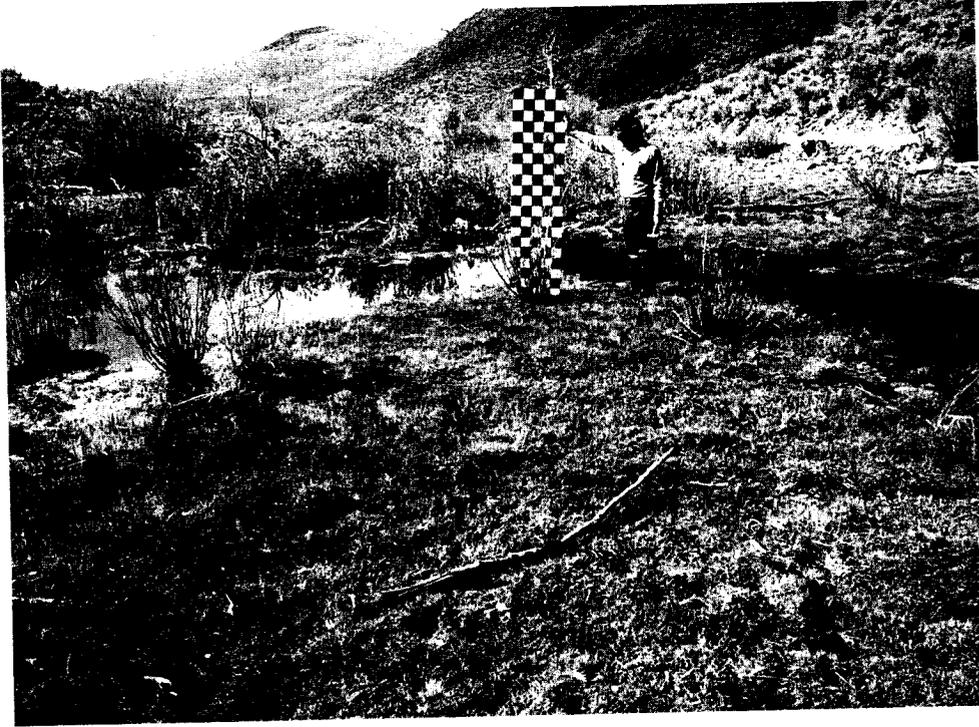
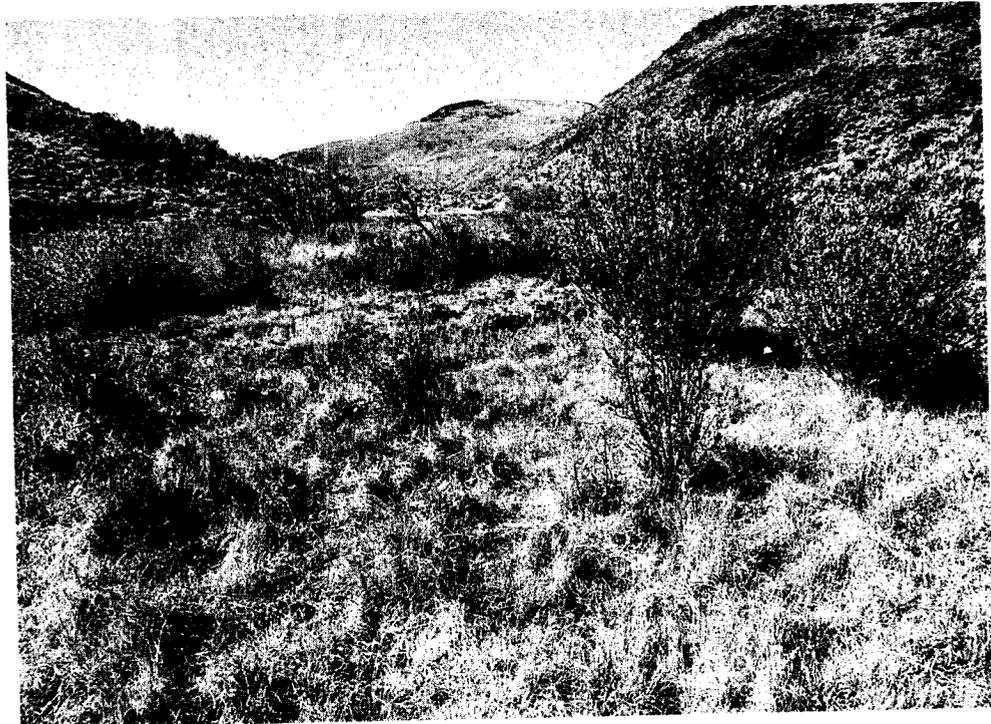


## Chapter 4 Environmental Consequences



*1987: Active beaver dam;  
unsupervised livestock grazing*



*1996: Silted-in beaver dam;  
supervised livestock grazing  
(note willow recovery)*

*Vegetation/riparian resource recovery achieved through land management.*

## Introduction.

**Chapter 4** describes the BLM's analysis of the beneficial and adverse physical, biological, economic, and social environmental consequences ("effects" or "impacts") of implementing the Proposed RMP decisions which were developed to address identified issues and management concerns (see **Volume 1; Chapter 2** - "Proposed RMP Development," pp. 23-24). These effects (see *Glossary*, p. 171) may be direct, indirect, or cumulative, and occur in the short term (within 1 to 5 years of RMP implementation) or long term (within 6 to 20 years of RMP implementation). Except for the economy/society analysis, which considers effects within two geographical regions (the Fort Hall Indian Reservation and Custer/Lemhi counties), each analysis of direct and indirect environmental consequences considers the effects of RMP actions or other actions (private, State, other Federal agency) on resources within the Challis Resource Area boundary. The discussions of cumulative impacts consider the effects of RMP actions and non-RMP actions which may occur within, adjacent to, or, in some cases, well beyond RA boundaries (e.g., air quality).

The impacts of all decisions described in the Proposed RMP were analyzed. However, only those decisions which were believed to have reasonably foreseeable impacts have a written statement under a numbered "analysis point." If no reasonably foreseeable impacts were predicted for an entire section of Proposed RMP decisions, then the introduction to the resource or land use analysis states there are no reasonably foreseeable impacts from those decisions.

(**Note:** **Chapter 2** contains a summary of the beneficial and adverse effects (including any irreversible or irretrievable commitments of resources) of implementing the Proposed RMP management decisions.)

## Assumptions

An interdisciplinary approach was used when analyzing the environmental consequences of implementing the PRMP. The following general assumptions were made during the analysis and discussion of environmental consequences:

- 1) The RMP would remain in effect for approximately 20 years.
- 2) Funding and personnel would be sufficient to implement the PRMP as described.
- 3) Implemented management decisions would comply with all valid existing rights, Federal regulations, BLM policies, etc.
- 4) Effects are discussed in detail if they are expected to be reasonably foreseeable (whether beneficial or adverse). In some cases, non-significant effects are presented to better illustrate the scope and effect of management decisions or to differentiate between significant and non-significant impacts.
- 5) Short term impacts would generally occur within a 5 year period following implementation. Long term impacts would generally occur during a 6 to 20 year period following implementation.
- 6) The cumulative effects analysis considers the effects of actions occurring on Challis Resource Area

public lands and contiguous lands (USDA Forest Service, State of Idaho, private); the cumulative effects analysis considers past actions (which have already been completed), present actions (which are ongoing), and reasonably foreseeable future actions which are expected to be initiated within the 15 to 20 year life of the RMP.

- 7) Any identified net unavoidable adverse impacts would be monitored and continually evaluated during the life of the RMP. When necessary based on plan monitoring, adjustments in management actions would be made to minimize adverse effects.

## **Chapter Format**

*Chapter 4* discusses the direct/indirect and cumulative effects of the Proposed RMP decisions on the resources and land uses of the Challis Resource Area in alphabetical order. The analysis for each resource or land use generally adheres to the following format. First, the analysis states which, if any, sections of Proposed RMP decisions are expected to have no reasonably foreseeable effect. Then, the analysis of predicted environmental consequences is presented, using consecutively numbered analysis points. A summary of effects is given, followed by a detailed discussion of direct and indirect effects; finally, each resource or land use analysis concludes with a statement of cumulative effects. Where applicable, the analysis indicates the "source of effects" in the left column; namely, a Proposed RMP section subheading indicates the group of management decisions from the Proposed RMP which produced the indicated effect.

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## Resource Analyses.

### Air Quality

**Summary of Effects/Cumulative Effects:** No significant adverse or beneficial impacts to air quality would be expected. Air quality in the Challis Resource Area would remain within the limits set by national ambient air quality standards and standards for the prevention of significant deterioration in Class II areas. No significant adverse or beneficial cumulative impacts to air quality within the Challis Resource Area would be expected from actions on adjacent Federal, State, and private lands within Custer or Lemhi counties. The following minor direct/indirect impacts may occur.

**Direct/Indirect Effects:**

1. Concentrations of suspended particulate matter from dust may be locally higher than regional concentrations around roads, cattle trailways, and project sites, but would be typically temporary and quickly dispersed. Management actions which help achieve upland watershed vegetative cover objectives would tend to maintain or reduce the potential for windblown dust.
2. Changes in methane production from adjustments in livestock numbers on BLM lands would be imperceptible. If livestock numbers are reduced due to actions in the PRMP, some increases in livestock numbers may occur on private lands. The net change in methane production would be negligible. Therefore, regionally no significant change in methane levels would be expected.
3. Noxious weeds would be sprayed in conformance with the *Northwest Area Noxious Weed Control Program FEIS and Supplement* (1985, 1987). During spraying, locally higher concentrations of pesticide vapors may be expected, but these would typically be temporary and quickly dispersed. A recreation site may be temporarily closed if spraying occurs near the recreation site; however, the PRMP decision stated under Noxious Weed Infestations, Goal 3, #6 would reduce the likelihood of chemical use in recreation sites.
4. Prescribed burning for vegetation treatment, understory removal, and slash burning would be limited to established annual acreage or tonnage limits which are designed to preserve air quality within Class II standards. Proposed projects that may affect the Class I airsheds of National Parks or designated Wilderness near the Challis Resource Area would be reviewed for potential impacts and modified to prevent adverse effects to these Class I airsheds. All other BLM-authorized actions, including the leasing of oil, gas, and geothermal resources, would consider the potential for deterioration of air quality and apply appropriate mitigation through the National Environmental Policy Act (NEPA) process.

## Areas of Critical Environmental Concern/Research Natural Areas

No reasonably foreseeable effects to ACECs/RNAs would be expected as a result of decisions listed under the following PRMP sections: Air Quality, Hazardous Materials Management, Land Tenure, Recreation Opportunities and Visitor Use, Transportation, Tribal Treaty Rights, or Visual Resources.

### Summary of Effects

1. ACEC values would be maintained on 88,206 acres. Potential for adverse effects on ACEC values from other land uses would be mitigated or reduced. Designation of 9,846 acres as RNAs is expected to maintain native plant communities, special status species, and rare/endemic species in a natural condition for study purposes. Periodic monitoring of special status plant populations and other ACEC resource values would help ensure that those values are maintained.

### Direct/Indirect Effects on Maintenance of ACEC Values, by ACEC

#### *Antelope Flat ACEC*

2. The composition and extent of unique plant communities is expected to be maintained.

#### *Birch Creek ACEC*

3. Designation of this 8,469 acre area as an ACEC, limitations on motorized vehicle use, monitoring of rare plant populations, and planning or design requirements for land use activities would help ensure that the bighorn sheep population, winter ranges, lambing areas and rare plant populations are maintained or enhanced. Acquisitions of State lands would enhance habitat integrity and provide for management of those lands to maintain bighorn sheep habitat requirements.

#### *Cronk's Canyon ACEC/RNA*

4. Approximately 1,496 acres of bighorn sheep yearlong and crucial winter habitat would remain a management priority. ACEC designation would minimize any potential for adverse effects on bighorn sheep that might result from other resource management or land use activities.

#### *Donkey Hills ACEC*

5. Designation of this 29,706-acre area as an ACEC would help ensure that big game habitat values are maintained, along with the productivity of regional elk populations. Acquisitions of State and private lands would enhance habitat integrity and provide for management of those lands to maintain big game habitat. Decisions regarding wildfire suppression in the ACEC would help prevent the catastrophic loss of big game winter forage due to a major wildfire event.

#### *Dry Gulch ACEC*

6. Designating this 539-acre ACEC would help ensure maintenance of rare plant populations and plant communities. Maintaining slope conditions along the existing road would result in occasional surface disturbance by heavy equipment, and maintain habitat suitability for the existing population of the special status species, wavy-leaf thelypody.

#### *East Fork Salmon River Bench ACEC/RNA*

7. Plant communities on the 78-acre ACEC would be maintained.

- Herd Creek Watershed ACEC* 8. Designating this 17,943 acre ACEC would help ensure maintenance of several rare/sensitive plant populations and unusual plant communities. Possible expansion of the Herd Creek enclosure would result in rapid improvement of additional riparian-aquatic habitat. Designation would also highlight the significance of the watershed as anadromous fish habitat.
- Lone Bird ACEC* 9. Designating this 9,969-acre area as an ACEC would help ensure that cultural resources, socio-cultural values, and rare/sensitive plant populations are maintained. Unauthorized off-road vehicle use and potential vandalism of cultural sites would be discouraged by closing the area to rockhounding, collection of mineral materials, and mineral material sales.
- Malm Gulch/Germer Basin ACEC/RNA* 10. The area's unique plant communities, rare plants, fragile soils and paleontological values would be maintained on the 7,823-acre ACEC. Potential for sediment transport caused by spring snowmelt and other runoff events would be minimized. The 2.5 miles of two-track road that would remain open to public use up Malm Gulch from Highway 75 would result in a minor amount of soil erosion and sediment transport. A small amount of erosion and sedimentation may also occur as a result of a BLM authorized semi-annual livestock trailing permit. The amount of erosion and sediment transport attributable to these actions would be minor, relative to the naturally occurring level of sediment discharge from Malm Gulch. The open road would continue to allow motorized vehicle access to within a short distance of the area's petrified trees. Occasional vandalism and damage to this unique resource is expected to continue. Closing the area to rockhounding and collection of mineral materials (e.g., petrified wood) would discourage souvenir hunting, reduce damage to petrified trees, and reduce the potential for erosion and sedimentation.
- Peck's Canyon ACEC/RNA* 11. The native mountain mahogany plant communities would be maintained in natural condition for study purposes.
- Pennal Gulch ACEC* 12. Designating this 5,832-acre ACEC would help ensure maintenance of several rare/sensitive plant populations, unusual plant communities, and a representative stand of black cottonwood.
- Sand Hollow ACEC* 13. Designating this 3,332-acre ACEC would help ensure maintenance of several rare/sensitive plant populations, unusual plant communities, an area of geologic interest, and fragile soils.
- Summit Creek ACEC/RNA* 14. The unique spring-fed wetland ecosystem, associated rare plants, and special recreation values of the 304-acre ACEC would continue to be maintained. Actions to move the campground and manage recreation use in the riparian area where the plants occur would reduce the potential for degradation of habitat for alkaline primrose, a special status plant species.

*Thousand Springs ACEC/RNA*

15. Continuing designation would improve vegetation conditions and high value waterfowl habitat. Adjusting ACEC boundaries to include recently acquired lands with high wetland values (322 acres) and removing 53 acres from ACEC designation to facilitate an exchange for other high value wetland areas would (a) enhance the integrity of the ACEC and (b) allow more efficient implementation of management actions designed to improve habitat for waterfowl and other wetland wildlife species. New fence construction and old fence removal would enhance vegetation conditions and improve waterfowl habitat. Vegetation treatments, if utilized, would improve habitat for target species.

**Other Direct/Indirect Effects, by Proposed RMP Section**

*Minerals*

16. "No surface occupancy" and other leasable mineral stipulations that may be applied to leasable mineral exploration and development within existing ACECs would help to ensure that ACEC values would be maintained if leasable mineral development were to occur. Restricting mineral material sales to those that are consistent with ACEC values would help to maintain ACEC values. Requiring a "plan of operations" as an SOP for locatable mineral development would have some potential to help maintain ACEC values.
17. Closing the Malm Gulch/Germer Basin and Lone Bird ACECs to rock-hounding, collection of mineral materials, and mineral material sales would help reduce the potential for damage to cultural resource values in the Lone Bird ACEC and paleontological resources in the Malm Gulch/Germer Basin ACEC.

*Livestock Grazing*

18. Planning and designing grazing management actions and other land use activities on important big game ranges (e.g., Donkey Hills, Birch Creek and Cronk's Canyon ACECs) to ensure the viability of elk and bighorn sheep populations would prevent habitat alteration or disturbance from human activities.
19. Continuing to close the Sand Hollow ACEC to livestock grazing would help maintain rare plant populations and prevent erosion of fragile soils.
20. Management of livestock grazing in the Herd Creek watershed ACEC to meet objectives to improve riparian areas and reduce sediment delivery to spawning areas would contribute to the maintenance and improvement of resource values in this ACEC.

