stubble height monitoring after the fall growing season and implementation and effectiveness monitoring.
- Continue working with other land managers: The BLM should continue working with private landowners and other land management agencies to inventory and control noxious weeds within the Joseph Creek watershed.
- Continue flight monitoring on the Joseph Creek tract due to inaccessibility, ruggedness, and steep slopes. The monitoring should take place from spring until fall. Flights should occur twice a month during the spring and once a month during the summer months. Documentation should be immediately dispatched to the BLM office, and action will be taken when applicable.

Grande Ronde ACEC

Since completion of the Baker RMP (BLM 1989), management has improved conditions for recreation, endangered species, and riparian areas in the Grande Ronde ACEC; however, overall funding for management has declined. If funding for management in the ACEC continues at

current levels, it may be difficult to adequately protect the resources and values for which the ACEC was designated.

The wild and scenic river designation of the Oregon section of the Grand Ronde River overlaps 17 percent of the ACEC. The BLM should evaluate if this overlapping designation is necessary to protect relevant and important resources. Furthermore, the BLM has acquired additional lands immediately outside of the current ACEC boundary (along Courtney and Sickfoot creeks) that contain similar values that should be evaluated to determine whether they meet criteria for inclusion into the ACEC.

The BLM should continue to follow the Goosenecks National Natural Landmark program updates and participate in management actions or cooperation with adjacent private landowners that may be necessary to protect the national natural landmark values. Information on this important and unique feature should also be included within information disseminated to the public.

Powder River ACEC

Management since the Baker RMP (BLM 1989) has improved conditions in the Powder River ACEC. The remoteness of the area assists in limiting use of the area, thus limiting impacts. The river was reported to be at proper functioning condition and the tributaries in an upward trend. The primary impact seems to be the loss of sediment and point bars resulting from Thief Valley Dam. If affects from the dam continue, impacts would include a decline in shoreline sediment and riparian vegetation, and potentially loss or disturbance of cultural sites. Thief Valley Dam is currently being considered for retrofit to hydropower production. Changes in operation would significantly affect resource values within the ACEC. The BLM will participate in this process to assure public resources are protected.

The wild and scenic river designation of the Powder River overlaps 41 percent of the ACEC. The BLM should evaluate if this overlapping designation is necessary to protect relevant and important resources.

Keating ACEC

The three Keating units, two of which include RNA designations, have been managed as part of the grazing allotments. The Balm Creek RNA portion of the ACEC was fenced soon after completion of the Baker RMP (BLM 1989). The fence was maintained, but due to gates on both ends and the remnants of a stream bottom road, the gates were frequently left open, allowing livestock access to the riparian area. The fence was breached when the mine restoration project began and has remained open to livestock use for the past two years. Twenty acres have been disturbed as part of the mine reclamation project, but are expected to recover if fencing or other actions are accomplished. The remaining units of the Keating ACEC (Sawmill Creek and Clover Creek) have continued to be grazed and evaluations indicate declining conditions. If current management for these areas continue, the relevant and important values for which the ACEC was designated could be compromised.

Implementation of the revised grazing permit renewal for healthy rangelands would contribute to the protection of the ACEC values if fences are maintained and checked, new fences established, utilization levels not exceeded, projects maintained, trespass eliminated, and desired future conditions met. Intensive management and monitoring will be necessary to improve vegetation quality. Enhancing and maintaining vegetation health is critical to remedy the current unstable channel formation. This should involve evaluating impacts from grazing pressure and seasons of use.

Completing implementation of appropriate recovery actions in a timely fashion on the Balm Creek mine restoration project will be necessary to protect RNA and ACEC values.

On Sawmill ACEC, there is a specific need to repair gates, evaluate compliance with water use from water rights, fix fences, lighten grazing pressure, change season of use, and enforce no trespass.

Unity Reservoir ACEC

The BLM has managed the Unity Reservoir ACEC in association with the USFS Bald Eagle Management Area (BEMA) Plan since its designation in the Baker RMP (BLM 1989). Field personnel have visited the ACEC on occasion to determine use by bald eagles and have noted infrequent use and no sign of nesting on public lands. Nesting continues to occur on adjacent USFS lands. Although delisted under the ESA, bald eagles continue to be protected by the Bald and Golden Eagle Protection Act of 1962 and the BLM special status species program. While a USFS document, the Unity BEMA Plan includes BLM recommendations and is signed by the BLM. The proposed Woodtick Village fuels treatment project will be implemented in a manner that ensures consistency with the BEMA Plan. Continued annual monitoring for use by bald eagles is needed to assess impacts of management actions. If management continues to protect the ACEC as designed, bald eagle use will likely continue and contribute to the recovery of the species; therefore, the protection of the site remains appropriate.

Hunt Mountain ACEC

Very little information is available regarding Hunt Mountain ACEC. Access is limited and management actions have been minimal; however, botanical resource information has been collected. While no monitoring has occurred since designation, some trespass by livestock within the ACEC has been reported. Current management could thus lead to loss of resources for which it was designated, or could result in no change.

Management actions potentially needed to protect ACEC values include stopping livestock trespass, fencing the area if needed, completing detailed assessment of special status species present, and coordinating with adjacent USFS land management actions.

Specific management recommendations for special status plants on Hunt Mountain should be established after the BLM completes a detailed inventory. The following general management recommendations in areas where special status plants occur on Hunt Mountain should be considered:

- No Ground disturbing activities in these areas
- No livestock grazing in these areas
- No Timber harvest
- Maintain habitat conditions conducive to the species

None of section 22 is included in the ACEC boundary, which Joyal indicates is part of the occurrences for both Bupleurum americanum and Castilleja flava var. rustica. These locations should be assessed and considered for inclusion within the ACEC.

Oregon Trail ACEC

The BLM has made excellent progress towards management protection of the Oregon Trail ACEC since its designation in the Baker RMP (BLM 1989). The Oregon Trail Management Plan (BLM 1989) has facilitated actions consistent with protection of the relevant and important values of the ACEC. Such protection is expected to continue under current management. Additional management actions to be or evaluated in this planning process include:

- Complete mineral withdrawal for Straw Ranch component of the ACEC. Reevaluate need for mineral withdrawal at Echo Meadows component of the ACEC.
- Identify designated roads and trails for OHV management needed to protect the Oregon Trail and historic landscape within the Oregon Trail ACEC.
- Evaluate existing visual resource management designations for the Oregon Trail ACEC to determine if changes are needed to address protection of the historic landscape.

Sheep Mountain and Homestead ACECs
The issues affecting Sheep Mountain and Homestead ACECs are the same, with both ACECs experiencing limited management actions since designation. Significant portions of the two ACECs are included within the recognized boundaries of WSAs and have benefited from protection afforded to the WSAs. Lands in both ACECs were burned during the 2006 Foster Gulch Fire and are currently undergoing 2-5 years of rest from grazing until vegetation resources are restored. While such management of the ACECs would likely result in continued protection of the values they encompass, enforcement is necessary for such protection to continue. The implementation of the revised conditions established in the range permit renewal is also essential to the protection of the ACEC values.

South Fork Walla Walla ACEC
The South Fork Walla Walla ACEC has experienced significant attention to the protection of its values since its designation in 1992. Most management actions have been implemented, monitored, and revised as needed. New resource values (ESA listed fish species and tribal reintroduced fish species) have been appropriately incorporated into the resource protection plan and management within the area. Continued current management with adaptive strategies as issues arise will lead to protection of the ACEC values into the future.

Continuing recreation management, trail maintenance, puddle bridge construction (for ESA listed species on the trail), trailhead maintenance, limiting OHV use to trails, improved law enforcement coverage, and no camping within the ACEC are needed to maintain the relevant and important values of the ACEC.

Wild and Scenic Rivers
All river segments in the Planning Area have been inventoried for eligibility for inclusion in the National Wild and Scenic Rivers System. Those that meet eligibility requirements will be assessed for suitability under the Wild and Scenic Rivers Act. Those sections determined suitable will be recommended for inclusion into the National Wild and Scenic River System (though final designation would be an Act of Congress), and interim management will be developed. Existing designated Wild and Scenic Rivers will be managed in order to protect their outstandingly remarkably values and maintain their free-flowing condition.

The Baker Field Office will conduct a wild and scenic rivers suitability analysis as part of the RMP process. If eligible streams or river segments are identified and recommended as suitable, management actions will need to be identified that would protect their outstanding remarkable values, such as establishing VRM classifications, restricting surface-disturbing activities, and designating OHV routes.

Backcountry Byways
The current Snake River/Mormon Basin Backcountry Byway will be maintained to protect the qualities of the byway. In addition, cooperation with all managing agencies will be maintained or improved. Opportunities to improve the awareness of the byway will be encouraged, in addition to the possible development of interpretive points of interest along the150-mile route.

Wilderness Study Areas
A number of management actions could be implemented during this planning process that would further protect the wilderness values of the WSAs. These actions include the following:

- Clearly identifying designated WSAs as closed or limited to designated routes
- Signing all the routes and boundaries
- Increasing the frequency of patrols
- Restoring any areas affected by use
- Restricting recreational activities if necessary to protect WSA resources (e.g., group size limits and designated campsites)
- Expanding visitor education programs

d. Social and Economic

Public Health and Safety

Abandoned Mines

The BLM should address the need to continue surveying and updating information on abandoned mine sites during this current planning effort.

Debris Flows

Often, it is impractical (and cost prohibitive) to remove/clean up trash sites completely. In some situations and depending on the types of materials involved, material is sometimes buried or burned. This is not a common practice and used only on a case-by-case basis where no impacts to resources will occur. A set procedure on when or how to accomplish cleanups does not currently exist. One reoccurring problem is inconsistency in dealing with occupancy trespasses, which usually involves solid waste. Bureau of Land Management rangers sometimes cite people for illegal dumping or littering, or issue warnings and a request that the waste be cleaned up. The RMP revision is an opportunity to develop guidelines for clean up.

Hazardous Materials

It is necessary to identify known hazardous materials sites and to develop management strategies to facilitate cleanup and reclamation of sites. The database of hazardous materials sites should cover the entire Decision Area. Cleanup strategies could be simplified if minerals and realty actions involved management of hazardous materials.

Tribal Interests

Trends that are more recent include a greater awareness among managers of treaty rights and tribal government interests, and the importance of working collaboratively with Tribes. The following should be integrated into this current planning effort:

- Engage in proactive Native American consultation to ensure that tribal treaty rights and concerns are identified and considered early in the planning process.
- Emphasize consistency of BLM plans and projects with tribal programs for the protection and enhancement of natural and cultural resources, including traditional foods that are essential to the exercise of treaty rights and cultural practices of the tribal community.
- In consultation with Tribes, identify traditional cultural properties and important cultural plant locations for management.

B. Areas of Relative Ecological Importance to Guide Land Use Management

In the Baker RMP (BLM 1989), the Planning Area was divided into 14 smaller geographic units for the purpose of identifying site specific resource condition objectives, allocations, and management actions (see Map 4.1). Geographic units were based on unnatural boundaries and will not be used in this planning process. Analysis and subsequent management of the Planning Area will be based on watersheds. As discussed in Chapter 2, Section A-5 (Water Resources), the Planning Area can be divided into watersheds based on hydrologic data. Watersheds are identified using hydrologic unit codes (HUC), and the smaller the HUC number, the larger the watershed. Following this, the entire Planning Area falls under one HUC 1 or "region" (specifically, the Pacific Region), three HUC 2s or subregions, 5 HUC 3s or basins, and 16 HUC 4s or subbasins (see Table 2.3 and Map 2.2). This planning process will use these 16 subbasins to help identify site-specific resource conditions and objectives, allocations, and management actions.

5 Consistency and Coordination with Other Plans

This planning process will recognize ongoing programs, plans, and polices that are being implemented in the Planning Area by other land managers and interested governments. The Baker Field Office of the Bureau of Land Management (BLM) will seek to be consistent with or complimentary to other management actions. Whenever possible, valid resource decisions and management prescriptions would be carried forward into the planning process. The following plans, which originate from agencies within and adjacent to the Planning Area, are being reviewed for decisions or issues/management prescriptions would be carried forward into the planning process.

A. County/City plans

The BLM will review plans from the following counties in this planning process to ensure consistency at the county level:

- Baker County, Oregon
- Union County, Oregon
- Wallowa County, Oregon
- Umatilla County, Oregon
- Morrow County, Oregon
- Asotin County, Washington

B. State Comprehensive Wildlife Conservation Strategies and State lands plans

The BLM will review plans from Oregon State agencies listed as potential informal cooperators, including but not necessarily limited to the following

- State Comprehensive Outdoor Recreation Plan
- Land Conservation and Development Commission's 19 Statewide Planning Goals and Guidelines
- Eastern Oregon Ecosystem Health Strategy (Governor Kitzhaber's 11-Point Plan)
- Oregon Forest Practices Act
- Oregon Healthy Streams Partnership, including water quality management area plans for agricultural areas designated under Senate Bill 1010
- Oregon Department of Environmental Quality's (ODEQ's) developing regional haze state implementation plan for Oregon (involving the Eagle Cap and Hells Canyon Wilderness areas) and plans for particulate non-attainment in the La Grande urban area.
- ODEQ's Nonpoint Source Control Program Plan and Oregon's 2000 Water Quality Status Assessment Report - 305(b) Report

- Oregon Department of Fish and Wildlife (ODFW) Wildlife Diversity Plan, Native Fish Conservation Policy and Hatchery Management Policy, Greater Sage Grouse Conservation Assessment and Strategy for Oregon, Oregon Plan for Salmon and Watershed Health, Bighorn Sheep and Rocky Mountain Goat Plan, Elk Management Plan, Mule Deer Management Plan, Wolf Plan and Cougar Management Plan, and Oregon Conservation Strategy.
- Oregon's Statewide Comprehensive Historic Preservation Plan
- Oregon Water Resource Commission's 1995-1999 Strategic Water Resource Management Plan
- Oregon Parks and Recreation Department (OPRD) State Scenic Waterway management plans
- Division of State Land and the State Land Board Asset Management Plan
- Oregon Noxious Weed Strategic Plan
- Any other plans determined through scoping, collaboration with agencies, or through cooperating agency input to have relevance and influence on the Baker RMP revision.

C. Other Federal agency plans

The BLM will review plans from other federal agencies listed as potential informal cooperators, including but not necessarily limited to the following:

- Malheur National Forest Land Use Plan
- Wallowa-Whitman National Forest Land Use Plan
- Umatilla National Forest Land Use Plan
- Boardman Bombing Range
- Umatilla Army Depot Installation Restoration Program
- John Day Resource Management Plan
- John Day River Management Plan (2001)
- Southeastern Oregon Resource Management Plan (2002)

D. Opportunities for Cooperating Agency Relationships

The BLM has notified and asked local, state, and federal agencies and tribal governments to collaborate with the BLM during the development of the Baker Resource Management Plan (RMP). Representatives from these agencies and tribes bring vast knowledge and a broad range of interests to the table and will enhance the ability of the BLM to identify important issues and to address them with an appropriate range of alternatives. Although no agency or tribal government has decided to be formal cooperators at this time, some have shown interested in being involved in the process.

The intent is for representatives from the various agencies and tribal governments to meet periodically to review and develop content initiated by BLM staff. This group can help play a role in refining issue development, formulating alternatives, and identifying key publics, as well as providing prepublication review of key documents. Cooperators can keep the BLM informed of new concerns for their organizations or community that may be relevant to the RMP process. When needed and to the extent that cooperator staff time is available, small subgroups may be designated to work on specific problems during the planning process.

1. Federal Government

In addition to the BLM, several federal agencies have resource management responsibilities within the Planning Area. Some of these agencies have chosen to participate in the Baker RMP planning process. The U.S. Fish and Wildlife Service (USFSW) and the National Oceanic Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) have oversight responsibilities for compliance with the Endangered Species Act (ESA). The Baker Field Office has also been a member of the Recovery Planning team with NOAA. The Environmental Protection Agency is required to review and evaluate all Environmental Impact Statements (EISs). The

U.S. Forest Service (USFS) manages lands and resources adjacent to BLM-administrated public lands (public lands) and has shared interests with the BLM in making management of lands and resources complementary, while recognizing different missions, whenever possible.

Below is a list of potential federal cooperators. The BLM has shared interests with these agencies and can continue to share information that will benefit the land and resources in the Planning Area by having a coordinated plan.

- Malheur National Forest
- Umatilla National Forest
- Wallowa-Whitman National Forest
- NOAA Fisheries Service
- USFWS
- Bureau of Reclamation
- DOD Boardman Bombing Range (Navy)
- Umatilla Depot (Army)
- Corps of Engineers
- Bonneville Power Administration

2. Tribal Involvement

Guided by national policy and law, the BLM is committed to continuing consultation and cooperative management whenever possible. The BLM recognizes its responsibility to provide federally recognized tribal governments and individuals sufficient opportunities to contribute to land use decisions and to give proper consideration to those concerns or issues related to cultural/religious and natural resources. The U.S. Constitution acknowledges this trust relationship, which is based upon negotiated treaties or other agreements that recognize the sovereignty of American Indian nations to govern themselves as distinct political communities.

To date, the BLM has conducted meetings to identify preliminary issues with representatives from the Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, and Burns Paiute Tribe. Additional consultation meetings would be ongoing, and meetings are anticipated with other tribes that have treaty rights and interests in the Planning Area. Tribal governments contacted by the BLM with an invitation to participate as cooperators in the land use planning process include the following:

- Confederated Tribes of the Umatilla Indian Reservation
- Nez Perce Tribe
- Confederated Tribes of the Colville Reservation
- Burns Paiute Tribe
- Confederated Tribes of the Warm Springs Reservation
- Shoshone-Paiute Tribes of the Duck Valley Reservation
- Shoshone-Bannock Tribes of the Fort Hall Reservation
- Fort McDermitt Paiute and Shoshone Tribes

3. State Government

Several state agencies have jurisdiction over certain activities within the Planning Area. As a result, it is important that these agencies be represented in this planning process. The BLM regularly coordinates with several state agencies. The ODFW is involved with the planning of many of the Baker Field Office's projects and current activities, often assisting in project development and mitigation. The BLM has worked with OPRD and has coordinates some activities with this agency. The BLM regularly coordinates monitoring and data collection on streams with ODEQ, has shared all water quality information with ODEQ for a number of years, and has sought advice on specific projects and monitoring.

Below is a list of potential informal Oregon State cooperators:

- ODEQ
- Oregon Department of Forestry
- ODFW
- Oregon Economic and Community Development Department
- Oregon Department of Geology and Mineral Industries
- Oregon Division of State Lands
- Oregon Office of Energy
- Oregon Heritage Commission
- Oregon State Historic Preservation Office
- Oregon Water Resources Department
- Oregon Department of Land Conservation and Development
- Oregon Department of Transportation
- Oregon Public Utilities Commission
- OPRD
- Oregon Department of Agriculture
- Oregon Historic Trails Advisory Council

Below is a list of potential informal Washington State cooperators:

- Washington Department of Fish and Wildlife
- Washington Department of Natural Resources
- Washington Department of Ecology
- Washington Department of Agriculture
- Washington Invasive Species Council
- Washington Department of Archaeology and Historic Preservation
- Washington Conservation Commission
- Washington Parks and Recreation Commission
- Washington Department of Transportation
- Washington Utilities and Transportation Commission
- Washington Land Use Study Commission
- Northwest Power and Conservation Council
- Washington Geographic Information Council

4. Local Government

County and municipal governments as representatives of local constituencies have a vested interest in land use planning involving federal lands. Lands managed by the BLM can provide areas for recreation as well as a source of income for Planning Area residents. Public lands can contain roads of importance to local communities and frequently provide the most desirable routes for utilities. Because of their awareness of the needs of local communities, it is important that representatives of local government be involved in the planning process. The BLM has invited officials of Baker, Union, Wallowa, Morrow, and Umatilla counties in Oregon and Asotin County in Washington to participate in the planning process.

Potential Local Government Cooperators include the following:

- County Commissions or Courts within the Planning Area
- Incorporated City Governments within the Planning Area

5. Other Interested Groups/Stakeholders

The BLM has often worked with the Powder River, Grande Ronde River, and Walla Walla River Watershed Councils to help with information and data sharing. The BLM has helped to work on plans and projects in each of the watershed councils, especially with emphasis on the Decision Area. The local watershed councils are an important part of overall coordination and knowing how local groups respond to certain types of management. The councils are made up of different

agencies and interested publics. In addition to the watershed councils, there may be instances where particular Soil and Water Conservation Districts may be interested in participating.

Stakeholders or interested publics that do not qualify as cooperators have been identified and are listed below. Additional stakeholders will be identified throughout the process. The BLM will compile a mailing list identifying key people in these organizations, agencies, and interest groups.

- Special interest groups
- Adjacent private landowners
- Grazing permittees
- Miners
- Northwest Mining Association
- Eastern Oregon Mining Association
- Interested businesses and consultants
- John Day/Snake Resource Advisory Council

6. The Public

The most critical element of cooperative management is public involvement. Congress has mandated that the BLM manage public lands for public benefit. At the same time, the public is not a single cohesive entity; rather, the BLM serves a diverse public with multiple and often conflicting interests and positions about key issues. It is important that the diversity of public interests be represented during the planning process. It is the intent of the BLM planning team to provide the public with direct access to the planning process. This will be accomplished in the following manner:

Public Scoping: This initial step, requesting the public provide information about public lands and identify concerns associated with public lands in the Planning Area, has been completed and is described in Chapter 7.

Publication and public review of the Analysis of the Management Situation

Public comment on the Baker DRMP/DEIS. Comments may be submitted via U.S. mail, e-mail, telephone, or during public review meetings.

6 Special Mandates and Authority

A. Federal, State, and Local laws, Regulations, and Policies that Apply to All Resources and Resource Uses

- The Federal Land Policy and Management Act (FLPMA) of 1976, as amended, 43 U.S.C. 1701 et seq., provides the authority for BLM land use planning.
- The National Environmental Policy Act (NEPA), as amended, 42 U.S.C. 4321 et seq., requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. This includes the consideration of alternatives and mitigation of impacts.

B. Federal, State, and Local laws, Regulations, and Policies that Apply to Specific Resources and Resource Uses

1. Resources

a. Air quality

Federal Laws, Regulations, Statutes, and Orders

- The Clean Air Act, as amended (1990), 42 U.S.C. 7418, requires federal agencies to comply with all federal, state, and local requirements regarding the control and abatement of air pollution. This includes abiding by the requirements of state implementation plans. The following sections of the Act apply to this planning process:
- Applicable National Ambient Air Quality Standards (Section 109)
- State Implementation Plans (Section 110)
- Control of Pollution from Federal Facilities (Section 118)
- Prevention of Significant Deterioration, including visibility impacts to mandatory federal Class I Areas (Section 160 et. seq.)
- Conformity Analyses and Determinations (Section 176(c))

Policies

- United States Department of Interior (DOI) Manual (910 DM 1.3)
- 1995 Federal Wildland Fire Management Policy
- 2001 Updated Federal Wildland Fire Management Policy (1995 Federal Wildland Fire Management Policy update)
- 1998 Departmental Manual 620 Chapter 1, Wildland Fire Management General Policy and Procedures

- Code of Federal Regulations (CFR) Title 43 (1610) (BLM's planning guidance and regulations)/BLM Manual 1601
- Interagency Standards for Fire and Fire Aviation Operations: As amended annually, describes policy and operations for all fire-related activities in the DOI and US Department of Agriculture (USDA).
- BLM Manual Section 9214, Prescribed Fire Management (1988), and BLM Handbook 9214 (2000): Describes the authority and policy for prescribed fire use on public lands administered by the Bureau of Land Management

MOUs

- Northeast Oregon Smoke Management Memorandum of Understanding (MOU)

Other

- Vale District Fire Management Plan

State Laws and Regulations

- OAR 340-200-0040, State of Oregon Clean Air Act Implementation Plan: This implementation plan contains control strategies, rules, and standards prepared by the Department of Environmental Quality.
- Oregon Statute 477.013 Smoke Management Plan:

  1. For the purpose of maintaining air quality, the State Forester and the Department of Environmental Quality shall approve a plan for the purpose of managing smoke in areas they shall designate. The plan shall delineate restricted areas to which this subsection applies. The plan shall also include but not be limited to considerations of weather, volume of material to be burned, distance of the burning from designated areas, burning techniques, and provisions for cessation of further burning under adverse air quality conditions. All burning permitted within the restricted areas shall be according to the plan. The plan shall be developed by the State Forestry Department in cooperation with federal and state agencies, landowners, and organizations that will be affected by the plan. The approved plan shall be filed with the Secretary of State and may thereafter be amended in the same manner as its formation.
  2. The State Forester shall promulgate rules to carry out the provisions of the smoke management plan approved under this subsection [1997 c.274 s.47].

b. Water Resources

- The Clean Water Act, as amended, 33 U.S.C. 1251, establishes objectives to restore and maintain the chemical, physical, and biological integrity of the Nation's water.
- The Federal Water Pollution Control Act, 33 U.S.C. 1323, requires the federal land manager to comply with all federal, state, and local requirements regarding the control and abatement of water pollution in the same manner and to the same extent as any nongovernmental entity.
- The Safe Drinking Water Act, 42 U.S.C. 201, is designed to make the Nation's waters "drinkable" as well as "swimmable." Amendments establish a direct connection between safe drinking water, watershed protection, and management.

c. Vegetative Communities

Forestry and Woodland Products

- The Healthy Forests Initiative
- The Healthy Forests Restoration Act

Sagebrush Plant Communities

- BLM's National Sage Grouse Habitat Conservation Strategy (November 2004) contains guidance for the management of sagebrush plant communities for sage grouse conservation.

d. Noxious Weeds

- Executive Order 13112 (Invasive Species) provides that no federal agency shall authorize, fund or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its

determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk or harm will be taken in conjunction with the actions.

- The Carlson-Foley Act (PL 90-583 codified in 43 U.S. Code [USC] 1241) establishes legal guidance and responsibility for the management of weeds on federal lands. This law authorizes federal agencies to allow states to take weed control measures on federal lands.

e. Fish and Wildlife and Special Status Species

- The Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, directs BLM to 1) conserve Threatened and Endangered Species and the ecosystems upon which they depend, and 2) not contribute to the need to list a species.

- The Pacific States Bald Eagle Recovery Plan (USFWS 1986) covers the states of Washington, Oregon, Idaho, Montana, Wyoming, California, and Nevada. The Plan established recovery population goals, habitat management goals, and 47 management (recovery) zones. The High Cascades and Blue Mountain Zones (zone 11 and 9 respectively) includes the Planning Area. The Pacific States Bald Eagle Recovery Plan described specific criteria for the Pacific Recovery Area (PRA) as necessary for delisting.

- The 1995 Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (USDA-FS & USDI-BLM 1995), commonly referred to as PACFISH, provides guidance for managing and monitoring grazing lands adjacent to streams where anadromous fish are present or potentially present.

Federal Laws and Statutes

- Endangered Species Act of 1973 (16USC 1531 et seq.), as amended: Provisions of the ESA, as amended, apply to plants and animals that have been listed as endangered or threatened, those proposed for being listed, and designated and proposed critical habitat.

- Sikes Act of 1974, Title II (16 USC 670g et seq.), as amended: This Act directs the Secretaries of Interior and Agriculture to, in cooperation with the state agencies, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game species. Such conservation and rehabilitation programs shall include, but are not limited to, specific habitat improvement projects and related activities and adequate protection for species considered threatened or endangered.

- The Migratory Bird Act of 1929, as amended: This Act establishes federal responsibility to protect international migratory birds and authorizes the Secretary of the Interior, through the USFWS, to regulate hunting of migratory birds. The North American Waterfowl Management Plan signed in 1986 between Canada and USA further sets population goals and how to achieve them.

- The Bald and Golden Eagle Protection Act of 1940, as amended: This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

- Magnuson-Stevens Fishery Management and Conservation Act (MSA) as amended in 1996: This Act requires federal agencies to consult with National Marine Fisheries Service on activities that may adversely affect Essential Fish Habitat (EFH) of federally managed commercial fishery species. The BLM is required to consult on effects to Chinook salmon, Coho salmon, and Puget Sound pink salmon. The definition of EFH is "...those waters and substrate necessary to fish for spawning, breeding, or growth to maturity."

Policies

- BLM Special Status Species Policy: It is the BLM's policy to comply with the following stipulations:

  1. Conserve federally listed and proposed threatened or endangered species and the habitats on which they depend.

  2. Ensure that actions requiring authorization or approval by the BLM are consistent with the conservation needs of special status species (SSS) and do not contribute to the need to list any SSS, either under provisions of the ESA or other provisions of this policy.

- BLM Manual 6840.06 - BLM Sensitive Species Policy: It is the BLM's policy is to provide sensitive species with the same level of protection as is provided for candidate species in BLM Manual 6840.06 C; that is, to "ensure that actions authorized, funded, or carried out do not contribute to the need for the species to become listed." The Sensitive Species designation is normally used for species that occur on Bureau administered lands for which BLM has the capability to significantly affect the conservation status of the species through management.

- BLM Manual 6840 Special Status Species Management, Sage-grouse: Policy guidance for sage-grouse habitat conservation is summarized in this manual. It provides national level policy direction, consistent with appropriate laws, for the conservation of special status species of animals and plants and the ecosystems on which they depend. Conservation in this Strategy, and consistent with 6840 policy, means the use of all methods and procedures necessary to improve the condition of special status species.

- BLM National Sage Grouse Habitat Conservation Strategy (June 2004): The objective of this strategy is to manage public land in a manner that will maintain, enhance, and restore sage grouse habitats while providing for multiple uses public land. The following five goals will guide BLM's implementation of the national strategy:

  1. Develop a consistent and effective management framework for addressing conservation needs of Sage grouse on public lands.

  2. Increase our understanding of resource conditions and priorities for maintaining and restoring habitat.

  3. Expand available research and information that supports effective management of Sage grouse habitat.

  4. Develop partnerships to enhance effective management of Sage grouse habitats.

  5. Ensure leadership and resources are adequate to implement national and state-level Sage grouse habitat conservation strategies.

- USFS Management Plan, Unity Reservoir Bald Eagle Management Plan (1985): This plan was adopted into our current resource management plan (RMP) as specific guidelines that BLM follows to avoid the bald eagle being listed on the ESA. Since then, the bald eagle has been delisted and is protected under two ESA policies. Since the bald eagle is considered a Bureau sensitive species this management plan will still be followed until further directed.

- Wind Energy Development Programmatic Environmental Impact Statement (PEIS) (2006): This PEIS evaluates the potential impacts associated with the proposed action to develop a Wind Energy Development Program, including the adoption of policies and best management practices (BMPs) and the amendment of 52 BLM land use plans to address wind energy development.

- GOA Wind Power Impacts on Wildlife and Government Responsibilities for Regulating Development and Protecting Wildlife (2005): GAO assessed (1) what available studies and experts have reported about the impacts of wind power facilities on wildlife in the United States and what can be done to mitigate or prevent such impacts, (2) the roles and responsibilities of government agencies in regulating wind power facilities, and (3) the roles and responsibilities of government agencies in

protecting wildlife. GAO reviewed a sample of six states with wind power development for this report.