*Fire Management*

21. Decisions on the suppression of wildfires, the development of fire management activity plans, and fire suppression and rehabilitation specifications would help prevent the loss or degradation of ACEC values in the event of an unplanned wildfire.

*Forested Areas*

22. Closing acreage in the Cronk's Canyon, Malm Gulch/Germer Basin, and Herd Creek Watershed ACECs to commercial timber harvest and woodland product sales would reduce the potential for erosion, sedimentation, or other surface disturbance on ACEC values in those areas.
23. Closing suitable portions of the Jerry Peak WSA to commercial timber harvest and woodland product sales (if released from wilderness review) would reduce potential for soil erosion and sedimentation of anadromous fish habitats in the Herd Creek Watershed ACEC. Timber harvest stipulations in the Donkey Hills ACEC would help ensure that big game habitat requirements are maintained during timber harvest operations. Harvest methods would be designed to mitigate most effects on big game populations and habitat. Effects that may not be mitigated include temporary disturbance and displacement of big game from areas of active operations. Improvement of existing roads to support timber harvest activity may encourage increases in future recreation activity, with associated potential for disturbance and displacement of animals during periods when seasonal limitations on motorized vehicle use are not in effect.

*Off-highway Vehicle Use*

24. Limiting OHV use to existing roads, vehicle ways, and trails would reduce the potential for direct damage or degradation of ACEC values in all ACECs. This limitation would also reduce sedimentation of aquatic habitats, soil erosion, and human disturbance of wildlife.
25. In the Herd Creek Watershed ACEC, closing the existing road above the Herd Lake to motorized vehicle use would reduce motor vehicle access and help ensure that roadless-primitive values and high altitude plant communities are maintained.
26. Closing the Lone Bird ACEC to motorized vehicle use would protect resource values from surface disturbance and discourage vandalism of cultural resources. Physically closing about 3 miles of the existing Lone Pine Creek primitive road would provide added protection for resource values.
27. Continuing to close the Sand Hollow ACEC to motorized vehicle use would reduce the potential for erosion of fragile soils and help ensure that rare plant populations are not directly damaged by motor vehicle use.
28. Seasonal restrictions on motorized vehicle use and limiting motorized vehicle use to existing roads and trails in the entire Donkey Hills ACEC (29,706 acres) would help maintain productivity of big game populations by reducing disturbance and stress on animals during spring calving periods, fall hunting seasons, and critical winter periods.

**Cumulative Effects**

29. Resource values on private, State, National Forest and public lands adjacent to ACECs may be subject to degradation as a result of human land use activities. Designation of ACECs would result in the continued maintenance of these resource values within ACECs.

## Biological Diversity

**No Reasonably Foreseeable Effects to Biodiversity:** No reasonably foreseeable effects to biodiversity are expected as a result of management decisions listed in the Proposed RMP under these sections: Air Quality, Hazardous Materials Management, Recreation Opportunities and Visitor Use, and Visual Resources.

**Introduction:** Biodiversity is the variety of life and interactions among species within the communities and ecosystems of which they are a part. Four primary levels of biodiversity (see *Glossary*) include (1) *genetic diversity or population diversity* within a species; (2) *species diversity* (numbers of species or species richness and relative abundance of species within a given area or community); (3) *community/ecosystem diversity* (diversity of species associations, structural diversity within communities, and diversity of communities within larger ecosystems); and (4) *landscape/regional diversity* (the kinds, patterns and linkages of communities and ecosystems at the landscape or regional level).

Prediction of effects on biodiversity is complicated by the extreme complexity of relationships between the myriad of species, species groups and communities of living organisms that exist within ecosystems, and by limited understanding, scientific research and inventory data on (1) the biotic compositions of communities and ecosystems (e.g. numbers of species; variety and distribution of communities within the landscape), and (2) the biological functions and processes of species and their interrelationships within communities and ecosystems.

Adverse or negative effects on biodiversity (i.e., loss or decline of diversity within the four levels described above) can occur in a number of ways. For example, biodiversity is adversely affected when natural plant or animal communities decline or are simplified through loss of structural diversity, through displacement or loss of native species, or through loss of habitats or plant communities that provide connecting links between major habitat types. Positive or beneficial effects on biodiversity occur when species diversity, abundance, natural distributions, and structural diversity of plant and animal communities are maintained or enhanced.

### Summary of Effects

1. Management actions are expected to help maintain biodiversity at all levels. The expected gradual improvement of upland vegetation and riparian areas, stipulations on land use activities, and designation of 14 ACECs would contribute to the maintenance of biodiversity in the Resource Area. Consideration of effects on biodiversity during activity planning would help plan and design land use activities to minimize adverse effects.

### Direct and Indirect Effects, by Proposed RMP Section

#### *Areas of Critical Environmental Concern*

2. Continued designation of seven existing ACECs and designation of seven new ACECs would highlight biotic values (e.g. rare plant species, plant communities and wildlife), protect a range of habitats for rare plant species, and help ensure mitigation of adverse effects on biodiversity during the planning and permitting of land use activities. Designating two of these ACECs for big game habitat values would emphasize the maintenance of native plant communities and landscapes upon which these big game

populations depend. Maintenance of abiotic ACEC values (e.g., protection of cultural and paleontological resources) would indirectly help maintain biodiversity by protecting native plant and animal communities from surface disturbing activities.

*Biological Diversity*

3. Requirements to assess effects on biodiversity at the project and activity planning levels would enhance awareness of biodiversity, document an analysis process, and provide for consideration of effects on biodiversity from management actions. Ultimately, this process is expected to help protect biodiversity at all levels.
4. Formal assessment of patterns of biodiversity in the Resource Area, participation in neotropical bird work, identification of key species, development of biodiversity objectives and management strategies, and cooperative projects to assess and manage diversity would improve data on biodiversity in the Challis RA. Better data are expected to help protect biodiversity during consideration of land use activities.

*Cultural Resources*

5. Management decisions and actions to protect cultural resources from surface disturbance would indirectly help to maintain biodiversity by preventing disturbance of plant and animal communities that occupy cultural sites.

*Fire Management*

6. Fire suppression to protect high value vegetation resources, such as mountain mahogany, would help protect these sources of biodiversity from catastrophic wildfire. The designation of conditional suppression areas would allow for natural fires and more frequent fires that would result in a mosaic pattern of vegetation communities with different structures, species compositions, and seral stages. A more natural vegetation mosaic would maintain and enhance biodiversity. The use of prescribed fire to promote resource objectives would also promote biodiversity at the community and landscape level in the same manner as conditional suppression.

*Forest Resources*

7. Intensive management and potential harvest of 23,578 acres of commercial forest land would have potential for both positive and negative effects on biodiversity, depending on existing site-specific characteristics of the individual stands proposed for harvest, and on the design of site-specific timber management proposals. The decision to time forest stand management treatments to promote forest stand structure and diversity typical of all seral stages on a drainage basis would help maintain biodiversity by providing for a mix of seral stages and stand characteristics that would promote the existence of a diverse community of plants and animals dependent on forested habitats. However, timber harvest would have potential to simplify old growth stands in structure and overall species diversity. Species diversity is greatest when forested areas are characterized by a mix of old growth/mature and early successional stages. A patchwork of this mix, if it includes large, older forest patches, favors species adapted to both seral stage extremes and species adapted to the ecotones (edges) that occur between the extremes (Logan et al. 1985). When late-seral, large diameter forest stands are targeted for timber harvest, the large diameter tree

component is often removed, and the recruitment of large snag trees is limited or reduced. The reduced availability of groups or clumps of large live trees and the limited availability of snags can result in a decline of biodiversity on these sites. The PRMP design specification that requires leaving snags or cull trees in sale areas would help to mitigate this effect. However, timber management and harvest in stands that are decadent would have potential for positive effects on biodiversity if designed to promote a more open stand structure and the recruitment of large-diameter trees and snags.

8. Biodiversity is expected to be maintained on forested areas set aside from timber harvest to protect old growth forest and wildlife cover values, including forested areas in suitable portions of the Jerry Peak WSA (2,787 acres of forested area), suitable portions of the Burnt Creek WSA (250 acres of forested area), and on 980 acres in 41 small isolated forest stands throughout the RA. However, some potential would exist for loss of biodiversity in these areas as a result of (1) progressive stagnation of forested stands due to lack of natural fire or lack of timber management, and (2) potential loss of stands due to catastrophic fire.
9. If WSAs are released from wilderness review, up to 3,172 acres of commercial forest lands would be opened to harvest. Potential would exist for both positive and negative effects to biodiversity, as described in #7 above for decadent and large diameter stands, respectively.
10. Stipulations on the design and size of clearcuts in Douglas-fir and lodgepole pine stands would reduce the potential for adverse effects on biodiversity, because harvested areas would more closely mimic the diversity of uneven-aged forest stands. The abundance of species associated with closed canopy forest stands would likely decline in the area, and the abundance of species associated with forest edges, openings, and young seral stages would increase. Overall effects on biodiversity would depend on the distribution of existing seral stages and structural characteristics of forest stands in the area where harvest occurs.
11. Limitations on timber activities in riparian areas and the 50-foot timber harvest buffer around springs, seeps, bogs, and streams would contribute to the maintenance of structural diversity in riparian areas around these sites.
12. Comprehensive inventory of timber stands would allow planning and management of forest stands (including timber harvest) to minimize adverse effects on old growth and other forested area values.
13. Design specifications for timber harvest and seasonal harvest restrictions would protect many special wildlife and plant habitat areas (springs, ponds, raptor nest sites, etc.) from direct disturbance by forest management activities. Design stipulations on timber harvest within important elk habitat areas would help to maintain the structural biodiversity of these habitats.

14. Artificial regeneration of harvested forest lands with genetically diverse seeding stock would help maintain the genetic diversity of Douglas-fir and lodgepole pine populations in the locality of the planted areas.
15. Stipulations on tree cutting in riparian areas would help maintain structural diversity in riparian areas, and maintain large trees and snags that would support the presence of species dependent on this habitat component.

*Fisheries, Floodplain/Wetland Areas, Minimum Streamflow, Riparian Areas*

16. Management decisions listed under Fisheries, Floodplain/Wetland Areas, Minimum Streamflow, and Riparian Areas would help maintain biodiversity by protecting and enhancing plant and animal habitats. Actions related to the management of livestock grazing in riparian areas, maintenance of water quality, and maintenance of instream flow would help maintain and enhance biodiversity by improving the structural diversity of riparian and wetland plant communities, ensuring the availability of water to maintain these communities, and helping to maintain the connectivity of aquatic habitats.

*Land Tenure and Access*

17. Some potential would exist for site-specific declines in biodiversity on public lands that are transferred out of Federal ownership; these effects on biodiversity would depend on subsequent use and management of those lands. Potential would also exist for acquisition of lands with high biodiversity values and subsequent protection of those values. Stipulations and restrictions on land disposals, and the requirement for project-level biodiversity analysis would help maintain biodiversity. Based on the limited number of acres that would be transferred out of Federal ownership, existing levels of biodiversity in the RA are expected to be maintained.
18. Rights-of-way authorizations would have potential for site-specific loss or displacement of plants and animals due to surface disturbance and associated activities. Stipulations and restrictions on rights-of-way would help limit surface disturbance and effects on biodiversity. Resolution of agricultural trespass may result in site-specific, small losses of biodiversity on lands transferred out of Federal ownership. Termination of new trespass and emphasis on acquiring lands with equal or greater resource values in land exchanges would help maintain biodiversity. Overall potential for adverse effects on biodiversity would be limited because the number of acres involved in these lands actions would be small. Existing levels of biodiversity in the RA are expected to be maintained.

*Livestock Grazing*

19. Livestock impacts on plant genetics, invertebrate animals, lichens, fungi, and ecosystem processes are mostly unknown (Cooperrider, 1990). However, continued livestock grazing use is unlikely to result in any loss or decline of biodiversity below current levels in the RA. On small, highly localized sites where livestock grazing use is typically the heaviest (*e.g.*, water developments, pasture corners, or around springs and seeps) plant communities are likely to remain in early-seral stages or poor vigor. Plant and animal species diversity, abundance, and structural diversity are often lower

in early-seral plant communities than on sites in mid to late-seral condition. Grazing is also likely to reduce the abundance of some animal species that are dependent on tall herbaceous cover as an important habitat component. However, implementation of knowledgeable and reasonable grazing management practices and other grazing use criteria are expected to move early and mid-seral plant communities toward mid and late-seral stages on many sites, particularly in riparian areas. Animal and plant species richness and the overall structural diversity of the plant community are expected to increase on these sites. Grazing of herbaceous vegetation would reduce fine fuels and limit the frequency and extent of natural fires in the RA. Reduction of fine fuels and fire frequency would promote higher shrub densities and shrub cover on many sites and limit the spread of natural fires from sagebrush-grass communities into adjacent forested areas. Most of the effects of grazing use on biodiversity, both positive and negative, would remain unknown due to the complexity of interrelationships between grazing use and plant/animal communities, and the limited availability of scientific studies and inventory data.

*Minerals*

20. Mineral development and exploration activities would result in site-specific loss or displacement of plants and animals due to surface disturbance and associated activities. Stipulations and restrictions on mineral development activities would help limit the amount of surface disturbance and site-specific loss of biodiversity. Surface disturbance and other activities associated with existing and future mineral development and exploration activities are expected to be limited in extent, and no significant loss of biodiversity is expected.

*Noxious Weed Infestations*

21. Decisions on management of noxious weed infestations would help maintain biodiversity by controlling the spread of weeds that would otherwise displace native species and result in localized declines of species diversity. Potential for widespread decline in biodiversity due to widespread invasions and displacement of native plant species would also be reduced. The management decisions and standard operating procedures relevant to noxious weeds would also reduce the potential for site-specific decline of biodiversity from loss or decline of nontarget plant species as a result of noxious weed control methods.

*Off-Highway Vehicle Use*

22. Limitations on off-highway vehicle use would help maintain biodiversity by limiting damage to plant communities and individual plants. Limitations would also help prevent disturbance and displacement of wildlife during critical periods, thus maintaining the suitability of the area to support wildlife populations. Authorized off-highway-vehicle use is unlikely to have any reasonably foreseeable effects on biodiversity.

*Rangeland Vegetation  
Treatment Projects*

23. Determining the priority and need for vegetation treatment projects during watershed assessment would ensure that treatments are considered in an overall ecosystem context. Vegetation treatments that are designed to minimize disturbance of the natural plant community would minimize

potential for adverse effects on biodiversity. Vegetation treatments that result in significant disturbance or alteration of native plant communities (e.g., plowing and seeding projects) would likely result in a site-specific decline of community and species diversity in the local area of the treatment. However, vegetation treatments are not expected to occur over extensive areas, and overall biodiversity would be maintained in the RA.

*Special Status Species*

24. Project level field inventories of special status species would provide distribution data on special status species (an important biodiversity data element). Requirements to assess effects on special status species at project and activity planning levels would enhance awareness of biodiversity, provide documentation of an effects analysis, and lead to consideration of effects from management actions on special status species and thus biodiversity.
25. Developing species management plans and cost-share partnerships, promoting the conservation of important special status plant and animal species, and mitigating any adverse effects on special status species would contribute to the maintenance of biodiversity in the RA.
26. Development of species data files on sensitive amphibians, reptiles, insects, and non-vascular plants would help fill data gaps on species richness and community composition in the Resource Area. This would contribute to knowledge about biodiversity in the RA and promote land use decisions that mitigate adverse effects on biodiversity.

*Wildlife Habitat*

27. Wildlife habitat management actions are expected to help enhance and provide data on biodiversity. For example, (a) wildlife species and habitat inventories would provide data on biodiversity; (b) constructing exclosures and riparian pasture fences would help protect and enhance the quality and structural diversity of riparian habitats, and maintain or improve community diversity; (c) re-establishing native species in historical habitats would increase species diversity and diversity of species inter-relationships; (d) prescribed burning would enhance ecosystem/landscape diversity; (e) implementing the Chilly Slough project would help maintain and improve an extensive area of wetland that supports the most diverse wildlife community in the Resource Area; (f) establishing nongame bird studies in each major habitat type would contribute to knowledge of avian species and communities associated with major vegetation types; (g) implementing design specifications to buffer and protect special wildlife habitats would help to maintain these habitats and the associated plant and animal species; (h) designing and managing land use activities to ensure the viability of bighorn sheep and elk populations in certain key habitats would help maintain these populations; and (h) providing wildlife water at key livestock water facilities would maintain wildlife use in areas that would otherwise be unsuitable.

*Wild Horses and Burros*

28. Grazing by wild horses is likely to maintain early and mid-seral communities in areas where wild horse use is typically heaviest (e.g., some riparian areas and preferred upland sites). Effects on biodiversity would generally

be the same as described above for livestock grazing (see #19) on sites where heavy wild horse grazing occurs.