- USFS Management Recommendations for Northern Goshawk in Southwestern United States Tech Manual RM-217 (1991): This manual provides technical guidelines on how we should manage habitat that could support goshawks. Furthermore, this manual has various management suggestions such as snags/acre, times to avoid logging, and habitat densities.

Other

- Greater Sage-grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat (2005): The Baker Local Area Planning Group includes representatives from the Oregon Department of Wildlife, the Bureau of Land Management, ranchers. In the future, this working group would encourage conservation groups, local minors, University's, and the like to participate in sage-grouse decisions.

f. Wildland Fire Ecology and Management

Federal Laws and Statutes

- Protection Act of September 20, 1922 (42 Stat. 857; USC 594)
- Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 USC 1856, 1856a)
- Economy Act of June 30, 1932 (47 Stat. 417; 31 USC 686)
- Disaster Relief Act, Section 417 (Public Law 93-288)
- Annual Appropriations Acts for the DOI
- The Multiple-Use Sustained-Yield Act of June 12, 1960
- The Forest and Rangeland Renewable Resources Planning Act of August 17, 1974
- Healthy Forest Restoration Act, December 2003 (PL 108-148)

Policies

- United States DOI Manual (910 DM 1.3)
- 1995 Federal Wildland Fire Management Policy
- 2001 Updated Federal Wildland Fire Management Policy (1995 Federal Wildland Fire Management Policy update)
- 1998 Departmental Manual 620 Chapter 1, Wildland Fire Management General Policy and Procedures
- CFR Title 43 (1610) (BLM's planning guidance and regulations), BLM Manual 1601

BLM National Fire Policy

- 43 CFR 9212.0-6 Policy: It is the policy of the BLM to take all necessary actions to protect human life, the public lands, and the resources and improvements thereon through the prevention of wildfires.
- BLM Manual Section 9212, Fire Prevention (1992): Consistent with Departmental policy (910 DM 1.4), it is the BLM's policy that:

  1. Prevention of catastrophic wildfires is a high priority. Commitment to an effective wildfire prevention program is expected at all levels within the Bureau.
  2. The wildfire prevention program shall be designed to minimize losses from fire consistent with resource objectives identified in the RMPs.
  3. Wildfire prevention shall stress the analysis of risks, hazards, and values and the development of specific educational, engineering, enforcement, and administrative prevention actions.
  4. Wildfire prevention activities shall be coordinated with all federal, state, county, and municipal agencies.
  5. Each state and district office shall provide coordination, guidance, and assistance to achieve an aggressive wildfire prevention program and shall maintain and update as required a wildfire prevention plan integrated with the fire management planning process.
  6. Wildfire Prevention Program funding shall be consistent with the identified needs as determined through a prevention analysis

that is approved as an operational plan of the fire management plan (BLM 9212-1).

7. The BLM shall emphasize the use of hazardous fuels reduction techniques as part of the wildfire prevention program.

- BLM Manual Section 1742, Emergency Fire Rehabilitation and BLM Handbook 1742 provides for guidance for emergency fire rehabilitation including measures to prevent accelerated soil erosion, establishment of noxious and/or invasive plant species, and post-fire management of restoration areas. Fire line rehabilitation would include restoration of surface contours and closure to vehicles.

- BLM Manual Section 9214, Prescribed Fire Management (1988), and BLM Handbook 9214 (2000) describes the authority and policy for prescribed fire use on public lands administered by the Bureau of Land Management. It is BLM policy that:
  1. The role of fire and its potential use will be considered in establishing the management strategy for all ecosystems.
  2. Prescribed fires may be initiated by planned or unplanned (unscheduled) ignition. See definitions under BLM Manual Section 9210.
  3. All prescribed fires (including hazard reduction) projects will support one or more approved land management objective(s) derived from the Bureau's land and management planning process.
  4. The planning and execution of the prescribed fire will be funded by the benefiting program(s).
  5. Each prescribed fire project will have an approved Prescribed Fire Plan completed before ignition and well be reported upon completion. Other agency projects supported by the Bureau will have approved participation.
  6. Each prescribed fire will be managed and executed in conformance with the approved plan by qualified personnel. The term qualified will include experience, training, and physical fitness for key positions.
  7. Prescribed fire projects will comply with federal, state, and local regulations and standards, including air quality and smoke management programs.
  8. Pre-burn, burn, and post-burn fuel and weather measurement(s) will be taken on all prescribed fire projects for planning purposes, prescription compliance, and project evaluation. It may not be necessary to take post-burn weather measurements on fuel reduction projects.
  9. Pre-burn and post-burn monitoring will be conducted to determine whether resource and fire objectives are achieved, unless where previous documented experience is adequate to predict post-burn results.

- Interagency Standards for Fire and Fire Aviation Operations, as amended annually, describes policy and operations for all fire-related activities in DOI and USDA.

- BLM Manual 1740 and BLM Manual Handbook H-1740-1 provide guidance and procedures for management and treatment of renewable resources, including utilization of management-prescribed fire and emergency fire rehabilitation.

- The 2001 Review and Update of the 1995 Federal Wildland Fire Management Policy states:
  1. Safety: Firefighter and Public Safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
  2. Fire Management and Ecosystem Sustainability: The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological and social components.

3. Response to Wildland Fire: Fire, as a critical natural process, will be integrated into land use plans and RMPs and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.

4. Use of Wildland Fire: Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.

5. Rehabilitation and Restoration: Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, and safety, and to help communities protect infrastructure.

6. Protection Priorities: The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of the protection. Once people have been committed to an incident, these human resources become the highest value to be protected.

7. Wildland Urban Interface: The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reductions, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify mutual responsibilities of the partners, including funding. (Some federal agencies have full structural protection authority for their facilities on lands they administer, and may also enter into formal agreements to assist state and local governments with full structural protection.)

8. Planning: Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.

9. Science: Fire Management Plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociologic factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, Fire Management Plans, and implementation plans.

10. Preparedness: Agencies will ensure their capabilities to provide safe, cost-effective fire management programs in support of land and RMPs through appropriate planning, staffing, training, equipment, and management oversight.

11. Suppression: Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.

12. Prevention: Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.

13. Standardization: Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values to be protected methodologies, and public education programs for all fire management activities.

14. Interagency Cooperation and Coordination: Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.

15. Communication and Education: Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.

16. Agency Administrator and Employee Roles: Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available.

17. Evaluation: Agencies will adopt and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will assure accountability, facilitate resolution of conflicts, and identify resource shortages and agency priorities.

- A Report to the President in Response to the Wildfires of 2000 (September 2000), "Managing the Impacts of Wildfires on Communities and the Environment" contains the following key points and recommendations:

1. Continue to Make All Necessary Firefighting Resources Available: As a first priority, DOI will continue to provide all necessary resources to ensure that fire suppression efforts are at a maximum efficiency in order to protect life and property.

2. Restore Damaged Landscapes and Rebuild Communities: After ensuring that suppression resources are sufficient, invest in the restoration of communities and landscapes impacted by the year 2000 fires.

3. Investment in Projects to Reduce Fire Risk: The fires of 2000 have underscored the importance of pursuing an aggressive program to address the fuels problem wit the help of local communities, particularly those in the wildland-urban interface areas, where threats to lives and property are greater and the complexity and cost of treatments higher.

4. Work directly With Local Communities: Working with local communities is a critical element in restoring damaged landscapes and reducing fire hazards proximate to homes and communities.

5. Be Accountable: A Cabinet-level management structure should be established to ensure that the actions recommended by the Departments receive the highest priority.

- A Collaborative Approach for Reducing Wildland Fire Risk to Communities and the Environment: 10 Year Comprehensive Strategy (August 2001): This document provides a foundation for wildland agencies to work closely with all levels of governments, tribes, conservation, and commodity groups and community-based restoration groups to reduce wildland fire risk to communities and the environment. It also provides a suite of core principles and four goals. The core principles include the concepts of collaboration, priority setting, and accountability. The four goals are:

1. Improve Prevention and Suppression.

2. Reduce Hazardous Fuels.

3. Restore Fire Adapted Ecosystems.

4. Promote Community Assistance.

- Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10 Year Comprehensive Strategy: Implementation Plan, August 2001:

  1. This Implementation Plan establishes a collaborative, performance-based framework for achieving these goals and actions with performance measures and tasks to identify key benchmarks and track progress over time. It also provides tools to deliver national goals at the local level in an ecologically, socially, and economically appropriate manner. The Implementation Plan contains the following Implementation outcomes that respond to the four goals established in the 10 Year Comprehensive Strategy:

  2. Losses of life are eliminated, and firefighter injuries and damage to communities and the environment from sever, unplanned and unwanted wildland fires are reduced.

  3. Hazardous fuels are treated, using appropriate tools, to reduce the risk of unplanned and unwanted wildland fire to communities and the environment.

  4. Fire adapted ecosystems are restored, rehabilitated and maintained, using appropriate tools, in a manner that will provide sustainable environmental, social and economic benefits.

  5. Communities at risk have increased capacity to prevent losses form wildland fire and the potential to seek economic opportunities resulting from treatment and services.

- Restoring Fire Adapted Ecosystems on Federal Lands: A Cohesive Strategy for Protecting People and sustaining Natural Resources, February 2002: The primary goal is to coordinate an aggressive, collaborative approach to reduce the threat of wildland fire to communities and to restore and maintain land health.

- Healthy Forests: An Initiative for Wildfire Prevention and Stronger Communities, August 2002: The Healthy Forest Initiative will implement core components of the National Fire Plan's 10-Year Comprehensive Strategy and Implementation Plan. This historic plan which was adopted by federal agencies and western governors, in collaboration with county commissioners, state foresters, and tribal officials, calls for protecting communities and the environment through local collaboration on thinning, planned burns and forest restoration projects. The initiative will complement the National Fire Plan by reducing unnecessary regulatory obstacles and allowing more effective and timely actions.

- Healthy Forest Restoration Act, December 2003: Purposes of the Act include the following:

  1. To reduce wildfire risk to communities, municipal water supplies, and other at-risk federal land through a collaborative process of planning, prioritizing, and implementing hazardous fuel reduction projects;

  2. To authorize grant programs to improve the commercial value of forest biomass (that otherwise contributes to the risk of catastrophic fire or insect or disease infestation) for producing electric energy, useful heat, transportation fuel, and petroleum-based product substitutes, and for commercial purposes;

  3. To enhance efforts to protect watersheds and address threats to forest and rangeland health, including catastrophic wildfire, across the landscape;

  4. To promote systematic gathering of information to address the impacts of insect and disease infestations and other damaging agents on forest and rangeland health;

  5. To improve the capacity to detect insect and disease infestations at an early stage, particularly with respect to hard-wood forests; and
     a. To promote the recovery of threatened and endangered species;

     b. To improve biological diversity; and

     c. To enhance productivity and carbon sequestration

Special Status Species and Fire Guidance

Fire management planning and activities that involve site-specific projects within the BFO should consider the following guidance where ESA species occur:

1. Ensure compliance with recovery or conservation plans and activities that promote species recovery in the BFO.

2. Ensure compliance with terms and conditions of consultation with NOAA Fisheries, USFWS and Oregon Department of Fish and Wildlife (ODFW) to promote species recovery in the BFO.

3. Identify specific fire management strategies, activities, and guidelines that serve to conserve Special Status Species and ESA listed, proposed, and candidate species.

g. Cultural Resources

- The Antiquities Act of 1906, 16 U.S.C. 431-433, provides guidance for protecting cultural resources on federal lands and authorizes the President to designate national monuments on federal lands.
- The Historic Sites Act of 1935 established a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States.
- The National Historic Preservation Act (NHPA) of 1966, as amended, 16 U.S.C. 470, directs agencies to consider the effects of proposed actions on properties eligible for or included on the National Register of Historic Places. A "Historic property" is any district, building, structure, site, or object that is eligible for listing in the National Register of Historic Places because the property is significant at the national, state, or local level in American history, architecture, archaeology, engineering, or culture. In some cases, such properties may be eligible because of historical importance to Native Americans, including traditional religious and cultural importance. Section 110 of the NHPA requires each federal agency to establish an affirmative program to identify, evaluate, protect, and preserve historic properties in consultation with others.
- The American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996, establishes a national policy to protect and preserve the right of American Indians to exercise traditional Indian religious beliefs or practices including but not limited to access to religious sites. Agencies are to avoid unnecessary interference with traditional tribal spiritual practices. In addition, compliance requires consultation with tribes when land uses might conflict with Indian religious beliefs or practices.
- The Archaeological Resources Protection Act of 1979 (ARPA) 16 USC 470, as amended, defines and provides for the protection of archaeological resources on federal lands, irrespective of eligibility for the National Register of Historic Places, establishes a permit system for resources over 100 years old, and requires agencies to provide for public education and continuing inventory of federal lands.
- Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. 3001, establishes rights to Indian tribes and Native Hawaiians to claim ownership for the repatriation of human remains, and also funerary, sacred, and other objects, controlled by federal agencies and museums. Agency discoveries of such human remains and associated cultural items during land use activities require consultation with appropriate tribes to determine ownership and disposition.
- National Trails System Act of 1968 (P.L. 90-543; 16 U.S.C. 1241 et. seq. as amended through P.L. 107-325, December 4, 2002) established a National Trails system to promote preservation of, public access to, travel within, and enjoyment of the open-air, outdoor areas, and historic resources of the nation. The Act designated initial trail system components

and established methods and standards for adding additional components.

- Executive Order 11593 of 1971, directs federal agencies to inventory public lands and to nominate eligible properties to the National Register of Historic Places.
- Executive Order 13007 of 1996 (Indian Sacred Sites), (61FR104), explicitly does not create any new right for Indian tribes, but does requires federal agencies to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions to:
  1. Accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners;
  2. Avoid adversely affecting the physical integrity of such sacred sites; and
  3. Maintain the confidentiality of sacred sites.
- Executive Order 13175 of 2000 (Consultation and Coordination with Indian Tribal Governments) provides, in part, that each federal agency shall establish regular and meaningful consultation and collaboration with Indian tribal governments in the development of regulatory practices on federal matters that significantly or uniquely affect their communities.
- Executive Order 13287 of 2003 (Preserve America), directs federal agencies to provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of historic properties managed by the federal government, and by promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties, and establishing agency accountability for inventory and stewardship.
- 36 CFR 60 and 63 discuss the National Register of Historic Places and eligibility criteria for listing properties.
- 36 CFR 68 describes the Secretary of the Interior's Standards for the treatment of historic properties.
- 36 CFR 800 outlines the NHPA Section 106 process for protecting historic properties.
- 43 CFR 3 and 7 discuss the preservation of American antiquities and archaeological sites.
- 43 CFR 10 discuss requirements for implementing the Native American Graves Protection and Repatriation Act.

BLM Regional Policy, Direction, and Guidance

- BLM Manuals: 8100 Series: Cultural Resources Management: The manual is a reference source that provides basic information and general summary guidance for BLM's cultural resource management program. The series includes 8110: Identifying Cultural Resources; 8120: Tribal Consultation under Cultural Resource Authorities; 8130: Planning for Uses of Cultural Resources; 8140: Protecting Cultural Resources; H-8120-1: Guidelines for Conducting Tribal Consultation.
- The BLM meets its NHPA responsibilities under a protocol agreement with the Oregon State Historic Preservation Office, as provided for in the national BLM Programmatic Agreement, and through consultation under Section 106 of the National Historic Preservation Act.

Related Management Plans

- Oregon Trail Management Plan (1989): The management plan provides direction for management of the Oregon Trail within the Planning Area.

h. Paleontology

BLM manages paleontological resources principally under the following authorities:

- FLPMA of 1976 (P.L. 94-579) requires that the public lands be managed in a manner that protects the ". . . quality of scientific…" and other values. The Act also requires the public lands to be inventoried and provides that permits may be required for the use, occupancy, and development of the public lands.

- National Environmental Policy Act of 1969 (P.L. 91-190) requires that ". . . important historic, cultural and natural aspects of our national heritage ..." be protected, and that ". . . a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences ... in planning and decision making ..." be followed.
- Title 43 CFR, Subpart 8365 addresses the collection of invertebrate fossils and, by administrative extension, fossil plants.
- Title 43 CFR, Subpart 3622 addresses the free use collection of petrified wood as a mineral material for non-commercial purposes.
- Title 43 CFR Subpart 3621 addresses collection of petrified wood for specimens exceeding 250 pounds in weight.
- Title 43 CFR, Subpart 3610 addresses the sale of petrified wood as a mineral material for commercial purposes.
- Title 43 CFR, Subparts 3802 and 3809 address protection of paleontological resources from operations authorized under the mining laws.
- Title 43 CFR, Subpart 8200 addresses procedures and practices for the management of lands that have outstanding natural history values, such as fossils, which are of scientific interest.
- Title 43 CFR, Subpart 1610.7-2 addresses the establishment of areas of critical environmental concern (ACECs) for the management and protection of significant natural resources, such as paleontological localities.
- Title 43 CFR Subpart 8364 addresses the use of closure or restriction of public lands to protect resources. Such closures or restrictions may be used to protect important fossil localities.
- Title 43 CFR Subpart 8365.1-5 addresses the willful disturbance, removal and destruction of scientific resources or natural objects and 8360.0-7 identifies the penalties for such violations.
- Title 36 CFR, Subpart 62 addresses procedures to identify, designate, and recognize national natural landmarks, which include fossil areas.
- 18 USC Section 641 addresses the unauthorized collection of fossils as a type of government property.
- Secretarial Order 3104 grants to BLM the authority to issue paleontological resource use permits for lands under its jurisdiction.
- Onshore Oil and Gas Order No. 1 and 43 CFR Title 3162 provide for the protection of natural resources and other environmental concerns, used to protect paleontological resources where appropriate.
- Federal Cave Resources Protection Act of 1988 (P.L. 100-691) and Title 43 CFR Subpart 37 address protection of significant caves and cave resources, including paleontological resources.
- Washington Office Instruction Memorandum (IM) 2009-011: Assessment and Mitigation of Potential Impacts to Paleontological Resources provides guidelines for assessing potential impacts to paleontological resources in order to determine mitigation steps for federal actions on public lands.

BLM Regional Policy, Direction, and Guidance

- BLM Manual 8270: Paleontological Resource Management Program and Handbook 8270-1 provides uniform policy and direction for the BLM Paleontological Resource Management Program. The objective of the program is to provide a consistent and comprehensive approach in all aspects relating to the management of paleontological resources, including identification, evaluation, protection, and use.

i. Cave and Karst Resources

- The Federal Cave Resources Protection Act of 1988, 16 USC 4301, requires federal agencies to identify, protect, and maintain significant caves. The locations of such caves may be kept confidential. Protection is afforded to not only the geologic structure, but also the

associated decorations, inhabitants, artifacts, and water resources.

2. Resource Uses

a. Livestock Grazing

43 CFR 4140.1 mandates that grazing management follow state livestock laws or regulations relating to the branding of livestock; breed, grade, and number of bulls; health and sanitation requirements; and laws regarding the stray of livestock from permitted public land grazing onto areas that have been formally closed to open range grazing.

The laws, mandates, policies, and regulations that guide the BLM's authority for grazing by domestic livestock include:

- Taylor Grazing Act of June 28, 1934, as amended (42 USC 315, 315a through 315r), provides direction to protect rangelands by preventing overgrazing and soil deterioration while providing for managed use and improvement, and to stabilize the livestock industry dependent upon public lands.
- FLPMA of 1976 (43 USC 1701 et seq.) recognizes livestock grazing as one of the "principal or major uses" of the public lands. It directs that the public lands be managed on the basis of multiple use and sustained yield in a manner that will provide food and habitat for fish and wildlife and domestic animals while protecting the quality of other values (i.e. scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource and archeological).
- Public Rangelands Improvement Act of 1978 (43 USC 1901 et seq.) provides policy to manage, maintain, and improve the condition of public rangelands to increase productivity in accordance with management objectives and the land use planning process.
- 43 CFR 4100 Grazing Administration, exclusive of Alaska, provides uniform guidance for administration of grazing on the public lands.
- Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration (43 CFR 4180 et seq.) defines the minimum resource conditions that must be achieved and maintained and the acceptable management practices to be applied to achieve those conditions.

b. Minerals

The Onshore Oil and Gas Leasing Reform Act, 30 U.S.C. 181 et seq., provides that:

- Potential oil and gas resources be adequately addressed in planning documents;
- The social, economic, and environmental consequences of exploration and development of oil and gas resources be determined; and
- Any stipulations to be applied to oil and gas leases be clearly identified.

The General Mining Law, as amended, 30 U.S.C. 21 et seq., allows the location, use, and patenting of mining claims on sites on public domain lands of the United States. Amendments established a policy of fostering development of economically stable mining and minerals industries, their orderly and economic development, and studying methods for disposal of waste and reclamation.

c. Recreation

- The Recreation and Public Purposes Act, as amended, 43 U.S.C. 869 et seq., authorizes the Secretary of the Interior to lease or convey BLM managed lands for recreational and public purposes under specified conditions.
- Executive Order 11644 (37 FR 2877), on February 8, 1972, provided that off-highway vehicle (OHV) use will be controlled and managed to protect resource values, promote public safety and minimize conflicts with uses of public lands. This executive order directed federal agencies to designate specific areas and trails on public lands where OHV use

may be permitted and areas where OHV use may not be permitted.

- On May 24, 1977, President Carter amended this order with Executive Order 11989. This executive order further defined OHV, administrative use exemptions, and directed agencies to immediately close areas and trails whenever the agency determines that the use of OHV will cause or is causing considerable adverse effects on the soil, wildlife, and wildlife habitat, cultural or historic resources (42 USC 4321).
- The BLM's National Management Strategy for Motorized OHV Use on Public Lands (2001) provides agency guidance and offers recommendations for future actions to improve motorized vehicle management.

d. Renewable Energy

- Executive Order 13212 states that "[i]t is the policy of this Administration that executive departments and agencies (agencies) shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy."

e. Lands and Realty
Federal Laws and Statutes

- FLPMA of 1976
- Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et seq.)
- Recreation and Public Purposes Act of 1926, as amended (43 USC 869 *et seq.*)
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1971
- Land and Water Conservation Fund Act of 1965, as amended
- Federal Land Transaction Facilitation Act of 2000
- The Federal Power Act of 1920, as amended
- 43 CFR 2100 (Acquisitions)
- 43 CFR 2200 (Exchanges)
- 43 CFR 2300 (Withdrawals)
- 43 CFR 2400 (Land Classification)
- 43 CFR 2500 (Disposition: Occupancy and Use)
- 43 CFR 2600 (Disposition: Grants)
- 43 CFR 2700 (Disposition: Sales)
- 43 CFR 2800 (Use: Rights-of-Way)
- 43 CFR 2900 (Uses: Leases and Permits)
- 43 CFR 9230 (Trespass)
- IM 2006-067 (BLM's Wind Energy Development Policy)
- IM 2005-006 (Solar Energy Development Policy)
- BLM-H-2200-1 (Land Exchange Handbook)
- BLM-H-1790-1 (NEPA Handbook)
- BLM-H-2100-1 (Acquisition Handbook)
- BLM-H-2740-1 (Recreation and Public Purposes)
- BLM-MS-2200 (Land Exchange Handbook)
- BLM-MS-2880 (Oil & Natural Gas Pipeline Handbook)
- Wind Energy Development PEIS and Associated Land Use Plan Amendments, BLM 2005
- PEIS, Designation of Energy Corridors on Federal Land In the 11 Western States (DOE/EIS-0386) (Draft October 2007)

3. Special Designations

a. Areas of Critical Environmental Concern
Federal Laws, Regulations, Statutes, and Orders

- FLPMA and BLM policy (Manual 1613 [BLM 1988a]) require the BLM to give priority to the designation and protection of ACECs during the land use planning process
- This analysis and the resultant findings for ACEC relevance and importance criteria has been performed pursuant to FLPMA Section 202 (43 USC 1712[c][3]), 43 CFR 1610.7-2 and BLM Manual 1613 (BLM 1988a)

b. Wild and Scenic Rivers
The Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271 et seq., requires federal land management agencies identify river systems and then study them for potential designation as wild, scenic, or recreational rivers.

c. Wilderness Study Areas
The Wilderness Act, as amended, 16 U.S.C. 1131 et seq., authorizes the President to make recommendations to the Congress for federal lands to be set aside for preservation as wilderness.

4. Social and Economic Conditions

a. Tribal Interests
Treaties constitute negotiated settlements between sovereign parties, and as such hold a unique status in defining federal obligations toward Indian tribes. Rights reserved to Indian tribes vary from treaty to treaty. Hunting, fishing, and gathering rights and certain other land uses are common rights reserved through treaty. Although numerous treaties were negotiated with Indian Nations in the late 19th century, many were not ratified or honored. Some present day Indian Tribes and reservations were recognized or established by Executive Order.

Treaties and Executive Orders

- Confederated Tribes of the Umatilla Indian Reservation: The Treaty with the Walla Walla, Cayuse, and Umatilla, signed June 9, 1855, ratified March 8, 1859 (12 STAT. 945), reserved rights for the Confederated Tribes of the Umatilla Indian Reservation to fish off-reservation at usual and accustomed stations, and to hunt, gather resources, and pasture animals on public lands in common with other citizens of the United States.
- Nez Perce Tribe: The Treaty with the Nez Perce, signed June 11, 1855, ratified March 8, 1859, reserved rights for the Nez Perce Indians to fish off-reservation, at usual and accustomed stations and to hunt, gather resources, and pasture animals on public lands in common with other citizens of the United States.
- Confederated Tribes of the Warm Springs Reservation: The Treaty with the Tribes of Middle Oregon, signed June 25, 1855, ratified March 8, 1859 (14 STAT. 751), reserved rights for the Confederated Tribes of Warm Springs to fish off-reservation at usual and accustomed stations, and to hunt, gather resources, and pasture animals on public lands in common with other citizens of the United States. Members include descendants of Northern Paiute bands who were removed to the reservation in the 1880s.
- Confederated Tribes of the Colville Reservation: Executive Order (July 2, 1872) established the present location of the Colville Reservation in Washington. Subsequent orders led to the progressive diminishment of the reservation, and it was not until 1956 that a significant portion of withdrawn lands was restored to tribal ownership. Many descendants of the Joseph Band of the Nez Perce are members of the Confederated Tribes of the Colville Reservation. Traditional homelands of the Joseph Band of the Nez Perce are located in northeast Oregon and southeast Washington.
- Burns Paiute Tribe: Executive Order (October 13, 1972) federally recognized the Burns Paiute Tribe and established the Burns Paiute Reservation. The original Malheur Reservation was established by executive order in 1872, but was dissolved by subsequent executive order in 1883. Members include descendants of Northern Paiute bands.
- Shoshone-Bannock Tribe, Fort Hall Reservation: July 3, 1868 Treaty with the Shoshone (Eastern band) and Bannock tribes of Indians, 15 Stat 673 (Fort Bridger Treaty). June 14, 1867 Executive Order to establish reservation for the Boise and Bruneau bands of Shoshones and Bannock July 30, 1869. The 1868 Treaty articles include the right to hunt on unoccupied lands of the United States.
- Shoshone-Paiute Tribes, Duck Valley Reservation: April 16, 1877 reservation established by Executive Order for the Western Shoshone; May 4, 1886 Executive Order expanded the reservation for Northern Paiute; July 4, 1910 also expanded the reservation. The creation

and subsequent expansion of the Duck Valley Indian Reservation relocated bands of Northern Paiute, Northern Shoshone, and Bannock people.

- Fort McDermitt Paiute and Shoshone Tribes, Fort McDermitt Indian Reservation: In 1892, allotments of land were made to the Northern Paiute and Shoshone under the General Allotment Act of 1887. Reservation lands are located in Nevada and Oregon.

Additional Authorities

- National Environmental Policy Act of 1969 establishes national policy for protection and enhancement of the human environment. Part of the function of the federal government, as stated in the Act, is to "preserve important ... cultural ... aspects of our national heritage and maintain whenever possible an environment which supports diversity and variety of individual choice."

- FLPMA of 1976 requires coordination with Indian tribes, as well as with other federal agencies and state and local governments, in the preparation and maintenance of an inventory of the public lands and their various resource and other values, in the development and maintenance of long- range plans providing for the use management of the public lands.

- American Indian Religious Freedom Act of 1978 resolves that it shall be the policy of the United States to protect and preserve for the American Indian, Eskimo, Aleut, and Native Hawaiian the inherent right of freedom to believe, express, and exercise their traditional religions, including but not limited to access to religious sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites. Federal agencies are directed to evaluate their policies and procedures to determine if changes are needed to ensure that such rights and freedoms are not disrupted by agency practices. The Act, a specific expression of First Amendment guarantees of religious freedom, is not implemented by regulations.

- National Historic Preservation Act of 1966, as amended, addresses preservation of historic properties, including historical, archaeological, and architectural districts, sites, buildings, structures, and objects that are eligible for the National Register of Historic Places. In some cases, such properties may be eligible because of historical importance to Native Americans, including traditional religious and cultural importance. Federal agencies must take into account effects of their undertakings on eligible properties.

- Archaeological Resources Protection Act of 1979 provides for the protection and management of archaeological resources, and specifically requires notification of the affected Indian tribe if archaeological investigations proposed in a permit application would result in harm to or destruction of any location considered by the tribe to have religious or cultural importance.

- Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. 3001, establishes rights to Indian tribes and Native Hawaiians to claim ownership and repatriate human remains, and also funerary, sacred, and other objects, controlled by federal agencies and museums. Agency discoveries of human remains and associated cultural items during land use activities require consultation with appropriate tribes to determine ownership and disposition.

- Executive Order 13007: Executive Order 13007 of 1996 (Indian Sacred Sites), (61FR104), explicitly does not create any new right for Indian tribes, but does requires federal agencies to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions to:
  1. Accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners;
  2. Avoid adversely affecting the physical integrity of such sacred sites; and
  3. Maintain the confidentiality of sacred sites.

- Executive Order 13175 of 2000 (Consultation and Coordination with Indian Tribal Governments) provides, in part, that each federal agency shall establish regular and meaningful consultation and collaboration with Indian tribal governments in the development of regulatory practices on federal matters that significantly or uniquely affect their communities.
- Secretarial Order 3206 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act) requires DOI agencies to consult with Indian Tribes when agency actions to protect a listed species, as a result of compliance with ESA, affect or may affect Indian lands, tribal trust resources, or the exercise of American Indian tribal rights.
- Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) (49 FR 7629) requires that each federal agency consider the impacts of its programs on minority populations and low-income populations.
- Tribal Forest Protection Act of 2004 (currently listed in the Federal Register for reauthorization) provides a tool for tribes to propose work and enter into contracts and agreement with the USFS or BLM to reduce threats from catastrophic events that originate on federal lands adjacent to Indian trust land and Indian communities.

Memoranda of Understanding

- The BLM Oregon State Office and the Confederated Tribes of the Umatilla Indian Reservation signed an MOU for coordination and consultation on resource management and preservation issues.
- The BLM Oregon State Office and the Burns Paiute Tribe signed an MOU for coordination and consultation on resource management and preservation issues.
- The BLM Oregon State Office and the Confederated Tribes of the Warm Springs Reservation signed an MOU for coordination and consultation on resource management and preservation issues.

b. Public Safety

- Resource Conservation and Recovery Act (RCRA, Pub. L. 94-580), as amended: In 1976, RCRA established a system for managing nonhazardous and hazardous solid wastes in an environmentally sound manner. Specifically, it provides for the management of hazardous wastes from the point of origin to the point of final disposal (i.e., "cradle to grave"). RCRA also promotes resource recovery and waste minimization.

c. Social and Economic Conditions

- BLM planning regulations (43 CFR 1610.4-3 and 1610.4-6) require that RMPs consider social, economic, and institutional information.

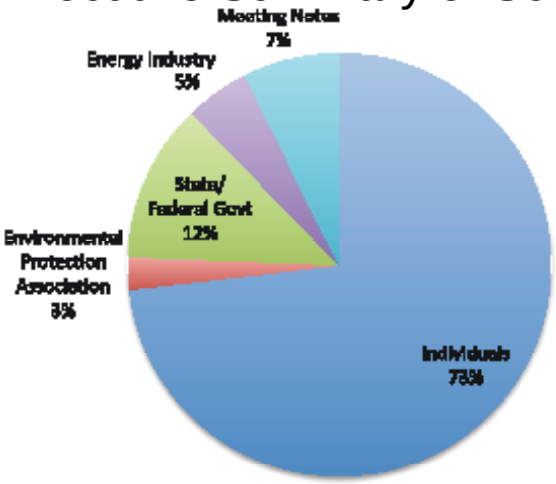
d. Environmental Justice

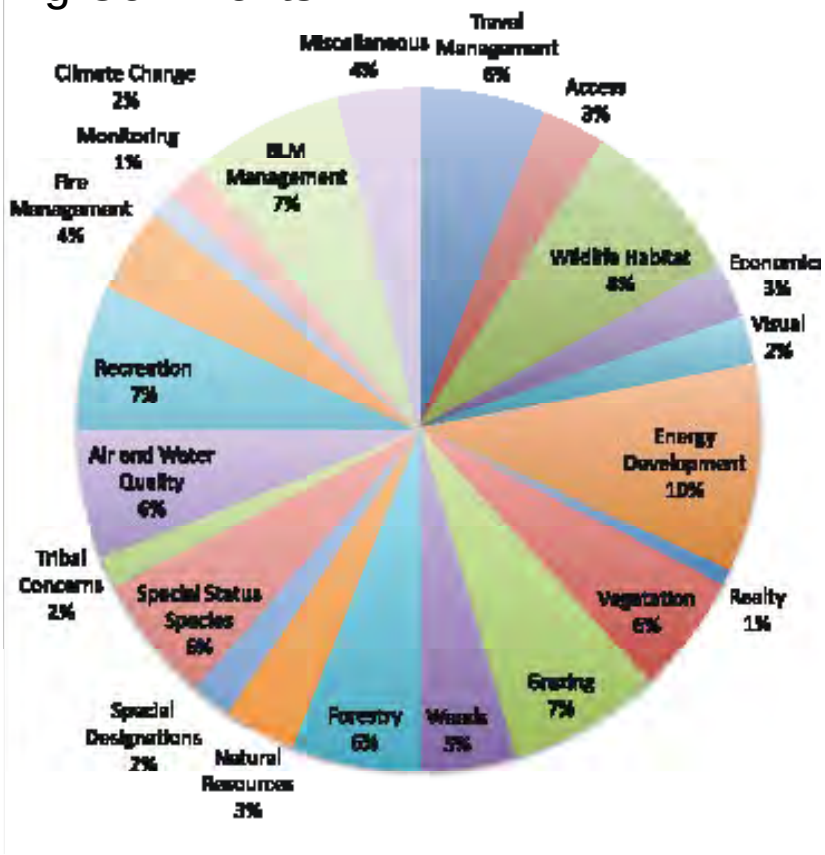
- Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) (49 FR 7629) requires that each federal agency consider the impacts of its programs on minority populations and low-income populations.

7 Scoping Report

The Scoping Report is a summary of the scoping meetings conducted by the Baker BLM field office during the summer of 2008. Meetings were held in many communities in all counties within the Planning Area, and an initial formal written scoping process was completed. The written and verbal comments received were analyzed by the Baker Field Office, as summarized in the Scoping Report. The following page contains the executive summary. The Scoping Report is available from the Baker office or on line at: www.blm.gov/districts/vale.

Executive Summary of Scoping Comments





Issues Identified in the scoping process

Issues Identified

Issue	Number of Comments
Travel Management	16
Access	8
Wildlife Habitat	21
Economics	7
Visual	6
Energy Development	26
Realty	2
Vegetation	15
Grazing	19
Weeds	12
Forestry	16
Natural Resources	9
Special Designations	5
Special Status Species	16
Tribal Concerns	4
Air and Water Quality	16
Recreation	18
Fire Management	11
Monitoring	3
Climate Change	5
BLM Management	19
Miscellaneous	10
Total	**264**

Commenter Profile

Type	
Individual	30
Environmental Protection Association	1
State/Federal Govt	5
Energy Industry	2
Scoping Meeting Notes	3
Total	**41**

Summary of Decisions

Summary of Decisions

Decision	Issues
Addressed in EIS	228
Addressed by Policy/EIS	29
Out of Scope	7
Total	**264**

Scoping Meeting Information

Scoping Meeting Attendence

Meeting	Attendees
Ontario	2
Milton-Freewater	12
Pendleton	2
Hermiston	5
La Grande	9
Enterprise	2
Asotin	3
Baker	19
Troy	6
Total	**60**

8 List of Preparers

Those involved in the preparation of this Analysis of the Management Situation (AMS) are presented in the tables below. Table 8.1 lists those individuals who were responsible for writing various sections of the AMS, while Table 8.2 lists those individuals who otherwise contributed to document preparation in various capacities (e.g., management, guidance, review, etc.)

Table 8.1. List Of Preparers

Name	Title	Agency	Assignment	Education	Years of Expertise
Richard Chaney	Geologist	BLM	Minerals, Geology and Public Safety	B.S. Geology	4 years
Jackie Dougan	Fish Biologist	BLM	Fish and Special Status Species	B. S. Fisheries	30 years
Henry Eichman	Economist	USFS	Social Science and Economic Analysis	B.S., Biology M.S., Agriculture and Resource Economics	3 years
Roger Ferriel	Fire Botanist	BLM	Botany and Special Status Plant Species	B.A. Botany M.S., Resource Conservation (Forestry)	15 years
Gary Guymon	Range Management Specialist	BLM	Livestock Grazing and Vegetative Communities	B.S. Rangeland Science	18 years
Bruce Haase	GIS Specialist	BLM	Geographic Information Systems/Mapping and Data Compilation	B.S. Biology B.S. Geography	10 years
Lilian Jonas	Writer/Editor	Jonas Consulting	Document Writing and Editing	B.S., Biology M.A., Applied Sociology Ph.D., Sociology	18 years
Allison Kuehl	RMP Team Lead	BLM	Guidance, Document Writing and Review	B. S. Wildlife Biology M.S. Rangeland Science	29 years

Table 8.1. List Of Preparers

Name	Title	Agency	Assignment	Education	Years of Expertise
Becky Lazdaukas	Realty Specialist	BLM	Renewable Energy, Transportation and Access, Land Tenure, Land Use Authorizations, and Withdrawals	B.S. Natural Science	13 years
Susie Manezes	Lands & Realty	BLM	Renewable Energy, Transportation and Access, Utility Corridors and Communication Sites, Land Tenure, Land Use Authorizations, and Withdrawals	B.A. Education	20 years
Craig Martell	Range Management Specialist	BLM	Livestock Grazing and Vegetative Communities	B.S., Agricultural Production/Range Science	23 years
Melinda Martin	Fire Management Specialist	BLM	Air and Fuels Management	B.S. Forest Resource Management	16 years
Dorothy Mason	Wildlife Biologist	BLM	Areas of Critical Environmental Concern (ACECs), Hydropower Relicensing, Special Status Species	BS Wildlife, Range Resources, Recreation	34 years
Kevin McCoy	Recreation Planner	BLM	Visual Resources, Wilderness Characteristics, Cave and Karst Resources, Facilities, Recreations, Back Country Byways, National Trails, Wild and Scenic Rivers, Transportation, Wilderness, Wilderness Study Areas, and Public Safety	B.S. Biological Science	19 years

Table 8.1. List Of Preparers

Name	Title	Agency	Assignment	Education	Years of Expertise
Mary Oman	Archaeologist	BLM	Cultural Resources, Paleontological Resources, and Tribal Interests	B.A. Anthropology B.A. History M.A. Anthropology	22 years
Marc Pierce	Forester	BLM	Forestry and Woodland Products and Vegetative Communities	B.S. Renewable Natural Resources - Forestry	18 years
John Quintela	Fisheries Biologist	BLM	Fisheries and Special Status Fish Species	B.S., Environmental Science M.S., Fishery Resources	7 years
John Rademacher	Range Management Specialist	BLM	Livestock Grazing and Vegetative Communities	B.S. Range Ecology and Management M.S. Biology	7 years
Kirk Rentmeister	Zoned Geologist	BLM	Geology, Minerals and Public Safety	B. S. Geology	22 years
Jon Sadowski	Wildlife Biologist	Contractor	Wildlife and Special Status Species	B.S. Wildlife Management	31 years
Joseph Synan	Graphic Designer	BLM	Graphic and book design, typesetting	Working towards a B.S. in Statistics and Economics	1 year

Table 8.1. List Of Preparers

Name	Title	Agency	Assignment	Education	Years of Expertise
Carol Thorton	Hydrologist	USFS	Soil and Water Resources	B.S. Geology M.S. Hydrology/ Hydrogeology	11 years
Brian Watts	Ecologist	BLM	Wildland Fire Ecology and Management	B.S. Range Management	20 years
Mike Woods	Natural Resource Specialists - Weeds	BLM	Noxious Weeds	B.S. Rangeland Resources	34 years
Melissa Yzquierdo	Wildlife Biologist/Botanist	BLM	Wildlife and Special Status Species	B.S. Wildlife Resources B.S. Range Ecology B.S. Microbiology	9 years

Table 8.2. List Of Contributors

Name	Title	Agency	Assignment	Education	Years of Expertise
Tom Averett	Law Enforcement Officer	BLM	Law Enforcement and Recreation	B.A. Criminal Justice	18 LE; 6 Recreation
Mary Bresee	Forester	BLM	Forestry and Woodland Products and Vegetative Communities	B.A. Forest Resources M.S. Landscape Ecology/ Plant Physiology	5 years
Katy Coddington	Archeologist	BLM	Cultural Resources, Paleontological Resources, and Tribal Interests	B.A. Art M.S. Anthropology	2 years
Ted Davis	Assistant Field Manager	BLM	Guidance and Document Review	B.S. Forestry	29 years
Brent Grasty	NRS/GIS	BLM	Geographic Information Systems/Mapping and Data Compilation	B.S. Business Administration M.S. Forestry	18 years
Courtney James	Realty Specialist	BLM	Renewable Energy, Transportation and Access, Land Tenure, Land Use Authorizations, and Withdrawals	B.S. Natural Resources/ Environmental Mgt.	11 years
Todd Kuck	Acting Assistant Field Manager/Natural Resources Supervisor	BLM	Guidance and Document Review	B.S. Forestry	18 years

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Name	Title	Agency	Assignment	Education	Years of Expertise
Margaret Langlas	SO Planning and Environmental Coordinator	BLM	Guidance and Document Review	B.S. Political Science Law Degree	4 years
Nancy Lull	Field Manager	BLM	Guidance and Document Review	B.A. Journalism	21 years
Eric Mayes	Planning and Environmental Coordinator	BLM	Guidance and Document Review	B.S. Geography, Oregon State University.	6 years
Paula McBroom	Resource Assistant	BLM	Project Record and Mailings	Business College	21 years
Bryan Mulligan	Natural Resource Technician – Weeds	BLM	Noxious Weeds	B.S. Wildlife Management	3 years
Marissa Russell	GIS Specialist	BLM	Geographic Information Systems/Mapping and Data Compilation	B.S. Multidisciplinary Studies, Minor Geography, and Minor Art	10 years
Mitchel Thomas	Acting Natural Resource Supervisor	BLM	Document Review	B.S. Animal Science M.S. Rangeland Ecology and Management	6 years
Mark Wilkening	Public Affairs Officer	BLM	News Releases and Publications	B.S. Business	30 years

Table 8.2. List Of Contributors

9 Glossary

Abatement—Suppression or termination

ACEC—Area of Critical Environmental Concern

Activity Plan— A site-specific plan for the management of one or more resources (for example a Habitat Management Plan, Allotment Management Plan). This is the most detailed level of BLM planning.

Actual Use—The true amount of grazing AUMs, based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed by periodic field checks by the BLM.

Acquired Lands—Lands acquired for BLM administration in various ways, such as but not limited to: (1) any lands purchased by congressionally appropriated funds, (2) land donations, (3) land exchanges, (4) Land and Water Conservation Fund acquisitions, (5) land withdrawals returned to public land status through withdrawal revocations and/or relinquishments, etc., (6) split estate acquisitions, (7) Federal agency jurisdictional transfers, (8) easement acquisitions, and/or (9) lands acquired by any other means.

Adjustments— Changes in animal numbers, periods of use, kinds of classes of animals or management practices as warranted by specific conditions.

Allotment— An area of land where one or more livestock operators graze their livestock. Allotments generally consist of BLM lands but may also include other federal managed, state owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Allotment Management Plan (AMP)—An intensive livestock grazing management plan dealing with a specific unit of rangeland, based on multiple use resource management objectives. The AMP considers livestock grazing in relation to the renewable resources such as watershed, vegetation, and wildlife. An AMP establishes the season of use, the number of livestock to be permitted on the range, and the range improvements needed.

Allowable Sale Quantity—The quantity of timber that may be sold from suitable land and that has been included in the yield projections for the timber period specified by the land use plan. Usually expressed on an annual basis as the average annual allowable sale quantity.

Alluvium—Well sorted soil and rock debris deposited by water.

AMP—Allotment Management Plan

AMR—Appropriate Management Response

AMS—Analysis of the Management Situation

Anadromous Fish—Fish that migrate from the ocean to breed in fresh water. Their offspring return to the ocean.

Animal Unit—One cow, one cow/calf pair, one horse, or five sheep.

Animal Unit Month (AUM)—The amount of forage consumed by one mature cow and calf under six months, for one month. The amount of forage consumed by one horse, or five sheep, or five deer, or six bighorn for one month is considered equal to one cow AUM; also a unit of measurement of grazing privilege that represents the privilege of grazing one animal for one month

Appropriate Management Response (AMR)—Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Area Of Critical Environmental Concern (ACEC)—Area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

Aquatic—Living or growing in or on the water.

Aspect—The direction a slope faces.

ASQ—Allowable Sale Quantity

ATV—All Terrain Vehicle

AUM—Animal Unit Month

Badlands—Steep or very steep, commonly non-stony, barren land dissected by many intermittent drainage channels, most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Basalt—A dark, heavy, fine-grained silica poor igneous rock composed largely of iron and magnesium minerals and calcium rich plagioclase feldspars.

BEA—Bureau of Economic Analysis

BEMA—Bald Eagle Management Area

Beneficial Use—Any of various uses of water in an area. Water may be for agricultural, domestic, or industrial use, salmon spawning, recreation, wildlife habitat, or other uses.

Best Management Practices (BMP's)—A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

BGMU—Big Game Management Units

Big Game Animals—Limited to elk, mule deer, bear, mountain goats, and bighorn sheep in Baker Resource Area in this document.

BLM—Bureau of Land Management

BMP—Best Management Practice

Board Foot—A unit of solid wood, one foot square and one inch thick.

BpS—Biophysical Setting

Browse—To browse is to graze a plant; also, browse (noun) is the tender shoots, twigs, and leaves of shrubs often used as food by cattle, deer, elk, and other animals.

Buffer Strip— A protective area adjacent to an area of concern that requires special attention or protection. In contrast to riparian zones, which are ecological units, buffer strips can be designed to meet varying management concerns.

C—Custodial allotment

Cairn—A heap of stones set up as a landmark, monument, tombstone, and so forth.

Candidate Species—Species designated as candidates (categories 1 and 2) for listing as threatened or endangered by the Fish and Wildlife Service/National Marine Fisheries Service. A list has been published in the Federal Register.

Carrying Capacity— In livestock grazing, it is the maximum stocking rate possible without damaging vegetation or related resources. Carrying capacity may vary from year to year on the same area due to fluctuating forage production.

Catchment—A structure built lo collect and retain water.

CEQ—Council on Environmental Quality

CFR—Code of Federal Regulations

Climax Plant Community—The vegetative community that emerges after a series of successive vegetational stages and perpetuates itself indefinitely unless disturbed by outside forces.

CWMA—Cooperative Weed Management Area

Commercial Forestlands—Forestland capable of producing merchantable timber at rates of at least 20 cubic feet per acre per year and is currently or prospectively accessible and not withdrawn from such use.

Commercial Thinning—A cutting made in a forest stand to remove excess merchantable timber in order to accelerate growth or improve the health of the remaining trees.

Commercial Tree Species—Tree species whose yields are reflected in the allowable cut: pines, firs, spruce, Douglas fir, cedar, and larch.

Compaction—The process of packing firmly and closely together; the state of being so packed, (e.g., mechanical compaction 01 soil by livestock or vehicular activity). Soil compaction results from particles being pressed together so that the volume of soil is reduced. It is influenced by the physical properties of the soil, moisture content and the type and amount of compactive effort.

Critical Habitat—Any habitat which, if lost, would appreciably decrease the likelihood of the survival and recovery of a threatened or endangered species or a distinct segment of its population. Critical habitat may represent any portion of the present habitat of a listed species and may include additional areas for reasonable population expansion. Critical habitat must be officially designated as such by the Fish and Wildlife Service or the National Marine Fisheries Service.

Cultural Resources—Fragile and nonrenewable elements of the environment including archaeological remains (evidence of prehistoric or historic human activities) and sociocultural values traditionally held by ethnic groups (sacred places, traditionally utilized raw materials, etc.).

Cultural Site—Any location that includes prehistoric and/or historic evidence of human use or that has important sociocultural value.

Custodial Management—Management of a group of similar allotments with minimal expenditure of appropriated funds to continue protecting existing resource values.

Decision Area—Covers only those lands administered by the BLM

Deferment—The withholding of livestock grazing on an area until a certain stage of plant growth is reached.

Direct Sale—A sale at fair market value to a designated purchaser without competitive bidding.

Distribution—The uniformity of livestock grazing over a range area. Distribution is affected by the availability of water, topography, and type and palatability of vegetation as well as other factors.

Diversity—A measure of the variety of species and habitats in an area that takes into account the relative abundance of each species or habitat.

DO—Dissolved Oxygen

DOI—Department of the Interior

Early Seral—Ecological condition class that corresponds to 0 to 25 percent of the plant composition found in the potential climax plant community. It could be considered synonymous with poor range condition.

Easements— A right held by one person to make use of the land of another for a limited purpose, as right of passage.

Ecological Status— Four classes used to express the degree to which the condition classes composition of the present plant community reflects that of climax. They are as follows: Percentage of Present Plant Community that is Climax for the Range Site
Successional Stage 76-100
Late Seral 51-75
Middle Seral 26-50
Early Seral O-25

Ecosystem—An ecological unit consisting of both living and nonliving components which interact to produce a natural, stable system.

EDRR—Early Detection Rapid Response

EIS—Environmental Impact Statement

Endangered Species—A plant or animal species whose prospects for survival and reproduction are in immediate jeopardy, as designated by the Secretary of the Interior. and as is further defined by the Endangered Species Act of 1973, as amended.

Environmental Impact—The positive or negative effect 01 any action upon a given area or resource.

Environmental Impact Statement (EIS)—A formal document to be filed with the Environmental Protection Agency that considers significant environmental impacts expected from implementation of a major Federal action.

EO—Executive Order

EPA—Environmental Protection Agency

Ephemeral Stream—A stream that flows only after rain or during snow melt.

ERMA—Extensive Recreation Management Area

Erosion—Detachment and movement of soil or rock fragments by water, wind, ice or gravity.

ESA—Endangered Species Act

Escaped Fire—A fire that has exceeded initial attack capabilities.

ESR—Emergency Stabilization and Rehabilitation

ESU—Evolutionary Significant Unit

Exclosure—An area fenced to exclude livestock.

Extensive Recreation Management Area (ERMA)—Area where recreation management is less structured (than within an SRMA) and recreation use more dispersed with minimal regulatory constraints and where minimal recreation related investments are required.

F—Fahrenheit

Federal Land Policy And Management Act Of 1976 (FLPMA)— Public Law 94-579. October 21, 1976, often referred to as the BLM's "Organic Act" which provides the majority of the BLM's legislated authority, direction, policy and basic management guidance.

FEIS—Final Environmental Impact Statement

FERC—Federal Energy Regulatory Commission

Fire Effects—The physical, biological, and ecological impact of fire on the environment.

Fire Intensity—The product of the available heat of combustion per unit area of ground and the rate of spread of the fire.

Fire Management Area—One or more parcels of land having a common set of fire management objectives.

Fire Regime—Periodicity and pattern of naturally occurring fire in a particular area or vegetative type, described in terms of frequency, biological severity, and area extent (Society of American Foresters, 1996).

Fire Suppression—All the work activities connected with fire extinguishing operations, beginning with the discovery and continuing until the fire is completely extinguished.

Floodplain—The relatively flat area or lowlands adjoining a body of standing or flowing water which has been or might be covered by floodwater.

FLPMA—Federal Land Policy Management Act

FLREA—Federal Lands Recreation Enhancement Act

FLTFA—Federal land Transaction Facilitation Act

FMP—Fire Management Plan

FMU—Fire Management Unit

Forage—All browse and herbaceous foods that are available to grazing animals including wildlife and domestic livestock.

Forb—A broad-leafed herb that is not a grass, sedge, or rush.

Forest Health—The condition in which forest ecosystems sustain their complexity, diversity, resiliency and productivity while providing for human needs and values.

Forestland—Land which is now, or is capable of being, at least 10 percent stocked by forest trees, and is not currently developed for nontimber use.

Forest Management—All commercial forestland that is part of the timber lands production base for allowable cut calculation.

FRCC—Fire Regime Condition Classification System

Fuel Type—An identification association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specific weather conditions.

GeoBOB—Geographic Biotic Observations Database

Geothermal—Of or pertaining to the internal heat of the earth.

GIS—Geographic Information System

Gravel—Rounded or angular fragments of rock as much as 3 inches (2 millimeters–7.6 centimeters) in diameter. An individual piece is a pebble.

Grazing Preference—The total number (active and suspended nonuse) of animal unit months of livestock grazing on public land apportioned and attached to base property owned or controlled by a permittee.
Grazing System—The manipulation of livestock grazing to accomplish a desired result.
Ground Cover—Vegetation, mulch, litter, rock and so forth.
Groundwater—Subsurface water that is in the zone of saturation.
Growing Season—Generally, the period of the year during which the temperature of cultivated vegetation remains sufficiently high to allow plant growth.

Habitat—A specific set of physical conditions that surround a species group of species, or a large community. In wildlife management, the major constituents of habitat are considered to be food, water, cover and living space.
Habitat Diversity—The relative degree or abundance of plant species, communities, habitats or habitat features (e.g. topography, canopy layers) per unit of area.
Habitat Management Plan—A plan for the management of wildlife habitat.
Habitat Type—The collective area which one plant association occupies or will come to occupy as succession advances, The habitat types is defined and described on the basis of the vegetation and associated environment.
HMP—Habitat Management Plan
HUC—Hydrologic Unit Code

I—Improve Allotment; and allotment which needs improvement
IAE—Institute for Applied Ecology
ICBEMP—Interior Columbia Basin Ecosystem Management Project
IDCDC—Idaho Conservation Data Center
IM—Instruction Memorandum
IMP—Interim Management Policy
Impact—A spatial or temporal change in the human environment caused by man. The change should be (1) perceptible, (2) measurable, and (3) relatable through a change agent to a management activity or alternative.
IMPROVE—Interagency Monitoring of Protected Visual Environments
Improve (I) Category Allotment—These are grazing allotments that have a potential for resource improvements where BLM controls enough land to implement changes.
Infiltration—The gradual downward flow of water from the surface into the soil profile.
Infiltration Rate—The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.
INFISH—Inland Fish Strategy
Interim Management Policy (IMP)—Policy for managing public lands under wilderness review. Section 603 (c) of FLPMA states: "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection.

Interior Drainage—Streams with no outlet to the sea.

Intermittent Stream—A stream which flows most of the time but occasionally is dry or reduced to pools.

Issue—A subject or question of widespread public discussion or interest regarding management of public lands within the Baker Resource Area of the Vale District and identified through public participation.

ISSSSP—Interagency Special Status Sensitive Species Program

IWM—Integrated Weed Management

Lacustrine Deposit (Geology)—Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landing—A location where timber is gathered for further transport.

LANDFIRE—Landscape Fire and Resource Management Planning Tools Project

Land Treatment—All methods of range development and soil stabilization such as reseeding, sagebrush control (burning and mechanical), pitting, furrowing, water spreading, etc.

Late Seral—Ecological condition class corresponding to 51 to 75 percent of the plant composition found in the potential natural plant community. Synonymous with good range condition.

Leasable Minerals—Minerals subject to lease by the federal government, including oil, gas, and coal.

Lease—An instrument through which interests are transferred from on party to another, subject to certain obligations and considerations.

Lek—A site to which birds regularly resort for purposes of sexual display and courtship.

Licensed Use—Active use AUMs that a permittee has paid for during a given grazing period.

Lieu—Public lands that a patentee has a right to locate and select in place of lands within the limits of a previous grant which are occupied by persons given special protection by the law.

Life Form—A group of wildlife species whose requirements for habitat are satisfied by similar successional stages within a given plant communities.

Limestone—A sedimentary rock consisting chiefly of calcium carbonate.

Limits Of Acceptable Change—For recreation management, a nine step process used to define the desired resource conditions for an area and to determine acceptable levels of resource change due to recreation use. The process helps to develop management actions to avoid exceeding standards.

Lithic Scatter—A prehistoric site characterized by a scatter of stone tools and flakes that may indicate a number of functions.

Litter—A surface layer of loose, organic debris, consisting of freshly fallen or slightly decomposed organic materials.

Loam—A rich, friable (crumbly) soil containing a relatively equal mixture of sand and sin and a somewhat smaller proportion of clay.

Locatable Minerals—Minerals or materials subject to disposal and development through the Mining Law of 1872 (as amended). Generally includes metallic minerals such as gold and silver and other materials not subject to lease or sale (some bentonites, limestone, talc, some zeolites, and so on).

Long-Term—A point in time 10 years following the beginning of the implementation phase for the RMP.

LWCF—Land and Water Conservation Fund

M—Maintenance allotment

MBF—Thousand board feet

Maintain (M) Category Allotment—These are grazing allotments where satisfactory management has already been achieved through Conservation Plans, Coordinated Resource Management Plans, or Cooperative Agreements with adjoining landowners.

Mechanical Treatment—Use of mechanical equipment for seeding, brush management, and other management practices.

Metamorphosed—Rock that has been altered in composition, texture or structure by heat and/or pressure.

Mid Seral—Ecological condition class that corresponds to 26 to 50 percent of the composition found in the potential natural plant community. It could be considered synonymous with fair range condition.

MIM—Multiple Indicator Monitoring

Mineral Entry—The locating and filing of mining claims by an individual to protect his right to a valuable mineral.

Mineral Estate—The ownership of the minerals on the land.

MMBF—Million Board Feet

Monitoring—The periodic and systematic collection of resource data to measure progress toward achieving objectives.

MOU—Memorandum of Understanding

Multiple Use—Balanced management of various surface and subsurface resources without permanent impairment of the productivity of the lands that will best meet present and future needs.

NAAQS—National Ambient Air Quality Standards

National Register Of Historic Places—The official list, established by the Preservation Act of 1966, of the Nation's cultural resources worthy of preservation. The Register lists archaeological, historic, and architectural properties (such as districts, sites, buildings, structures, and objects) nominated for their local, State, or National significances by State and/or Federal agencies and approved by the National Register staff. The Register is maintained by the National Park Service.

Naturalness (A Primary Wilderness Value)—An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Natural Area—A physical and biological area which either retains or has reestablished its natural character, although it need not be completely undisturbed, and which typifies native vegetation and associated biological and geological features or provides habitat for rare or endangered animal or plant species or includes geologic or other natural features of scientific or educational value.

NEPA—National Environmental Policy Act

NHOTIC—National Historic Oregon Trail Interpretation Center

NHPA—National Historic Preservation Act

NMFS—National Marine Fisheries Service

NOA—Notice of Availability

NOAA—National Oceanic Atmospheric Administration

NOI—Notice of Intent

Noxious Weeds—According to the Federal Noxious Weed Act (PL 93-629), a weed that causes disease or has other adverse effects on man or his environment, and, therefore, is detrimental to agriculture and commerce of the United States and to the public health.

NRCS—National Resource Conservation Service

NRHP—National Register of Historic Places

NWPPC—Northwest Power Planning Council

ODA—Oregon Department of Agriculture

ODEQ—Oregon Department of Environmental Quality

ODF—Oregon Department of Forestry

ODFW—Oregon Department of Fish and Wildlife

Off Highway Vehicle (OHV)—A vehicle that can be operated off of improved and regularly maintained roads with hardened or gravel surfaces.

OFF-ROAD VEHICLE DESIGNATION—

OPEN: Designated areas and trails where off-road vehicles may be operated (subject to operating regulations and vehicle standards set forth in BLM Manuals 6341 and 8343).

LIMITED: Designated areas and trails where the use of off-road vehicles is subject to restrictions, such as limiting the number or types of vehicles allowed, dates, and times of use (seasonal restrictions); limiting use to existing roads and trails; or limiting use to designated roads and traits. Under the designated roads and trails designation, use would be allowed only on roads and trails that are signed for use. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year.

CLOSED: Designated areas and trails where the use of off-road vehicles is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

OHV—Off-highway Vehicle

Old Growth Groves—A stand of trees that is past maturity, usually 200 years or older, and showing signs of decadence, large trees, snags and down logs, multilayered canopy, many species.

ONA—Outstanding Natural Area

OPRD—Oregon State Parks and Recreation Department

ORNHIC—Oregon National Heritage Information Center

ORV—Off-road Vehicle

OSO—Oregon State Office

OSV—Over-snow Vehicles

Outstanding Natural Area (ONA)—An area of unusual natural characteristics where management of recreation activities is necessary to preserve those characteristics.

Overstory—The trees in a forest that form the upper crown cover.

OWRD—Oregon Water Resources Department

PACFISH—Pacific Anadromous Fish Strategy

Paleontology—A science dealing with the life of past geological periods as known from fossil remains.

PCPI—Per Capita Personal Income

PEIS—Programmatic Environmental Impact Statement

Perennial Stream—A stream in which water is present during all seasons of the year.

Permeability (Soil)—The quality of a soil horizon that enables water or air to move through it; may be limited by the presence of one nearly impermeable horizon even though the others are permeable.

Permittee—One who holds a permit to graze livestock on public land. Holder of a license or permit for grazing on an allotment.