*Wild and Scenic Rivers*

29. Management to maintain outstandingly remarkable (OR) values and free-flowing character in Wild and Scenic River (WSR) corridors of segments found eligible for further study or suitable for WSR designation would help maintain biodiversity along those corridors, and help maintain the connectivity of aquatic habitats.

*Wilderness Study Areas -  
Management if Released*

30. Some potential would exist for loss of biodiversity on forested sites in WSAs if released from wilderness review as a result of (1) progressive stagnation of forested stands due to lack of natural fire or lack of timber management, or (2) loss of stands due to catastrophic fire.
31. Potential would exist for both positive and negative effects on biodiversity from timber harvest on those WSAs that are released from wilderness review and would be subject to timber harvest. Effects of timber harvest on biodiversity are described above under "Forest Resources," #7, 10, 11, 13, and 14.

*Design Specifications*

32. Ground-disturbing activities could lead to localized declines of biodiversity through damage to vegetation, potential invasion of noxious weeds, potential spread of weeds to adjacent native vegetation communities, and displacement of native plant species. Design specifications for ground disturbing activities and other resource uses (*e.g.*, use of suitable seed mixes for reseeding disturbed areas, monitoring of disturbed areas, limitations on road construction, and use of a variety of forb and grass species in vegetation treatments/seedings) would help maintain biodiversity and reduce the potential for site-specific declines of biodiversity.

**Cumulative Effects**

33. Cumulative effects from actions on adjacent private, state and National Forest lands may include (a) some loss of genetic variation if populations or subpopulations of rare species decline; (b) loss of site-specific species diversity if individual populations disappear from some areas; and (c) a gradual decline of community and ecosystem diversity due to simplification of plant communities. Actions contributing to these adverse effects would include a lack of biodiversity information upon which government agencies base management decisions, and loss of biodiversity on private lands due to existing land uses and future development. Interagency implementation of ecosystem management actions (*e.g.*, ecosystem analysis at the watershed scale, interagency development of activity plans) would have the potential to mitigate adverse effects on biodiversity, and may enhance biodiversity on some sites.

## Cultural Resources

**No Reasonably Foreseeable Effect to Cultural Resources:** No reasonably foreseeable effects to cultural resources would be expected from decisions listed under the following PRMP sections: Air Quality, Biological Diversity, Fisheries, Hazardous Materials Management, Minimum Streamflow, Noxious Weed Infestations, Paleontological Resources, Riparian Areas, Special Status Species, Transportation, Tribal Treaty Rights, Upland Watershed, Visual Resources, Water Quality, Wilderness Study Areas - Management if Released, and Wild and Scenic Rivers.

**Mitigated Effects - Standard Operating Procedures:** Intensive Class III cultural resource inventories would be conducted for all ground disturbing project activities or before the sale or transfer of lands from Federal ownership. The BLM would consult the SHPO and Advisory Council on Historic Preservation on all projects which have the potential to affect cultural resources. Overall, BLM actions would be designed to have no adverse effects on historic properties through the use of avoidance, data recovery, and project abandonment. However, while every effort is made to identify and evaluate historic properties prior to ground disturbing activities or land transfers, not all cultural resources can be identified during Class III inventories. For example, prehistoric sites which are buried under the ground surface can be missed during project inventories. Therefore, any ground disturbing activities or land transfers could have a potential adverse effect on cultural resources.

Specific effects to cultural resources are described below.

### Summary of Effects

1. Management actions would generally reduce the amount of potential damage to cultural resources caused from ground disturbing activities and vandalism. Integration of cultural resource issues into watershed assessments and integrated resource activity plans would help bring cultural resources into the broader resource management framework. This planning direction may be one of the single factors which could help protect and manage cultural resources in the future. Positive efforts to manage and protect cultural resources would include (a) designating the Lone Bird ACEC, (b) developing a cultural resources overview and integrated resource activity plans for the RA, (c) annually conducting a minimum of 550 acres of Class III non-project intensive inventory, (d) developing a patrol plan for deterring site looting and vandalism, (e) protecting Native American grave sites, (f) developing a comprehensive study of rock art, (g) interpreting specific sites in the RA, and (h) conducting an ethnographic inventory project.

### Direct and Indirect Effects, by Proposed RMP Section

#### *Livestock Grazing/Rangeland Vegetation Treatment Projects*

2. Existing consumptive allocations for livestock grazing would result in a continuing need to build new, and improve current, rangeland facilities. Cultural resources would need to be protected from any ground disturbing projects which could jeopardize their integrity and eligibility to the National Register of Historic Places (NRHP). Long term adjustments in stocking rates could result in fewer impacts to cultural resources from livestock trampling and artifact displacement.

3. Revising existing AMPs through the development of watershed assessments and integrated resource activity plans would help to fully integrate cultural resource management with livestock grazing and other land use and resource issues.
4. Prescribed burns and seeding projects conducted over the life of the RMP could create ground disturbance, causing direct impacts to prehistoric and historic sites within the RA through loss of site integrity. Impacts to cultural resources would depend on the number of acres being treated.
5. Excluding livestock from areas of known human burials would protect these areas from damage due to trampling.

*Wildlife Habitat*

6. Developing and maintaining wildlife habitat improvement projects on up to 90,000 acres could affect cultural resources located within the project areas. Many of these developments would be located in areas that have a high probability for cultural resources to be present. Since they are usually ground disturbing projects, these projects could cause artifact displacement and loss of site integrity.

*Fire Management*

7. Full fire suppression in some areas (to protect property and high value resources - see *Map 23: Fire Control*) would help protect known cultural resources such as historic structures and rock art sites. Where fire suppression occurs, the identified restrictions on fire suppression practices would generally decrease the amount of damage caused to cultural resources from fire fighting techniques. Over the long term, and on RA lands for which a conditional suppression activity plan is developed, a conditional fire suppression strategy would (a) allow more acres to burn in small fires, eventually reducing the risk of severe fires and associated damage to cultural resources, and (b) decrease the acreage with known or possible cultural resources which could be damaged by fire suppression practices.

*Floodplain/Wetland Areas*

8. Developing water holes and spring sources as needed could directly affect significant cultural resources. Many springs in the RA have prehistoric sites associated with them that are either eligible for listing or listed in the National Register of Historic Places. Developing these water sources could directly affect their integrity and jeopardize their eligibility to the NRHP. However, using pipelines and troughs to keep livestock and wildlife away from the spring source would help protect fragile cultural resources located adjacent to the water source. Excavation of the pipeline and other developments could disturb existing archaeological deposits.

*Land Tenure and Access*

9. Any transfer of land from Federal ownership to private ownership could directly affect known or possible cultural resources. Under Federal ownership, legislation (e.g., National Historic Preservation Act of 1966; Archaeological Resources Protection Act of 1978) is designed to protect cultural resources from looting and project impacts causing loss of resource integrity. When lands containing cultural resources are transferred to private ownership, no protection is afforded the cultural resource unless restrictions

(e.g., conservation easements) are established before the land is transferred. Lands which contain Native American burials and sacred or religious sites would not be transferred from Federal ownership, and therefore would continue to be protected by Federal laws. Since Federal laws protect these resources on Federal land more than on private land, there would be less chance of these areas being disturbed.

10. Actions resulting from the issuance of rights-of-ways, communication sites, special use permits, and leases could cause adverse effects to cultural resources. Many of these actions produce ground disturbance, which affects artifact provenience and site integrity. The presence of communication sites and other intrusions could produce visual impacts which may affect traditional cultural properties and religious sites significant to Native American groups.

*Areas of Critical  
Environmental Concern*

11. Designating the Lone Bird ACEC would help protect important cultural resources in that area. Developing a land use activity plan and closing the ACEC to motorized vehicle use, rockhounding, and mineral material collection and sales would protect cultural resources from illegal artifact collecting and surface damage.

*Forest Resources*

12. Timber harvest and associated road construction on 23,578 acres of commercial forest land could impact cultural resources through ground disturbing activities which disturb artifacts and site integrity. Buffer zones around water sources would increase the protection of areas with a high likelihood of cultural resources. Cultural resources would be protected from the surface disturbance effects of timber harvest in areas withdrawn from timber harvest. Helicopter logging restrictions in the Lone Pine Peak area (and whenever applied elsewhere) would also reduce surface disturbance impacts to cultural resources.

*Minerals*

13. Based on historical records and low potential for occurrence of hydrocarbon minerals or geothermal resources, little or no oil, gas, or geothermal energy development would be expected in the RA during the life of the RMP. Current allocations of acres for fluid energy development would be expected to have little or no effect on cultural resources. Mandatory no surface occupancy stipulations in some areas would further reduce the probability that exploratory drilling or development would adversely affect cultural resources.
14. The majority of the RA would be open to mineral material disposals, non-energy mineral leasing, and locatable mineral exploration and development. These activities generally involve ground disturbance, so effects to cultural resources could occur through artifact displacement and loss of site integrity. Although measures could be taken on a case-by-case basis to help mitigate impacts to cultural resources, it would be difficult to change project boundaries to avoid impacts. Restrictions on mineral development in the following areas would reduce or eliminate the potential for impacts to

cultural resources in those areas: (a) NSO stipulations or closures in some riparian areas would help protect cultural resources in areas where they are likely to occur. (b) Closing the Lone Bird ACEC to rockhounding, collection of mineral materials, and mineral material sales would help protect known cultural resources from surface disturbance and vandalism. (c) Areas of human burials would be fully protected from project disturbances.

*Recreation Opportunities and Visitor Use*

15. Increasing the number of developed campgrounds would increase ground disturbing activities associated with facilities construction and maintenance. Ground disturbance may adversely affect cultural resources by disturbing artifacts and site integrity.
16. Developing a comprehensive interpretive plan for the three SRMAs would allow for interpretation of cultural resources in those areas, thereby increasing the public's awareness of the importance of cultural resources located on public lands.

*Off-highway Vehicle Use*

17. Designating the entire Resource Area as "limited" to existing roads, vehicle ways, and trails yearlong, and establishing additional limitations or closures on specific areas, would help protect cultural resources from (a) damage due to the erosion and displacement of artifacts caused from OHV use, and (b) vandalism and illegal artifact collecting caused by increased human access. Areas closed to OHV use (especially the Lone Bird ACEC) would have less potential for damage (erosion and surface disturbance) to known or possible cultural resources. The vehicle size limitations for the Shay Line Trestle would help slow down deterioration of the trestle.

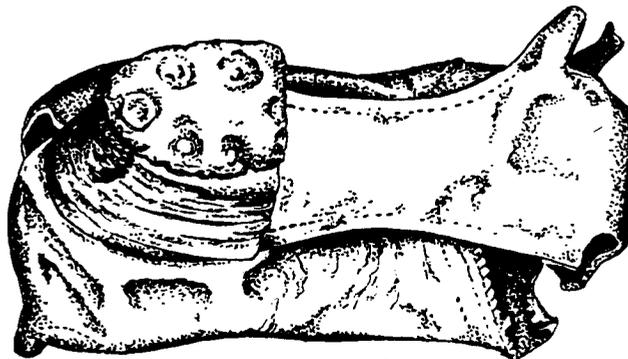
*Cultural Resources*

18. Developing a cultural resource overview and integrating cultural resources in watershed assessments and integrated resource activity plans for the RA would help to (a) identify significant trends in the history and prehistory of the area, (b) identify areas which may need special designation in the future (e.g., ACECs), (c) provide important information on areas where additional protection measures need to be taken, (d) identify interpretation opportunities for cultural resources, and (e) guide management on specific areas, such as the Salmon River Corridor and the Challis Archaeological Spring District.
19. Conducting a minimum of 550 acres of Class III non-project intensive inventory annually would increase understanding of the prehistory and history of the RA.
20. Developing a plan for regularly patrolling sites, as well as physically closing one-half mile of the Devil's Canyon Road, would help to reduce impacts from illegal artifact collecting and vandalism.
21. A comprehensive study of rock art locations would provide (a) a data base for evaluating rock art sites in the region, and (b) information on potentially sensitive areas that need special protection measures.

22. Existing interpretation would continue and be expanded by developing interpretive materials for specific sites within the RA. Interpretation would help preserve and protect sensitive sites by fostering an appreciation for the importance and value of cultural resources.
23. Conducting an ethnographic inventory project for the RA would provide information needed to identify, manage, and protect cultural resources with high Native American traditional cultural value, such as areas of religious significance and traditional cultural use.
24. Closing the Lone Bird ACEC to rockhounding, mineral material collection and sales, and motorized vehicle use would help protect cultural resources from continued erosion, vandalism, and illegal artifact collecting.
25. Protection of Native American burial areas is extremely important to Native American groups. Retaining these lands in public ownership and applying no surface occupancy stipulations and livestock grazing and mineral entry closures would help protect these sacred areas from ground disturbing activities, vandalism, and illegal artifact collecting.
26. Mitigation of effects to cultural resources on adjacent USFS lands could have a cumulative benefit to cultural resources on BLM lands by increasing protection of cultural resources in east-central Idaho and providing an opportunity to piece together the prehistory and history of the entire region.

### Cumulative Effects

Private land development along rivers and other areas with high potential for cultural resource sites may lead to cumulative loss of cultural resource sites and loss of opportunity to study these areas as part of the overall history and prehistory of east-central Idaho. These losses make protection of cultural resources on Federal lands (USFS/BLM) even more vital.



*Lady's shoe - leather  
Yankee Fork - Sunbeam Mine  
Probably circa 1880-1890*

## Economy and Society

**Introduction:** The RMP economic and social analysis considers effects to two geographical areas: the Fort Hall Indian Reservation and the Custer-Lemhi counties two-county region (see *Map 20: Economic and Social Analysis Regions*). The analysis does **not** consider economic or social impacts to communities which lie outside the Reservation or the two-county region, or impacts to the State or national economies.

### Economic and Social Analysis - Fort Hall Indian Reservation

Under the *Treaty with the Eastern Band Shoshone and Bannock, 1868*, members of the Shoshone-Bannock Tribes retain the right to hunt, fish, and gather natural resources from unoccupied lands of the United States, including public lands in the Challis Resource Area. As a Federal land managing agency, the BLM has the responsibility to identify and consider the potential impacts of BLM plans, projects, programs, or activities on the natural resources and their habitats which are "entrusted" to United States management to provide for tribal treaty rights (see *Glossary*: trust resources) .

The economy of the Fort Hall Indian Reservation is probably tied to natural resources from the RA in two ways. First, tribal members may exercise their treaty rights to hunt, fish, and gather natural resources in order to obtain food or other natural resources for personal subsistence. Second, some tribal members may use resources hunted for or gathered in the Resource Area such as furs, hides, porcupine quills, or willows to craft "value-added" products for cash sale at the Reservation's Trading Post or other merchandise outlets. It is difficult to estimate the Reservation economy's dependence on Challis Resource Area resources, since the Tribes were unable to provide detailed estimates of how much their members use resources in the Challis Resource Area (frequency of visits; quantity of natural resources hunted, fished, or gathered; priority locations for hunting, fishing, and gathering; proportion of natural resources which contribute to tribal members' annual subsistence; etc.).

Management decisions proposed in the PRMP would generally be expected to improve the habitat quality, and possibly also the quantity, of natural resources known to be of interest to the Shoshone-Bannock Tribes (big game, resident and anadromous fish, various plant species). (Because the BLM manages wildlife and fisheries *habitats*, but not wildlife or fisheries *populations*, the BLM has no control over the **quantity** of big game or fish species which would be available for the Tribes to hunt or fish.) Thus, the Challis Resource Area would be expected to contribute to subsistence and value-added product cash sales in the Reservation economy at the same level or an improved level, as compared to the existing situation (see *Chapter 3 - Economy and Society*). Likewise, proposed management of the Challis Resource Area under the PRMP would be expected to maintain or improve the condition of resources which are known to be important to the Shoshone-Bannock Tribes' culture.

## Economic Analysis - Custer-Lemhi Counties Two-County Region

The economic analysis for the Custer-Lemhi counties two-county region contains both a *quantitative* assessment, based on the Custer-Lemhi County Economic Model (CLEModel) and Idaho Fiscal Impact Projections Model (IFIPM) (BLM 1994), and a *qualitative* assessment, based on the professional judgement of the Idaho BLM Economist and the Challis RA specialists for the affected resources (e.g., livestock grazing, forest resources).

The *quantitative* analysis incorporates the results of a regional socio-economic study, and utilizes economic modeling concepts for regional input/output analysis and county fiscal analysis. The accuracy of the projections generated by the economic and fiscal models depends on (a) the baseline data used to formulate and represent current local/regional economic conditions (data were collected locally when possible), (b) projections of future natural resource conditions and community-based development, and (c) the accuracy of the economic and fiscal relationships generated for the model. A quantitative assessment is only presented when data were available to be input in the economic models (e.g., changes in AUMs). The projections stated in this analysis should be viewed as **trends and general expectations**. This does not mean the model is unreliable or ineffective, only that it assumes that the baseline information, interrelationships defined in the model, and the data to be evaluated are as accurate as possible. Computer runs for the quantitative analysis are filed in the RMP Planning Record, and a summary of the quantitative analysis is presented in *Table 4-1*. A full discussion of the models' methodologies and limitations is contained in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties: And Models* (BLM 1994).