Perennial Stream—A stream that ordinarily has running water on a year round basis.

Period Of Use—The time of livestock grazing on a range area based on the type of vegetation or stage of vegetative growth.

PFC—Proper Functioning Condition

pH Value—A numerical designation of acidity or alkalinity

Physiographic Province—A geographic region with similar climatic, land form, and geologic features, and which is significantly different from adjacent regions.

PL—Public Law

Planning Area—The Planning Area includes all land within the planning boundary regardless of jurisdiction

Plant Community—An association of plants of various species found growing together in different areas with similar site characteristics.

PM_{10}—Particulate Matter 10 Microns in diameter or smaller

$PM_{2.5}$—Particulate Matter 2.5 Microns in diameter or smaller

PNC—Potential Natural Community

Prehistoric—Refers to a period wherein Native American cultural activities took place which were not yet influenced by contact with historic non native culture(s).

Prescribed Burning—Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions that allow the fire to be confined to a predetermined area and at the same time to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

Prescribed Fire—Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescription—Written statement defining objectives to be attained, as well as measurable criteria, which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, and legal considerations under which the fire will be allowed to burn.

Proposed Species—Species that have been officially proposed for listing as threatened or endangered by the Secretary of the Interior. A proposed rule has been published in the Federal Register.

Public Lands—Any land and interest in land (such as mineral estate) owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management. May include public domain or acquired lands in any combination.

Public Resource Values—Lands with public resource values are considered to be any public lands located outside SMA's, and high resource areas that do not have the caliber of resources to qualify them for inclusion in SMA's and high resource areas. For these types of lands BLM would maintain its land tenure adjustments options within Zone 1, 2, and 3 areas. Any land tenure adjustments involving public lands having "public resource values" must be determined to be in the public interest and must meet the requirements of NEPA and the General Management.

PWR—Public Water Reserve

RAMP—Recreation Area Management Plant

Range Site—A type of rangeland with inherently different soil characteristics that produce a significantly different kind or amount of potential vegetation.

Rangeland—Land on which the potential natural vegetation is predominantly grasses, grass like plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Rangeland Health—The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained.

Raptors—Bird species which have adapted to seize prey, such as eagles and hawks.

Recreation Opportunity Spectrum (ROS)—A means of characterizing recreation opportunities in terms of setting, activity, and experience opportunities.

Recreation And Public Purposes Act (R&PP Act)—This act authorized the Secretary of the Interior to lease or convey public lands for recreational and public purposes under specified conditions to states or their political subdivisions and to nonprofit corporations and associations.

Recreational River—A river or section of a river that is readily accessible by road or railroad; it may have had some development along the shorelines and may have undergone some impoundments or diversions in the past.

Rehabilitation—The activities necessary to repair damage or disturbance caused by wildfire or the fire suppression activity.

Regeneration—The renewal of a commercial tree crop, whether by natural or artificial means; also, the young crop itself.

Resource Area—the field office management administrative unit comprised of the BLM-administered lands within a specific geographic area

Research Natural Area (RNA)—An area where natural processes predominate and which is preserved for research and education. Under current BLM policy, these areas must meet the relevance and importance criteria of ACEC's and are designated as ACEC's.

Resource Management Plan (RMP)—A land use plan as described by the FLPMA.

Restoration—Holistic actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes.

Rhyolite—A fine-grained light-colored silica rich igneous rock composed largely of potash feldspars and quartz.

Right-Of-Way—A permit or an easement which authorizes the USB of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, and so on; also, the lands covered by such an easement or permit.

Right-Of-Way Corridor—A parcel of land identified by law, Secretarial order, through a land use plan or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way that are similar, identical or compatible.

Riparian Zone Or Area—Those terrestrial areas where the vegetation complex (Area or Zone) and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables and soils which exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the watertable of streams, ponds and springs.

RM—River Mile

RMIS—Recreation Management Information System

RMP—Resource Management Plan

RNA—Research Natural Area
ROD—Record of Decision
ROS—Recreation Opportunity Spectrum
ROW—Right-of-way
R&PP—Recreation and Public Purposes
Runoff—That part of precipitation, as well as any other flow contributions, which appears in surface streams, either perennial or intermittent.

Salable Minerals—High volume, low value mineral resources including common varieties of rock, clay, decorative stone, sand, and gravel.
Sand—(geology) A rock fragment or detrital particle between 0.0025 and 0.08 inches in diameter.
Scenic River—A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.
Schist—A metamorphic rock characterized by coarse-grained minerals oriented approximately parallel.
Section 202 Lands—Lands being considered for wilderness designation under section 202 of FLPMA.
Sediment—Soil, rock particles and organic or other debris carried from one place to another by wind, water or gravity.
Sensitive Species—Species designated by a State Director, usually in cooperation with the State agency responsible for managing the species, as sensitive. They are those species that are: (1) under status review by the FWS/NMFS; or (2) whose numbers are declining so rapidly that Federal listing may become necessary; or (3) with typically small and widely dispersed copulations; or (4) those inhabiting ecological refugia or other specialized or unique habitats.
Seral Stage—The series of relatively transitory communities, including plants and animals which develop during ecological succession, beginning after the Pioneer State (such as beginning with bare ground) to the Climax Stage.
SFP—Special Forest Product
Shrub—A low woody plant, usually with several stems, that may provide food and/or cover for animals.
Short-Term—The period of time needed to implement managements decisions following the completion of the RMP approximately 5 to 7 years.
Silt—Geology: A rock fragment or detrital particle smaller than very fine sand and larger then coarse clay, ranging from 0.0024 to 0.00016 inches in diameter and commonly having a high content of clay minerals. As a soil separate: Individual mineral particles ranging in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class: Soil that is 80 percent or more silt and less than 12 percent clay.
Site Preparation—Any action taken in conjunction with a reforestation effort (natural or artificial) to create an environment which is favorable for survival of suitable trees during the first growing season. This environment can be created by altering ground cover, soil or microsite conditions, using biological, mechanical, or manual clearing, prescribed burning, herbicide or a combination of methods.
Site Class—A forest management term denoting site productivity and measured in six productivity classes (i.e. Site Class I - highest productivity, Site Class VI lowest productivity).

Slope—The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. For example, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Snag—A standing dead tree from which the leaves and most of the limbs have fallen.

Sodic (Alkali) Soil—A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Soil—The unconsolidated mineral material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Soil Moisture—Water held in the root zone by capillary action. Pan of the soil moisture is available to plants, part is held too tightly by capillary or molecular forces to be removed by plants.

Soil Productivity—Capacity of a soil, in its normal environment, for producing specified plants under specified management systems.

Soil Profile—A vertical section of the soil extending through all its horizons and into the parent material.

Soil Structure—The arrangement of primary soil particles into compound particles or aggregates.

Soil Survey—A field investigation resulting in a soil map showing the geographic distribution of various kinds of soil and an accompanying report that describes the soil types and interprets the findings.

Soil Texture—The relative proportions of sand, silt, and clay particles in a mass of soil.

Special Concern—Those plants that are considered rare within Oregon, but may be common in occurrence within other states and/or there is at present insufficient justification for these plant species to be included on the Sensitive Plant Species list, or newly discovered species which are in the process of being described.

Solitude (A Primary Wilderness Value)—The state of being alone or remote from habitations a lonely , unfrequented, or secluded place. The intent is to evaluate the opportunity for solitude in comparison to habitations of people.

Special Recreation Management Area (SRMA)—An area where recreation is one of the principal management objectives, where intensive recreation management is needed, and where more than minimal recreation-related investments are required.

Special Status Species—Plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable to activities that may affect their survival. Lists of special status species are prepared by knowledgeable specialists throughout the State of Oregon. BLM prepares a list of State sensitive species predominantly based on the lists prepared biennially by ONHP.

Split-Estate—An area of land where the surface is privately owned and the subsurface mineral resources are federally owned.

SRMA—Special Recreation Management Area

SRP—Special Recreation Permit

Stand—A community of trees occupying a specific area and sufficiently uniform in species, age, spacial arrangement and condition as to be distinguishable from trees on surrounding lands.

Stream Channel—The hollow bed where a natural stream of surface water flows or may flow in the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Succession—The orderly process of plant community change. The process by which one plant or animal community will succeed another over time given the same climatic conditions.

Talus—Rock fragments of any size or shape, commonly coarse and angular, derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose, broken rock formed chiefly by falling, rolling, or sliding.

T&E—Threatened and Endangered

Terrace (Geologic)—An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Terrane—A suite of similar rocks transported by crustal movements into a position where they are separated from dissimilar rocks by faults.

Thermal Cover—Vegetation or topography that prevents radiational heat loss, reduces wind chill during cold weather and intercepts solar radiation during warm weather.

Thinning—A cutting made in a forest stand to remove or kill excess timber in order to accelerate growth or improve the health of the trees that remain.

Threatened Species— A plant or animal species that the Secretary of the Interior had determined to be likely to become endangered within the foreseeable future throughout all or most of its range.

TMDL—Total Maximum Daily Loads

Topography—The exact physical features and configuration of a place or region; the detailed and accurate description of a place or region.

TPI—Total Personal Income

Trend—The direction of change in range condition over a period of time, expressed as upward, static, or downward.

Tuff—Volcanic ash or rock composed of compacted ash.

Upland (Geology)—Land at a higher elevation, in general, than the alluvial plain or stream terraceland above the lowlands along streams.

USC—U.S. Code

USFS—U.S. Forest Service

USFWS—U.S. Fish and Wildlife Service

Utilization—The proportion or degree of the current year's forage production that is consumed or destroyed by animals (including insects) may refer either to a single plant species, a group of species, or to the vegetation as a whole synonymous with use.

Vegetative (Ground) Cover—The percent of land surface covered by all living vegetation (and remnant vegetation yet to decompose) within 20 feet of the ground.

Vegetative Manipulation—Alternation of present vegetation by using fire, plowing, or other means.

Vegetation Type—A plant community with immediately distinguishable characteristics. based upon and named after the apparent dominant plant species.

Visit—A unit of measure for evaluating the amount of recreational activity on public land equivalent to one person spending any part of a day recreating on public land.

Visitor Day—Twelve hours of recreational use by one person.

Visual Resources(s)—The land, water, vegetation and animals that comprise the scenery of an area.

Visual Resource Management (VRM)—The planning, design, and implementation of management objectives to provide acceptable levels of visual impacts.

Visual Resource Management Classes—The degree of acceptable visual change within a characteristic landscape. A class is based upon the physical and sociological characteristics of any given homogeneous area and serves as a management objective.

- CLASS I areas (preservation) provide for natural ecological charges only. This class includes primitive areas (HDB), some natural areas, some wild and scenic rivers, and other similar sites where landscape modification activities should be restricted.

- CLASS II (retention of the landscape character) includes areas where changes in any of the basic elements (form, line, color or texture) caused by management activity should not be evident in the characteristic Iandscape.

- CLASS Ill (partial retention of the landscape character) includes areas where changes in the basic elements (form, line, color, or texture) caused by management activity may be evident in the characteristic landscape. However, the changes should remain subordinate to tie visual strength of the existing character.

- CLASS IV (modification of the landscape character) includes areas where changes may subordinate the original composition and character; however they should reflect what could be a natural occurrence within the characteristic landscape.

- CLASS V (rehabilitation or enhancement of the landscape character) includes areas where change is needed. This class applies to areas where the landscape character has been so disturbed that rehabilitation is needed. This class would apply to areas where the quality class has been reduced because of unacceptable intrusions. It should be considered an interim short-term classification until one of the other classes can be reached through rehabilitation or enhancement.

VRM—Visual Resource Management

WANHP—Washington State Natural Heritage Program

Water Quality—The chemical, physical, and biological characteristics of water with respect to its suitability for a particular use.

Watershed—All lands which are enclosed by a continuous hydrologic drainage divide and lie upslope from a specified point on a stream.

Watershed Values—Soil productivity and erosional stability and the storage, yield, quality, and quantity of surface and subsurface waters.

WDFW—Washington Department of Fish and Wildlife

WDW—Washington Department of Wildlife

Wetlands Or Wetland Habitat—Permanently wet or intermittently flooded areas where the water table (fresh, saline, or brackish) is at, near, or above the soil surface for extended intervals, where hydric (wet) soil conditions are normally exhibited, and where depths generally do not exceed two meters. Vegetation generally consists of emergent water loving forms (hydrophytes) which require at least a periodically saturated soil condition for growth and reproduction in certain instances, vegetation may be completely lacking.

WFU—Wildland Fire Use

Wilderness Inventory—A written description of resource information and data, and a map of those public lands that meet the wilderness criteria as established under Section 603 (a) of FLPMA and Section 2 (c) of "The Wilderness Act.

Wilderness Study Area (WSA)—An area determined to have wilderness characteristics. Study areas will be subject to interdisciplinary analysis and public comment to determine wilderness suitability. Suitable areas will be recommended to the President and Congress for wilderness designation.

Wild River—A river or section of a river that is free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted.

Wildfire—Any fire occurring on wildland that is not meeting management objectives and thus requires a suppression response— an unwanted wildland fire.

Wildland Fire—Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

Winter Range—That area where all individuals of the species of interest are located for over an average of five winters out of ten during the period 15 December to 15 March.

Withdrawals—Actions which restrict the use of public lands and segregate the lands from the operation of some or all of the public land or mineral laws.

WO—Washington Office

Woodlands—Forestland not included in the commercial forestland sustainable harvest level. Includes all noncommercial and non-suitable forestland.

Woodlands, Non-suitable—Forestland not capable of sustaining a harvest level of forest products.

Woodlands, Suitable—Non-commercial forestland and commercial forestland that is non-suitable (not included in the sustainable harvest level) because of the fragile site and/or requires longer than 15 years to reforest after harvest.

WQMP—Water Quality Management Plan

WQRP—Water Quality Restoration Plan

WSA—Wilderness Study Area

WUI—Wildland-Urban Interface

Zeolite—A group of hydrated silicates of aluminum with alkali metals. They contain a porous molecular structure that allows them to selectively trap individual molecules within that structure. Zeolites are used in water purification and decontamination systems, animal feed supplements, drying agents, and for soil improvement.

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Appendix A. 303(d) Listed Streams within the Decision Area

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	Temperature	1169095450086	Elk Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1170117450568	Aspen Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1170207448719	East Pine Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1170244450629	Big Elk Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1170647449871	Okanogan Creek	Rearing: 17.8 C	17050201	Brownlee Reservoir
Summer	Temperature	1170828449534	Beecher Creek	Rearing: 17.8 C	17050201	Brownlee Reservoir
Summer	Temperature	1171019449931	Trail Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1171430449898	Meadow Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1169095450086	Elk Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1170244450629	Big Elk Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1171430449898	Meadow Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1169416450198	Lake Fork	Rearing: 17.8 C	17050201	Brownlee Reservoir
Summer	Temperature	1170207448719	East Pine Creek	Rearing: 17.8 C	17050201	Brownlee Reservoir
Summer	Temperature	1170207448719	East Pine Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1169416450198	Lake Fork	Rearing: 17.8 C	17050201	Brownlee Reservoir
Summer	Temperature	1170299448659	Clear Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050201	Brownlee Reservoir
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17050201	Brownlee Reservoir
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17050201	Brownlee Reservoir

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17050201	Brownlee Reservoir
Summer	Temperature	1170207448719	East Pine Creek	Rearing: 17.8 C	17050201	Brownlee Reservoir
Summer	Temperature	1170299448659	Clear Creek	Bull Trout: 10.0 C	17050201	Brownlee Reservoir
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17050201	Brownlee Reservoir
Undefined	Sedimentation	1181103444227	Camp Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17050202	Burnt River
Summer	Temperature	1181103444228	East Camp Creek	Rearing: 17.8 C	17050202	Burnt River
Summer	Temperature	1182170445700	China Creek	Rearing: 17.8 C	17050202	Burnt River
Summer	Temperature	1182793446403	Trout Creek	Rearing: 17.8 C	17050202	Burnt River
Undefined	Sedimentation	1182793446403	Trout Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17050202	Burnt River

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1183905446706	Geiser Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17050202	Burnt River
Summer	Temperature	1183291446668	Patrick Creek	Rearing: 17.8 C	17050202	Burnt River
Undefined	Sedimentation	1183291446668	Patrick Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17050202	Burnt River
Summer	Temperature	1181903445028	North Fork Burnt River	Rearing: 17.8 C	17050202	Burnt River
Summer	Chlorophyll a	1172299443641	Burnt River	Reservoir, river, estuary, non-thermally stratified lake: 0.015 mg/l	17050202	Burnt River
Summer	Chlorophyll a	1172299443641	Burnt River	Reservoir, river, estuary, non-thermally stratified lake: 0.015 mg/l	17050202	Burnt River
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17060101	Hells Canyon
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17060101	Hells Canyon
Summer	Temperature	1167558457535	Lightning Creek	Rearing: 17.8 C	17060102	Imnaha River
Summer	Temperature	1170649457215	Salmon Creek	Rearing: 17.8 C	17060106	Lower Grande Ronde

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	Temperature	1170858457203	Peavine Creek	Rearing: 17.8 C	17060106	Lower Grande Ronde
Summer	Temperature	1171526457055	Elk Creek	Rearing: 17.8 C	17060106	Lower Grande Ronde
Undefined	Sedimentation	1171526457055	Elk Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060106	Lower Grande Ronde
Undefined	Sedimentation	1171565457145	Chesnimnus Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060106	Lower Grande Ronde
Undefined	Sedimentation	1169845460718	Grande Ronde River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060106	Lower Grande Ronde
Undefined	Sedimentation	1169845460718	Grande Ronde River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060106	Lower Grande Ronde
Summer	Fecal Coliform	1177853457255	Wallowa River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060106	Lower Grande Ronde

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1177853457255	Wallowa River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060106	Lower Grande Ronde
Summer	Temperature	1197507448999	Henry Creek	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1199127450306	Stahl Canyon	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1204849449499	Sorefoot Creek	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1201704445718	Nelson Creek	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1204243455973	Grass Valley Canyon	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1202100445837	Gable Creek	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1202784446777	Bear Creek	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1203065447366	Bridge Creek	Rearing: 17.8 C	17070204	Lower John Day
Summer	Temperature	1203065447366	Bridge Creek	Rearing: 17.8 C	17070204	Lower John Day
Undefined	Biological Criteria	1204472449061	Pine Creek	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	17070204	Lower John Day
Undefined	Biological Criteria	1204472449061	Pine Creek	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	17070204	Lower John Day
Year Around	Mercury	1190296461886	Snake River	. . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.	17060103	Lower Snake-Asotin

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	Temperature	1189691450566	Bridge Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1193071450426	Stalder Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1184504447748	Beaver Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1186439451634	Frazier Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1186964451690	Bowman Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1187654451886	Lane Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1187925451660	Hidaway Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1188422451575	Cable Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1192839449723	Mallory Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1194313449697	Skookum Creek	Rearing: 17.8 C	17070202	North Fork John Day
Undefined	Sedimentation	1183176449098	Baldy Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Summer	Temperature	1184252448079	Bull Run Creek	Rearing: 17.8 C	17070202	North Fork John Day
Undefined	Sedimentation	1184252448079	Bull Run Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Summer	Temperature	1184777448936	Crane Creek	Bull Trout: 10.0 C	17070202	North Fork John Day

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1185615448659	Granite Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Undefined	Sedimentation	1194087449980	Swale Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Summer	Temperature	1194087449980	Swale Creek	Rearing: 17.8 C	17070202	North Fork John Day
Undefined	Sedimentation	1194607450375	Hog Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Undefined	Sedimentation	1196351449967	Porter Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Summer	Temperature	1184500448213	Clear Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1189608451319	Owens Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1189855450726	Fivemile Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1192754449735	Potamus Creek	Rearing: 17.8 C	17070202	North Fork John Day

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1194539450514	Alder Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Summer	Temperature	1186261451759	Rancheria Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1187541451837	Bear Wallow Creek	Rearing: 17.8 C	17070202	North Fork John Day
Undefined	Sedimentation	1195699449241	Wilson Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Summer	Temperature	1195699449241	Wilson Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1186830449604	Big Creek	Rearing: 17.8 C	17070202	North Fork John Day
Summer	Temperature	1192943449516	Ditch Creek	Rearing: 17.8 C	17070202	North Fork John Day
Undefined	Biological Criteria	1194050447763	East Fork Cottonwood Creek	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	17070202	North Fork John Day
Undefined	Biological Criteria	1194194448139	Cottonwood Creek	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	17070202	North Fork John Day

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1194101448830	Big Wall Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17070202	North Fork John Day
Spring/ Summer	Turbidity	1174338449687	East Fork Goose Creek	10% increase Nephelometric Turbidity Units	17050203	Powder River
Summer	Temperature	1181554450189	Indian Creek	Bull Trout: 10.0 C	17050203	Powder River
Summer	Temperature	1179697446686	California Gulch	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1180600450132	Anthony Creek	Bull Trout: 10.0 C	17050203	Powder River
Summer	Temperature	1178407447242	Elk Creek	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1180547446808	Dean Creek	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1180600450132	Anthony Creek	Bull Trout: 10.0 C	17050203	Powder River
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1178956450385	North Powder River	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1182078448087	Silver Creek	Bull Trout: 10.0 C	17050203	Powder River
Summer	Fecal Coliform	1170508447455	Powder River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17050203	Powder River
Fall/Winter/ Spring	Fecal Coliform	1170508447455	Powder River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17050203	Powder River
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River
Summer	Temperature	1170508447455	Powder River	Rearing: 17.8 C	17050203	Powder River
Year Around	Nitrates	1184788457997	Athena Spring	Table 20 Toxic Substances	17070103	Umatilla
Summer	Temperature	1175553454853	Little Bear Creek	Bull Trout: 10.0 C	17060105	Wallowa River
Summer	Temperature	1176996456197	Deer Creek	Bull Trout: 10.0 C	17060105	Wallowa River
Undefined	Sedimentation	1174900455521	Lostine River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Undefined	Sedimentation	1175411455843	Bear Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Undefined	Sedimentation	1175411455843	Bear Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Undefined	Sedimentation	1173021454196	Hurricane Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Fall/Winter/ Spring	Fecal Coliform	1173098454242	Spring Creek	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Spring/ Summer	Dissolved Oxygen	1173098454242	Spring Creek	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060105	Wallowa River
Fall/Winter/ Spring	Fecal Coliform	1173098454242	Spring Creek	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Spring/ Summer	Dissolved Oxygen	1173098454242	Spring Creek	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060105	Wallowa River
Fall/Winter/ Spring	Fecal Coliform	1172966454199	Prairie Creek	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Spring/ Summer	Dissolved Oxygen	1172966454199	Prairie Creek	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060105	Wallowa River
Undefined	Sedimentation	1172966454199	Prairie Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Fall/Winter/ Spring	Fecal Coliform	1172966454199	Prairie Creek	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Spring/ Summer	Dissolved Oxygen	1172966454199	Prairie Creek	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060105	Wallowa River

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1172966454199	Prairie Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Fall/Winter/ Spring	Fecal Coliform	1172966454199	Prairie Creek	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Spring/ Summer	Dissolved Oxygen	1172966454199	Prairie Creek	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060105	Wallowa River
Undefined	Sedimentation	1172966454199	Prairie Creek	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Undefined	Sedimentation	1177211456214	Minam River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Summer	Fecal Coliform	1177853457255	Wallowa River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1177853457255	Wallowa River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Summer	Fecal Coliform	1177853457255	Wallowa River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Undefined	Sedimentation	1177853457255	Wallowa River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Summer	Fecal Coliform	1177853457255	Wallowa River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Undefined	Sedimentation	1177853457255	Wallowa River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Summer	Fecal Coliform	1177853457255	Wallowa River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River

Table 2.A-1. 303(d) Listed Streams within the Decision Area

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Sedimentation	1177853457255	Wallowa River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Fall/Winter/ Spring	Fecal Coliform	1173098454242	Spring Creek	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Spring/ Summer	Dissolved Oxygen	1173098454242	Spring Creek	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060105	Wallowa River
Summer	Fecal Coliform	1177853457255	Wallowa River	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17060105	Wallowa River
Undefined	Sedimentation	1177853457255	Wallowa River	The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.	17060105	Wallowa River
Summer	Fecal Coliform	1195436453461	Balm Fork	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	17070104	Willow (Morrow Co)

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1171006446374	Quicksand Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1172197444852	Morgan Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1168539449735	Pine Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1168539449735	Pine Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1168539449735	Pine Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1168539449735	Pine Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1168539449735	Pine Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
January 1 - May 15	Dissolved Oxygen	1172299443641	Burnt River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1172299443641	Burnt River	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050201	Brownlee Reservoir
Summer	E Coli	1172299443641	Burnt River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17050201	Brownlee Reservoir
Year Around (Non-spawning)	Temperature	1174704445795	Lawrence Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1173304444463	Dixie Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1176633444892	Cottonwood Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1177428444890	Auburn Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1174704445795	Lawrence Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1176920445381	Dark Canyon	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1174506444498	North Fork Dixie Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1174506444499	South Fork Dixie Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1177276445037	Clarks Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
January 1 - May 15	Dissolved Oxygen	1172299443641	Burnt River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1172299443641	Burnt River	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
January 1 - May 15	Dissolved Oxygen	1172299443641	Burnt River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1172299443641	Burnt River	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Summer	E Coli	1172299443641	Burnt River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17050202	Burnt River
January 1 - May 15	Dissolved Oxygen	1172299443641	Burnt River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17050202	Burnt River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1172299443641	Burnt River	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Summer	E Coli	1172299443641	Burnt River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17050202	Burnt River
January 1 - May 15	Dissolved Oxygen	1172299443641	Burnt River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1172299443641	Burnt River	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050202	Burnt River
Year Around (Non-spawning)	Temperature	1167649458167	Imnaha River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060101	Hells Canyon
Year Around (Non-spawning)	Temperature	1167917454022	Freezeout Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1168454452317	Crazyman Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1168602455202	Little Sheep Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1168724451806	Gumboot Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1168775451506	Dry Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1168058453281	Grouse Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
January 1 - June 15	Temperature	1168058453281	Grouse Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1168347455572	Big Sheep Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1167649458167	Imnaha River	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1167649458167	Imnaha River	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1167649458167	Imnaha River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1167649458167	Imnaha River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
August 1 - June 15	Temperature	1167649458167	Imnaha River	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1167649458167	Imnaha River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
August 1 - June 15	Temperature	1167649458167	Imnaha River	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060102	Imnaha River
Year Around (Non-spawning)	Temperature	1170059460526	Joseph Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1173955459872	Grouse Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1174728458987	Mud Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1174992458487	Wallupa Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1175800458802	Sickfoot Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1174943458963	Wildcat Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1170059460526	Joseph Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1171565457144	Crow Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1174422459325	Courtney Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1171565457145	Chesnimnus Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1174512459454	Wenaha River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1174512459454	Wenaha River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
August 15 - June 15	Temperature	1174512459454	Wenaha River	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
January 1 - May 15	Dissolved Oxygen	1169845460718	Grande Ronde River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Summer	E Coli	1177853457255	Wallowa River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060106	Lower Grande Ronde

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	pH	1177853457255	Wallowa River	pH 6.5 to 9.0	17060106	Lower Grande Ronde
January 1 - May 15	Dissolved Oxygen	1169845460718	Grande Ronde River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060106	Lower Grande Ronde
Year Around (Non-spawning)	Temperature	1198759450734	Brown Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1201398449604	Straw Fork	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1203607455057	Hay Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1200023447970	Service Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1203607455057	Hay Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1204052455767	Rock Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1204692451626	Thirtymile Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1204052455767	Rock Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1204052455767	Rock Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1200023447970	Service Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1204472449061	Pine Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1206499457318	John Day River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1204472449061	Pine Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1206499457318	John Day River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1206499457318	John Day River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070204	Lower John Day
Year Around (Non-spawning)	Temperature	1240483462464	Columbia River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070101	Middle Columbia-Lake Wallula
Fall/Winter/Spring	pH	1240483462464	Columbia River	pH 7.0 to 8.5	17070101	Middle Columbia-Lake Wallula
Year Around (Non-spawning)	Temperature	1240483462464	Columbia River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070101	Middle Columbia-Lake Wallula
Fall/Winter/ Spring	pH	1240483462464	Columbia River	pH 7.0 to 8.5	17070101	Middle Columbia-Lake Wallula
Year Around (Non-spawning)	Temperature	1240483462464	Columbia River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070101	Middle Columbia-Lake Wallula
Fall/Winter/ Spring	pH	1240483462464	Columbia River	pH 7.0 to 8.5	17070101	Middle Columbia-Lake Wallula

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Fall/Winter/ Spring	pH	1240483462464	Columbia River	pH 7.0 to 8.5	17070101	Middle Columbia-Lake Wallula
Year Around (Non-spawning)	Temperature	1240483462464	Columbia River	Salmon and steelhead migration corridors: 20.0 degrees Celsius 7-day-average maximum	17070101	Middle Columbia-Lake Wallula
Fall/Winter/Spring	pH	1240483462464	Columbia River	pH 7.0 to 8.5	17070101	Middle Columbia-Lake Wallula
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070101	Middle Columbia-Lake Wallula
Year Around	Manganese	1193384459144	Umatilla River	Table 20 Toxic Substances	17070101	Middle Columbia-Lake Wallula
Year Around (Non-spawning)	Temperature	1184946448414	Buck Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1186888448197	North Fork Desolation Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1187361448455	Sponge Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1187587450824	South Fork Cable Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1187808448786	Junkens Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1195823447863	Rudio Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1182983449150	Crawfish Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1183896449368	South Trail Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1183896449369	North Trail Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1184006449127	Onion Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1187587450824	South Fork Cable Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
January 1 - June 15	Temperature	1187587450824	South Fork Cable Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1187587450825	North Fork Cable Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1183176449098	Baldy Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1184063449155	Trail Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1185615448659	Granite Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1187587450825	North Fork Cable Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1185615448659	Granite Creek	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1189363449976	Desolation Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1189961450100	Camas Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1189961450100	Camas Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1194981449297	Indian Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1195823447863	Rudio Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1189363449976	Desolation Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
January 1 - June 15	Temperature	1189363449976	Desolation Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1189961450100	Camas Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
September 1 - June 15	Temperature	1189961450100	Camas Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1193015449167	Middle Fork John Day River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1186403449794	Meadow Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1194194448139	Cottonwood Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
January 1 - June 15	Temperature	1196393447553	North Fork John Day River	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
September 1 - June 15	Temperature	1196393447553	North Fork John Day River	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
September 1 - June 15	Temperature	1196393447553	North Fork John Day River	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1194101448830	Big Wall Creek	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
January 1 - May 15	Dissolved Oxygen	1196393447553	North Fork John Day River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1196393447553	North Fork John Day River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17070202	North Fork John Day
Year Around (Non-spawning)	Temperature	1174261448973	Sawmill Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050203	Powder River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1178285447625	Sutton Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050203	Powder River
Year Around	Iron	1188411456684	McKay Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193296457950	Butter Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1188411456684	McKay Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1188411456684	McKay Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1188815456558	Birch Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1188815456558	Birch Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Manganese	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Manganese	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Manganese	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Manganese	1187658456785	Wildhorse Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1188411456684	McKay Creek	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around	Manganese	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around	Iron	1193384459144	Umatilla River	Table 20 Toxic Substances	17070103	Umatilla
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
January 1 - May 15	Dissolved Oxygen	1169845460718	Grande Ronde River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
January 1 - May 15	Dissolved Oxygen	1169845460718	Grande Ronde River	Spawning: Not less than 11.0 mg/L or 95% of saturation	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River
Year Around (Non-spawning)	Temperature	1169845460718	Grande Ronde River	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	17060104	Upper Grande Ronde River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around	Iron	1186528460280	Pine Creek	Table 20 Toxic Substances	17070102	Walla Walla
Year Around	Iron	1186528460280	Pine Creek	Table 20 Toxic Substances	17070102	Walla Walla
August 15 - June 15	Temperature	1175411455843	Bear Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177592456645	Fisher Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177782456881	Howard Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177592456645	Fisher Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
January 1 - June 15	Temperature	1177592456645	Fisher Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177782456881	Howard Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
January 1 - June 15	Temperature	1177782456881	Howard Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1175411455843	Bear Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Summer	E Coli	1172198454178	Prairie Creek	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1175411455843	Bear Creek	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
August 15 - June 15	Temperature	1175411455843	Bear Creek	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177211456214	Minam River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	E Coli	1172966454199	Prairie Creek	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	E Coli	1172966454199	Prairie Creek	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	E Coli	1172966454199	Prairie Creek	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177211456214	Minam River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Summer	E Coli	1177853457255	Wallowa River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	pH	1177853457255	Wallowa River	pH 6.5 to 9.0	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Summer	E Coli	1177853457255	Wallowa River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	pH	1177853457255	Wallowa River	pH 6.5 to 9.0	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Summer	E Coli	1177853457255	Wallowa River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	pH	1177853457255	Wallowa River	pH 6.5 to 9.0	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Summer	E Coli	1177853457255	Wallowa River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	pH	1177853457255	Wallowa River	pH 6.5 to 9.0	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1177853457255	Wallowa River	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	17060105	Wallowa River
Summer	E Coli	1177853457255	Wallowa River	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17060105	Wallowa River
Summer	pH	1177853457255	Wallowa River	pH 6.5 to 9.0	17060105	Wallowa River
Year Around (Non-spawning)	Temperature	1176055443389	Basin Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17050119	Willow
Fall/Winter/ Spring	E Coli	1172295439862	Willow Creek	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17050119	Willow
Summer	E Coli	1172295439862	Willow Creek	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	17050119	Willow
Year Around (Non-spawning)	Temperature	1200159457949	Willow Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17070104	Willow (Morrow Co)