A qualitative analysis is also included for all economic sectors, because qualitative changes to natural resources (e.g., forage quality, visual aesthetics) can affect the regional economy. Qualitative assessments are derived from related resource analyses for the PRMP (see relevant sections of **Chapter 4**, such as Livestock Grazing; Minerals; Forest Resources; Recreation Opportunities). The qualitative assessments provided below are subjective, but based on the RMP interdisciplinary team's best professional judgement.

In general, local economic growth for both Custer and Lemhi counties is expected to be slow to moderate during the next few years, and depend on the number and kinds of new industries that locate in this rural region of the State. The rate of growth or decline is highly dependent on regional, national, and international economic conditions which trigger "boom" or "bust" cycles in the timber, mining, or agriculture industries. Under current conditions, expansion of existing industries within the region is not expected to be significant enough to have a substantial influence on economic growth. Two features of economic change will likely have the greatest impact on future growth: a recent and probably continued influx of retirees, and modern telecommunications technology which has allowed cottage industries to become feasible in rural areas. Expected changes in the regional economy and population will affect the future demand for and use of public land resources.

### Summary of Effects to the Regional Economy

1. **Quantitative Impacts:** Quantitative impacts to the regional economy would be negligible (<1% decrease) (see *Table 4-1* and *Table 4-2*). Quantitative impacts to the agriculture sector would be slightly negative, but significant only for the Pahsimeroi subregion (*i.e.*, negligible for the other subregions). Quantitative impacts to the timber sector would be slightly positive (assuming harvest up to the average decadal allowable harvest level), but not significant. Effects to the local government sector would be slightly negative, but not significant.

**Qualitative Impacts:** PRMP actions would improve forage quality and quantity, sustained timber productivity, and the quality and quantity of recreational opportunities in the RA. Sustained improvement and a predictable quantity/quality of these resources would likely benefit the regional economy to an unknown extent, particularly the subregions dependent on agriculture, timber harvest, or tourism. However, PRMP actions could also increase livestock permittees' and logging operators' costs and efforts, so less net benefit to the regional economy may occur in the timber sector and no net benefit may occur in the agriculture sector.

### Direct/Indirect and Cumulative Effects to the Regional Economy, by Economic Sector

#### *Agriculture Sector*

2. **Quantitative Impacts:** Changes to the agriculture sector (due to a maximum estimated 12,658 AUM (25%) reduction in livestock allocations) would include negligible (<1%) decreases in regional population, employment, baseline sales, and baseline earnings (see *Table 4-1: Quantitative Impacts*). The Pahsimeroi subregion would experience slight to moderate decreases (about -2.5%) in employment, baseline sales, and baseline earnings. Changes in the other subregions would not be significant (0.0 to 0.9%).

**Qualitative Impacts:** In the long term, PRMP actions would improve forage quality and quantity for livestock; this could benefit livestock production and ranch profitability. However, various PRMP requirements (*e.g.*, stubble height and upland cover criteria, riparian and aquatic habitat objectives, maintenance of range improvements, protection of regeneration in harvest units) would constrain livestock management and could increase permittees' costs and efforts to manage their livestock while on BLM public lands (in addition to producing estimated AUM reductions - see above).

The BLM recognizes that local economic market forces may attach "value" to the AUMs associated with a grazing permit, for market activities such as (a) collateral for a loan, or (b) transfer of the permit during sale of ranch property. As a result, some economic impact to ranch real estate market values may occur because of projected AUM reductions. However, these impacts are not quantifiable given the information currently available. (**Note:** Although the local real estate market may appear to give a "value" to public land grazing *privileges*, the Department of Interior - Bureau of Land Management has codified the position that any capitalized value associated

with the grazing permits has no legal or compensable basis: "So far as consistent with the purposes and provisions of this [Taylor Grazing] Act [of 1934], grazing privileges recognized and acknowledged shall be adequately safeguarded, but the creation of a grazing district or the issuance of a permit pursuant to the provisions of this Act *shall not create any right, title, interest, or state on or to the lands* [emphasis added].")

Other factors outside BLM control, such as the availability of USFS lands for grazing and the subdivision of private ranch lands for residences (and subsequent loss of private hay and pasture lands), may affect the agriculture sector more than RMP actions.

### Timber Sector

**Note #1:** Decreases in commercial timber average annual allowable harvest levels proposed in the PRMP would be very unlikely to have an adverse economic effect, since (a) historically (1955 to present), the *maximum* yield ever offered in a year (440 MBF) was only 47% of the current annual allowable harvest level (922 MBF), (b) during the last 10 years only 555 MBF have been sold in the Challis RA (approximately 6% of the decadal allowable harvest level (9.22 MMBF)), and (c) the mill in Salmon had not purchased timber from the Challis RA for 8 years. Most timber sold from the RA is in small sales, which are purchased by small operators and mills in the Challis area. For the past 6 to 7 years, the Challis RA timber program has focused on backlog regeneration projects. Most of those projects have been completed, and the RA now anticipates a shift in emphasis toward commercial timber sales. One sale of approximately 230 MBF was offered in 1994 and harvested in the summer of 1995.

**Note #2:** This analysis of impacts to the timber sector uses 1991 baseline data and does not reflect closure of the Salmon Intermountain sawmill in 1995. However, even though the sawmill accounted for a proportion of the timber-related business in Lemhi County (about 50 jobs), it is unlikely that the mill's closure would affect this PRMP analysis. As stated in Note #1 above, the mill in Salmon had not purchased timber from the Challis RA in the recent past and did not rely on a supply of timber from the Challis RA.

3. **Quantitative Impacts:** Compared to the existing condition, where only 6% of the allowable harvest level has been sold in the past decade, RMP direction to allow up to 6.60 MMBF per decade could result in a very slight economic benefit to the timber sector, if the allowable harvest level is offered, sold, and harvested. The *maximum* economic benefits possible would include negligible (<1%) increases in regional population, employment, baseline sales, and baseline earnings (see *Table 4-1: Quantitative Impacts*). Economic benefits would vary from the projected maximum, depending on the actual volume sold and harvested in a given year. The projected benefits would be most likely to occur in the Salmon subregion, which has the majority of current employment associated with the timber sector (93% of 314 full-time equivalents (FTE)).

**Qualitative Impacts:** Under PRMP management, the commercial timber base could realistically be managed for sustained yield. In the long term, various PRMP actions (*e.g.*, use of prescribed and natural fire) may improve the health and vigor of commercial forest lands, thereby improving timber quality and volume. However, various timber harvest requirements (*e.g.*, helicopter logging in some areas, clearcut size limits) may increase logging

operators' costs and decrease their profits. If the cost of logging exceeds the value of the wood offered, harvest units offered for sale may not sell. This could decrease employment opportunities for loggers and the supply of timber to local mills by an unknown amount. Reductions in the acreage of woodland managed for wood products (e.g., firewood) may affect the availability of those products on a seasonal basis, since lower elevation BLM lands are accessible for a longer period of time than adjacent USFS lands which have an abundant supply of similar products; however, these effects are probably not significant.

*Mining Sector*

4. **Qualitative Impacts:** Mining activities within the region are primarily affected by factors beyond the BLM's control (e.g., mineral commodity prices; mining laws and regulations; mining technology). PRMP actions would not be expected to constrain mineral development, except in a few riparian areas or eligible/suitable Wild and Scenic River corridors with high or moderate potential for locatable minerals (see *Chapter 4 - Minerals*). In those areas, restrictions on locatable mineral entry could increase development costs if locatable mineral development occurs. (Currently, there is no development activity in those areas.) Any other changes ("boom" or "bust") to the local economy because of activity (or inactivity) in the mineral sector would result from external factors. Some PRMP restrictions on mineral material activity could limit new mineral material site development. However, an insufficient supply of mineral materials is unlikely, because numerous alternative sites are available in the RA. If a reduced supply did occur, this could increase the profitability of mineral material development on private lands.

*Tourism Sector*

**Note #1:** This economic analysis generally considers effects of RMP actions on the "tourism" sector - namely, businesses associated with visitors to the area. This is because the "tourism" sector was studied in the Social, Economic, and Fiscal Analysis of Custer and Lemhi Counties (BLM 1994). However, it is acknowledged that recreation use of the Challis Resource Area by local residents also affects the local economy.

**Note #2:** Tourism activities within the region depend on the quality and quantity of natural resources. Although the quantitative economic value of RMP actions to businesses associated with visitors to the area cannot be calculated, various recreation-related studies indicate that high quality visual (scenic), wildlife, and fisheries resources are historically associated with substantial visitor use of the area and associated expenses for food, beverages, lodging, transportation, guide services, boat rentals, fishing tackle, souvenirs, hunting and fishing permits, etc. (Idaho Travel Council 1989; Harris *et. al.* 1988). (Also see *Appendix B, Item 7: Economic Values of Select Wildlife Species; Chapter 3 - Fisheries, "Tribal and Sport Fishing;"* and *Appendix B, Item 6: Economic Values of Fisheries Resources in the Challis RA.*)

5. **Qualitative Impacts:** Various actions would improve the quality and quantity of tourist attractions and accommodate some of the increased recreation demand. For example, wildlife actions would improve wildlife habitat, and thereby improve wildlife viewing opportunities and (possibly) big game, upland game, and waterfowl hunting opportunities (depending on IDFG wildlife population management and hunting regulations). Recreation

site development and new or expanded SRMA designations would accommodate some of the anticipated increase in recreation use. Visual resource management actions and OHV use limitations would maintain or improve the scenic values of the area. Actions to improve resident and anadromous fisheries could improve fishing opportunities for harvestable species. Other actions would improve water quantity and quality for various recreational pursuits. Cumulatively, these beneficial effects to recreational opportunities would, to an unknown extent, benefit visitor spending patterns and the local economies which depend upon tourism (primarily the Stanley and Salmon subregions). OHV use limitations may, to an unknown extent, decrease local expenditures by visitors who had previously enjoyed off-road vehicle use in the Challis RA. It is not expected these reduced expenditures, if they occur, would be significant.

#### *Government Sector*

**Note:** Because this is a local (two-county) economic analysis, the analysis of effects to the government sector only considers the effects of RMP actions on local (county) government. Quantitative impacts were projected from the Idaho Fiscal Impact Projections Model (in BLM 1994), using the changes in employment and population projected by the CLEModel for the quantitative analysis of the timber and agriculture sectors (see above and *Table 4-2*).

6. **Quantitative Impacts:** Tax revenues, payments-in-lieu-of-taxes (PILT), and expenditures for the two-county region and Custer County would decrease negligibly (<1%). In Lemhi County PILT would remain the same and tax revenues and expenditures would increase negligibly. None of these changes would be significant (see *Table 4-2*). No net changes in tax revenues would be expected from BLM acquisitions of private land (see PRMP, Land Tenure and Access, Goal 2, #1).

#### **Social Effects - Custer-Lemhi Counties Two-County Region**

The social analysis considers how (or whether) PRMP actions would affect the society of the two-county area. The "Social Profile of Seven Communities in Custer and Lemhi Counties, Idaho" (Aaron Harp, *et.al.* in BLM 1994) is used as the "existing condition" for the local society (see **Chapter 3** - Economy and Society). The social profile has limitations which stem from the research methodology; for example, the study used unstructured personal interviews and the "snowball referral method" rather than a random sample of respondents). As a result, this social analysis is very general, and only strives to indicate trends toward change which may occur to the local society as a result of BLM actions.

PRMP actions would be expected to continue to provide good quality air, water, visual/aesthetic/scenic, and recreational values for local populations.

In general, factors which affect the regional economy would also affect the regional society, since the economy is one fundamental institution of society (other social institutions include kinship (family), religious, and political systems), and PRMP actions would not be expected to affect other social systems. According to the socio-economic study of the two-county region (BLM 1994), the local society is characterized by the local economy, especially in subregions which primarily rely on one or two economic sectors. For example, (1) Leadore and May, Idaho are nearly totally dependent on agriculture as their

economic base, and agriculture-related activities define the social character of those areas; and (2) tourism influences the economic and social character of the Stanley subregion.

The PRMP would continue to (at various levels) accommodate the continued operation of the predominant economic activities which utilize Challis Resource Area lands or resources: agriculture (livestock grazing), timber harvest, minerals development, and recreation use. PRMP actions would be expected to sustain or enhance non-commodity resource values for future generations, while nearly maintaining existing levels of commodity uses. The PRMP would also improve the recreational values upon which the tourism sector depends.

The social effects of these economic impacts would occur over time, and depend on a subregion's reliance on a particular resource from BLM lands. Changing conditions of recreation values would primarily affect the society of the Stanley and Salmon subregions, changing conditions in the timber sector would mostly affect the Salmon subregion, changes in the agriculture sector would primarily affect the Pahsimeroi, Big Lost, and Challis subregions, and changes in the mineral sector would mostly affect the Challis subregion. Specific social impacts of PRMP actions cannot be predicted, based on available data. Equally unpredictable is whether social impacts of PRMP actions would be mitigated (or exacerbated) by social and economic trends outside the BLM's control (for example, national or international commodity prices). General examples of social impacts of BLM actions may include changing patterns of in- and out-migration (based on increased or reduced employment opportunity); changing patterns of employment and business development (as employment and business opportunities diminish in one occupational category, the affected people may pursue other occupations and business ventures locally); increased conflict with other residents (and possibly visitors), as competition for available resources (*e.g.*, private pasture or hay lands; access to riparian areas; favorite hunting or fishing areas; water rights) increases; increased conflict with people who enforce policies which affect resource allocations, if those resource decisions are different from the decisions local residents would have made (most people interviewed in the social study felt the local community should be the locus of control for decisions about resource use; see *Chapter 3 - Economy and Society*, pp. 218-219); and decreased tolerance toward people who do not share the land use viewpoints of the majority of people interviewed in the social study (who felt customary resource uses (*e.g.*, grazing, water) are either assumed to be rights or are codified as rights; see *Chapter 3 - Economy and Society*, pp. 218-219). It cannot be predicted, based on available information, whether the PRMP would help achieve a balance between sustained use of multiple resources (including ongoing rural resource use) and development, since many factors of future development (especially private land uses, commodity prices, and the influx of retirees) are outside BLM control.

**Table 4-1: Quantitative Impacts  
Changes Due to PRMP Actions<sup>1</sup>, by Economic Sector and County**

Economic Sector	County	Population <sup>2</sup>		Employment		Baseline Sales		Baseline Earnings	
		Number	% change	FTE	% change <sup>3</sup>	\$1,000s	% change <sup>3</sup>	\$1,000s	% change <sup>3</sup>
Regional Economy <sup>4</sup>	Custer	-34		-11.18		-675.18		-254.61	
	Lemhi	3		1.03		268.64		53.40	
	2-county region	-31	-.26	-10.05	-.22	-406.54	-.14	-201.21	-.21
Agriculture Sector	Custer	-34		-11.43		-713.23		-262.53	
	Lemhi	-6		-1.95		-79.36		-31.11	
	2-county region	-40	-.34	-13.38	-.29	-792.59	-.27	-293.64	-.30
Timber Sector <sup>4</sup>	Custer	1		0.25		38.06		7.91	
	Lemhi	9		2.98		348.00		84.51	
	2-county region	10	.08	3.23	.07	386.06	.13	92.42	.09

<sup>1</sup> The information contained in *Table 4-1* was presented in the Challis Draft RMP/EIS as *Table 4-2*. The calculation of quantitative impacts displayed in *Table 4-2* assumed implementation in 1997 (using projected population values for 1997 - see Footnote 2), estimated reductions in livestock grazing active use up to 12,658 AUMs (25%), and timber harvest up to 6.60 MMBF per decade. The same analysis is presented here in the Final EIS, because (a) the PRMP proposes actions which would also result in estimated reductions in livestock grazing active use up to 12,658 AUMs and timber harvest up to 6.60 MMBF per decade, and (b) calculation changes based on implementation in 1998 or 1999 (*i.e.*, using 1998 or projected 1999 population figures) would not be significant.

<sup>2</sup> The population base in 1997 due to *external* (non-RMP) factors was projected to be the following:

Custer County	4,271
Lemhi County	7,635
2-county region	11,906

<sup>3</sup> Percent change is calculated compared to the existing (1991) condition - see *Chapter 3* - Economy and Society and *Appendix B, Items 1 through 5*.

<sup>4</sup> Analysis does not include changes to 1991 baseline data which may have resulted from closure of the Salmon Intermountain sawmill in 1995.