Table 2.A-2. Cat 5: Water Quality Limited, 303(d) List, TMDL Needed

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Year Around (Non-spawning)	Temperature	1200159457949	Willow Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17070104	Willow (Morrow Co)
Year Around (Non-spawning)	Temperature	1200159457949	Willow Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17070104	Willow (Morrow Co)
Year Around (Non-spawning)	Temperature	1200159457949	Willow Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17070104	Willow (Morrow Co)
Summer	pH	1200159457949	Willow Creek	pH 6.5 to 9.0	17070104	Willow (Morrow Co)
Year Around (Non-spawning)	Temperature	1200159457949	Willow Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17070104	Willow (Morrow Co)
Year Around (Non-spawning)	Temperature	1200159457949	Willow Creek	Redband or Lahontan cutthroat trout: 20.0 degrees Celsius 7-day-average maximum	17070104	Willow (Morrow Co)
Summer	pH	1200159457949	Willow Creek	pH 6.5 to 9.0	17070104	Willow (Morrow Co)

Table 2.A-3. Criteria Change or Use Clarification

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
March 1 - June 30	Temperature	1176633444892	Cottonwood Creek	Spawning: 12.8 C	17050202	Burnt River
March 1 - June 30	Temperature	1174704445795	Lawrence Creek	Spawning: 12.8 C	17050202	Burnt River
March 1 - June 30	Temperature	1176920445381	Dark Canyon	Spawning: 12.8 C	17050202	Burnt River
March 1 - June 30	Temperature	1174506444498	North Fork Dixie Creek	Spawning: 12.8 C	17050202	Burnt River
March 1 - June 30	Temperature	1174506444499	South Fork Dixie Creek	Spawning: 12.8 C	17050202	Burnt River
Summer	Temperature	1176196444807	Pine Creek	Rearing: 17.8 C	17050202	Burnt River
March 1 - June 30	Temperature	1176196444807	Pine Creek	Spawning: 12.8 C	17050202	Burnt River

Table 2.A-4. Water Quality Limited Not Needing a TMDL

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Flow Modification	1172299443641	Burnt River	See below	17050201	Brownlee Reservoir
Undefined	Habitat Modification	1181386443244	King Creek		17050202	Burnt River
Undefined	Habitat Modification	1182878446504	Camp Creek		17050202	Burnt River
Undefined	Habitat Modification	1183174446879	Pinus Creek		17050202	Burnt River
Undefined	Habitat Modification	1172795443628	Durbin Creek		17050202	Burnt River
Undefined	Habitat Modification	1173702444979	Sisley Creek		17050202	Burnt River
Undefined	Habitat Modification	1174105445327	Shirttail Creek		17050202	Burnt River
Undefined	Habitat Modification	1174710446846	Sardine Creek		17050202	Burnt River
Undefined	Flow Modification	1174784446009	Alder Creek		17050202	Burnt River
Undefined	Habitat Modification	1174929446509	Pritchard Creek		17050202	Burnt River
Undefined	Habitat Modification	1176020445670	Hooker Gulch		17050202	Burnt River
Undefined	Habitat Modification	1176137445597	Deer Creek		17050202	Burnt River
Undefined	Habitat Modification	1176162445537	Cave Creek		17050202	Burnt River
Undefined	Habitat Modification	1176704445464	French Gulch		17050202	Burnt River
Undefined	Habitat Modification	1179840445200	Cow Creek		17050202	Burnt River
Undefined	Flow Modification	1180954445016	Beaverdam Creek		17050202	Burnt River
Undefined	Habitat Modification	1181103444226	West Camp Creek		17050202	Burnt River
Undefined	Habitat Modification	1181103444227	Camp Creek		17050202	Burnt River
Undefined	Habitat Modification	1181103444228	East Camp Creek		17050202	Burnt River
Undefined	Habitat Modification	1181636443732	Whiskey Creek		17050202	Burnt River
Undefined	Habitat Modification	1181903445029	South Fork Burnt River		17050202	Burnt River
Undefined	Flow Modification	1181903445029	South Fork Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1182170445700	China Creek		17050202	Burnt River

Table 2.A-4. Water Quality Limited Not Needing a TMDL

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Habitat Modification	1182793446403	Trout Creek		17050202	Burnt River
Undefined	Habitat Modification	1182935446721	Gimlet Creek		17050202	Burnt River
Undefined	Habitat Modification	1183905446706	Geiser Creek		17050202	Burnt River
Undefined	Habitat Modification	1174704445795	Lawrence Creek		17050202	Burnt River
Undefined	Habitat Modification	1176920445381	Dark Canyon		17050202	Burnt River
Undefined	Habitat Modification	1180404444936	Water Gulch		17050202	Burnt River
Undefined	Flow Modification	1180404444936	Water Gulch		17050202	Burnt River
Undefined	Habitat Modification	1182878446504	Camp Creek		17050202	Burnt River
Undefined	Habitat Modification	1183174446879	Pinus Creek		17050202	Burnt River
Undefined	Habitat Modification	1183291446668	Patrick Creek		17050202	Burnt River
Undefined	Flow Modification	1183291446668	Patrick Creek		17050202	Burnt River
Undefined	Habitat Modification	1174506444498	North Fork Dixie Creek		17050202	Burnt River
Undefined	Habitat Modification	1174506444499	South Fork Dixie Creek		17050202	Burnt River
Undefined	Habitat Modification	1176196444807	Pine Creek		17050202	Burnt River
Undefined	Habitat Modification	1177276445037	Clarks Creek		17050202	Burnt River
Undefined	Flow Modification	1177276445037	Clarks Creek		17050202	Burnt River
Undefined	Habitat Modification	1179966444891	Big Creek		17050202	Burnt River
Undefined	Habitat Modification	1181903445028	North Fork Burnt River		17050202	Burnt River
Undefined	Flow Modification	1181903445028	North Fork Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1182082445197	West Fork Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1181965445059	Middle Fork Burnt River		17050202	Burnt River
Undefined	Flow Modification	1181965445059	Middle Fork Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1172299443641	Burnt River		17050202	Burnt River
Undefined	Flow Modification	1172299443641	Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1172299443641	Burnt River		17050202	Burnt River

Table 2.A-4. Water Quality Limited Not Needing a TMDL

Season	Parameter	LLID	Stream Name	Criteria	Subbasin	Subbasin Within Decision Area
Undefined	Flow Modification	1172299443641	Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1172299443641	Burnt River		17050202	Burnt River
Undefined	Flow Modification	1172299443641	Burnt River		17050202	Burnt River
Undefined	Habitat Modification	1172299443641	Burnt River		17050202	Burnt River
Undefined	Flow Modification	1172299443641	Burnt River		17050202	Burnt River

Criteria is the same for all Streams in this Criteria, which is as follows: The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed.

Appendix 2.B Sensitive Plant Species Suspected to Occur in the Decision Area

Table 2.B-1. Sensitive Plant Species Suspected to Occur in the Decision Area

Common Name	Scientific Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	G Rank[3]	OR S Rank[4]	WA S Rank
Wallowa Ricegrass	*Achnatherum wallowaensis*	OR-SEN	S		G2G3	S2S3	no status
Geyer's Onion	*Allium geyeri var. geyeri*	OR-SEN	S		G4G5T4	S1	no status
Davis' Milkweed	*Asclepias cryptoceras ssp. davisii*	no status		S	G4TNR	no status	S1
Green Spleenwort	*Asplenium trichomanes-ramosum*	OR-SEN	S		G4	S1	no status
Laurence's Milk-Vetch	*Astragalus collinus var. laurentii*	OR-SEN	S		G5T1	S1	no status
Upward-Lobed Moonwort	*Botrychium ascendens*	SEN	S	S	G2G3	S2	S2
Prairie Moonwort	*Botrychium campestre*	OR-SEN	S	S	G3G4	S1	no status
Crenulate Moonwort	*Botrychium crenulatum*	SEN	S	S	G3	S2	S3
Western Moonwort	*Botrychium hesperium*	WA-SEN OR-STR	S	S	G3G4	SNR	S1
Slender Moonwort	*Botrychium lineare*	SEN	S	S	G1	S1	S1
Moonwort	*Botrychium lunaria*	OR-SEN	S	S	G5	S2	no status
Mountain Grape-Fern	*Botrychium montanum*	OR-SEN	S		G3	S2	no status
Twin-Spiked Moonwort	*Botrychium paradoxum*	SEN	S	S	G2	S1	S2
Stalked Moonwort	*Botrychium pedunculosum*	SEN	S		G2G3	S1	S2

Table 2.B-1. Sensitive Plant Species Suspected to Occur in the Decision Area

Common Name	Scientific Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	G Rank[3]	OR S Rank[4]	WA S Rank
Broad-Fruit Mariposa-Lily	*Calochortus nitidus*	SEN	S	S	G3	S1	S1
Rosy Pussypaws	*Calyptridium roseum*	SEN		S	G5	S1	S1
Abrupt-Beaked Sedge	*Carex abrupta*	OR-SEN	S		G5	S1	no status
Blackened Sedge	*Carex atrosquama*	OR-SEN WA-STR	S		G4?	S1	S1
Hairlike Sedge	*Carex capillaris*	SEN	S		G5	S2	S1
Cordilleran Sedge	*Carex cordillerana*	OR-SEN	S		GNR	S2	no status
Yellow Bog Sedge	*Carex dioica var. gynocrates*	SEN	S		G5	S1	S1
Idaho Sedge	*Carex idahoa*	OR-SEN	S		G2	S1	no status
Slender Sedge	*Carex lasiocarpa var. americana*	OR-SEN	S		G5T5	S2	no status
Intermediate Sedge	*Carex media*	SEN	S		G5	S1	S2
Spikenard Sedge	*Carex nardina*	OR-SEN	S		G4G5	S2?	no status
New Sedge	*Carex pelocarpa*	OR-SEN	S		G4G5	S1	no status
Pyrenaean Sedge	*Carex pyrenaica ssp. micropoda*	OR-SEN	S		G4G5T4T5	S1	no status
Retrorse Sedge	*Carex retrorsa*	OR-SEN	S		G5	S1	no status
Dark Alpine Sedge	*Carex subnigricans*	OR-SEN	S		G5	S1	no status
Native Sedge	*Carex vernacula*	OR-SEN	S		G5	S2	no status
Fraternal Paintbrush	*Castilleja fraterna*	OR-SEN	S		G2	S2	no status
Purple Alpine Paintbrush	*Castilleja rubida*	OR-SEN	S		G2	S2	no status
Fee's Lip-Fern	*Cheilanthes feei*	SEN	S	D	G5	S2	S1
Beaked Cryptantha	*Cryptantha rostellata*	WA-SEN		S	G4	no status	S2
Steller's Rockbrake	*Cryptogramma stelleri*	SEN	S		G5	S1	S1S2
A Cyperus	*Cyperus lupulinus ssp. Lupulinus*	OR-SEN	S		G5T5?	S1	no status
Clustered Lady's-Slipper	*Cypripedium fasciculatum*	SEN	S	S	G4	S3	S3
Bolander's Spikerush	*Eleocharis bolanderi*	OR-SEN	S		G4	S2	no status

Table 2.B-1. Sensitive Plant Species Suspected to Occur in the Decision Area

Common Name	Scientific Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	G Rank[3]	OR S Rank[4]	WA S Rank
White Cushion Erigeron	*Erigeron disparipilus*	OR-SEN	S		G5	S2	no status
Engelmann's Daisy	*Erigeron engelmannii var. Davisii*	OR-SEN WA-STR	S	D	G5T3	S1	S1
Slender-Stemmed Avens	*Geum rossii var. turbinatum*	OR-SEN	S		G5T4	S2	no status
Salt Heliotrope	*Heliotropium curassavicum*	OR-SEN	S		G5	S2	no status
Three-Flowered Rush	*Juncus triglumis var. albescens*	OR-SEN	S		G5	S1	no status
Bellard's Kobresia	*Kobresia bellardii*	OR-SEN	S		G5	S1	no status
Simple Kobresia	*Kobresia simpliciuscula*	OR-SEN	S		G5	S1	no status
Hazel's Prickly Phlox	*Leptodactylon pungens ssp. hazeliae*	no status	S		G5T2Q	S1	no status
Aristulate Lipocarpha	*Lipocarpha aristulata*	SEN	S	S	G5?	S1	S1
Northern Twayblade	*Listera borealis*	OR-SEN	S		G4	S1	no status
Red-Fruited Lomatium	*Lomatium erythrocarpum*	OR-SEN	S		G1	S1	no status
Ground Cedar	*Lycopodium complanatum*	OR-SEN	S		G5	S2	no status
Membrane-Leaved Monkeyflower	*Mimulus hymenophyllus*	OR-SEN	S		G1	S1	no status
Adder's-Tongue	*Ophioglossum pusillum*	SEN	S		G5	S1	S1S2
Bridges' Cliff-Brake	*Pellaea bridgesii*	OR-SEN	S		G4	S2	no status
Variable Hot-Rock Penstemon	*Penstemon deustus var. variabilis*	WA-SEN OR-STR	D	S	G5T1T2	S2	S1S2
Henderson's Phlox	*Phlox hendersonii*	OR-SEN	S		G4	S1	no status
Many-Flowered Phlox	*Phlox multiflora*	OR-SEN	S		G4	S1	no status
Chambers' Twinpod	*Physaria chambersii*	OR-SEN	S		G4	S2	no status
Common Twinpod	*Physaria didymocarpa var. didymocarpa*	WA-SEN	S		G5T4	no status	S1
Small Northern Bog-Orchid	*Platanthera obtusata*	SEN	S		G5	S1	S2
Oregon Semaphoregrass	*Pleuropogon oregonus*	OR-SEN	S		G1	S1	no status

Table 2.B-1. Sensitive Plant Species Suspected to Occur in the Decision Area

Common Name	Scientific Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	G Rank[3]	OR S Rank[4]	WA S Rank
Idaho Gooseberry	*Ribes oxyacanthoides ssp. irriguum*	WA-SEN		S	G5T3T4	no status	S2
Columbia Cress	*Rorippa columbiae*	SEN	S	S	G3	S3	S1S2
Farr's Willow	*Salix farriae*	OR-SEN	S		G4	S2	no status
Wolf's Willow	*Salix wolfii*	OR-SEN	S	S	G5?	S2	no status
Wedge-Leaf Saxifrage	*Saxifraga adscendens ssp. oregonensis*	OR-SEN	S	S	G5T4T5	S1	no status
Violet Suksdorfia	*Suksdorfia violacea*	OR-SEN	S		G4	S1	no status
Alpine Meadowrue	*Thalictrum alpinum*	OR-SEN	S		G5	S2	no status
Arrow-Leaf Thelypody	*Thelypodium eucosmum*	OR-SEN	S		G2	S2	no status
Mountain Townsendia	*Townsendia montana*	OR-SEN	S		G4	S1	no status
Parry's Townsendia	*Townsendia parryi*	OR-SEN	S		G4?	S1	no status
Douglas' Clover	*Trifolium douglasii*	SEN	S		G2	S1	no status
American Globeflower	*Trollius laxus var. albiflorus*	OR-SEN	S		G4T4	S1	no status
Lesser Bladderwort	*Utricularia minor*	OR-SEN WA-STR	S		G5	S2	S2?

Table 2.B-1. Sensitive Plant Species Suspected to Occur in the Decision Area

Common Name	Scientific Name	ISSSSP Status[1]	Decision Area OR[2]	Decision Area WA	G Rank[3]	OR S Rank[4]	WA S Rank

1. ISSSSP = Interagency Special Status - Sensitive Species Program SEN = Sensitive in OR and WA; OR-SEN = Sensitive in OR only; WA-SEN = Sensitive in WA only; STR = Strategic in OR and WA; OR-STR = Strategic in OR only; WA-STR = Strategic in WA only

2. D = Documented occurrence = A species located on land administered by the BLM or the Forest Service based on historic or current known sites of a species reported by a credible source for which BLM and the Forest Service has knowledge of written, mapped or specimen documentation of the occurrence. S = Suspected occurrence = Species is not documented on land administered by the BLM or the Forest Service, but may occur on the unit because: 1) BLM District or National Forest is considered to be within the species' range and 2) appropriate habitat is present or 3) known occurrence of the species historic or current) in vicinity such that the species could occur on BLM or FS land.

3. GLOBAL RANK Global Rank characterizes the relative rarity or endangerment of the element world-wide. Two codes (e.g. G1G2) represent an intermediate rank.
G1 = Critically imperiled globally (5 or fewer occurrences)
G2 = Imperiled globally (6 to 20 occurrences)
G3 = Either very rare and local throughout its range or found locally in a restricted range (21 to 100 occurrences)
G4 = Apparently secure globally
G5 = Demonstrably secure globally
GH = Of historical occurrence throughout its range
GU = Possibly in peril range-wide but status uncertain
GX = Believed to be extinct throughout former range
GNR = Not yet ranked
Tn = Rarity of an infraspecific taxon. Numbers and codes similar to those for Gn ranks above.
Q = Questionable

4. State Rank characterizes the relative rarity or endangerment within the state of Oregon and Washington. Two codes (e.g. S1S2) represents an intermediate rank.
S1 = Critically imperiled (5 or fewer occurrences)
S2 = Imperiled (6 to 20 occurrences), very vulnerable to extirpation
S3 = Rare or uncommon (21 to 100 occurrences)
S4 = Apparently secure, with many occurrences
S5 = Demonstrably secure in state
SA = Accidental in state
SE = An exotic established in state
SH = Historical occurrences only but still expected to occur
SN = Regularly occurring, usually migratory, nonbreeding animals
SU = Unrankable; need more information
SX = Apparently extirpated from the state

Appendix 2.C Guidelines for Livestock Grazing Management

Guidelines for livestock grazing management offer guidance in achieving plan goals, meeting standards for rangeland health and fulfilling the fundamentals of rangeland health. Guidelines are applied in accordance with the capabilities of the resource in consultation, cooperation, and coordination with permittees/lessees and the interested public. Guidelines enable managers to adjust grazing management on public lands to meet current and anticipated climatic and biological conditions.

General Guidelines

1. Involve diverse interests in rangeland assessment, planning and monitoring.
2. Assessment and monitoring are essential to the management of rangelands, especially in areas where resource problems exist or issues arise. Monitoring should proceed using a qualitative method of assessment to identify critical, site-specific problems or issues using interdisciplinary teams of specialists, managers, and knowledgeable land users.
3. Once identified, critical, site-specific problems or issues should be targeted for more intensive, quantitative monitoring or investigation. Priority for monitoring and treatment should be given to those areas that are ecologically at-risk where benefits can be maximized given existing budgets and other resources.

Livestock Grazing Management

1. The season, timing, frequency, duration and intensity of livestock grazing use should be based on the physical and biological characteristics of the site and the management unit in order to:
   a. Provide adequate cover (live plants, plant litter and residue) to promote infiltration, conserve soil moisture and to maintain soil stability in upland areas;
   b. Provide adequate cover and plant community structure to promote streambank stability, debris and sediment capture, and floodwater energy dissipation in riparian areas
   c. Promote soil surface conditions that support infiltration
   d. Avoid sub-surface soil compaction that retards the movement of water in the soil profile
   e. Help prevent the increase and spread of noxious weeds
   f. Maintain or restore diverse plant populations and communities that fully occupy the potential rooting volume of the soil
   g. Maintain or restore plant communities to promote photosynthesis throughout the potential growing season

h. Promote soil and site conditions that provide the opportunity for the establishment of desirable plants

i. Protect or restore water quality

j. Provide for the life cycle requirements, and maintain or restore the habitat elements of native (including T&E, special status, and locally important species) and desired plants and animals

2. Grazing management plans should be tailored to site-specific conditions and plan objectives. Livestock grazing should be coordinated with the timing of precipitation, plant growth and plant form. Soil moisture, plant growth stage and the timing of peak stream flows are key factors in determining when to graze. Response to different grazing strategies varies with differing ecological sites.

3. Grazing management systems should consider nutritional and herd health requirements of the livestock.

4. Integrate grazing management systems into the year-round management strategy and resources of the permittee(s) or lessee(s). Consider the use of collaborative approaches (e.g., Coordinated Resource Management, Working Groups) in this integration.

5. Consider competition for forage and browse among livestock, big game animals, and wild horses in designing and implementing a grazing plan.

6. Provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction and productivity.

7. Range improvement practices should be prioritized to promote rehabilitation and resolve grazing concerns on transitory grazing land.

8. Consider the potential for conflict between grazing use on public land and adjoining land uses in the design and implementation of a grazing management plan.

Facilitating the Management of Livestock Grazing

1. The use of practices to facilitate the implementation of grazing systems should consider the kind and class of animals managed, indigenous wildlife, wild horses, the terrain and the availability of water. Practices such as fencing, herding, water development, and the placement of salt and supplements (where authorized) are used where appropriate to:

   a. Promote livestock distribution

   b. Encourage a uniform level of proper grazing use throughout the grazing unit

   c. Avoid unwanted or damaging concentrations of livestock on streambanks, in riparian areas and other sensitive areas such as highly erodible soils, unique wildlife habitats and plant communities

   d. Protect water quality

2. Roads and trails used to facilitate livestock grazing are constructed and maintained in a manner that minimizes the effects on landscape hydrology; concentration of overland flow, erosion and sediment transport are prevented; and subsurface flows are retained.

Accelerating Rangeland Recovery

1. Upland treatments that alter the vegetative composition of a site, like prescribed burning, juniper management and seedings or plantings must be based on the potential of the site and should:

   a. Retain or promote infiltration, permeability, and soil moisture storage

   b. Contribute to nutrient cycling and energy flow

   c. Protect water quality

   d. Help prevent the increase and spread of noxious weeds

   e. Contribute to the diversity of plant communities, and plant community composition and structure

f. Support the conservation of T&E, other special status species and species of local importance

g. Be followed up with grazing management and other treatments that extend the life of the treatment and address the cause of the original treatment need

2. Seedings and plantings of non-native vegetation should only be used in those cases where native species are not available in sufficient quantities; where native species are incapable of maintaining or achieving the standards; or where non-native species are essential to the functional integrity of the site.

3. Structural and vegetative treatments and animal introductions in riparian and wetland areas must be compatible with the capability of the site, including the system's hydrologic regime, and contribute to the maintenance or restoration of properly functioning condition.

Appendix 2.D Details on the Communication Sites Currently Located in the Decision Area

Indicator

Overall management direction for the administration of communications sites is outlined in the U.S. Code of Federal Regulations (CFR) and the Bureau of Land Management (BLM) Handbook and applicable BLM Instructional Memoranda. Specific direction for site management planning on designated communications sites is contained in BLM Handbook 2860-1. Primary regulations and policy pertaining to issuance of right-of-way (ROW) authorizations by the BLM are found in Title 43 CFR Sections 2801- 2808 and BLM Handbook 2860-1.

The terms used in communications site management plans conform to the definitions listed in the April 22, 2005, Federal Register notice "Rights-of-Way, Principles and Procedures: Rights-of-Way under the Federal Land Policy and Management Act (FLPMA) and the Mineral Leasing Act." Further clarification is provided in BLM Handbook 2860-1 and 43 CFR 2800. In the event of a conflict, between the plan and these sources, the Federal Register notice and the BLM Handbook will govern.

The words "lease" and "lessee" as used in communication site plans refer to the relationship between the BLM and the communications use lease lessee, or ROW holder. The words "customer" and "tenant" refer to the relationship between the lessee or holder and the occupants in the lessee's facilities.

Lease or row—A use authorization issued to a communication Facility Owner or Facility Manager allowing for the use of public land to construct and or operate a communications facility and, unless specifically prohibited, to sublease to occupants in that facility.

Lessee, Lease Holder or row Holder—A Facility Owner or Facility Manager

Customer—A facility occupant who is paying a facility manager, facility owner, or tenant for using all or any part of the space in the facility, or for communication services, and is not selling communication services or broadcasting to others.

Tenant—A facility occupant who is paying a facility manager, facility owner, or other entity for occupying and using all or part of a facility. A tenant operates communication equipment in the facility for profit by broadcasting to others or selling communication services.

Communications Site—An area of BLM-managed public land designated through the land and resource management planning process as being used or is suitable for communications uses. A

communications site may be limited to a single communications facility, but most often encompasses more than one. Each site is identified by name; usually a local prominent landmark, such as Lime Hill Communications Site.

Facility—The building, tower, and related incidental structures or improvements authorized under the terms of the grant or lease.

Facility Manager—The holder of a BLM communications use authorization who leases space for other communication users. A facility manager does not own or operate communications equipment in the facility for personal or commercial purposes.

Facility Owner—Individuals, commercial entities, organizations, or agencies, that own a communications facility on Federal land; own and operate their own communications equipment; and hold a communications use authorization. Facility owners may or may not lease space in the facility to other communications users.

Non-Broadcast—This category includes Commercial Mobile Radio Service (CMRS), Facility Managers, Cellular Telephone, Private Mobile Radio Service (PMRS), Microwave, Local Exchange Network, and Passive Reflector.

Broadcast—This category includes Television Broadcast, AM and FM Radio Broadcast, Cable Television, Broadcast Translator, Low Power Television, and Low Power FM Radio.

Right-of-Way (ROW)—The public land authorized to be used or occupied pursuant to a ROW grant.

Right-of-Way Grant—A use authorization issued pursuant to Title V of FLPMA of October 21, 1976 (43 USC. 1701 et seq.) or issued on or before October 21, 1976, pursuant to then existing statutory authority, authorizing the use of a ROW over, upon, under or through public land for construction, operation, maintenance and termination of a project.

Holder—Any applicant who has received a ROW grant, lease or temporary use permit.

Users—All ROW and lease holders, lessees, customers, and tenants that own or operate a facility or communication equipment at the communication site.

Senior Use—Any use whose implementation date is prior to the implementation date of the use in question.

Ranally Metro Area (RMA)—A series of nine population zone areas, the highest of which is greater than 5 million and the lowest being 25,000 or less. These zones are determined annually and published in the Ranally Metro Area Population Ranking, an independent publication from Rand McNally, and are used in rent determination.

Authority

The BLM has authority to authorize communications uses on public land (administered by the BLM) is granted by FLPMA of 1976, 90 Stat. 2776 (43 U.S. C. 1761-1771) and is reflected in Title 43, CFR, Sections 2801- 2808 and various BLM Washington Office Information Bulletins and Instruction Memoranda.

Bureau of Land Management authority for communications site management planning is contained in BLM Handbook 2801-1, Plan of Development. Direction on and policy for communication use authorizations is contained in BLM Manual Section 2860.

Authority for the issuance of authorizations and/or licenses for the transmission and reception of electronic radiation for communication purposes is granted by Congress and administered by the Federal Communication Commission and/or the National Telecommunication and Information Administration—Interagency Radio Advisory Committee.

The Baker Resource Management Plan, dated July 12, 1989, states that "Public Lands are available for local ROWs, including multiple use and single use utility/transportation corridors following

existing routes, communication sites and roads, unless within the exclusion/avoidance. The ROW avoidance areas include wilderness study areas, areas of critical environmental concern, scenic and recreation river segments, while ROW exclusion areas include wilderness areas and wild river segments. All ROW applications should follow existing corridors wherever practical and will avoid proliferation of separate ROWs."

Trends

Planning for communication sites is on going. Rights-of-ways for land access for communications sites are conducted on an as-needed basis. With the increasing public demand for communications coverage throughout the country, the probability of communications companies applying for communication use leases on public lands within the Planning Area is high. Telecommunication companies are looking to expand communications coverage along the I-84 Corridor along with other areas in the resource area. Expansion will require siting new facilities on mountaintops and other structures to attain maximum coverage to meet Federal, State, local government and the general public's need for reliable telecommunications service.

Telecommunications is the transmission, emission, or reception of radio signals, digital images, sound bytes, or other information via wires and cables; or space, through radio frequencies, satellites, microwaves, or other electromagnetic systems. Telecommunications includes the transmission of voice, video, data, broadband, wireless, and satellite technologies.

One-way communication for radio and television utilizes a combination of antennas and receivers to transmit signals from the broadcast station to an antenna or group of antennas located on a broadcast tower, which then transmits the radio signal to the receiving devices found in a radio or television. Traditional landline telephone service utilizes an extensive network of copper interconnecting lines to transmit and receive a phone call between parties. Fiber optic cable increases the capabilities by delivering not only traditional telephone, but high speed internet and cable television.

Wireless telephony, also known as wireless communications, included mobile phones, pagers, and two-way enhanced radio systems and relies on the combination of landlines, cable, and an extensive network of elevated antennas, typically found on communication towers, to transmit voice and data information. This technology is known as the first and second generation of wireless deployment. Future generation of wireless communications will include the ability to provide instant access to e-mail, the internet, radio, video, mobile commerce, and Global Positioning Satellites, in one hand-held, palm pilot type wireless telephone unit. Successful use of this technology will require the deployment of a significant amount of infrastructure such as elevated antennas on above ground structures such as towers, rooftops, and light poles. Antenna support structures can be camouflaged in some circumstances to visually blend in with the surrounding landscape.