**Table 4-2: Changes in Local Government PILT<sup>1</sup>, Tax Revenues, and Expenditures Due to PRMP Actions, by County<sup>2</sup>**

Local Government Factor, by County	1997 Control <sup>3</sup>	PRMP <sup>4</sup>	
	\$1,000s	\$1,000s	% change
<i>PILT<sup>1</sup></i>			
Custer	213.57	211.9	-.8
Lemhi	265.29	265.3	0
2-county region	478.88	477.2	-.35
<i>Tax Revenues</i>			
Custer	2,535.60	2,521	-.6
Lemhi	3,915.47	3,917	-.04
2-county region	6,451.07	6,438	-.2
<i>Expenditures</i>			
Custer	6,797.70	6,756	-.6
Lemhi	8,950.44	8,953	-.03
2-county region	15,748.14	15,709	-.2

<sup>1</sup> PILT: Payments in lieu of taxes.

<sup>2</sup> The information contained in *Table 4-2* was presented in the Challis Draft RMP/EIS as *Table 4-6*. The calculation of quantitative impacts displayed in *Table 4-6* assumed implementation in 1997 (using projected population values for 1997 - see *Table 4-1*, Footnote 2), estimated reductions in livestock grazing active use up to 12,658 AUMs (25%), and timber harvest up to 6.60 MMBF per decade. The same analysis is presented here in the Final EIS, because (a) the PRMP proposes actions which would also result in estimated reductions in livestock grazing active use up to 12,658 AUMs and timber harvest up to 6.60 MMBF per decade, and (b) calculation changes based on implementation in 1998 or 1999 (*i.e.*, using 1998 or projected 1999 population figures) would not be significant.

<sup>3</sup> Any changes from 1991 to 1997 due to external (non-PRMP) factors. See *Chapter 3 - Economy and Society* for 1991 PILT data.

<sup>4</sup> Changes from 1997 control are due to these PRMP actions: up to 6.60 MMBF timber harvest per decade; estimated reductions in livestock grazing active use up to 12,658 AUMs (25%).

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## Fisheries

**No Reasonably Foreseeable Effect to Fisheries:** No reasonably foreseeable effects to fisheries would be expected from the PRMP decisions listed under the following sections: Air Quality, Cultural Resources, Paleontological Resources, Tribal Treaty Rights, Visual Resources, or Wildlife Habitat.

**General Discussion of Effects to Fisheries:** The impacts to fisheries values discussed below vary in intensity and magnitude. Some actions tend to produce beneficial impacts, while others produce adverse impacts. These impacts are best understood by recognizing their effects on the various life stages (spawning, incubation, rearing, and migration) and habitat requirements (pool quality and quantity, stream width/depth ratios, instream large woody debris for cover, overhanging vegetation for shade and cover, water temperature stability and maximums, adequate water supply for the life stage of the fish, bank stability, overhanging banks for cover, water quality, macroinvertebrate population and composition as a salmonid food supply) of fish. Different fish populations would be affected to varying degrees, depending on their response to environmental effects.

*Sediment Impacts:* Increased or reduced sediment discharge to aquatic habitats is a common effect described in the discussion of direct and indirect effects to fisheries. Sediment has the greatest effect on spawning, incubation, and rearing life stages, and on pool quality, water quality, and macroinvertebrate populations. Excessive sedimentation reduces available clean gravel required for spawning habitat, reduces oxygen supply to redds, and fills substrate interstitial spaces required for rearing of small fish. It fills existing pools, causes excessive turbidity and suspended sediments in the water column, contains organic matter (which places an oxygen demand on the water during decomposition, reducing available oxygen for fish), and reduces the salmonid preferred macroinvertebrate populations which require clean gravel for survival. Salmonid production is directly related to instream fines, with production decreasing with increasing fines. Conversely, salmonid production increases as the amount of instream fines is reduced.

*Streambank Condition Impacts:* The trampling or breaking down of streambanks by livestock, OHVs, or recreationists physically displaces large pieces of bank into the stream channel, leaving an eroding bank, as well as compacting the remaining bank and retarding its ability to reestablish a healthy riparian zone. The breaking away of winter ice from unstable streambanks also displaces large pieces of bank into the stream. Water action breaks the soil into fine particles, which are deposited downstream as silt and sediment. The streambank failure process also eliminates important salmonid habitat for escape cover. As the amount of undercut streambank is reduced, salmonids become more vulnerable to predation. Sediment from unstable streambanks reduces pool depth and spawning gravel quality, further reducing the juvenile and adult survival within the affected stream reaches.

*Upland and Riparian Vegetation Condition Impacts:* Upland and riparian vegetation condition affects sediment discharge to aquatic habitats. It also directly or indirectly affects rearing and migration conditions, pool quality and quantity, stream width/depth ratios, instream large woody debris for cover, overhanging vegetation for shade and cover, water temperature stability and maximums, adequate water supply for the life stage of the fish, bank stability, overhanging banks for cover, water quality, and insect populations and composition as a salmonid food supply. All of these habitat elements are essential for sustaining healthy salmonid populations.

Upland watershed vegetation influences the infiltration and runoff characteristics of a watershed. It affects the ability of a watershed to (a) store and release water through groundwater flow to a stream over a long period, and (b) minimize the extent of "flashy," sediment-laden, overland flow events. A healthy, well-vegetated watershed tends to maintain adequate summer and fall season base flows through increased infiltration, which contributes to a sustained inflow of cool groundwater to the stream system and stabilizes stream temperatures. The stable flows and cool temperatures are required for fish spawning, incubation, rearing, and migration; maintaining high water quality; and sustaining a healthy macroinvertebrate population.

Good riparian vegetation community conditions improve the infiltration, filtration, and stability characteristics of a stream system. They allow a riparian system to store and release water through groundwater flow to a stream over a long period, dissipate energy of high flows without stream degradation, revegetate degraded conditions, and filter water quality contaminants of overland flows prior to entering the stream channel. These conditions improve the water quality and quantity needed to sustain healthy macroinvertebrate populations and fish habitat requirements for spawning, incubation, rearing, and migration.

Good riparian vegetation community conditions stabilize overhanging banks for cover; reduce erosion due to bank cutting; reduce stream width/depth ratios; provide overhanging vegetation for cover and insect habitat (salmonid food supply); provide shade, water temperature cooling benefits, and thermal cover, reducing the severity and length of winter icing problems; and provide instream large woody debris for cover. These conditions are all necessary for salmonid rearing and migration. Good riparian vegetation community conditions stabilize a stream system, allowing the system to take advantage of flows which tend to improve pool quality by scouring and cleaning silted-in pools. These conditions also allow development of a stable stream system with pool and riffle quantities in balance with the stream type. These conditions are necessary for healthy macroinvertebrate populations and composition, and for fish spawning, incubation, rearing and migration.

*Toxic Materials Impacts:* The introduction of toxic materials in watersheds containing fish populations has the potential to adversely affect the fisheries resource. The effect of toxic materials spilled in either riparian or aquatic habitats would depend on the toxic substance spilled, the concentrations arriving in the aquatic habitat, and the life stage of the fish coming in contact with the toxic substance. The effects of a chemical spill on any life stage can either be acute (short-term response to large doses over a short period of time) or chronic (delayed response to continuous or repeated doses over a long period of time). Salmonid eggs are more vulnerable to the affects of toxic materials because they are in a developmental stage and are not able to move away from the contaminate. Depending on the timing of exposure, a variety of skeletal or organ deformities can occur which may directly or indirectly lead to mortality. Adult salmonids are mobile and may be able to avoid chemical contact if uncontaminated habitats are accessible. However, direct chemical contact can damage gill membranes and cause mortality by suffocation. Bioaccumulation of chemical contaminants through the food chain may also occur when chemicals are introduced into streams.

**Mitigated Effects:** The general SOPs (see *Attachment 5*, p. 107) and design specifications (see *Attachment 8*, p. 120) include site- and project-specific requirements for BLM analysis and, in some cases, third party consultation to protect the habitat of special status fish species. SOPs and design specifications

are expected to reduce adverse impacts to fish and aquatic habitats from specific project activities. All life stage habitat requirements for special status fish species which can be met within RA boundaries (*i.e.*, this does not include migratory and ocean habitat for anadromous fish) would be expected to be maintained or improved. Adverse effects on Federally listed, or proposed for listing, threatened or endangered fish populations and habitats would be fully mitigated.

**Specific Effects to Fisheries:** Specific effects to fisheries resources are described below under these categories: Summary of Effects; Direct and Indirect Effects, by Proposed RMP Section; and Cumulative Effects.

#### **Summary of Effects**

1. Management actions would significantly improve riparian habitat conditions in the short term and in the long term. Resource issues would be addressed on an ecosystem basis; this would establish the conditions for significant improvement in aquatic and fish life stage habitat requirements, and maintain these conditions over the long term. The rate of recovery in the affected riparian areas would vary by the grazing standard used, but riparian condition is expected to improve throughout the RA over time. Resident and anadromous fish populations are likely to increase due to improvements in stream condition.

#### **Direct and Indirect Effects, by Proposed RMP Section**

##### *Livestock Grazing*

2. Many of the allotments identified as priority allotments to determine proper stocking level have special status anadromous and resident fish populations. These allotments would receive attention to rapidly address and improve riparian vegetation and aquatic habitats that exist within some of those allotments (see *Table 4-3: Priority Streams by Allotment*, p. 368). Expected benefits to aquatic habitats include improved streambank stability, streamside shading, and cooler water temperatures. More vegetation along streambanks would also reduce sediment inputs to the stream and improve spawning gravel quality.
3. New and revised resource planning documents would incorporate knowledgeable and reasonable practices designed to maintain or improve water quality and support beneficial uses. Water quality of intermittent and perennial streams with aquatic habitat beneficial uses would be improved through management strategies which have been demonstrated, or can be reasonably expected, to enhance the riparian and aquatic habitats. Salmonid production is expected to increase as water quality is improved.
4. Nonuse AUMs and AUMs that are lost, retired, relinquished, or otherwise canceled would be retained until related watershed, wildlife, and aquatic habitat objectives are met. These actions would help accelerate riparian and aquatic habitat improvement, when they occur. Salmonid populations are expected to benefit from any improvements in aquatic habitat condition.
5. Livestock distribution would be improved by restricting livestock use in pastures until range improvement projects are in functional condition. Im-

proved distribution would directly minimize livestock concentrations in riparian areas or small sections of a pasture, create more even utilization of the forage resource, and limit the creation of overgrazed, unvegetated, sediment-producing zones within a pasture. Improved distribution would indirectly reduce the sediment discharge to aquatic habitats. Salmonid production is expected to increase as the level of instream fines is reduced.

6. Upland utilization standards would generally maintain or improve the vigor of upland vegetation and overall watershed cover in the long term. These improvements would increase available vegetative litter and plant basal area needed to (a) improve infiltration and watershed storage, and (b) protect watersheds from excessive runoff events. Expected benefits to aquatic habitats fisheries over time include reduced overland flows (which can degrade stream channels) and sediment transport, and increased watershed storage capacities (which help maintain summer and fall base flows and cool water temperatures).

*Wild Horses and Burros*

7. Maintaining existing wild horse herd numbers would continue to impact riparian and aquatic habitats in selected portions of the HMA through locally concentrated woody and herbaceous use and streambank trampling. However, adverse effects to aquatic habitats are not expected, because the herd size would be reduced before adverse impacts occur. Livestock management would improve vegetation conditions in the HMA, thereby also improving wild horse distribution and reducing the cumulative impacts to riparian areas in the HMA.

*Upland Watershed*

8. Increased consideration of the effects of soil compaction and erosion when planning land disturbing activities would reduce upland sediment transport and associated impacts to water quality, beneficial uses, and watershed storage capabilities. Reduced sediment loading into spawning and rearing habitats would benefit salmonids by improving instream habitat condition.

*Riparian Areas*

9. Riparian stubble height and bank shearing criteria would be expected to provide improved riparian and aquatic habitat. These criteria would ensure that sufficient plant material remains to sustain desirable plant communities, maintain plant vigor, provide for a functioning floodplain, and protect the streambank. These criteria would also be expected to reduce sedimentation to aquatic habitats and improve riparian habitat conditions, including bank stability, bank angle, width/depth ratio, and riparian area vegetation community composition. Salmonid production would be expected to increase as these habitat conditions improve.
10. Increasing public awareness of the value of good condition, functional riparian and wetland habitats would help land users become more knowledgeable about and sensitive to these issues. As a result, land users may modify their actions to be less of an impact on fisheries and aquatic resources.

11. Development of riparian study areas would help evaluate applied management strategies for riparian vegetation improvement and indicate the potential for vegetative succession. Inferences from the study enclosures may be made about the improvement in riparian and aquatic habitats and water quality which can be expected under comparable conditions outside the enclosed study area. Information on the effectiveness of selected land management strategies would be acquired and may be applied throughout other appropriate watersheds to improve riparian and upland vegetation conditions. Salmonid populations are expected to increase as riparian function and condition improve.
12. The primary emphasis within riparian pastures would be to meet riparian and aquatic objectives. Greater control of riparian forage use would be possible within riparian pastures; aquatic habitats within those pastures would improve due to improved riparian vegetation condition.

*Floodplain/Wetland Areas*

13. Discouraging floodplain or wetland development and requiring mitigation of actions which could cause adverse impacts to floodplain or wetland functions would protect the vegetation and land form characteristics of these areas. This would improve the infiltration, filtration, flood attenuation, and stability characteristics of a stream system, and thereby improve water quality and quantity for fish.

*Fisheries*

14. Defining priority fish species and crucial habitats would help ensure that management actions do not adversely impact these species or habitats. Management actions intended to maintain or improve riparian and upland vegetation and reduce sedimentation would benefit aquatic and fisheries resources. Removing or modifying artificial barriers to fish migration, and removing or modifying natural barriers where practical, would expand available habitat for priority fish species. Broad scale improvements in riparian habitat condition would likely occur as cooperative partnerships between various State, Federal, and tribal agencies and other partners are developed.

*Minimum Streamflow*

15. Streams identified as priority streams on which to pursue minimum streamflow are also priority fisheries streams. Acquiring minimum streamflows would benefit fisheries by stabilizing functional riparian and aquatic habitat conditions.

*Water Quality*

16. Actions intended to maintain satisfactory water quality, improve unsatisfactory water quality, and support existing beneficial uses would have a beneficial effect on fisheries and aquatic habitats by reducing sedimentation and nutrient loading to aquatic habitats in the long term.

*Fire Management*

17. Fire suppression guidelines would generally protect aquatic habitats from potential sedimentation impacts; however, fire line construction by hand or motorized equipment could be source locations for sediment input to aquatic habitats throughout the RA. Emphasis on avoiding aquatic and riparian areas for fire staging activities (see PRMP, Attachment 9, pp. 124ff) would

reduce potential sedimentation impacts to aquatic habitats and minimize the potential for nutrient or toxic loading to riparian and aquatic habitats.

The long term impacts of full fire suppression would likely result in a build up of fuels which could lead to a large scale catastrophic fire over a large geographic area. This may result in adverse effects to aquatic habitats such as sediment loading and increased stream temperature due to a loss of streamside shading. Recovery rates for the affected streams would be determined by the severity of the burn and the size of the affected area.

Conditional fire suppression strategies on prescribed natural fires and wildfires would reduce the risk of a large scale catastrophic fire. Although there may be effects to riparian and aquatic habitats, such as a reduction in streamside shading and increased sediment loading, these effects are likely to be short term in nature and affect a relatively small area.

Rehabilitation specifications would accelerate recovery of riparian and aquatic habitats if fire staging activities are unavoidable in those areas. Rehabilitation of riparian or aquatic habitats that burn during a wildfire or prescribed fire would reduce the time needed to restore fisheries values within the affected areas.

*Transportation*

18. Restrictions on new road construction in riparian areas would minimize new sediment loadings to aquatic habitats. Design specifications for new road construction are intended to eliminate increased sedimentation impacts to aquatic habitats and provide for fish passage. Evaluation and modification of existing roads and trails would reduce the sediment loading to aquatic habitats that may currently impact identified beneficial uses, including fisheries habitat.
19. Focusing road and trail maintenance on areas with the greatest potential for erosion and resource damage would help reduce potential sedimentation. Road maintenance design specifications (in addition to State-approved BMPs for road construction and maintenance) are expected to minimize increased sedimentation impacts to aquatic habitats and protect water quality, thus benefitting fisheries resources by improving spawning and rearing habitat quality.

*Rangeland Vegetation  
Treatment Projects*

20. Vegetation treatment projects have the potential to impact fisheries values in the short term (2 to 5 years), through increased sedimentation from actions such as plowing or burning. However, an objective of the vegetation treatment project would be to increase vegetative cover, thereby reducing the potential for sedimentation in the long term. Proposed buffer strips and vegetation conversion acreage limitations would mitigate the potential sedimentation impacts to aquatic habitats.

*Noxious Weeds*

21. Spraying noxious weeds in conformance with the *Northwest Area Noxious Weed Control Program EIS* would limit the possibility of adverse toxic

impacts to aquatic resources. Emphasis on integrated pest management and other noxious weed control actions would also minimize the potential for adverse toxic impacts to aquatic habitats.