Base stations are the wireless service provider's specific electronic equipment used to transmit and receive radio signals, and is usually mounted within a facility including, but not limited to cabinets, shelters, pedestals, or other similar enclosures generally used to contain electronic equipment.

Current Conditions

Lime Hill Communication Site

A Communications Site Management Plan was prepared for Lime Hill in 2001. This Site Management Plan updates the original plan, provides applicable guidance, and adds current policy and updated technical standards for better management of the Lime Hill Communications Site. The Lime Hill Site Management Plan governs development and management of Lime Hill. Any future such uses must be designed, installed, operated, and maintained to be compatible and not interfere with the senior uses. This site-specific plan is administrative in

nature and is Categorically Excluded from further review under the National Environmental Policy Act (NEPA) in accordance with 516.DM 2, Appendix 1, item 1.10, which states "Policies, directives, regulations, and guidelines that are of an administrative, financial, legal, technical, or procedural nature and whose environmental effects are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process, either collectively or case-by-case." Any additional development of the site will be addressed in a site-specific NEPA document.

Site Description

The site is located approximately 37 miles southeast of Baker City and 3.8 miles northeast of Lime, Oregon, on a mountain ridge overlooking Brownlee Reservoir. Baker Field Office manages the area. The site is specifically located in the SE¼ SE¼ of section 18 and the NE¼ NE¼ of section 19, T.13S., R.45E., Willamette Meridian, Baker County, Oregon at approximately 44° 25´15˝ North Latitude and 117° 15´1.3˝ West Longitude. One holder (IPA's facility) is located in section 13. The elevation at the Lime Hill Communications Site is approximately 9,188 feet above mean sea level.

Site History and Development

The first development of the Lime Hill site was initiated by Idaho Power Company in July, 1957. Idaho Power constructed their communication site, built the access road, and provided power to the site (BLM serial number ORORE 5473). They remained the only user until 1965, when Union Pacific RR (ORORE 16256) constructed their site. Oregon Public Broadcasting (OROR 18551) constructed their microwave relay facility in 1978. The Oregon State Police (OROR 20021) established their communications equipment on the site in Idaho Power's building in 1979, then moved to Oregon Department of Transportation's (ODOT) facility (OROR 35536) when it was constructed in 1983. The MCI Worldcom facility (OROR 34929) was authorized in November 1982 and constructed the following year. Chambers Cable Co. (OROR 35953) built their facility in 1983, assigned their interest to Cable 1 Corp. in 2001, and Cable 1 assigned their interest to RCC Holdings (Rural Cellular Corp.) in 2001. Boise State University (OROR 52085) constructed a seismograph telemetry and repeater station on the site in 1995; located just off the northeast top of the hill. US Cellular (OROR 53860) built their facility in 1998. Triton Communications (OROR 55217) built their cellular facility in 1999, assigned it to RCC Holdings, and it is now held by RCC Atlantic; a division of RCC Holdings. Eagle Telephone Systems (OROR 56643) constructed their cellular facility in 2001. The BLM constructed their radio site in 2007; the site includes a tower, building, and fenced area under authorization (OROR 55766). In 2008, the BLM authorized T-Mobile to co-locate within US Cellular's compound under communications use lease OR65250.

Goals and Objectives of Site Management Plan

Manage the Lime Hill Site for two-way radio, microwave, cellular, cable television receive, and other low power broadcast uses. All uses must be designed, operated, and maintained so as not to materially or electronically interfere with the senior uses. This site is to be used for low power communications uses only. Systematically develop the site to maximize the number of compatible uses while ensuring safety and protection of resources. Help fulfill the public need for adequate communications sites.

Gold Hill Communication Site

Site Description

A Communication Site Management Plan was developed in 2001 for the Gold Hill Communication Site. The site is located about 26 miles southeast of Baker City, Oregon in mountainous country overlooking Interstate Highway 84. The site is used exclusively to provide cellular phone service to Interstate 84 and the immediate vicinity. Baker Field Office manages the area. It is specifically located in the NE¼ NW¼ of section 12, T.20S., R.43E., Willamette Meridian, in Baker County, Oregon at approximately 44° 32´40.7˝

North Latitude and 117° 23´58´´ West Longitude. The elevation at the Gold Hill Communications Site is approximately 4,070 feet above mean sea level.

Site History and Development

The first communications use lease at Gold Hill was issued to Oregon RSA#3, LLC (BLM serial number OROR 52580) on December 5, 1996, for a cellular phone site. In January, 2004, RSA#3 assigned their interest to Oregon RSA#2, LLC (US Cellular), who today holds the interest in the facility. In September 2004, the BLM issued a second communications use lease to RRC Atlantic, Inc., for a second building on the site. RRC Atlantic uses the US Cellular tower on the site. In 2008, the BLM authorized T-Mobile to co-locate within US Cellular's compound under communication use lease OR65251.

Goals and Objectives

Manage the Gold Hill Site for two-way radio, microwave, cellular, cable television receive and other low power broadcast uses with emphasis on the protection of the two existing cellular uses. This site has been systematically developed to maximize the number of compatible uses and is about at capacity; while ensuring safety and protection of resources. Help fulfill the public need for adequate communications sites.

Big Lookout Mountain - Fire lookout and communication's site

Site Description

The site is located approximately 12 miles South Southwest of Richland, Oregon in mountainous country. The site is a natural peak and is used as a fire lookout and a radio communication's site. Baker Field Office manages the area. It is specifically located in the S½ SE¼ NW¼, N½ NE¼ SW¼, Section 13, T. 11S., R. 44E., Willamette Meridian, in Baker County, Oregon at approximately 44° 36´33´´ North Latitude and 117° 16´43´´ West Longitude. The elevation of the fire lookout is approximately 7100 feet above mean sea level.

Site History and Development

Recordation and appropriation of the BLM Lookout was done under the authority of 44 L.D. 513 and approved by the Oregon BLM State Director on November 30, 1962. The lookout is a permanent installation used for fire detection over a major portion of the Planning Area.

In November of 1962, the BLM authorized a ROW for the lookout under 44 LD 513 (OR-013018). BLM's communication site is authorized under (OR-013018).

April of 1965, the BLM authorized a road ROW under 44 LD 513 (OR-016072) for ingress and egress to the lookout.

In September of 1989, a tri-party Memorandum of Understanding (MOU) with the BLM, Baker County Sheriff's Office, and the State of Oregon acting by and through the Oregon Commission on Public Broadcasting, was authorized to provide for the establishment of a communications site under the authorities of BLM- Section 307 (b) of FLPMA of 1976, P.L. 94-579, (90 State. 2766; 43 U.S.C. 1731), OCPB-Oregon Revised Statutes 354.105 through 354.215, and Baker County Sheriff-Oregon Revised Statutes Chapter 190.

In June of 1994, communication use lease (OR-49832) was issued to Boise State University, Department of Geology for a Seismograph Telemetry Station for earthquake monitoring in Oregon.

In October of 2001, OCPB FM and TV translator facilities were removed from the Lookout Mountain communications site and relocated to a site on Summit Ridge. The MOU for OCPB was terminated at that time.

Goals and Objectives

Manage the Lookout Mountain fire lookout and communication's site for two-way radio communications, future cellular use and as a seismograph telemetry site. Development of the site may be limited due to the peak area; however, co-locators with compatible uses may

be accommodated on existing towers. Help fulfill the public and the governments need for adequate communications sites.

Halfway/Richland Hill Communication Site

Site Description

The site is located a short distance off Oregon State Highway 86 at the summit between the towns of Richland and Halfway, Oregon. State Highway 86 goes through the area connecting the towns or communities of Oxbow, Halfway, Richland, and Baker City. Baker Field Office manages the site. It is specifically located in the SW¼ NW¼ in Section 32, T. 8S., R.46 E., of the Willamette Meridian in Baker County, Oregon at approximately 44° 53´27´´ North Latitude and 117° 06´49´´ West Longitude at an elevation of 3760 feet above mean sea level.

Site History and Development

The site was developed and operated by the Forest Service in the early 1960's, under grant from the BLM by 44LD513. The Forest Service relinquished this facility to the Idaho Power Company who was issued a ROW grant (OR-14735) on March 13, 1975, for a two-way radio site and a powerline to the site.

Eagle Telephone System Incorporated (ETSI) applied for a communications use lease to build a new cellular facility at the Richland/Halfway site in 2001. A ROW/communications use lease was issued to ETSI on 6 July 2001, under serial number OR-56644, for a cellular site.

Goals and Objectives

Manage the Richland/Halfway communication's site for two-way radio communications, microwave, and cellular use. Systematically develop the site to maximize the number of compatible uses while ensuring safety and protection of resources. Help fulfill the public and the governments need for adequate communications sites.

Sheep Mountain Radio Site

Site Description

The site is located approximately 47 air miles from Baker City, Oregon, and is specifically located in T.7S., R.47E., Section 36; in the SE¼ SE¼ SE¼, of the Willamette Meridian in Baker County, Oregon, at approximately 44° 54.23´ North Latitude and 116° 54.09´ West Latitude at an elevation of 4841 feet above mean sea level. Baker Field Office manages the site.

Site History and Development

The site was developed in the early 1970's by the United States Forest Service -Wallowa-Whitman National Forest. The BLM granted a perpetual ROW to the United States Forest Service under 44LD513, and assigned serial number OR-006539. The site is known as the Sheep Mountain Radio site. The ROW authorized a 6´×8´ steel building and a 30´ steel antenna tower for radio communication. Solar panels power the site.

The Foster Gulch Fire burned over the area in 2006 and destroyed the building that the equipment was housed. The Whitman District of the Wallowa-Whitman National Forest replaced the building and equipment in 2007, using a helicopter, as there are no access roads to the site. This site is important to the Forest Service for communications coverage in the Oxbow Canyon and Halfway, Oregon area.

Goals and Objectives

Manage the Sheep Mountain communication's site for two-way radio communications. Help fulfill the United States government's need for adequate communication sites.

Hermiston Butte Communication Site

Site Description

The site is located on Hermiston Butte, off of Butte Drive, within the city limits of Hermiston, Oregon, and is specifically located in T. 4N., R.28E., Section 10 of the NE¼ NW¼, of the Willamette Meridian in Umatilla County, Oregon,

at approximately 45° 50´50´´ North Latitude and 119° 18´11´´ West Longitude at an elevation of 640 feet above mean sea level. Baker Field Office manages the site.

Site History and Development

Prior to 1924-1926, a reservoir was built on top of Hermiston Butte to store water for the City of Hermiston.

In the 1960's, the City of Hermiston proposed that the BLM transfer these public lands to the city under the Recreation and Public Purposes Act (R&PP), for "historic and public park purposes." This land was patented to the city in 1969 with several limitations. One of the limitations stated that pre-existing rights on the parcel were protected, and the patent was issued "subject to" those rights, which included a communications site and tower. At the time of the patent, the communications site then came under the control and management of the City of Hermiston and thus was no longer managed by the BLM.

In the early 1990s, the City of Hermiston requested relinquishment of the old reservoir ROW (LG-09708). The City of Hermiston applied for a ROW to build a new storage tank in the 1990's.

Because the project did not comply with the R&PP, which the land was under at the time for a community park, the BLM lacked the authority to grant a ROW on the patented land. Therefore, the City Quit-Claimed 3.44 acres back to the United States in May of 1998, because the reservoir was outside the scope of the regulations that govern the R&PP Act, the communications site, being within the 3.44 acres, also came back under the jurisdiction of the BLM. A new ROW was to be established for the communications site.

In June of 1998, ROW OR-54156 was granted to the City of Hermiston to build a new water storage tank on the butte. Currently, the City of Hermiston's Water Department has a water storage tank on the top of Hermiston Butte. The Water Department monitors and controls the water storage facility located at the butte.

The old communications site was demolished in 2005 and a new communications facility was installed. The site today is a ground level vault that contains equipment utilized by EZ Wireless, a City of Hermiston Franchise. EZ Wireless currently provides broadband services to the Chemical Emergency Stockpile Preparedness Program (CSEPP) first providers in case on an emergency at the Umatilla Army Chemical Depot.

Goals and Objectives

Manage the Hermiston Butte communication site for two-way radio use for the City of Hermiston under Communications Use Lease OR-58540. The City of Hermiston and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) requested the BLM limit the number of users and uses on the butte. The site will be managed accordingly.

Forecast

The need to site more radio, cellular, and microwave facilities on mountaintops, hills, ridges, and structures to meet the public's demand for telecommunications coverage is increasing. As we see population growth from the cities to urban growth areas, there will be an increase in the usage of telecommunications devices that will require more applications for ROWs on public lands to accommodate the ever increasing demand for reliable network coverage. High speed data connection's technology that will change the way we live will be a standard in everyone's life in the future. The Baker Field Office must identify areas where telecommunications companies can locate new communication sites within the Planning Area, as the existing sites fill to capacity.

Each year, we will see commercial launchings of new broadband technology that will be easy to install with relatively low cost to consumers. Public lands play an important role in providing this technology to all consumers. We can expect to see more applications for communications sites in the Planning Area.

Key Features

The location of communications sites is critical to attaining an optimum functioning telecommunications network. The communications wireless market is very competitive with speed to market and location being important to all generation providers. Telecommunication companies locate their facilities on mountaintops, buildings, etc., at elevations that attain the most coverage for the consumers of digital products. The BLM plays an important role in meeting consumer demands for broadband coverage by permitting telecommunication companies to locate their communication sites on mountaintops, ridges, and in and on other locations on public lands.

BLM encourages and prefers collocation at existing sites when possible and many sites have multiple users who are compatible with other users at the sites. However, there will be an increase in applications for new sites on public lands as these existing sites fill to capacity; and as more consumers utilize new and existing technology. As new mandates from the State of Oregon and Homeland Security for emergency telecommunications coverage to rural areas come out; and as the communication's ring slowly expands out to rural areas, new sites will be necessary.

New equipment to support data services over the wireless interface is being deployed and in certain cases where signals only cover about half the distance of the existing system, more wireless facility locations will be required to meet coverage and network capacity objectives.

Appendix 2.E Social and Economic Report

Baker Resource Management Plan Revision

Social and Economic Report

Prepared by
Henry Eichman
Economist
TEAMS Planning Enterprise Unit

For the Baker Field Office, Vale District, BLM
August 6, 2008

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Introduction

Certain defining features of every area influence and shape the nature of local economic and social activity. Among these are the local history, population, the presence of or proximity to large cities or regional population centers, types of longstanding industries such as agriculture and forestry, predominant land and water features, and unique area amenities. The BLM operates as a steward of many of these area resources and opportunities and thus plays a principal role in the community. This discussion gives further insight on the character and extent of these community connections.

Regulatory Framework

Multiple statues, regulations and executive orders identify the general requirement for the application of economic and social evaluation in support of BLM planning and decision making. These include, but are not limited to, NFMA and National Environmental Policy Act of 1969 (83 Stat. 852; 42 USC 4321, 4331-4335, 4341-4347). In addition, Executive order 12898 on Environmental Justice requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, polices, and activities on minority populations and low-income populations in the U.S.

Methodology for Analysis

The economic analysis focuses on changes in demand for goods and services from Bureau of Land Management lands within the planning area. These lands contribute a wide range of economic values to people. Market goods such as minerals, timber, livestock, and recreation generate payments to local communities and some revenue for the federal treasury. Non-market goods such as existence values of wild-steelhead or other unique ecosystems and habitats generate value everyone reaps but do not necessarily pay for. Other goods such as outdoor recreation and scenery are valued by the people who use them but only a portion of this value is represented in market purchases.

While a value for ecological or recreational goods may exist, they are difficult to quantify. Direction provided in the Land Use Planning Handbook (Appendix D; pages 6, 7 and 10) suggests the use of benefit transfer to evaluate the effects of these non-market values. In the absence of quantitative information for these goods they are discussed qualitatively where appropriate.

These are important considerations alongside contributions to local jobs and income from a change in demand for goods and services provided by the BLM. If demand exists for these products, employment and income would likely be supported in other areas if these goods and services are provided by other means. Therefore it is important to consider the efficiency of using these resources alongside potential job and income generation from their use.

Impact Area

In order to accurately portray the relationship of current BLM management, the social and economic geographic scope of analysis must be defined. The economic effects from changes on BLM lands feasibly extend beyond the immediate vicinity of their location. The role of BLM lands within the larger region must be addressed while not masking change within smaller counties and communities in the planning area. A multidimensional approach is thus appropriate examining both the role of BLM lands at a broad regional scale and smaller county level scale.

At the broad scale, economic areas from the Bureau of Economic Analysis (BEA) are used. The Interior Columbia Basin Ecosystem Management Project (ICBEMP) used the BEA's economic areas for regional analysis (Haynes et al 1998). These economic areas represent the relevant regional markets for labor, products, and information and are mainly determined by commuting patterns. This delineates local labor markets and also serves as a proxy for local markets where businesses in the areas sell their products (US Department of Commerce, 2004). The BEA's Pendleton economic area contains a large portion of the Baker RMP planning area (Figure 1)

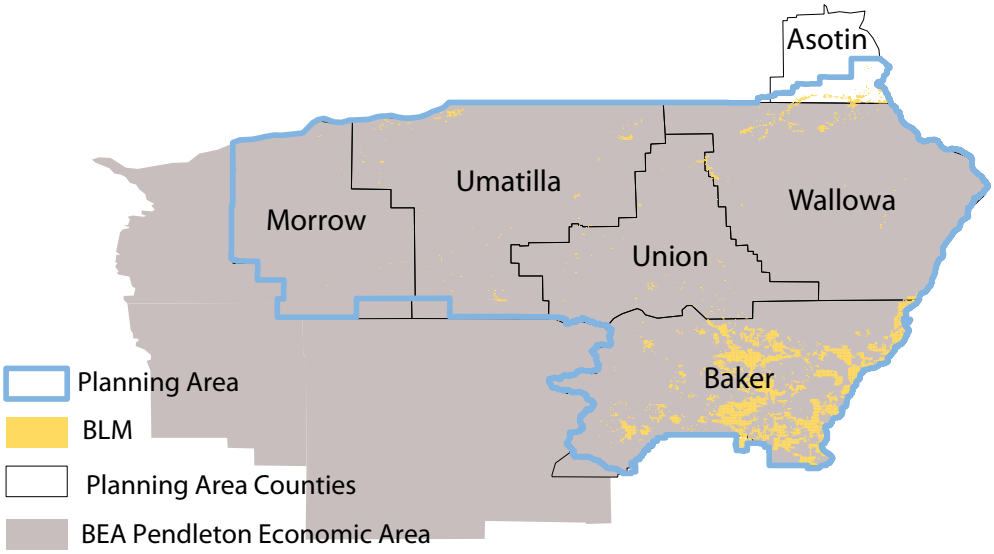

Figure 1. BEA Economic Area and Planning Area Counties

however analysis at only this scale would likely mask social and economic relationships with BLM in the smaller planning area.

Examination of the Office of Management and Budget (OMB) areas provides further insight on localized patterns of economic linkages in the region. The OMB apply micropolitan statistical areas (Micro Area) to regions containing a substantial population core, together with adjacent communities having a high degree of economic and social integration with that core (US Department of Commerce, 2004). Morrow and Umatilla counties make up the Pendleton-Hermiston Micro Area and Union County is the La Grande Micro Area. Additionally a small portion of BLM land in the planning area lies outside of the Pendleton economic area in Asotin County in Washington. Because of the small amount of planning area land in Malheur County, and the dilution of social and economic relationships that would occur from inclusion of the entire Pendleton Economic Area, Grant, Wheeler and Gilliam counties are not included in the impact area.

Using the BEA and OMB measures of area economic integration, the impact area can be narrowed to Baker, Morrow, Umatilla, Union, and Wallowa counties in Oregon and Asotin County in Washington. Human geographic mapping done by James Kent Associates (JKA) suggests these counties cover a range of socio-geographic relationships with BLM land in the planning area (JKA, 2006). While geographic relationships are important to communities of place, social relationships extend beyond geographic characteristics and are examined in this document as they relate to communities interested in BLM management within the Baker RMP planning area.

History

After the Lewis and Clark expedition entered present day Oregon in 1805, three waves of explorers followed. In 1811, the Astor overland expedition, led by Wilson Price Hunt traveled through present day northeastern Oregon in order to establish a fur collection depot at the mouth of the Columbia. In 1833 Captain Benjamin Bonneville explored the upper reaches of the Snake River and entered the Grande Ronde and Wallowa Valleys in 1834. Then in 1843 John C. Freemont entered the Grande Ronde Valley, under orders from the chief of the Corps of Topographical Engineers of the War Department. While in the Grande Ronde Valley Fremont noted its agricultural promise when he described ''a place one of the few we have seen in our journey so far where a farmer would delight himself to establish, if he were content to live in the seclu-

sion which it imposes." Fremont passed along what would become the Oregon Trail, the major route to westward expansion.

Soon after an estimated 1000 immigrants, led by Marcus Whitman, traveled through the planning area along the Oregon Trail. Hundreds of thousands more followed after gold was discovered in California in 1848 (Northeastern Oregon History, 2008). While settlement gradually occurred it was limited by periodic conflicts between Native populations and Euroamerican settlers, which would continue until the end of the Bannock Wars in 1878. Further settlement of the Blue Mountain area, in Baker, Union and Wallowa counties happened back from the Willamette Valley into Powder River basin and surrounding areas, after the Willamette Valley became more saturated and settlers realized the quality of the Blue Mountains area (JKA, 2006).

In 1855 part of what would later become Asotin and Wallowa counties became the Nez Perce Reservation, resulting in the relocation of a significant number of Native Americans to the area. Although the reservation was moved farther east into Idaho in 1863, many Native Americans remained in the area. The Umatilla Indian Reservation was also established in 1855 with the Treaty of Walla Walla in what would later become Umatilla County. The Confederated Tribes of the Umatilla Indian Reservation were composed of the Umatilla, Walla Walla and Cayuse peoples whose homeland included the area now known as northeastern Oregon and southeastern Washington. There are also other officially unrecognized tribes and tribal bands that live on the reservation, such as the Palouse, Joseph Band Nez Perce, Colvilles, and Yakamas (JKA, 2006).

The population growth in eastern Oregon during the early 1860s prompted the Legislative Assembly to split Umatilla and Baker Counties from Wasco County in 1862. Further development of the Grande Ronde Valley led the creation of Union County from Baker County in 1864. Morrow County was created in 1885 from the western portion of Umatilla County and a small portion of eastern Wasco County. Wallowa County was established in 1887 from the eastern portion of Union County (Oregon State Archives, 2008).

Gold mining was the original impetus for settlement in the Baker, Wallowa and Union County area. At one time Baker County was the largest gold producer in the Northwest. In Baker County agriculture, livestock, and logging gradually become more common. Today tourism and the service industries have increased in economic importance. The Eagle Cap Wilderness Area, Hells Canyon Recreation Area, Anthony Lakes Ski Resort, the Oregon Trail Interpretive Center and fishing and hunting draws visitors to the area. Over the time farming, ranching, and timber replaced the role of mining in Union and Wallowa counties as well. Today, the unique landscape also attracts many visitors to the area (Oregon State Archives, 2008).

Raising livestock dominated the early economy of Gilliam and Umatilla counties until 1878 with the advent of dry-land farming. This transition lent itself to the areas long standing agricultural tradition in wheat and barley. The Northern Pacific Railroad along the Columbia was constructed in 1883 which changed the nature of good and service exchange, further enabling development of the areas agricultural economy. Irrigated crops became more common and are still grown today. While ranching preceded farming, it still plays a role in the local economy and residents find connection to the land through this tradition. Today recreation has become important, notably in the Blue Mountains and during the annual Pendleton Round-Up.

During the 1860s, gold prospectors came to the Asotin County area however, found little gold. The area grew steadily in the 1880s and 1890s and agriculture became increasing important. Wheat and later barley were early crops, followed by cattle farming, plum, peach, and apple orchards. The population of the area that would soon become Clarkston went from 15 people in 1896 to approximately 2,200 in 1903. In 1911 the brochure below was created to promote the settlement of the area by the Northern Pacific Railway.

Agriculture continues to play a part in Asotin County's economy today however, recreation and the service industries have increased in importance. A new port was built on the Snake River at Clarkston (the second farthest-inland port in the United States) in 1975 adding to the economic base of Asotin County.

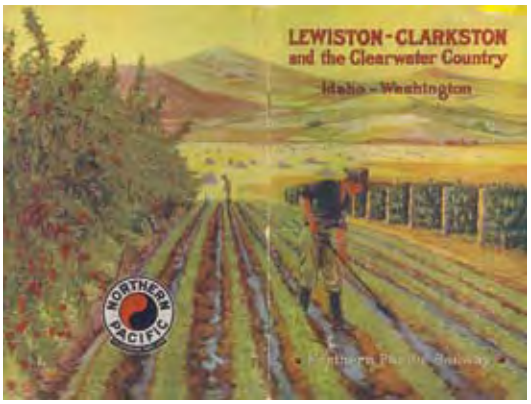

Figure 2. "Lewiston-Clarkston and the Clearwater Country: Idaho - Washington, the land of sunny skies, where fortune waits to help the man who tills the soil, trims the tree and trains the vine" (Source: Washington State Historical Society, Northern Pacific Railway, 1911)

Cultural Identity

Residents of Baker, Union and Wallowa counties have a regional affinity by virtue of being part of the Blue Mountains. They are outdoor oriented with respect to both recreation and employment which is connected to their identification with grazing and timber traditions (JKA, 2006).

People in the western portion of the planning area living in Morrow and Umatilla have a regional affinity by virtue of being part of the Columbia Plateau. They identify more with farming traditions than grazing or timber, and are outdoor oriented however, to a lesser degree than the Blue Mountains area given their higher urban component (JKA, 2006).

Within Asotin County, residents identify with another distinct region in the Snake and Clearwater Rivers and their watersheds. Agriculture and river recreation dominate this identity centered around the Clarkston metro area on the border with Idaho (JKA, 2006).

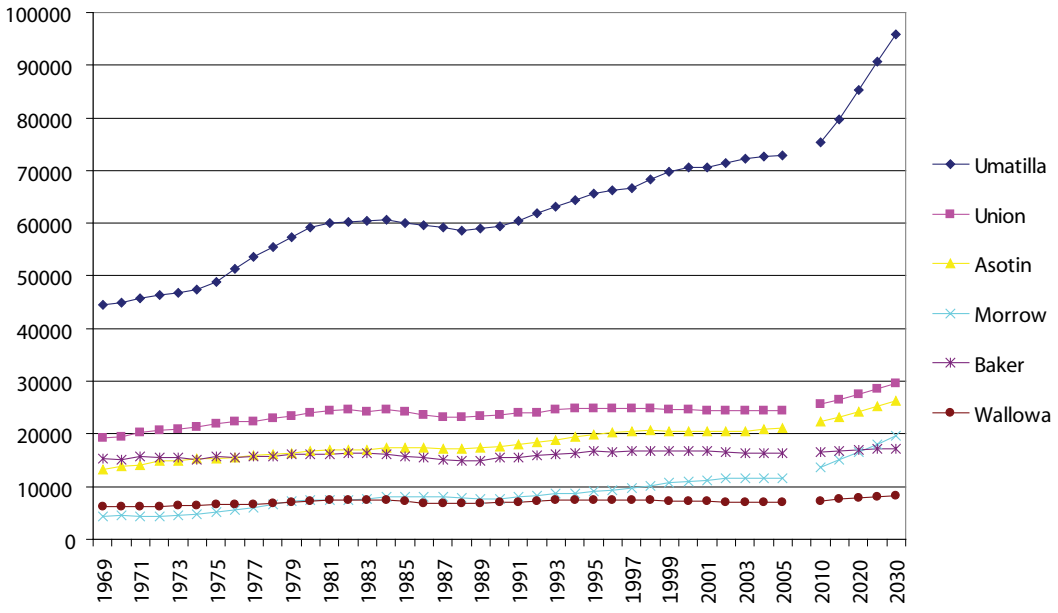

Figure 3. Population change for counties within the impact area (Source: US Department of Commerce, BEA 2005; PSU, 2004; State of Washington, 2007)

Population and Demographic Change

Population change in the planning area was relatively stable between 1970 and 2005. Over this period population growth in Baker, Union, and Wallowa counties increased by 7, 27 and 11 percent, respectively which however, was outpaced by the state of Oregon (73 percent) and the nation (45 percent). Umatilla and Asotin counties outpaced the nation but not the state (increasing by 64 and 58 percent) while Morrow County outpaced the state and the nation (increasing by 162 percent) (Figure 3).

Population projections suggest all counties in the impact area will continue to remain stable or increase in the next 20 to 25 years. Projections suggest that between 2005 and 2030 Umatilla will increase the most (23,001 persons) while Morrow County will have the greatest increase as a share of its total population (70 percent). Baker County will increase the least in absolute terms (966 persons) and in as a share of its population (6 percent). These projections reflect regional trends of little population growth except in Umatilla County which is steadily urbanizing (JKA, 2006).

Net migration is displayed below as well (Figure 4) between 1980 and 2004. Net migration is yearly population net of natural changes due to births and deaths so that only population changes due to in-migration and out-migration are shown (values above zero depict the amount of people moving into the area and values less than zero are the number of those who moved out over that period). From July of 1981 to July of 1986 out-migration (people moving out of the area) occurred in Oregon and from July of 1982 to July of 1983 out-migration occurred in Washington. Within the impact area this period of out-migration was longer, lasting from July of 1981 to July of 1987. From their highest points over this period, net migration in Oregon and Washington decreased (a decrease in the number of people moving into the area) between the early 1990s to 2004 by 65 and 63 percent respectively. In the impact area, net migration decreased by 106 over this period.