*Forested Areas*

22. Reducing the commercial timber base by approximately 24% would maintain some forested lands in an undisturbed condition, reducing the potential for induced sedimentation from those lands. In forested areas where harvest does take place, the management practices, SOPs, and design specifications identified would adequately protect fisheries habitat from significant adverse sedimentation impacts.

*Recreation Opportunities and Visitor Use*

23. Sedimentation and nutrient loading would be reduced in streams adjacent to casual use areas identified for closure or hardening. Construction of new recreation facilities within riparian areas could cause increased sedimentation to aquatic habitats in, and adjacent to, campgrounds and casual use areas. Increased disturbance of migrating anadromous fish could also result at the developed recreation areas. Not accommodating increased recreation use would have greater, more dispersed, and less controllable impacts on sedimentation, water quality, and fish disturbance. The expected increase in recreation use does pose a greater risk of hazardous or other pollutant material spills into streams, potentially adversely impacting fish in a localized area. However, recreation site development would typically be away from the streamside to minimize this potential.

*Off-highway Vehicle Use*

24. Limiting OHV use to existing roads, vehicle ways, and trails would nearly eliminate sedimentation impacts from off-road vehicle travel, and allow mitigation efforts to be focused on maintaining roads and trails to minimize adverse sedimentation impacts (see "Transportation," #19 above). Fisheries resources would likely benefit, due to improved upland and riparian vegetation condition and subsequently reduced sediment loading into streams.

*Land Tenure*

25. Pursuing a "no net loss" policy of like riparian, floodplain, or wetland habitat values on individual land tenure adjustments would eliminate incremental loss of these habitat areas over time; in the long term there could be a net increase in the protection of these habitats. Managing land acquired for special values (such as habitat for special status fish populations) would facilitate recovery of special status species.
26. Acquisition of lands with high resource values (such as fisheries resources) would be the highest priority for land tenure adjustments. This management policy would protect fisheries habitats in the acquired lands from any adverse impact.

*Wild and Scenic Rivers*

27. Nine of the ten river segments identified as eligible, with a suitability finding deferred, have fisheries OR values. Managing these segments to protect their free-flowing character, OR values, and level of development that resulted in their tentative classification, would maintain or enhance the

fisheries resources along these segments. The following benefits to fisheries resources would occur as a result of the suitability findings presented in the PRMP: (a) two of the streams found suitable, or suitable as part of a system (Herd Creek, West Fork Morgan Creek), have fisheries OR values; the fisheries resources along these segments would be maintained or enhanced for the long term; and (b) acquiring and maintaining minimum streamflows existing at the time of WSR designation would enhance fisheries values.

*Areas of Critical  
Environmental Concern*

28. Special management to maintain the unique resources within ACECs may indirectly benefit the fisheries values within, and adjacent to, ACECs by maintaining or improving vegetation conditions within the ACECs and reducing sedimentation. Management actions for the Herd Creek Watershed ACEC would directly benefit fisheries resources within the watershed by improving riparian and upland vegetation conditions and reducing sedimentation.

*Wilderness Study Areas -  
Management if Released*

29. Suitable WSAs released from wilderness review would primarily be managed to maintain their primitive values. Resource development within these areas would be limited, and protection of riparian and aquatic habitats would remain a high priority. Fisheries values would be maintained within these WSAs.

*Special Status Species*

30. Site-specific field assessments of special status species may add to the information base available for fish, allowing future management decisions to be based on more complete data. By association, management actions identified to maintain and enhance habitat requirements of plant or animal special status species could also maintain and enhance riparian, aquatic, and fish habitat. Mitigation requirements for Federally listed threatened and endangered species would help maintain habitats for anadromous and resident salmonids. Expanded partnerships with academic institutions and conservation groups may help increase information about, and improve habitat management of, special status fish species.

*Biological Diversity*

31. Management initiatives to protect and enhance biodiversity would cause management actions to be reviewed and considered on an ecosystem basis, and sometimes in cooperation with other agencies and adjacent landowners; as a result, fisheries habitat and life cycle needs would be more fully considered and addressed. Information gathered on diversity patterns and key ecosystem indicator species would help the BLM develop appropriate fisheries resource objectives and management strategies to protect and improve fish habitats.

*Minerals*

32. NSO or standard stipulations on oil, gas, and geothermal leasing in ACECs, SRMAs, WSAs if released from wilderness review, and riparian areas in anadromous fish and bull trout watersheds may help protect fisheries in those areas from vegetation removal, sedimentation, and toxic impacts of

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oil, gas, and geothermal development. The likelihood of adverse impacts from these activities is very low, since there is a low potential for energy minerals occurrence in the RA. Closing recreation sites and existing WSAs to energy leasing would fully protect fish habitats in those localized areas from adverse impacts of oil, gas, or geothermal development.

33. Standard stipulations and other restrictions on disposal of mineral materials and non-energy mineral leasing would fully protect existing fisheries resources in the major stream segments and some tributaries of the RA from adverse effects of mineral material disposals and non-energy leasing. Closing recreation sites, existing WSAs, and riparian habitats in salmon, steelhead, and bull trout watersheds to mineral material sales and non-energy leasing would fully protect fisheries values in those localized areas from the adverse effects of mineral materials development or non-energy leasing activities.
34. Maintaining the withdrawn status of recreation sites from locatable mineral entry would have a minimal benefit to fisheries values, because of the small acreage involved. Withdrawing suitable WSAs if released from wilderness review from locatable mineral entry would protect existing riparian and aquatic habitats important to fish in those areas. Small scale (less than 5 acres) mineral location activities outside ACECs, WSAs, WSR corridors, and areas closed to OHV use could negatively impact fisheries and fisheries habitat through removal of riparian vegetation, increased sedimentation, and water quality contamination. For larger scale mineral activity, some additional protection of the fisheries resource could be provided through preparation of the plan of operations and ID team review. Design specifications which address management of mining waste facilities to control sedimentation and toxic effects, prohibit the placement of these facilities in riparian habitat areas, where feasible. The design specification attempts to control and monitor effects of these facilities, but is limited in its ability to do so, because existing laws allow a high degree of flexibility to the mineral locator. Negative impacts to the fisheries resource could still include removal of riparian vegetation, increased sedimentation, and water quality contamination. Required reclamation actions associated with large scale mineral material location actions would mitigate some of the adverse impacts in the long term.

*Hazardous Materials*

35. Actions such as (a) eliminating the use or transportation of hazardous or toxic materials where feasible within the RA, and (b) stipulating permits, leases, or other actions as appropriate to safeguard against environmental damage, would minimize the chance and severity of impacts to fish habitats from toxic contamination.

### Cumulative Effects

Note: Fisheries *habitat* is managed by the BLM, while fisheries *populations* are managed by the IDFG (and other wildlife/fisheries management agencies of states through which anadromous fish migrate). This discussion of cumulative impacts therefore only describes effects of BLM and others' actions on fisheries habitat within the boundaries of the RA. It does not consider effects to fish *populations* which may occur outside the RA boundaries (such as during anadromous fish migration to and from the ocean).

36. Management actions would cause an immediate and sustained improvement in fisheries habitats, primarily through better management of riparian and upland vegetation communities. Improved vegetation conditions would be expected to reduce sedimentation to aquatic habitats and nutrient loading of water courses and substrates of aquatic habitats. The improved vegetation conditions would also establish conditions to stabilize stream systems, allowing the system to take advantage of flows which tend to (a) improve pool quality (by scouring and cleaning silted-in pools) and (b) develop pool and riffle quantities in balance with the stream type and necessary for healthy macroinvertebrate population and composition. These conditions would have the greatest impact on spawning and rearing habitats. A general improvement in overall aquatic habitat quality over the long term would be expected. A corresponding improvement in the viability of the existing fish resource would also be expected.
37. Forest Service and State land management practices are also being modified to improve salmonid spawning, rearing, and migration habitats. As these practices continue, sedimentation and nutrient loading impacts would be decreased on these lands and consequently have less impact on downstream aquatic habitats on BLM lands.
38. Private lands within the boundaries of the Challis Resource Area contain a large percentage of the potential spawning, rearing, and migration habitats of salmonids. The largest use of these lands has been agricultural use supporting the livestock industry within the area. These uses on private lands tend to produce sedimentation and nutrient loading impacts which adversely affect spawning and rearing habitat in particular. Actions on private lands are outside the scope of BLM jurisdiction. However, the BLM will pursue opportunities to work cooperatively with private land owners to promote good riparian habitat at the watershed level; these efforts are expected to reduce sedimentation and nutrient loading impacts to aquatic resources on public lands.

An additional concern which affects aquatic habitats on all lands is partial or total dewatering of streams. Diversion of stream water for private land irrigation is a widespread concern within the boundaries of the Challis Resource Area. Diversion typically occurs on the lower extent of BLM lands or on private lands. Dewatering or significant reduction of streamflows by these diversions cause access and migration problems to spawning and rearing habitats on BLM lands, as well as eliminating macroinvertebrate populations required for rearing in the dewatered reaches.

These effects are expected to be reduced through cooperative efforts among the BLM, IDFG, tribes, Model Watershed Project, and private landowners to combine or modify diversions and promote efficient water use.

Unscreened diversions cause mortality to fry and down-migrating smolts by allowing the small fish to enter irrigation ditches and be flushed into agricultural fields or stranded when the irrigation ditch is closed and dewatered. Diversion screening activities currently under way through cooperative programs with private, State, and Federal entities, will slow the mortality rate and improve conditions for these fish.

Mineral development on private lands is a potential concern to fisheries resources. Since a large percentage of the spawning, rearing, and migration habitat occurs on private lands, the potential impact from these activities may be even greater than on Federal and State lands. If the private landowner has retained the mineral rights on and under the private land, development would be subject to State standards. If the private landowner has not retained the mineral rights on and under the private land, development would be subject to the same Federal standards as described under minerals, including plans of operations and ID team review. The potential impacts to fish resources include sedimentation, loss of protective vegetation, and toxic contamination.

Increasing restrictions for livestock grazing, mining, and other private uses on BLM managed land may shift these activities onto private land where restrictions are limited or do not apply. The potential for adverse affects to fisheries from minerals activities would be minimized by State or Federal regulations which require compliance with State Water Quality Standards. However, adverse affects from removing riparian vegetation and altering streambanks may still occur. A shift of livestock grazing from Federal to private land could result in unregulated grazing, unless a cooperative agreement with the private land owner could be developed. Without a cooperative agreement, livestock could have unrestricted access to riparian areas, potentially adversely affecting riparian vegetation, streambanks, and spawning and rearing habitats for special status salmonids.

A fairly significant impact to fisheries of toxic contamination from private lands is also present. The use of toxic materials on private lands is generally greater than on Federal lands. Private landowners may store or dispose of toxic substances, including agricultural chemicals and petroleum products, in a less regulated manner than is required on Federal lands. Unprotected storage facilities, inappropriate storage containers, and small family dumps which may occur on private lands are all potentially hazardous situations to fish.

**Table 4-3: Priority Streams, by Allotment**

<i>Priority Stream</i>	<i>Allotment</i>
Burnt Creek	Burnt Creek Allotment
Short Creek	Dry Creek Allotment
Long Creek	Dry Creek Allotment
Dry Creek	Dry Creek Allotment
Pahsimeroi River	Upper Pahsimeroi Allotment
Mahogany Creek	Upper Pahsimeroi Allotment
Road Creek	Mountain Springs Allotment*
Mosquito Creek	Mountain Springs Allotment*
Bear Creek	Mountain Springs Allotment*
Horse Basin Creek	Mountain Springs Allotment*
North Fork Sage Creek	Mountain Springs Allotment*
Corral Basin Creek	Warm Springs Allotment
Lake Creek	Herd Creek Allotment
Herd Creek	Herd Creek Allotment
McDonald Creek	Herd Creek Allotment
Bayhorse Creek	Bayhorse Allotment
Sage Creek	Sage Creek Allotment
Bradshaw Creek	Sage Creek Allotment
Corral Creel	Sage Creek Allotment

\*formerly named the San Felipe Allotment

## Forest Resources

**Introduction:** Restrictions (e.g., harvest methods, buffer strips) placed on management of the available timber base because of concerns for other resource values (such as wildlife, recreational use, fisheries) would not preclude forest management and planned timber harvest. However, any loss in timber yield which may result from these restrictions would be taken into consideration in future calculations of the allowable cut. Commercial timber lands which are set aside would be withdrawn from the timber production base, would not be available for scheduled timber harvesting, and would not be included in allowable cut calculations. However, these set-aside commercial timber stands and stands classified as woodland would be subject to limited forest management activities such as logging road rights-of-way, salvage operations, and firewood cutting. Any volumes of timber removed from these lands would not be used to satisfy allowable cut levels.

**No Reasonably Foreseeable Effect to Forest Resources:** Decisions listed in the PRMP under the following sections would have no reasonably foreseeable effects on forest resources: Air Quality, Biological Diversity, Cultural Resources, Fisheries, Floodplain/Wetland Areas, Hazardous Materials Management, Land Tenure and Access, Minimum Streamflow, Noxious Weed Infestations, Off-highway Vehicle Use, Paleontological Resources, Rangeland Vegetation Treatment Projects, Recreation Opportunities and Visitor Use, Special Status Species, Transportation, Tribal Treaty Rights, Water Quality, Wild Horses and Burros, and Wild and Scenic Rivers.

### Summary of Effects

1. Adjusting harvest levels and conducting new inventories of forest lands in the Resource Area would ensure that harvest in excess of sustained yield levels would not occur. Using prescribed fire in forest systems may benefit long term forest sustained productivity. Silvicultural prescriptions to enhance natural regeneration would reduce reforestation costs. Harvest restrictions to improve and maintain wildlife habitat may increase layout and harvesting costs. Permanently withdrawing selected commercial forest acreage from harvest may decrease forest productivity in those areas, in the absence of prescribed or natural fire. However, examples of undisturbed forest ecosystems would be retained for the future.

### Direct and Indirect Effects, by Proposed RMP Section

#### *Forest Resources*

2. Acreage withdrawals in WSAs and ACECs would be reflected in the total acres managed and volume harvested per decade. This harvest level is considered sustainable, based on eastern Idaho zone forest inventories completed in 1977. As a result, forest health and vigor would not be expected to decline over the long term.
3. In the absence of prescribed or natural fire, forest health and diversity would decline on acres withdrawn from forest management (e.g., existing WSAs):
  - (a) Susceptibility to epidemic insect or disease outbreaks would increase, due to the lack of thinning and the decrease in vigor that result from overstocking. For example, in lodgepole pine types a trend toward uniform large-diameter stands would increase the hazard of destructive stand removal by

mountain pine beetle.

(b) Stands containing fire- or disturbance-dependant seral species (such as quaking aspen and lodgepole pine) would become less abundant, as these stands undergo succession to the climax Douglas-fir and subalpine fir types. Pre-suppression forest stand diversity potentially reduces catastrophic hazards associated with insects, diseases, and fire by creating natural barriers and breaks in forest stands. For example, even-aged pole or sapling stands caused by disturbance (pre-climax structures in single-species stands) serve as breaks in otherwise monotypic forest stands.

(c) Unnatural fuel loads and ladder fuel buildup could increase susceptibility to adverse fire effects, including long term problems in the soil profile which result from excessively hot fires.

When natural fire occurs in conditional fire suppression areas, forest health and diversity may improve, risk of catastrophic insect or disease outbreaks would be reduced, and seral species or pre-climax structures may increase in occurrence. Future fire effects would maintain the character of these fire-altered stands, rather than cause catastrophic stand replacement. Prescribed fire could improve forest health in lands withdrawn from timber harvest by potentially reducing ladder fuels, thinning overstory co-dominants, and improving conditions for seral species (*e.g.*, aspen and lodgepole pine) and pre-climax stand structures.

4. Harvest levels may increase or decrease based on growth and yield data resulting from intensive forest inventories. Regardless of whether there is an increase or decrease, accurate data and evaluation would ensure that timber harvest levels are compatible with the principles of sustained yield.
5. Reducing clearcut size in Douglas-fir types to 10 acres would reduce the susceptibility of regeneration to drought stress, improve natural regeneration in these areas, reduce potentially high artificial reforestation costs, and sustain site productivity and timber yield, at least for the short term. However, large epidemic outbreaks of diseases or insects on areas larger than 10 acres may be impossible to adequately sanitize to prevent further spread of these problems.
6. Timber marking to establish or enhance natural regeneration would reduce artificial regeneration costs for contracted cone collection, seedling growing, and planting. Prescriptions such as group selection would maintain shade and prevent wind scouring and drying of forest stands, thereby maximizing natural regeneration occurrence.
7. Natural regeneration may alter yields, due to the lag time involved in establishing natural seedlings. Cone yields and moisture conditions must coincide before a harvested stand can adequately regenerate.

8. Selecting seed from genetically diverse stock would increase the likelihood that genetic material important for forest protection and diversity would be captured. However, some loss of potential for improved growth would be expected.
9. Making artificial reforestation a greater priority than timber sale preparation would temporarily slow timber sale availability when a backlog of artificial regeneration needs occurs.
10. If livestock utilization levels on forested rangelands remain high, the BLM would incur increased costs to ensure that livestock damage to regeneration does not occur. This may lower harvest receipts, due to timber sale collections for fencing or purchaser requirements for fencing. Forest species and structural diversity may increase within fenced areas.
11. Withdrawing 41 small stands (980 acres) from commercial timber harvest would reduce the average annual harvestable yield by 27 MBF. However, small old growth stands would be retained for dependent wildlife species and for study. These stands are particularly useful for identifying silvicultural techniques to naturally regenerate dry sites.

*Livestock Grazing*

12. Grazing to the stated utilization level on uplands could adversely affect artificial or natural forest regeneration. Grazing during the late season time period (when less grass is available) may increase livestock browsing on tree seedlings, resulting in terminal shoot destruction.
13. Managing for late seral or Potential Natural Community would reduce the amount of rangeland in poor to fair condition, and as a result, would improve the potential for natural regeneration success. This is because livestock overuse of forage on poor condition range often carries over into adjacent forest land, where heavy utilization and trampling can occur on regenerating trees, particularly where shade is scarce. This may result in less than average growth and yield and, in turn, may result in overharvesting if cutting occurs at the planned sustained yield level.

*Wildlife Habitat*

14. Continued implementation of existing Habitat Management Plans (HMPs) and proposed development of an activity plan for the Donkey Hills area would subject approximately 6,694 acres of available commercial forest land in the Challis RA to harvest and management restrictions to protect crucial elk winter range and elk habitat quality. Stipulations such as cable and helicopter logging requirements on 4,392 acres would modify sale layouts and promote less economical logging methods. This may affect timber sale success, due to potential increases in harvesting costs. Reduced timber sale receipts may be expected, because of unpurchased sales and the effect of increased logging costs on stumpage value. Forest health problems of epidemic proportions may not be treatable, due to unit size or hiding cover restrictions. However, stand structure and diversity may be enhanced. Stipulations would contribute to the success of natural regeneration in these areas. No loss of harvestable timber yield would be expected.

*Upland Watershed*

15. Helicopter logging restrictions on 1,801 acres to protect watershed resources on Lone Pine Creek would restrict management activities and increase logging costs, thereby reducing timber sale values and timber receipts. Helicopter logging would promote soil stability and eliminate road construction and the adverse impacts associated with roads.

*Riparian Areas*

16. Restrictions on timber harvest within buffer areas along streams and riparian areas would reduce the availability of commercial forest land and reduce the average annual harvest. Since stocking level reductions would not be permitted (except to manage insects or disease), forest health conditions may decline due to rampant disease in these untreatable areas.

*Fire Management*

17. In the short term, the absence of prescribed fire or prescribed natural fire (other than to increase forage availability or reduce hazards associated with timber management activities) would continue to adversely affect forest health conditions:

(a) Overstocking would continue to be a problem. In forest habitat types similar to those in the Resource Area, Arno and Gruell (1983) estimated a mean fire-free interval of 41 years. This frequency suggests that these types of stands experienced fire-caused stocking reductions. Overstocking would cause reduced vigor because amounts of moisture, nutrients, and sunlight would be inadequate to support all trees. Reduced vigor would then increase susceptibility to destructive agents such as insects or diseases, and allow for epidemic insect or disease outbreaks due to the widespread hazard of low-vigor trees.

(b) Excessive fuel loads from fire suppression may create ladder fuel and flame length hazards that could result in catastrophic fire. Root damage may also result from excessive duff accumulated in the absence of fire.

(c) The insect and disease sanitation effects of fire would be nearly nonexistent. For example, Crane and Fischer (1986) state that "severe fires often replace infested stands with relatively mistletoe-free young stands."

(d) The overall sustained productivity of the forest ecosystem may decline, due to nutrient cycling problems caused by fire suppression. Although the role of fire in the nutrient systems of forests is not understood fully, fire likely has great importance, especially in light of the regular fire frequencies under which these forests have adapted.

In the long term, the use of prescribed fire and prescribed natural fire following an ID team planning process would enhance forest health conditions. Forest health conditions could improve in conditional suppression areas.

*Areas of Critical  
Environmental Concern*

18. Designation of ACECs to protect rare plants, unusual plant communities, a petrified forest, high altitude range and forest plant communities, and fragile

soils would leave 327 acres of commercial forested land unavailable for timber harvesting and 2,398 acres of woodland unavailable for woodland product sales, resulting in a 12 MBF reduction in average annual harvestable yield. Effects on forest communities in ACECs (e.g., forest health, old growth, and biodiversity) are described above under "Forest Resources," #3. Management actions to maintain crucial elk habitat in the Donkey Hills ACEC would modify forest management on 5,069 acres. (The acreage treated and timber yields expected would be unchanged.) Helicopter logging restrictions on 4,392 acres and reduced logging unit size may reduce the amount of timber sold, depending on timber value fluctuations.

*Wilderness Study Areas -  
Management if Released*

19. Harvest levels would increase slightly if suitable and unsuitable WSAs are released from wilderness review. Commercial forest lands in WSAs (6,209 acres) are currently unavailable for timber harvest and management, which results in a 221 MBF reduction of harvestable yield annually. In the absence of natural or prescribed fire, timber harvest and management may improve the vigor of forest stands and decrease susceptibility to extensive damage by fire, insects or disease. If released from wilderness review, suitable portions of the Jerry Peak WSA (2,787 acres of commercial forest land) would remain closed to timber harvest, resulting in a continued 99 MBF reduction in average annual harvestable yield. In addition, management restrictions in the unsuitable areas of the Jerry Peak and Corral-Horse Basin WSAs would modify forest management actions on 2,265 acres. (No changes in acreage treated or timber yields would be expected.) Helicopter logging restrictions may reduce the amount of timber sold, depending on timber value fluctuations.

*Minerals*

20. Where mineral entry occurs on forested lands, it may reduce long term forest productivity by removing timber, replacing forested areas with mining operations, and altering soil surface and subsurface layers.

*Visual Resources*

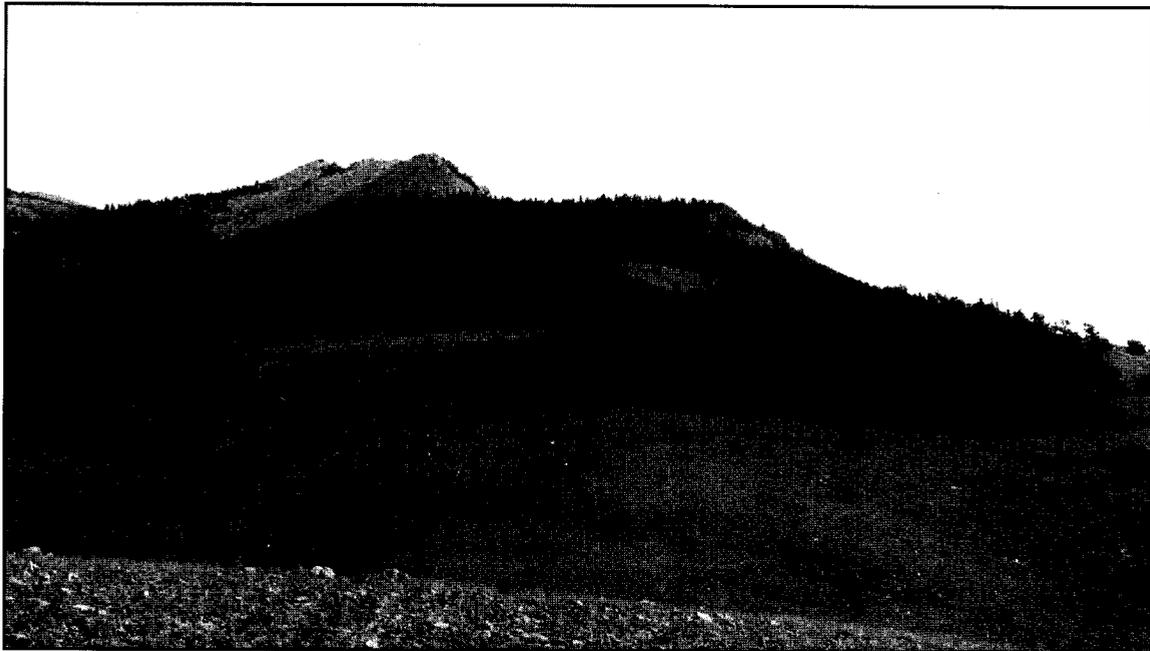
21. Classifying the majority of the RA as VRM Class II would eliminate most road construction in unforested areas. Helicopter logging prescriptions would increase, and/or new road access would be located in visually unobtrusive areas. This may increase logging costs and decrease opportunities for forest management, due to economic constraints. Irregular unit design may increase the probability of successful natural regeneration, due to increased shade and seed availability.
22. Helicopter logging restrictions on 1,801 acres to protect visual resources on Lone Pine Peak would restrict management activities and increase logging costs, thereby reducing timber sale values and timber receipts.

**Cumulative Effects**

23. BLM lands: Same as summary of effects (Forest Resources, #1 above).
24. Adjacent USFS lands: Where USFS forests support unmanaged insect or disease outbreaks adjacent to BLM lands, there would be potential for spread. Because all USFS timber adjacent to Resource Area lands is at

higher elevations than BLM forests, this facilitates spread of some gravity-controlled agents such as mistletoe and spruce budworm. In contrast, stand-altering fires would be less likely to spread downhill from USFS to BLM forests, due to the uphill trend of fire and associated winds. In addition, fuel loading is generally less in the lower elevations, and, if fire did spread, effects are likely to benefit stocking conditions and increase vigor. There may be potential for minor effects to BLM lands along boundaries where USFS management activities such as clearcutting change seedfall or shade. In drainages where extensive USFS logging has occurred, sedimentation may be high enough to restrict future forestry activities on downstream BLM lands.

25. Private lands: Impacts to BLM forest lands could occur from fires ignited on private lands. Private lands are usually located at elevations below BLM lands and, as a result, fire spread along the uphill gradient could rapidly extend to BLM forests. However, potential impacts to stand conditions would generally be favorable, unless burning and fuel conditions caused stand destruction. Risk of stand destruction would be less in the long term, because of increased use of prescribed and natural fire in forests in the RA.



## Livestock Grazing

**No Reasonably Foreseeable Effects to Livestock Grazing:** No reasonably foreseeable effects to the livestock grazing program would be expected from the actions listed in the PRMP under these sections: Air Quality, Cultural Resources, Forest Resources, Hazardous Materials Management, Paleontological Resources, Tribal Treaty Rights, and Visual Resources.

Effects on livestock grazing are described below under the following categories: Summary of Effects; Direct and Indirect Effects, by Livestock Management Factors Affected and Proposed RMP Decisions Causing the Effect ("Livestock Management Factors Affected" include Livestock Forage Allocation and Use, Livestock Forage Quantity and Quality, Livestock Water Availability and Quality, Livestock Use Limitations or Closures, Access for Livestock Management, and Other Factors Affected); and Cumulative Effects.

### Summary of Effects

1. PRMP actions would result in major changes to the livestock grazing program. Riparian stubble height and upland cover criteria, and aquatic and riparian objectives would be difficult to meet without additional management by livestock permittees. This would increase permittees' costs and efforts. The long term result of meeting these requirements would be improved riparian and upland conditions, achieved RMP range condition goals, and improved forage quality for livestock grazing. These improvements would benefit livestock permittees in the long term.

### Direct and Indirect Effects, by Livestock Management Factors Affected and Proposed RMP Decisions Causing the Effect

#### Livestock Forage Allocation and Use

##### *Livestock Grazing*

2. About 97.3 percent (771,224 acres) of the RA would be available for livestock grazing. The short term grazing allocation would be reduced by 52 AUMs from the closure of the south half of the Highway Allotment, resulting in an active grazing preference of 51,017 AUMs. In both the short and long term, actions such as stubble height requirements and utilization and cover standards (required under the livestock grazing, riparian, fisheries, and upland watershed sections of the PRMP) would probably require livestock to move through the grazing systems more rapidly and off the grazing allotments at an earlier date than permitted, unless permittee actions are taken to improve livestock management. This could result in estimated annual livestock use up to about 12,657 AUMs (about 25%) below the active grazing preference; average annual livestock use would be about 38,412 AUMs. Decisions relating to the allocation of nonuse AUMs and lost, relinquished, retired, sold, or cancelled AUMs would reduce a permittee's ability to mitigate the above actions.

### Livestock Forage Quantity and Quality

*Livestock Grazing*

3. In the short term, modifying annual operating plans to incorporate livestock use criteria from the PRMP would result in less use of existing forage. In the long term, (a) revising AMPs through watershed assessment and development of integrated resource activity plans (IRAPs), as needed, and (b) establishing proper stocking rates for the listed allotments would reduce the number of overstocked allotments and lead to improved forage quality.

*Wild Horses and Burros/  
Wildlife Habitat*

4. No major adverse impacts to the livestock grazing program would be expected from continuing to manage for current wild horse and big game wildlife numbers. If wild horse numbers prove to be a problem in achieving RMP resource objectives, the current Herd Management Area (HMA) Plan would be reviewed and changes proposed.
5. Resolving livestock/big game conflicts on a case-by-case basis could impact livestock grazing to an unknown extent, depending on the degree of public controversy, consultation with the IDFG, etc. Encouraging the IDFG to maintain big game numbers would help ensure livestock/big game conflicts do not increase.
6. Some wildlife habitat management actions (such as fence modification and providing wildlife water in pastures that are not being grazed by livestock) could have slightly negative effects on livestock grazing, by increasing permittee costs, while others (prescribed burns and development of additional watering sources) could improve livestock forage. Special management emphasis on the named bighorn sheep and elk winter ranges would not be expected to impact livestock forage quality and quantity beyond the existing level of management.
7. Resolving reintroduction conflicts through use of an ID team process and consultation with other parties would help ensure that there would be minimal impacts to livestock grazing through competition for available forage.

*Noxious Weed Infestations*

8. Proposals to increase the level of noxious weed control would benefit the quantity and quality of livestock forage by preventing or slowing the spread of noxious weeds into areas not currently infested.
9. Limitations on feeding commercial stock with hay on BLM land would have minor impacts to the livestock grazing program through increased permittee expense and inconvenience, as requests to do this occur very rarely. An ID team could allow this feeding, leading to benefits to livestock grazing on those rare occasions when feeding is necessary.

*Range Improvements*

10. Range improvements implemented to promote ecosystem health and diversity could have a positive effect on livestock forage quantity and quality by improving livestock distribution.

11. New AUMs made permanently available through vegetation treatment projects could not be used by livestock until objectives are met on the remainder of the allotment. In the short term, this would limit flexibility for the livestock permittees, but in the long term this could benefit livestock management through improved forage quality and quantity.
12. Requiring livestock permittees to maintain range improvements under cooperative agreements so the improvements are functional and properly maintained before turnout would add an additional workload on permittees, but would ensure that range improvements promote better livestock distribution and more uniform forage utilization. New fences and troughs would help control livestock distribution and areas of use.

*Fire Management*

13. Full suppression of wildfire on most of the RA could lead to areas where the absence of fire results in sagebrush dominance, reducing available livestock forage. Over time, in areas where conditional suppression is implemented, the amount of acreage where fire suppression results in sagebrush dominance would be reduced. As a result, livestock forage may increase over the long term.
14. Prescribed fire would be used to enhance ecosystem health and function, leading to improved forage quality and quantity.

*Fisheries*

15. Addressing riparian management through watershed assessments and IRAPs which include criteria for grazing riparian areas would improve forage quality and quantity, but potentially increase permittee costs and efforts. PRMP actions to improve riparian and aquatic habitats (e.g., stubble height and bank shearing criteria) would limit livestock use in several allotments through shortened seasons, and affect livestock grazing throughout the Resource Area. In the long term, these actions would improve forage quality and quantity through improved resource conditions.
16. Management strategies developed to improve 90% of unsatisfactory crucial aquatic and riparian habitats in all fish-bearing streams could have major impacts on the livestock grazing program through increased permittee costs to implement the changes. However, meeting these standards would result in large improvements to forage quality and quantity.

**Livestock Water Availability and Quality**

*Floodplain/Wetland Areas*

17. Waterholes developed from springs or seeps would be fenced and converted to pipeline/trough developments when reconstructed. This would provide better quality water for livestock and help protect these waterholes/seeps from trampling damage.

*Water Quality*

18. Requiring all BLM authorized actions to meet or exceed existing State approved Best Management Practices (BMPs) to support beneficial uses for water quality could increase permittees' costs and efforts. However, meeting or exceeding these BMPs and achieving desired riparian and aquatic habitat

conditions would result in improved water quality for livestock.