The population densities of all impact area counties are less dense than their respective states. In 2005, Oregon and Washington contained 37.9 and 94.6 persons per square mile, respectively. Asotin had the highest population density of all

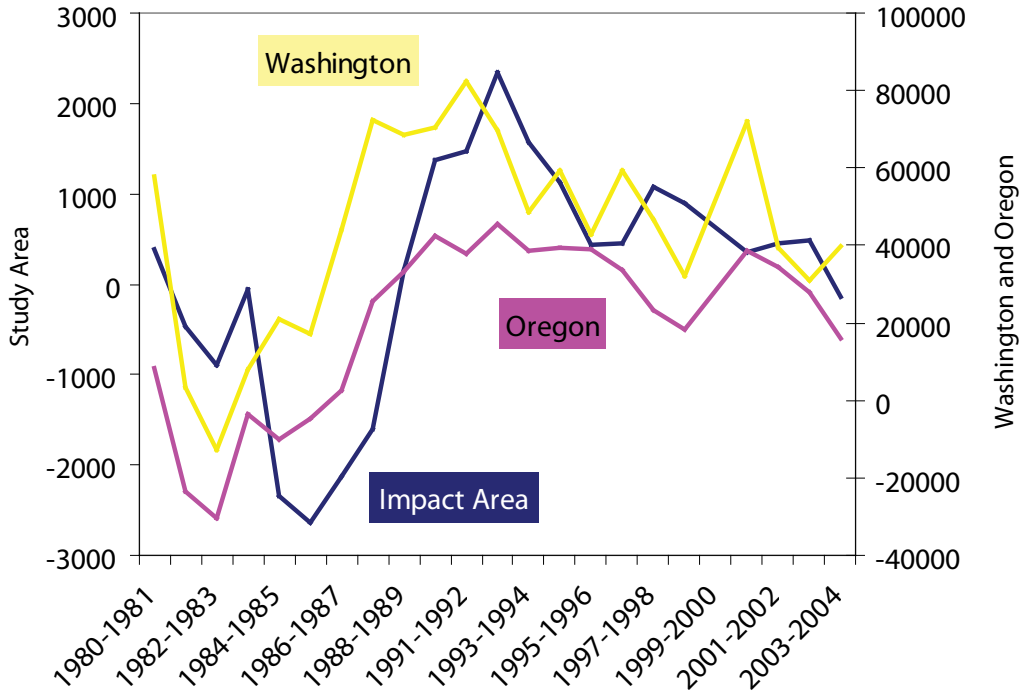

Figure 4. Net Migration within the impact area (U.S. Census Bureau, Population Division, 2004)

impact area counties in 2005 at 33 persons per square mile followed by Umatilla at 22 persons per square mile and Union at 12 persons per square mile. The remaining counties were significantly less dense at 5.7, 5.3 and 2.2 for Morrow, Baker and Wallowa counties respectively (US Department of Commerce, 2005). Population density does not indicate if the people living in the area are in more urban or rural areas. The U.S. Census Bureau classifies urban areas and their populations. Almost all impact area counties have at least half of their populations classified as Urban. Baker, Morrow, Umatilla and Asotin counties are respectively 56, 53, 69, 58 and 94 percent urban. While Asotin County is predominantly urban, Wallowa County's population to the South is entirely classified as rural. The urban populations outside of Asotin County are located inside urban clusters (census block that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile) demonstrating the area contains pockets of urban populations across a rural landscape (US Census Bureau, 2000).

The BEA estimates the flow of annual earnings of in-commuters and out-commuters for a given county. Commuting data shows Baker, Morrow and Asotin counties received more income from people commuting out of the county in which they live. In this manner they can be thought of as "bedroom communities" since income from people commuting out of the counties to work exceeds the income from those commuting into the counties (US Department of Commerce, 2005). The small difference in income sources for Union and Wallowa counties suggests income generated by those commuting out is similar to income earned by those who live and work in these counties, in this manner commuting may be less a part of their day to day lives. Umatilla County can be described as an "employment hub" since income derived from people commuting into the county to work exceeds the income from those commuting out of the county.

The population in the impact area has slightly aged since 1990 as the median age in 2000 was 37 years, up from 34.4 years in 1990. The largest age category is 15 to 19 years. Between 1990 and 2000 age groups between 40 and 59, which include some of the baby boomer population, showed increases in there shares' of total population. The fastest growing age group was 45 to 49 which rose by 2.2 percent. Those aged 25 to 39 showed decreases in their share of the total population, with the largest decreases for those aged 30 to 34 years old, decreasing by 1.9 percent. Individually, all six planning area counties show similar trends; an aging population occurring alongside decreases in the younger generation. However all counties showed slight increases in those aged 15 to 19; likely the children of the aging baby boomers (US Census, 2000). As a whole the impact area saw decreases in those aged 10 and younger which corresponds to decreases in area School enrollment in many districts of planning area counties (JKA, 2006 citing Oregon Department of Education, Policy Research and Analysis Office 2006).

Within the impact area, the share of total population of all non-white races and Hispanics increased between 1990 and 2000. Race and Ethnicity are broken out separately since Hispanics can be of any race. At the county level decreases were seen for several non-white races (Table 1). American Indian populations decreased in Baker, Union and Wallowa counties. Additionally in Asotin, Wallowa and Morrow counties African American, Asian and Pacific Islander populations, respectively experienced decreases over this period. Race and ethnicity are broken out separately since Hispanics can be of any race. The share of the total population of Hispanic origin increased in all counties except Wallowa County. The increases in the Hispanic population accounted for 55 percent of the total population change in Morrow and Umatilla counties over this period.

Economic Specialization and Employment

Employment within the impact area is distributed amongst industry sectors and displayed below in Figure 5 (IMPLAN, 2006). The Interior Columbia Basin Ecosystem Management Project identified communities that were specialized with respect to employment. Their method used the ratio of

the percent employment in each industry in the region of interest (counties within the impact area) to an average percent of employment in that industry for a larger area (the reference region; the BEA's Economic Areas). For a given industry, when the percent employment in the analysis region is greater than in the reference region, local employment specialization exists in that industry (USDA Forest Service, 1998).. Using this criterion applied with 2006 data, Baker, Morrow and Wallowa counties can be characterized as specialized with respect to the natural resource related sectors while Asotin, Baker, Union and Wallowa counties are specialized with respect to sectors related to natural amenities. Over time economic specialization has changed. The degree of change is reflected in Figure 6, where total employment in the six county area is disaggregated into six industry sectors (US Department of Commerce, 2005)[1].

From 1970 to 2005, total employment in the impact area increased by 88.6 percent (from 43,851 to 82,697 jobs classified as full and part-time employment). The state of Oregon saw an increase in total employment of 141 percent, or roughly 4 percent annually, over this period and the state of Washington increased by 150 percent or about 4.2 percent annually. Job growth between 1970

1 The numbers in Figure 6 are not directly comparable to the IMPLAN numbers in Figure 5 since IMPLAN data include farm and proprietor employment in addition to wage and salary employment. Similarly the IMPLAN data also includes estimates for non-disclosures that similarly include farm and proprietor employment in addition to wage and salary employment.

Table 1. Racial and Hispanic composition of 2000 population and the change since 1990

	White	Black or African American	American Indian & Alaskan Native	Asian	Native Hawaiian & Other Pacific Islander	Some other race	Hispanic
Oregon	**87%**	**1.6%**	**1.3%**	**3.0%**	**0.2%**	**4.2%**	**8.0%**
Baker County	96%	0.3%	0.7%	0.5%	0.1%	0.7%	1.9%
Change from 1990	996	16	-7	36	9	81	44
Morrow County	75%	0.2%	1.7%	0.5%	0.0%	20.2%	24.4%
Change from 1990	1439	10	91	31	-5	1525	1841
Umatilla County	82%	1.0%	3.2%	0.7%	0.1%	10.9%	16.1%
Change from 1990	5144	353	274	76	1	3941	6193
Union County	94%	0.5%	0.6%	0.9%	0.6%	1.5%	2.3%
Change from 1990	313	23	-104	36	40	250	211
Wallowa County	98%	0.0%	0.4%	0.0%	0.1%	0.2%	0.7%
Change from 1990	225	0	-7	-20	1	6	-52
Washington	**82%**	**3.2%**	**1.6%**	**5.5%**	**0.4%**	**3.9%**	**7.5%**
Asotin County	96%	0.1%	0.9%	0.5%	0.01%	0.6%	1.8%
Change from 1990	2405	-31	-20	52	6	56	99

(Census 1990 and Census 2000)

and 2005 in Asotin County outpaced the state and the nation. Morrow and Umatilla counties saw job growth over this period that outpaced the nation but not the state. Baker, Union and Wallowa counties experienced job growth that was slower than both the state and the nation. The employment growth seen in all impact area counties combined (Figure 6) was largely due to estimated increases between 1977 and 2000 in Service and Professional sector employment (includes Retail Trade, Health and Social Services and the combined Services sector mentioned above) which accounted for approximately 68 percent of new area employment. In addition, the share of total employment attributable to this sector increased by 6.1 percent; from 47.2 to 53.3 percent. Thus, the Service and Professional related sectors have been an important part of area employment. Jobs in the Government sector slightly increased in their share of total employment (by 0.7) indicating a steady economic specialization in the Government sector in the impact area.

Slight increases in the Farm and Agricultural Services, Mining and Manufacturing sectors did not keep pace with other sectors and translated into smaller portions of total employment in 2000, decreasing by 4.2, 0.1 and 3.3 percent, respectively. These natural resource related sectors have provided a small and slightly decreasing portion of total area employment while the Service and Professional sector has maintained a steady increase.

Economic Well-Being and Poverty

As noted above, the Service and Professional sectors increased in their share of total employment while the Farm and Agriculture Services, Mining and Manufacturing sectors experienced decreases between 1977 and 2000. However, the Service and Professional sector jobs may not pay as much, which could decrease area economic well being. Within the impact area the private sectors examined can be lumped into Goods- Producing sectors (Natural Resources, Construction, and Manufacturing) and Service-Providing sectors (Trade, Transportation, Utilities, Finance, Education, Health, etc.). In 2005 the Goods-Producing and Service-Providing sectors paid average annual wages of $29,848 and $25,484, respectively (US Department of Commerce, 2005b). From these statistics it is apparent that while the service sector accounts for an increasing share of total employment, these jobs do not pay as much. The welfare implications of these changes are not so clear. The migration in some counties noted above suggests some people may be moving away instead of taking lower paying jobs in the service sector. Other people might move to the area to take a service sector job but exchange the lower wage they may receive for the unique natural and cultural amenities. In this manner some may benefit from a "secondary income" not provided by their place of employment but by the benefits they gain from living in the area. For example, in its description of the Hells Canyon Area, the JKA report noted "people understand that they often do with less financially in order to live here, so the element of choice seems to bring energy to the community."

Total personal income (TPI) and per capita personal income (PCPI) are useful measures of economic well-being. From 1970 to 2005, annual TPI in the economic impact area increased by $2.04 billion to $3.98 billion, and annual PCPI increased from $18,575 to $25,968 (all measures adjusted for inflation to 2005 dollars). This translates to an TPI increase of 51 percent (roughly 1.5 percent annually) and a PCPI increase of 40 percent (roughly 1 percent annually) over this time period. Average PCPI in the economic impact area was lower than the state ($34,310) and the nation ($34,471) in 2005 which can be explained by differences in cost of living in metropolitan verses the predominantly non-metropolitan economic impact area. Differences in non-metropolitan and combined metropolitan/non-metropolitan PCPI levels for the state and the nation explain the lower levels seen in the economic impact area (non-metropolitan for the state was $25,586 and for the nation was $26,115 in 2005; while metropolitan/non-metropolitan combined was $34,310 for the state and $34,471 the nation) (US Department of Commerce, 2005).

While PCPI is a useful measure of economic well-being it should be examined alongside changes

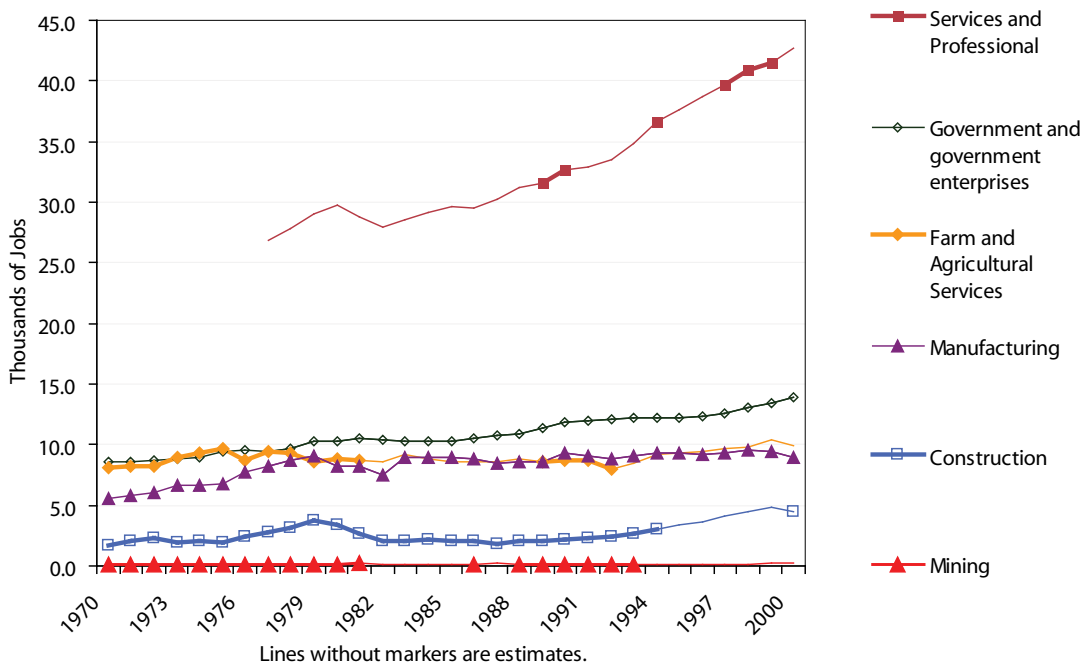

Figure 6. Employment history of the impact area (US Department of Commerce, 2000, estimates from EPS, 2007)

in real earnings per job. Since PCPI includes income from 401(k) plans as well as other non-labor income sources like transfer payments, dividends, and rent, it is possible for per capita income to rise, even if the average wage per job declines over time. While PCPI rose between 1970 and 2005, average earnings per job fell from $32,593 to $31,951 (values adjusted for inflation to 2005 dollars) indicating a possible decrease in area economic well-being (US Department of Commerce 2005c).

From 1992 to 2000, average annual unemployment rates in the six county impact area fell along with national and state levels , except for a marked increase to 7.7 in 1996. Unemployment after 1996 followed state and national trends through 2006 (Figure 7). Baker, Morrow and Wallowa counties are at their lowest levels of unemployment since 1990 but remain above state and national levels of 5.4 percent and 4.6 percent, respectively. Umatilla and Union Counties' 2006 unemployment levels (6.8 and 6 percent, respectively) were close to their 16 year lows of 6.2 and 5.4 seen in 2000; however, the unemployment levels remained above state and national levels. Asotin County's unemployment level of 4.8 percent was the lowest of all impact area counties, and was lower than the State of Washington's unemployment level of 5 percent and the nation's 4.6 percent level (US Department of Labor, 2006). New jobs created in an area are filled from two principal sources; local unemployment and in-migration. If unemployment remains high, new jobs are likely to be filled by local area residents, however if unemployment continues to fall, new jobs could be filled more often by new area residents.

While the number of people living below the poverty level in Baker and Morrow counties increased between 1989 and 1999, the share of those persons, from the number of persons for whom poverty status was assessed, remained stable in Baker County while decreasing in Morrow County (Table 2). In all other counties the number and share of persons living below the poverty level decreased over this period. The largest decreases occurred in Asotin and Umatilla counties where the levels both fell by 3.9 per-

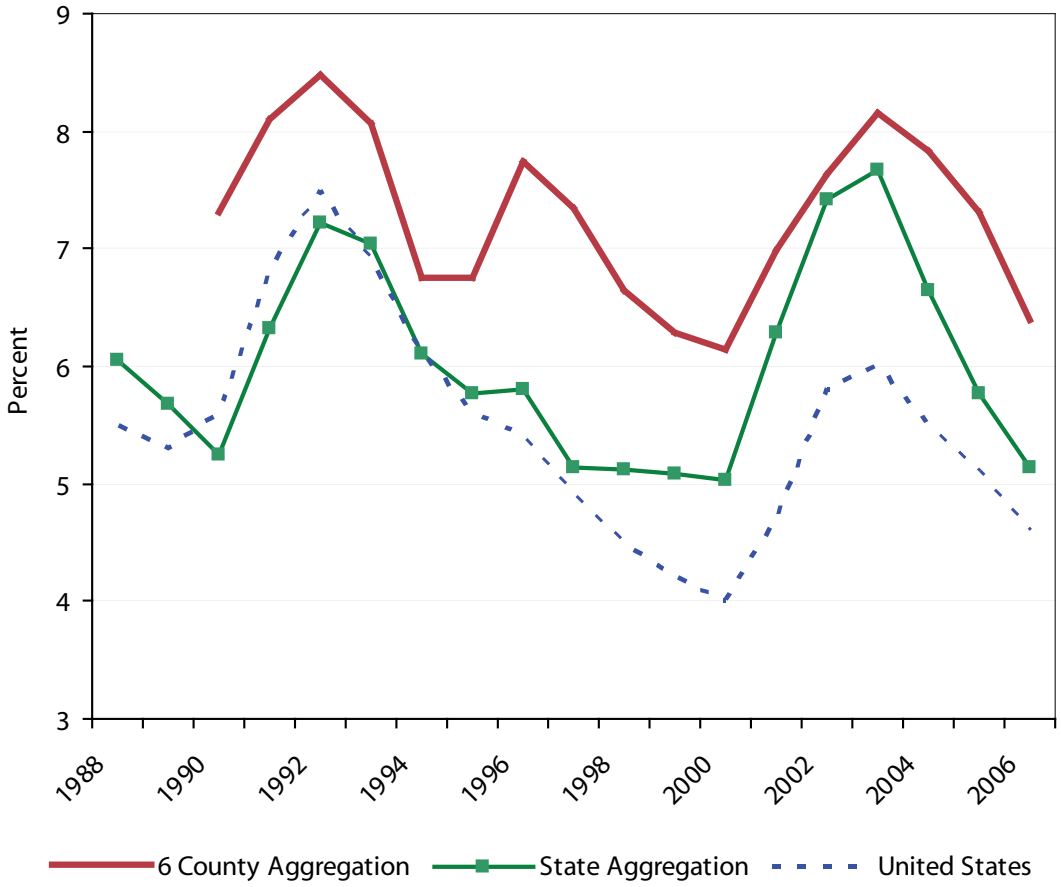

Figure 7. Average annual unemployment rates of six-county economic impact area

cent. These declines in the share of individuals living below the poverty level were greater than reductions at their state level's over this period. However, all three counties maintained levels of poverty greater the state in 1999 (US Census Bureau, 2000).

Components of Personal Income

Further examining trends within personal income provides insight to the area economy and its connection to the lands administered by the BLM. There are three major sources of personal income: (1) labor earnings or income from the workplace, (2) investment income, or income received by individuals in the form of rent, dividends, or interest earnings, and (3) transfer payment income or income received as Social Security, retirement and disability income or Medicare and Medicaid payments.

Labor earnings were the largest source of income in the impact area accounting for 61 percent of all income in 2005. In Oregon and Washington labor earnings also made up 67 and 70 percent of TPI. The Government and Manufacturing sectors were the largest components of labor income in 2006 for the economic impact area (Figure 8 below). It should be noted that the contributions from the BLM represent only a portion of the economic activity reflected in the natural resource and natural amenity related sectors, seen in Figure 8.

While labor earning's share of TPI has decreased from 1970 to 2005 (from 74 to 61 percent), the share of non-labor income has risen (from 26 to 39 percent). As a share of TPI, investment income and transfer payments rose from 15 to 18 and 11 to 21 percent, respectively, over this 35-year time period. The increase in transfer payments

Table 2. Share of population living below poverty level and change between 1989 and 1999 (US Census Bureau, 2000)

	1999	1989	net change	change in share
Planning Area	**14%**	**16%**	**-822**	**-2.7%**
Oregon	**12%**	**12%**	**43873**	**-0.8%**
Baker, OR	15%	15%	218	0.01%
Morrow, OR	15%	15%	476	-0.3%
Umatilla, OR	13%	17%	-895	-3.9%
Union, OR	14%	16%	-346	-2.0%
Wallowa, OR	14%	16%	-76	-1.8%
Washington	**11%**	**11%**	**94437**	**-0.3%**
Asotin, WA	15%	19%	-199	-3.9%

are not entirely due to increases in welfare or unemployment related payments. Data shows the share of transfer payments from unemployment payments decreased from 6.4 to 3.3 percent and the share from income maintenance benefit payments, or "welfare" slightly increased from 7.8 to 9.1 percent. In 2005 the largest component of transfer payments were the age related payments (classified as Old Age, Survivors, and Disability Insurance and Medicare Benefits) accounting for 55.8 percent of total transfer payments.

These patterns reflect the importance of the aging population noted above, whom are more likely to have investment earnings than younger adults. As the population of the area continues to age, the share of income from these non-labor sources should continue to rise as long as residents continue to stay in the area after retirement or new retirees move in. Rural county population change, the development of rural recreation and retirement-destination areas are all related to natural amenities related to natural amenities (Knapp and Graves 1989, Clark and Hunter 1992; Treyz et al. 1993, Mueser and Graves 1995, McGranahan 1999, Deller 2001, Lewis et al. 2002). Many of the natural amenities in the area are managed by the BLM and thus, indirectly contribute to area labor and non-labor income.

Contributions to the area from BLM management

BLM administered lands in the planning area contributes to the livelihoods of area residents through subsistence uses as well as through market-based economic production and income generation. Public lands provide products of value to households at no or low cost (permit fees) such as fuelwood, wood posts, and livestock. Additional products with subsistence value may include fish, game, plants, berries, and seeds. Use of these products is often part of traditions that sustain local culture.

Contributions to the area economy through market based production can be measured using the IMPLAN input-output model. Input-output models describe commodity flows from producers to intermediate and final consumers. The total industry purchases are equal to the value of the commodities produced. Industries producing goods and services for final demand

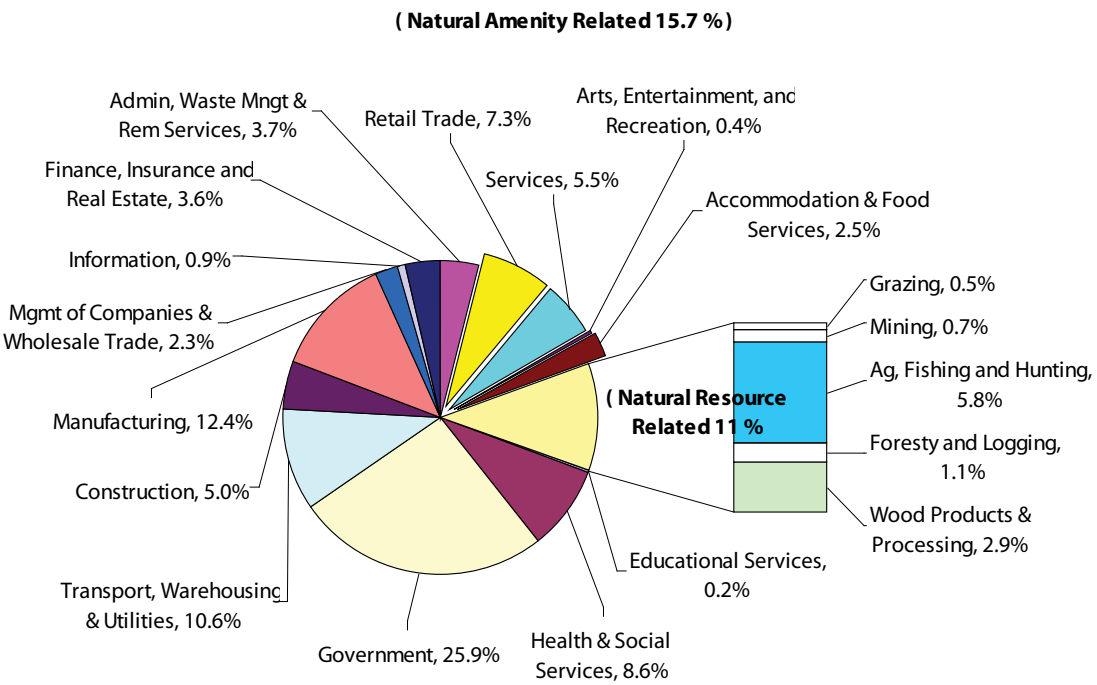

Figure 8. Economic impact area labor income distribution (IMPLAN, 2006)

purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services continues until leakages from the region stop the cycle. The resulting sets of multipliers describe the change of output for regional industries caused by a change in final demand in an industry. The IMPLAN database describes the economy in 509 sectors using federal data from 2006[2]. These sectors are further aggregated below to better identify areas relevant to BLM management activities.

Using the most recent data available, IMPLAN response coefficients[3] were applied to BLM outputs and expenditures to estimate the economic contribution of the BLM within the analysis area. While the discussion above examines the current situation and historical context, this analysis examines the linkages and interdependencies among businesses, consumers, and the Baker Resource Area resources on which some area economic activity depends. IMPLAN allows a more complete examination of these linkages.

IMPLAN not only examines the direct contributions from the Baker Resource Area but also indirect and induced contributions. Indirect employment and labor income contributions occur when a sector purchases supplies and services from other industries in order to produce their product. Induced contributions are the employment and labor income generated as a result of spending new household income generated by direct and indirect employment. The employment estimated is defined as any part-time, seasonal, or full-time job. In the following tables direct, indirect and induced contributions are included in the estimated BLM contributions.

2 IMPLAN data is derived from a variety of sources included the Bureau of Economic Analysis, Regional Economic Information System, Bureau of Labor Statistics, U.S. Census, etc.

3 Rates of change in employment and labor income as final demand changes.

Table 3. Estimated Annual Employment Contribution by Resource Program

Resource Program	Number of Jobs Contributed: Total Program	Estimated Impact of the Recreation Activities of Local Residents[4]	Program Net of Local Resident Recreation
Recreation	115.9	34	81.5
Wildlife and Fish Rec.	26.1	9	17.3
Grazing	15.1	–	15.1
Timber	20.9	–	20.9
Minerals	3.7	–	3.7
Ecosystem Restoration	0.3	–	0.3
Payments to States/Counties	4.9	–	4.9
BLM Expenditures	55.3	–	55.3
Total BLM Management[5]	**242.1**	**43.2**	**198.9**

4 Expenditures by local residents for recreation on BLM do not introduce "new" money into the economy. If local residents could not recreate on BLM, they would likely find other forms of recreation in the area and continue to spend their recreation dollars in the local economy. Therefore, these portions of employment (and labor income below) are not necessarily dependent on the existence of the opportunities provided by BLM

5 Totals may not add due to rounding.

Table 4. Estimated Annual Labor Income Contribution by Resource Program

Resource Program	Thousands of 2008 Dollars: Total Program	Estimated Impact of the Recreation Activities of Local Residents	Program Net of Local Resident Recreation
Recreation	$2,879	$944	$1,935
Wildlife and Fish Rec.	$634	$226	$407
Grazing	$204	–	$204
Timber	$542	–	$542
Minerals	$148	–	$148
Ecosystem Restoration	$6	–	$6
Payments to States/Counties	$168	–	$168
BLM Expenditures	$2,208	–	$2,208
Total BLM Management	**$6,788**	**$1,170**	**$5,617**

Tourism and Recreation

BLM land within the Baker Resource Area provides for a wide array of recreational opportunities. Boating and water based recreation occurs throughout the Snake River watershed and on the Grande Ronde River. A wide array of other opportunities including hunting, motorized and non motorized recreation is enjoyed by area residents and tourists. Field office staff estimate that there were 189,163 recreational visits to the planning area on an average annual basis between October 2006 and September 2007. On their way to the planning area, and once they arrive, these visitors spend money on goods and services they would spend elsewhere if these opportunities did not exist. In this manner the opportunities on BLM contribute to the local economy by attracting these visitors.

Analyses of expenditures reported by national forest visitors show the primary factor determining the amount spent by a visitor was the type of trip taken and not the specific activity or forest visited (Stynes and White; 2005, pg 2). Since expenditure information for the type of trip taken is not yet available, National Visitor Use Monitoring (NVUM) data from adjacent national forests will serves as a proxy. These six trip type segments are defined below;

- Visitors who reside greater than 50 miles from visited BLM:
  1. Non-local residents on day trips
  2. Non-local residents staying overnight on BLM
  3. Non-local residents staying overnight off BLM
- Visitors who live within 50 miles of the visited BLM:
  4. Local residents on day trips
  5. Local residents staying overnight on BLM
  6. Local residents staying overnight off BLM

A seventh category of trip types was not included, non-primary visits, since we are only interested in visitors who's primary activities are on BLM lands. In accordance with the report prepared for the US Forest Service by the American Sportfishing Association (2006) the data used to divide total visits into these trip types were provided by Stynes and White (2005). An average of the visitation proportions for the national forests adjacent to the planning area (Wallowa-Whitman and Umatilla National Forests) was used (Stynes and White, 2005 pg 23-25). Generalizing from the NVUM data also indicates approximately 17 percent of all visits to the BLM were wildlife related. The largest trip-type segment was non-wildlife related local day trips which numbered 77,501.

While providing recreation opportunities to local residents is an important contribution, the recreation expenditures of locals do not represent new money introduced into the economy. If BLM related opportunities were not present, residents would likely participate in other locally based activities and their money would still be spent in the local economy. After separating the contributions made from local residents, Recreation contributes the most employment to the area economy of all resource programs and the second largest level of labor income (Table 3 and Table 4). These contributions amount to 41 and 34 percent of the total Baker Resource Area employment and labor income contributions.

Livestock production

"Ranchers buy everything retail, sell everything wholesale, and pay freight both ways. Love is the only way to hang on. It's an awesome way to make a living and to raise a family."—JKA, 2006

"My boys want to come home but there's not enough land for all of them to makeit."—JKA, 2006

Within the planning area, agriculture plays an important economic and social role; area resi-

dents identify with the tradition, land-use and history. In 2007 Baker and Morrow counties were Oregon's 3rd and 4th largest cattle producers containing 6.9 and 6.7 percent of the total state cattle inventory. The most recent US Department of Agriculture's Census of Agriculture (2002) reports all six counties within the planning area had 4,402 farms and ranches and of these, 47 percent (2,078 operators) were engaged in cattle production with total cattle numbering 342,950 in 2002. Of the total number of farms 6.7 were engaged in sheep production with total sheep numbering 21,997. The National Agricultural Statistical Service breaks down the market value of agricultural products into two categories; crops and livestock, poultry, and their products. In 2002 the market value of livestock exceeded crops in Baker, Morrow and Wallowa counties by 33, 78 and 52 percent respectively; while in Asotin, Umatilla and Union counties the market value of crops exceeded that of livestock by 56, 31 and 57 percent (US Department of Agriculture, 2002).

On BLM land approximately 214 permittees operate in the six county area with 70 percent in Baker County (DOI, 2008). The established preference limit for AUMs in the planning area is currently 47,233. This is the maximum number of AUMs that could be offered under ideal forage conditions. However actual use of AUMs has ranged between 77 and 87 percent (36,289 to 41,297 AUMs) of the preference limit in the last ten years due to factors such as drought, financial limitations on operators, market conditions and implementation of grazing practices to improve range conditions. Most grazing on BLM in the planning area occurs between April and November because very few allotments are suited for winter use. Commonly, allotments with riparian concerns have had midsummer use curtailed, with the use shifted more to spring and fall grazing. Table 5 provides authorized use numbers between 1998 and 2008.

While authorized use of AUMs has remained relatively stable, it may be decreasing since use has dipped below 37,000 three times since 2003 (Table 5). Possible decreases in authorized use could be explained by a tendency of ranching operations to subdivide and sell, often breaking longstanding family ranching traditions (JKA, 2006). In addition, with rising operating costs smaller operators are finding it more difficult to remain in the industry (personal communication with Baker Field Office Staff). Between 1998 and 2008 averages of 37,652 Cattle AUMs and another 358 Sheep and Goat AUMs have been provided. The forage provided represents approximately 0.9 and 0.1 percent of the forage required for the cattle and sheep inventories within the six county planning area in 2002.

Table 5. Annual AUM Authorizations in the Planning Area

Year	Authorized	Preference	Authorized share of preference
2008	36,361	47,233	77%
2007	38,210	47,233	81%
2006	41,297	47,233	87%
2005	38,031	47,233	81%
2004	36,835	47,233	78%
2003	36,289	47,233	77%
2002	38,255	47,233	81%
2001	38,193	47,233	81%
2000	39,457	47,233	84%
1999	37,668	47,233	80%
1998	37,591	47,233	80%

(Source: BLM Rangeland Administration System)

A thin profit margin often separates these livestock producers from negative net earnings. Often, employment outside the ranch augments livestock producer income. Federal grazing land is particularly valuable because of the low grazing fees charged for use of this land. Fees charged by BLM for grazing are calculated using the formula required under BLM grazing regulations found at 43 CFR 4130.81(a)(1) and are considerably less than those charged for private grazing land. In 2007 the statewide average AUM price for private land was $14.10 (US Department of Agriculture, 2008) while the state of Oregon's Department of State Lands fee was $4.80 (State of Oregon, 2008). The BLM formula yielded a fee of $1.35

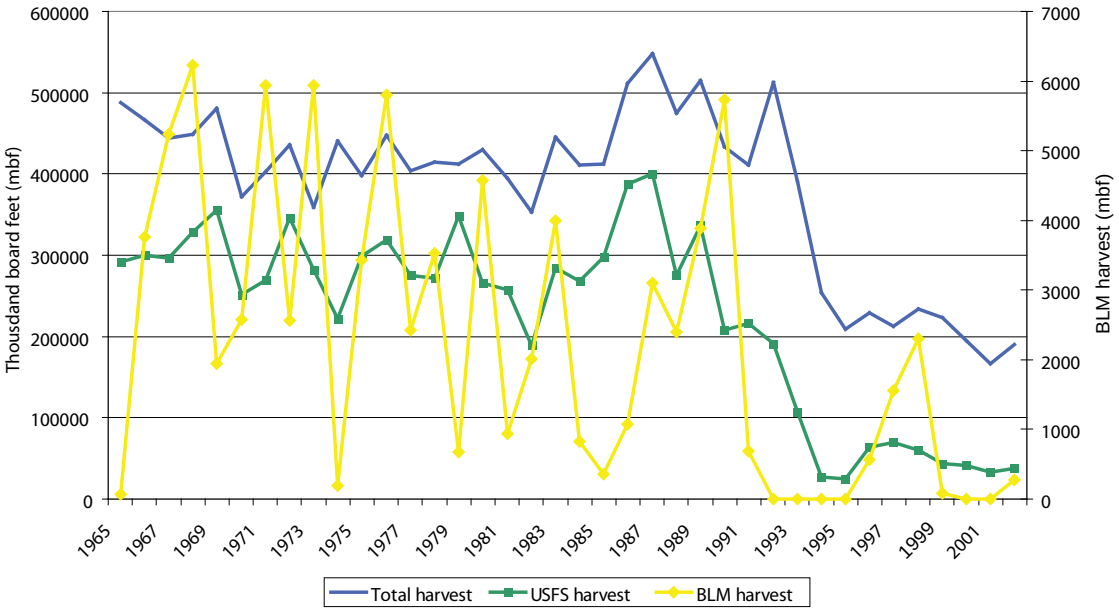

Figure 9. Total harvest and harvests by agency within the impact area (Source: Oregon Department of Forestry, 2005 and Washington State Department of Natural Resources, 2002)

per AUM in 2007 which is down from $1.56 in 2006. This federal land is the least expensive grazing land available, hence use and access is coveted by area ranchers even though additional costs are usually incurred to use these lands. It is estimated that in 2007 the benefit of low cost BLM AUMs used in the Baker Resource Area was $487,000 to area ranchers. The active use levels of grazing on BLM currently support approximately 15 jobs and $204,000 in labor income on an average annual basis (Table 3 and Table 4). While these numbers appears small, it must be remembered that BLM allotments provide an important complement to ranching operations that also occur on national forest and privately leased land.

Forest Products

In 2006 there were seven mills in the impact area; 2 in Umatilla County, 4 in Union County and 1 in Wallowa County (Ehinger and Associates, 2006). Within Union County, stud and plywood manufacturing facilities were located in Elgin and a dimension lumber and a board plant were located in La Grande. In Umatilla County two facilities producing dimension lumber were located in Pilot Rock and Pendleton and another stud mill was located in Wallowa within Wallowa County. In Morrow and Baker counties no mills were present in 2006 however, a log home and a chipping facility existed in Baker County in 2003 (Brandt et al, 2006).

As depicted in Figure 5 and Figure 8, the 2006 shares of employment and labor income in the impact area attributable to the Forestry and Logging sector (0.6 and 1.1, respectively) and the Wood Products and Processing sector (2.3 and 2.9 percent, respectively) are relatively small. However, counties within the impact area showed varying degrees of specialization with respect to these two sectors in 2006. The shares of total employment and labor income within Baker County attributable to the Forestry and Logging sector was 1 and 0.4 percent, respectively while the Wood Products and Processing sector accounted for 5.7 and 5.1 percent of total employment and labor income. Union County similarly had a relatively higher specialization than other impact area counties in these two sectors with 1.1 percent of employment and 1.8 percent of labor income from the Forestry and Logging sector and 4.8 and 6.8 percent of employment and labor income attributable to the Wood Products and Processing sector. Wallowa and Asotin counties

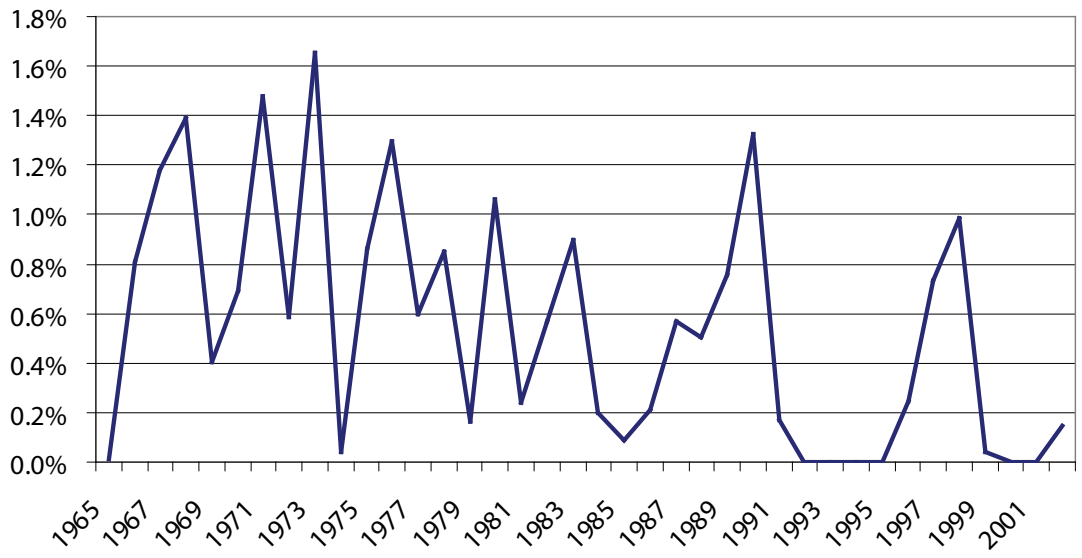

Figure 10. Share of BLM harvest from total harvest within the impact area (Source: Oregon Department of Forestry, 2005 and Washington State Department of Natural Resources, 2002)

were slightly less specialized while Umatilla and Morrow counties were the least specialized with respect to these sectors (see Appendix A).

Annual harvest data for impact area counties indicate total harvests decreased from a high of 547,904 thousand board feet (mbf) in 1987 to 190,277 mbf in 2002. Much of this decline can be attributed to harvest decreases on national forests in the area (Figure 9).

According to the Washington State Department of Natural Resources, Asotin County has had no BLM timber harvest between 1965 and 2002. The share of BLM harvest from total area harvests gives an indication of how dependent the area has been on BLM harvest. The share of BLM timber volume from the total volume harvested (from all ownerships) in the six impact area counties has reached 1.5 percent two times between 1965 and 2002 (in 1971 1.5 percent of total volume consisted of BLM harvest and 1.7 percent in 1973). The mean BLM share over this period was less than 1 percent, with a minimum of zero and a max of 1.7 percent (Figure 10). Individually, the share of county BLM harvest from total county harvests reached a maximum of 6.6 percent in Baker County in 1990, 3.6 percent in Morrow County in 1970, 5 percent in Umatilla County in 1976, 4.9 percent in Union County in 1971 and 2.9 percent in Wallowa County in 1973. The mean shares for the individual counties over this period did not exceed 1 percent. This data suggests that between 1965 and 2002, the role of BLM harvests may have been negligible in impact area counties.

Regardless, timber removed from BLM in the area may provide an important resource when other sources are scarce. Patterns of timber market integration suggest the timber harvested in the area stays in the area. Of the Oregon timber received in the area, 99.8 percent was harvested in the area in 2003 (Brandt et al, 2006). On an average annual basis, timber removed from the Baker Resource Area provides 21 jobs and $542,000 in labor income (Table 3 and Table 4). These contributions are the third largest of BLM resource programs amounting to 10.5 and 9.6 percent of total employment and labor income provided by the Baker Resource Area.

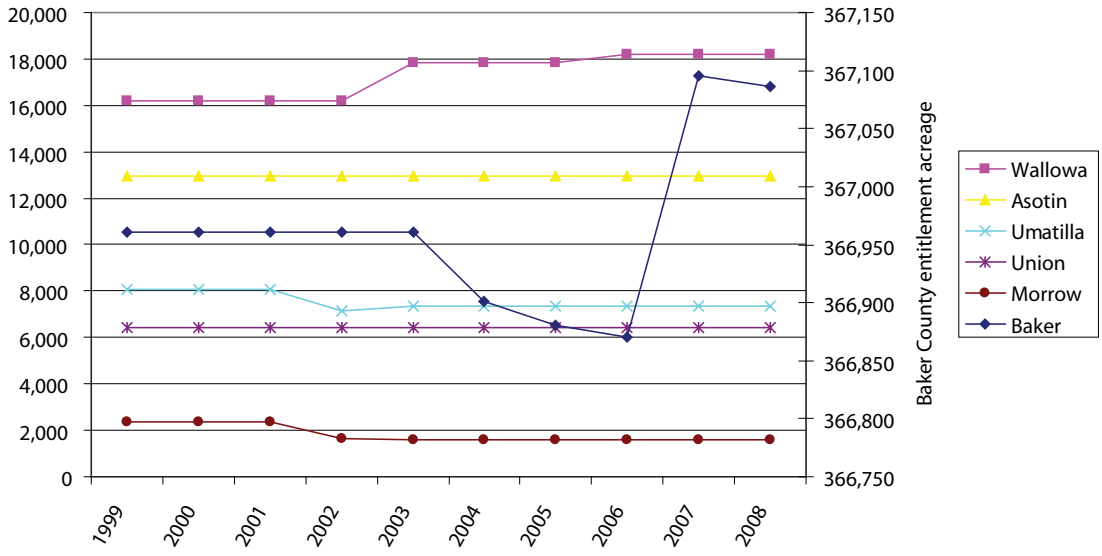

Figure 11. Annual Payments in Lieu of Taxes received by planning area counties (Source: USDI, 2008)

Mining

From 1970 to 2000, estimated mining employment as a share of total employment never exceeded 0.5 percent in the six county impact area. In Asotin, Baker, Morrow, Umatilla, Union and Wallowa counties, mining made up 0.1, 0.3, 1.4, 0.02, 0.3 and 0 percent, respectively in 2000 (US Department of Commerce, 2000). Given the small number of firms in the area within the industry, data are not available from the US Department of Commerce however, similar data depicted in Figure 5 and Figure 8 show that mining made up 0.5 percent of impact area employment and 0.7 percent of labor income in 2006 (IMPLAN, 2006).

Mostly saleable mineral materials, such as pumice and crushed stone are removed from BLM in the planning area however, a small amount of gold is collected by recreational miners. Speculative oil and gas leasing also occurs in Morrow and Umatilla counties however, no development has been proposed or is anticipated. The minerals program on BLM in the Resource area supports approximately 4 jobs and $148,000 in labor income on an average annual basis (Table 3 and Table 4).

A portion of the revenues received by BLM from the sale of materials and the lease of land is distributed back to counties in the planning the area. The contributions to area employment and income from these payments are discussed below under revenue sharing.

Externally Funded Ecosystem Restoration

A portion of the management activities occurring on BLM in the area are performed with funds not accounted for under general BLM expenditures discussed below. These funds often come from external sources such as stewardship grants. Recent examples within the Resource Area include the Grouse Cree Restoration Project and the Grande Ronde Model Watershed exclosure fencing project. It is estimated that these externally funded ecosystem restoration projects support approximately $6,000 in labor income and less than one job in the impact area economy on an average annual basis (Table 3 and Table 4).

Revenue Sharing

In 1976, Congress passed legislation to provide funding to counties through Payments in Lieu of Taxes (PILT) in order to compensate for tax revenues not received from Federal lands. These taxes would typically fund various services that are provided by counties (road maintenance, emergency services, and law enforcement). The

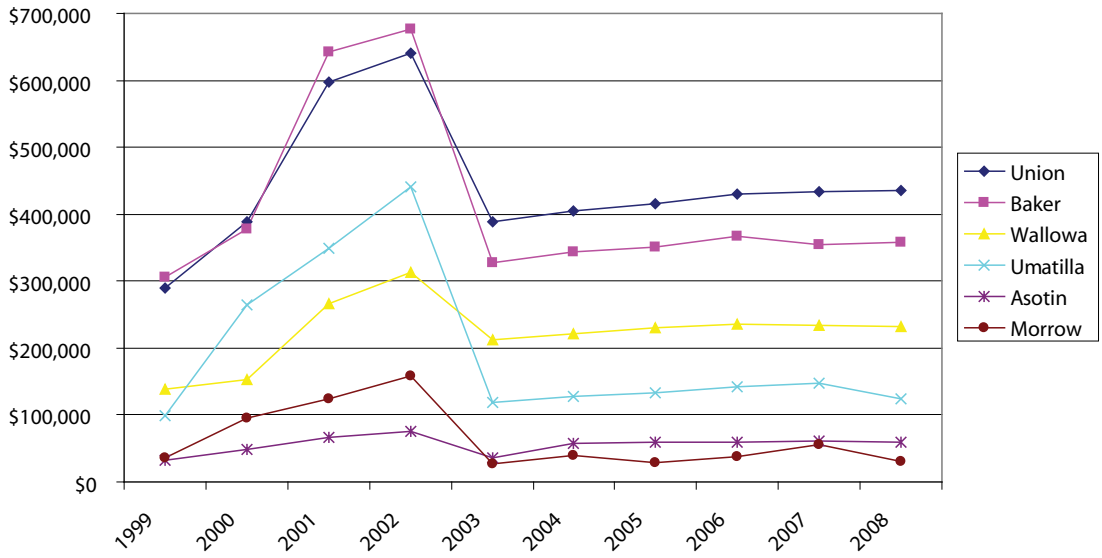

Figure 12. BLM entitlement acreages within planning area counties (Source: USDI, 2008)

PILT payments are determined using a formula which accounts for the county acreage of federal land, county population and the previous year's revenue sharing from resource uses on federal land (timber, range, mining etc.). Figure 11 below displays previous year's payments.

These PILT payments add to revenues these counties routinely receive through property taxes and other sources of local government revenue. Several counties in the planning area are relatively more dependent on these payments than others. In 2002 these payments accounted for 2.3, 0.3, 0.2, 0.8, 3.9, and 0.2 percent of local government revenue in Baker, Morrow, Umatilla, Union, Wallowa and Asotin counties, respectively. In four of the impact area counties, BLM entitlement acreages have remained constant or increased since 1999 (see Figure 12 below). For example, in Wallowa County, BLM entitlement acreage increased between 2003 and 2004 with the purchase of land provided by dollars from the Land and Water Conservation Fund (LWCF). In Baker County 225 acres were obtained in 2007 with the LWCF (Personal communication with Baker Field Office Staff, 2008). Decreases in entitlement acreages due to the Northeastern Oregon Assembled Land Exchange occurred in Morrow and Umatilla counties in 2002 and 2003, and were partially offset in Umatilla County with purchase of the Colson property.

While these decreases accounted for a 31 and 9 percent change in their respective entitlement acreages, PILT payments are not entirely dependent on entitlement acreages. Funding for PILT is provided by annual appropriation acts. In recent years funding has fallen short of the full amount that local governments would be authorized to receive under the PILT statute. When this happens, the department then calculates individual payments to counties by prorating the aggregate appropriation amount amongst all counties. As a result, decreases in payments occurred in all counties between 2002 and 2003 and then again in between 2007 and 2008 in all counties except Union and Baker (Figure 11). These recent decreases resulted from the 2008 omnibus appropriations bill (PL 110-161, 2007) which allocated $232.5 million compared to the $233 million in 2007. These decreases may be compounded further in 2009; the administration has requested appropriation of $195 million or $37.5 million less than in 2008 (Public Land News, 2008).

In addition to PILT, counties receive a share of receipts from mineral material removal, revenues from leased land and range revenues under the 1902 Reclamation Act, the 1920 Mineral Lands Leasing Act and the 1934 Taylor Grazing Act. These payments support approximately 5 jobs

and $168,000 in labor income on an average annual basis (Table 3 and Table 4) within the impact area economy.

BLM Expenditures and Employment

The Baker Field Office is located in the town of Baker; providing a direct contribution to the area economy. BLM operations and management make direct contributions to area economic activity by employing people who reside in the area and by spending dollars on project related goods and services (Table 6). Management of BLM lands in the planning area is largely carried out through a professional and administrative staff in the Baker Field Office. Staffing levels of these BLM employees have been decreasing over the period from 2001 to 2007. In addition to these permanent full time (PFT) employees, seasonal staff work and live in the area. Contracts for facilities maintenance, shuttling vehicles and projects contribute directly to the area economy and social stability as well. Many of these impacts are captured in from the total expenditures BLM makes in the planning area. Total expenditures within the Resource Area have been were decreasing however, saw a jump in 2007 largely due to an increase in project related spending.

On an average annual basis, Baker Field Office expenditures and employment support 55 jobs and $2.2 million in labor income (Table 3 and Table 4). This accounts for second largest employment contribution and the largest income contribution to the impact area of all BLM resource programs. These contributions amount to 28 and 39 percent of the total Baker Resource Area contributions to the impact area economy.

Table 6. Baker Field Office Expenditures and Employment

	Total Expenditures	PFT's
2007	$2,841,000	20
2006	$1,940,000	24
2005	$2,102,000	–
2004	$2,284,000	–
2003	$2,434,000	27
2002	$2,570,000	26
2001	$2,467,000	26

Renewable Energy Development

Wind generation is becoming more and more a part of the eastern Oregon and Washington economies. The landscape has always been subject to the driving winds of the Columbia River Canyon which are now being harnessed by wind farms. Local businesses and counties are benefiting from the influx of resources and tax revenue from these projects. However, it remains to be seen whether BLM land can contribute to the planning area economy and community well-being through provision of energy leases.

Small Community/Cooperative Projects sell power through Power Purchase Agreements with regulated utilities. These projects are attractive because they can become community revenue generators, involve schools and local interests, and help supplement future power growth. Large Commercial Projects are sited in areas of strong winds, transmission access, and market demand. As suitable windy land becomes more saturated with development, the availability of leases on federal land may play a larger role in the industry.

As of March 31, 2008 installed wind power capacity in Oregon reached 888 megawatts MW of power. This is up from 25 MW in 1999. Of the 2008 total installed capacity, 33 percent is located in the planning area within Umatilla and Union counties (American Wind Energy Association, 2008). Several applications for wind energy development on BLM are being evaluated currently by the Baker Field Office; 2 facilities near Burnt River Canyon would produce less than 10

MW each per year while another larger facility near Huntington would product approximately 200 MW per year.

Niche Market Opportunities

"People are flocking here from Boise, Bend, Portland because it's still beautiful

and affordable. Last summer, half the shops in town were empty, but a lot of

young entrepreneurs are coming in and opening places up." Baker City Area – JKA, 2006

It has been acknowledged that "those rural areas that are prepared to evaluate the offering of non-traditional goods and services are the most likely to prosper" (Castle 1991, pg 53). Castle notes that "this does not mean that the traditional industries will be abandoned," but it does suggest that a willingness to take chances and try new things is an important strategy for rural communities faced with change.

According to the Wallowa County Chamber of Commerce communities in the area have double the states average of small business entrepreneurs. World class bronze foundries and tourism destinations such as the Oregon Trail Interpretive Center, offer unique experiences communities in the area recognize as assets. According to community fieldwork performed by JKA a number of people are looking into biomass and wind energy development. Tourism remains strong and is growing as well; the JKA report noted recreation and tourism development can be furthered by supporting and facilitating current efforts to coordinate the marketing of the many visitor attractions, both locally and regionally (JKA, 2006). BLM is poised to foster these and other opportunities that may arise in the area.

Baker Resource Area Contributions by Industry

Table 7 shows the estimated employment and labor income generated by activities on BLM within the impact area. The Baker Field Office related employment and labor income contributions listed here exclude those made from local resident recreation. In total, management activities of the Baker Field Office account for 0.25 percent of jobs and 0.19 percent labor income in the impact area (Table 7).

The two largest employment and labor income contributions would occur in the Accommodation and Food Services sector and the Government sector. The industry sector with the highest level of dependence on BLM planning area contributions is the Accommodation and Food Services sector relying on BLM for approximately 1 percent of employment and income. Employment and income generated by activities on BLM account for less than one percent of impact area totals in all other industry sectors (Table 7).

While data was not available to examine contributions by county or community, the labor income and employment generated from activities on BLM in the planning area may be more important to these smaller communities within the impact area. Consequently, changes in activities on BLM could result in localized effects that are not readily apparent across the broader six county impact area.

Table 7. Current Role of Baker Resource Area Contributions to the Impact Area Economy

Industry	Employment (jobs)			Labor Income (Thousands of 2008 Dollars)		
	Area Totals	BLM Related	% of Total	Area Totals	BLM Related	% of Total
Agriculture	10,847	28	0.26%	$216,326	$496	0.23%
Mining	397	3	0.75%	$20,512	$127	0.62%
Utilities	658	0	0.06%	$80,774	$42	0.05%
Construction	3,461	2	0.06%	$144,932	$93	0.06%
Manufacturing	8,779	5	0.05%	$445,442	$184	0.04%
Wholesale Trade	1,416	4	0.29%	$62,110	$172	0.28%
Transportation & Warehousing	3,971	4	0.09%	$228,386	$170	0.07%
Retail Trade	8,619	21	0.24%	$212,634	$422	0.20%
Information	658	1	0.16%	$26,469	$37	0.14%
Finance & Insurance	1,835	2	0.10%	$75,520	$68	0.09%
Real Estate& Rental & Leasing	1,650	2	0.14%	$30,709	$44	0.14%
Prof. Scientific, & Tech. Services	2,039	3	0.15%	$69,099	$85	0.12%
Mgmt. of Companies	121	0	0.12%	$4,798	$5	0.11%
Admin., Waste Mgmt. & Rem.	3,167	3	0.10%	$107,908	$58	0.05%
Educational Services	452	1	0.11%	$4,464	$5	0.10%
Health Care & Social Assistance	7,598	7	0.10%	$251,993	$238	0.09%
Arts, Entertainment, and Rec.	1,240	8	0.68%	$12,144	$94	0.77%
Accommodation & Food Services	4,791	48	1.00%	$73,448	$748	1.02%
Other Services	5,501	5	0.08%	$90,824	$83	0.09%
Government	13,663	52	0.38%	$756,044	$2,412	0.32%
Total	**80,862**	**198**	**0.25%**	**$2,914,535**	**$5,583**	**0.19%**

Within the impact area, the largest sector is the Government Sector (see Figure 5 and Figure 8 of which an estimated 0.4 percent of employment and 0.3 percent of labor income is dependent on Baker Field Office related activities (Table 7). While seemingly small, communities within the impact area may be more dependent on this sector and thus more susceptible to changes within the impact area.

Natural amenity related industries (Accommodation and Food Services; Arts, Entertainment, and

Recreation; Services; and Retail Trade) provide approximately 27.4 and 15.7 percent of employment and labor income respectively within the impact area (Figure 5 and Figure 8). Employment generated as a result of BLM contributions within the Retail Trade, Accommodation and Food Services, and the Arts, Entertainment, and Recreation sectors are estimated at 0.2, 1 and 0.7 percent respectively while labor income contributions amounted to 0.2, 1 and .8 percent, respectively (Table 7).

Natural resource related industries (Wood Products and Processing; Forestry and Logging; Grazing; Mining; and Agriculture, Fishing, and Hunting) provide approximately 16 and 11 percent of employment and labor income respectively within the impact area (Figure 5 and Figure 8). The sectors in Table 7 above most closely connected to activities associated with the timber management and grazing program areas are manufacturing and agriculture, to which the Baker Field Office contributes less than a tenth of one percent of jobs and labor income in the manufacturing sector and 0.3 and 0.2 percent of employment and labor income in the agricultural sector. The mining sector is relatively more reliant on activities within the Baker Field office, where 0.75 percent of employment and 0.62 percent of labor income can be attributed to activities on BLM in the impact area.

Non-market economic value

The value of resource goods traded in a market can be obtained from information on the quantity sold and market price however; markets do not exist for some resources, such as recreational opportunities and environmental services. Measuring their value is important, since without estimates, these resources may be implicitly undervalued and decisions regarding their use may not accurately reflect their true value to society. Because these recreational and environmental values are not traded in markets, they can be characterized as non-market values.

Non-market values can be broken down into two categories; use and non-use values. The use-value of a non-market good is the value to society from the direct use of the asset; within the planning area this occurs through activities such as recreational fishing, hunting, boating and bird watching. The use of non-market goods often requires consumption of associated market goods; such as lodging, gas, and fishing equipment.

Non-use values of a non-market good reflect the value of an asset beyond any use. These can be described as existence, option and bequest values. Existence values are the amount society is willing to pay to guarantee that an asset simply exists. An existence value of BLM lands within the Baker Resource Area might be the value of knowing that wild steelhead spawn in streams on BLM. Other non-use values are thought to originate in society's willingness to pay to preserve the option for future use; these are referred to as option values and bequest values. Option values exist for something that has not yet been discovered; such as the future value of a plant as medicine. In the planning area bequest and option values might exist for numerous plant species.

Non-market use and non-use values can be distinguished by the methods used to estimate them. Use values are often estimated using revealed preference methods or stated preference methods while non-use values can only be estimated using hypothetical methods. While use and non-use values exist for the planning area, evaluation is not always feasible during the planning process. However this does not preclude their consideration in the planning process.

Community Resiliency

Community resilience can be described as the existence, development and engagement of community resources to thrive in a dynamic environment characterized by change, uncertainty, unpredictability and surprise. Resilient communities intentionally develop personal and group capacity to respond to and influence change, to sustain and renew the community and to develop new trajectories for the communities' future (Magis, 2007 pg 4). How a community faces change is also tied to community well-

being. The well being of the community is an integral part of life, necessary to survival (Raish and McSweeney et al. 2003, pp 26).

Community resiliency and well-being can be tied to the resources or assets available to a community. Community resources or assets, when invested, become community capital which the community can then reinvest in a cycle of community development. These are not limited to financial investments, but also include investment in collective action and cooperation. Using a community capital framework enables the identification of the entire range of community assets. It also provides a systematic structure with which to analyze the existence, change and development of community resources (Flora et al. 2004). Descriptions of these capitals are listed below:

- Natural Capital—Air, soils, water (quality and quantity), landscape and biodiversity.
- Cultural Capital—Language, rituals, ethnicity, generations, stories and traditions, spirituality, habits, and heritage.
- Human Capital—All the skills and abilities of people, self-esteem, education, leadership, knowledge, the ability to access resources and human health.
- Social Capital—Groups, organizations, networks in the community, the sense of belonging, bonds between people, trust and reciprocity.
- Political Capital—connections to people in power, access to resources, leverage, and influence to achieve goals.
- Financial Capital—Money, charitable giving, grants, access to funding and wealth.
- Built Capital—buildings and infrastructure in a community, schools, roads, water and sewer systems, and main streets.

Communities living in the area and interested in BLM lands within the Baker Resource Area

Communities within the Baker Resource Area can be described by the areas they live in and by their connections to the local landscape. During the resource management planning process, the public has given the BLM insightful information about their connections to the land and their interests in BLM management. This information has provided BLM with community characteristics and values that help when defining these communities.

When we look at the effects of Federal land management actions, the most critical impacts may be to small, rural communities (USDA, 2000, pg 5). Consequently, geographically defined communities are an important and relevant level for social assessment. Not all social scientists agree however, that the geographically based community is always the appropriate level of analysis. FEMAT (1993, pg VII-35) makes the point that this view "only refers to physical or political boundaries and not to the relationships among people who reside within such boundaries."

Communities of interest bring together stakeholders from different backgrounds to solve a problem of common concern (Fischer, 2001, pg 4). Brown and Duguid describe communities of interest as "communities-of-communities" (Brown and Duguid, 1991 pg 53). They provide unique opportunities to explore the linkages between people and public land that may transcend the geographically defined community.

While communities of interest often form temporarily, the issues that bring them together in the planning area often present no immediate resolution. While BLM might foster resolution of their issues, many require involvement outside the scope of BLM management or the formation of networks to bring them together. These networks provide a structure for individuals to form communities of interest and address these concerns.

Networks

Networks are an important part of community resilience discussed above in social capital. Networks are interdependent on the other community capitals and provide BLM a way to empower communities connected to BLM lands. Once these networks are identified, BLM can assess whether planning actions will sustain them or are unassociated.

Common networks within the Baker Resource Area include the Lions, the Elks, the Rotary, the Soroptomist, the Baker Weed Committee, and the Soil and Water Conservation District in the Baker County area. In the North Powder Area the Cattlemen's Association was noted as a good way to reach Ranchers. Other examples include the Corridors Committee in the Hermiston area which represents a "group of people who know the community and know how to get things done" (JKA, 2006). Area schools, churches, chamber's of commerce and other community groups provide a way for people interested in the area to network as well.

The presence of these networks maintains community resiliency by supporting many of the community capitals discussed above. They provide access to Human Capital (access to education and leadership), foster Social Capital and provide organization necessary for Political Capital. In turn, community capital assets support these networks, often enabling communication with BLM.

Environmental Justice

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures and incomes with respect to the development, implementation and enforcement of environmental laws, regulations, programs, and policies. Executive Order 12898 requires Federal agencies to "identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

According to the Council on Environmental Quality's (CEQ) Environmental Justice Guidelines for NEPA (1997) "minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis." Table 1 above shows that Morrow and Umatilla counties' share of those identifying with some other race and Hispanics were greater than the state and economic impact area averages during 2000. Thus, the US Census data suggest minority populations within the economic impact area meet the CEQ's Environmental Justice criterion.

CEQ guidance on identifying low-income populations states "agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect." The discussion above on poverty noted the share of those living below the poverty level decreased between 1989 and 1999 however, county levels remained above their states in all impact area counties (Table 2). Thus, the Census data indicate low income populations exist within the economic impact area.

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