*Minimum Streamflow*

19. Acquisition of minimum streamflows would help ensure livestock water availability.

**Livestock Use Limitations or Closures**

*Livestock Grazing*

20. Closures to livestock grazing (21,343 acres) would have minor effects to the livestock grazing program, since the majority of that acreage is currently closed. The overall impact of the additional south half of the Highway Allotment closure (976 acres) on continued livestock grazing would be minor.
21. Limitations on grazing bluebunch wheatgrass during the boot-to-flowering stage would have significant impacts in some allotments. Livestock would have to be moved from some pastures much earlier than is currently required. In some allotments, there may be nowhere else to graze during this period, resulting in seasonal closure of the allotment.

*Riparian Areas*

22. Maintaining existing riparian exclosures to provide reference areas for management assessment and developing riparian exclosures and pastures throughout the RA would limit livestock grazing in certain areas. Some pastures would be managed with riparian values as the overriding priority. This could cause impacts to livestock operations in the form of higher costs for fencing, riding, salting, etc.

*Land Tenure and Access*

23. (a) Over the life of the RMP, up to about 63,075 acres of public land would be available for disposal, including up to about 4,806 acres of public land which could be sold. The actual amount of land transferred out of public ownership is anticipated to be much lower. These lands would no longer be available for livestock grazing under BLM administration. In some cases, these lands would be sold or exchanged to the current livestock permittee. The amount of land involved in any particular adjustment would generally be small, resulting in no or minimal reductions in AUMs to any particular allotment or permittee.

(b) Potential would exist for loss of BLM forage for livestock from exchange of up to about 36,915 acres of public land around Mackay with the State of Idaho. Effects to permittees may be mitigated, if the public lands acquired by the State of Idaho are made available for permitted livestock grazing.

24. Other lands actions, such as rights-of-way, leases, permits, and withdrawals, would have minor impacts to livestock grazing, because permitted use would not be reduced in most cases.

*Wild and Scenic Rivers*

25. The impacts to the livestock grazing program from Wild and Scenic Rivers actions are expected to be the same as the impacts of fisheries, aquatic, and riparian habitat management actions (see Livestock Grazing, #15 and 16

above). WSR corridors would remain open to managed grazing use, as long as grazing did not adversely affect identified WSR values.

*Areas of Critical  
Environmental Concern*

26. There would be no impact to livestock grazing from existing ACECs that remain closed to livestock grazing: Cronk's Canyon, Malm Gulch/Germer Basin, East Fork Salmon River Bench, Sand Hollow, and Summit Creek ACECs. Designation of seven new ACECs would have minimal impacts to livestock grazing, since there are no additional livestock grazing closures due to ACEC designation. However, if ACEC values are determined to be adversely affected, changes in livestock management would be implemented, causing impacts to livestock grazing operations.

*Wilderness Study Areas -  
Management if Released*

27. Limitations on construction of new range improvements in existing WSAs (approximately 140,260 acres) would continue to limit their use to control livestock distribution. If WSAs are released from wilderness review, additional range improvements could be constructed after completion of a watershed assessment. This could improve livestock distribution and livestock forage quality and quantity.

*Recreation Opportunities*

28. Continuing to exclude livestock from portions of existing designated recreation sites would have no impact, since many of the areas are already fenced and the acreage is very small. Excluding livestock from other recreational facilities would have minor impacts, since the sites would be so small no reduction in grazing preference would be necessary.
29. Within designated Special Recreation Management Areas (SRMAs), conflicts between recreation and other resources would be resolved on a case-by-case basis, resulting in potential impacts to livestock grazing if grazing seasons or areas of use are modified.

*Minerals*

30. Existing minerals activities would not have significant effects to the livestock grazing program, unless another development of the scale of the Thompson Creek Mine project occurred. Then, the impact to the grazing allotment could be so severe as to totally close the allotment to all livestock grazing, with total loss of grazing preference. This would result in severe loss to an individual grazing permittee, but would not be a major impact Resource Area-wide. The potential for this to occur would be low.

**Access for Livestock Management**

*Off-highway Vehicle Use*

31. OHV use limitations and closures could limit a livestock permittee's mode of access to some areas. However, livestock permittees could receive temporary exemptions from the BLM authorized officer.

*Transportation*

32. Road maintenance would benefit the livestock grazing program by ensuring vehicular access to most of the RA for livestock management. Developing transportation and maintenance plans would ensure that a proper number of

roads and trails would continue to be available, without leading to resource damage. Limitations on new road construction in riparian areas would not be expected to impact the livestock grazing program, as it is unlikely new roads would be needed in those areas for livestock management purposes.

*Recreation Opportunities and  
Visitor Use*

33. OHV use by recreationists would not be expected to impact livestock grazing, since OHV use would be limited to existing roads, vehicle ways, and trails. The amount of unauthorized OHV use, and potential for cut fences, gates left open, and harassment of livestock, would be expected to be low.

**Other Management Factors Affected**

*Special Status Species/  
Biological Diversity*

34. The requirement to include a site-specific field assessment of special status plant, animal, and fish species and an analysis of biodiversity as part of project or activity planning could increase the amount of time needed to complete this type of planning, and could constrain project development in some cases.

*Wildlife Habitat*

35. Livestock grazing would benefit from ADC predator control activities, especially through reduced calf and lamb loss.

**Cumulative Effects**

36. Cumulative impacts from BLM actions are described in the **Summary of Effects** (Livestock Grazing, #1 above).
37. (a) Cumulative effects to the livestock grazing program could also occur from the actions of adjacent private landowners, because livestock permittees are very dependent on the use of private lands during the time their livestock are not on BLM-administered public lands. Watershed analyses would look at all land ownerships, and would include consideration of adjacent land uses on ecosystem components. This would provide opportunity to mitigate the cumulative effects of private, State, and other Federal agencies' actions on livestock grazing on BLM public lands. Loss of private irrigated ranch lands to subdivision development or other land uses would decrease the amount of hay crop land available. This would increase permittees' dependence on public lands (BLM, USFS, State of Idaho) and could increase operating costs due to the need to purchase hay from outside Custer or Lemhi counties.  
  
b) Actions taken by State and other Federal agencies to comply with circumstances such as Endangered Species Act anadromous fish recovery, tribal treaty rights, water rights adjudication, and the Clean Water Act would also potentially affect livestock grazing on BLM public lands. National Forest system lands and State of Idaho leased lands also play an important role in overall ranch operations. Any decrease in the availability of livestock grazing on these lands would further increase permittees' dependence on BLM public lands and private lands. Because of a limited amount

of private land, the net effect could be a reduced amount of livestock forage available from any land source - private, State, BLM, or USFS. Permittees may be required to reduce livestock operations due to a lack of forage. However, there would still likely be sufficient livestock operations to utilize the livestock allocations offered in the Challis Resource Area.



## Minerals

**No Reasonably Foreseeable Effects on Mineral Development:** No reasonably foreseeable effects on mineral development activity would be expected as a result of management decisions listed in the PRMP under the following sections: Air Quality, Biological Diversity, Fire Management, Forest Resources, Hazardous Materials Management, Land Tenure and Access, Livestock Grazing, Minimum Streamflow, Noxious Weed Infestations, Rangeland Vegetation Treatment Projects, Transportation, Tribal Treaty Rights, Upland Watershed, and Wild Horses and Burros.

**Introduction:** The discussion of direct, indirect, and cumulative effects for the minerals resource is divided into three analyses: energy minerals; saleable and non-energy leasable minerals; and locatable minerals. The analysis of effects on energy minerals is based on reports submitted for the RMP by Robert Mallis and Steve Moore of the BLM - Idaho State Office (BLM 1992) (see Planning Record). A summary of effects on all types of mineral development is provided below. Estimated minerals closures under PRMP management are shown in *Table 4-6*.

### Summary of Effects - All Minerals

1. The application of standard stipulations or no surface occupancy stipulations to energy mineral leases would have the potential to limit the development of energy minerals in the RA. However, the probability of development and the potential for conflict with other resource values is low. There would be no effect on the availability of non-energy leasable minerals, because none are known to occur. The availability of new mineral material pit sites may be limited, due to potential for conflict with other resource values. Alternative pit sites would be available, but hauling distances and material costs may be greater. Restrictions on locatable mineral entry along streams and riparian areas could limit locatable mineral development.

### Direct and Indirect Effects, by Type of Mineral Development

#### Energy Minerals

2. The reasonably foreseeable development scenario (RFDS) of oil and gas activity for the next 15 to 20 years is expected to consist of (1) some leases issued, (2) a few geophysical surveys, and (3) possible drilling of one or two exploratory holes. Based on the historical record and the low potential for occurrence of hydrocarbon minerals or geothermal resources in the Resource Area (see *Map 34: Oil and Gas Potential* and *Map 26: Geothermal Potential*), little or no oil, gas, or geothermal energy development is anticipated in the Resource Area during the life of the RMP. The RFDS estimates that no more than four to eight acres of public land would be subject to disturbance from exploratory drilling, if drilling should occur. Potentially, five to ten miles of road may be constructed that would result in a total surface disturbance of approximately 25 to 50 acres. Drill pads and roads would be reclaimed when operations are complete. Reports by Mallis and Moore (BLM 1992 - see Planning Record) document the poten-

tial development scenario for oil, gas, and geothermal resources in the Resource Area, along with the assumptions used to arrive at the above predictions of acres of disturbance from exploration and development. *Table 4-4* and *Table 4-5* summarize the availability of lands for exploration and development of fluid energy minerals under the PRMP. Also see *Map 34: Oil and Gas Potential* and *Map 26 : Geothermal Potential*.

3. Standard lease stipulations, no surface occupancy (NSO) stipulations, closure of existing WSAs, and the minerals SOPs and design specifications would have some potential to limit oil and gas development in the RA. However, due to the low potential for occurrence of energy minerals in the Resource Area, and the RFDS predicted for the RA, adverse effects on energy mineral development are considered unlikely. The potential for no surface occupancy stipulations to be applied on SRMAs (58,000 acres) and suitable WSAs, if released from wilderness review (38,930 acres) would reduce the probability that exploratory drilling or development would occur in those areas. Closure of campgrounds and recreation sites, and a mandatory NSO stipulation on riparian areas in anadromous fish and bull trout watersheds would be unlikely to limit exploratory drilling or development, due to the small size of these areas.

#### **Saleable and Non-energy Leasable Minerals**

4. There are no known deposits of non-energy leasable minerals in the Resource Area, and therefore, no adverse effects to non-energy leasable mineral development are expected as a result of the stipulations and restrictions on mineral development provided for in the PRMP.
5. Mineral material disposals would be allowed on up to 79.8 percent of the RA. Existing community mineral material pit sites (13) would provide for most public demand. New mineral material community pits could be made available for public use as needed, in areas that are not closed or otherwise restricted. A site-specific NEPA analysis would be completed on any new pit site proposal.

Continued closure of WSAs (140,260 acres) and designated recreation sites (1,450.76 acres) would limit the availability of pit sites, but is not expected to limit the availability of mineral materials because alternative sites would remain available. Additional closures (Lone Bird and Malm Gulch/Germer Basin ACECs (17,792 acres); riparian areas in steelhead, salmon and bull trout watersheds; suitable WSAs, if released from wilderness review) and restrictions (two SRMAs; twelve ACECs) could limit the availability of suitable material pit sites to meet public demand. A limited availability of suitable sites would increase hauling distances and costs in some instances, because mineral materials may need to be obtained from alternative sites that are farther away from points of use. New applications for mineral material sales and non-energy mineral leases could be denied in remaining ACECs, riparian areas along other fish-bearing streams, and in SRMAs or WSRs, if the actions conflicted with priority resource values. This would also have

potential to increase hauling distances and costs. However, the availability of mineral materials would not be significantly affected because suitable alternative sources would remain available throughout the RA (see *Map 37: Saleable Minerals Land Classification*). Alternative pit sites are also available on private lands in the area. Development of materials sites on private lands may reduce hauling distances.

### **Locatable Minerals**

6. Opportunities for locatable mineral exploration and development would be available on 99.8% (791,116 acres) of public lands in the RA, and 94.9% (752,186 acres) of the RA if all WSAs are released from wilderness review. Existing withdrawals of recreation sites (1450.76 acres) from mineral development, and recommendations for withdrawal of suitable WSAs (38,930 acres), if released from wilderness review, would preclude opportunities for locatable mineral development on these areas. It is expected that these withdrawals would have no noticeable effect on mineral development activity in the RA, based on the low potential for locatable mineral occurrence in those areas (see *Map 26: Locatable Mineral Land Classification*).
7. Whenever they are required, preparation of plans-of-operation are likely to increase the time and effort required for claimants to conduct locatable mineral exploration and development.
8. Review and possible modification of locatable mineral development activities in riparian areas on non-fishbearing streams, coupled with design specifications, SOPs, and stipulations on locatable mineral development in riparian areas along fish-bearing streams, would have potential to increase costs associated with locatable mineral development, if development should occur, and limit locatable mineral development in riparian corridors and streams, particularly in watersheds occupied by special status fish species.
9. Opportunities for locatable mineral development on WSR corridors would not be limited, except as required by law or regulation to protect WSR values, or by limitations on locatable mineral development in riparian areas as described in #8 above.
10. Locatable minerals activity away from existing roads and vehicle ways would be limited to non-motorized methods, as a result of off-highway vehicle use limitations. Prior authorization by the BLM would be required for use of motorized vehicles during exploration and development, if the activity is in an area "limited" to existing roads, vehicle ways, and trails. A plan of operations would be required in any area "closed" to OHV use. Obtaining prior authorization or preparing a plan-of-operation is likely to increase the time and effort required for claimants to conduct exploration and development activity.

**Cumulative Effects**

11. There would be no reasonably foreseeable cumulative effects on energy or non-energy mineral development in the RA. No energy mineral development activity has occurred on adjacent National Forest, State or private lands, nor is any future development anticipated. There are no known deposits of non-energy leasable minerals in the RA.
12. Cumulative effects on mineral material sales would include long term limited availability of mineral materials pit sites in certain special management areas on public lands. Alternative pit sites are expected to be available on private lands and adjacent National Forest lands. Demand for private sources may increase, to offset increased hauling distances. Costs of materials may also increase.
13. Potential future development opportunities may be foregone in areas that are closed to locatable mineral development or where development is restricted to protect other resource values. However, no cumulative effects are expected, based on the low potential for occurrence of locatable minerals in most areas that would be restricted or otherwise withdrawn from development.

**Table 4-4: Availability of Lands for Oil and Gas Development Activity, Relative to Resource Potential<sup>1</sup>**

<b>Management Categories</b>	<b>Zero Potential</b>	<b>Low Potential</b>	<b>Moderate Potential</b>	<b>High Potential</b>	<b>Total</b>
<i>OPEN: Subject to standard stipulations</i>	101,000	568,948	0	0	669,948 <sup>2</sup>
<i>OPEN: Subject to NSO stipulation</i>	24,000	97,130	0	0	121,130 <sup>2</sup>
<i>OPEN: Mandatory NSO stipulation</i>	*	*	*	*	*
<i>CLOSED: Discretionary</i>	0	1,451	0	0	1,451

<sup>1</sup>Calculated assuming all WSAs (140,260 acres) would be released from wilderness review.

<sup>2</sup>Total includes unknown acreage in salmon, steelhead trout, and bull trout watersheds which would have a mandatory NSO stipulation.

\*Riparian areas in salmon, steelhead, and bull trout watersheds would have a mandatory NSO stipulation. The total acreage involved would be small, and limited to the width of the riparian habitat area (see PRMP, Attachment 4).

**Table 4-5: Availability of Lands for Geothermal Resource Development, Relative to Resource Potential<sup>1</sup>**

Management Categories	Low Potential	Moderate Potential	High Potential	Total
<i>OPEN:</i> <i>Subject to standard stipulations</i>	665,798	0	3,350	669,148 <sup>2</sup>
<i>OPEN:</i> <i>Subject to site-specific NSO stipulation</i>	111,280	0	10,650	121,930 <sup>2</sup>
<i>OPEN:</i> <i>Mandatory NSO stipulation</i>	*	*	*	*
<i>CLOSED:</i> <i>Discretionary</i>	1,451	0	0	1,451

<sup>1</sup>Calculated assuming all WSAs (140,260 acres) would be released from wilderness review.

<sup>2</sup>Total includes unknown acreage in salmon, steelhead trout, and bull trout watersheds which would have a mandatory NSO stipulation.

\*Riparian areas in salmon, steelhead trout, and bull trout watersheds would have a mandatory NSO stipulation. The total acreage involved would be small, and limited to the width of the riparian habitat area (see PRMP, Attachment 4).

**Table 4-6: Minerals Closures (approximate acres)<sup>1</sup>**

*Oil, Gas, Geothermal*

Recreation Sites	1,451
WSAs	<u>140,260</u>
Total Closures	141,711

*Non-energy Leasing*

Recreation Sites	1,451
Riparian Areas	+
WSAs	<u>140,260</u>
Total closures	141,711 <sup>*</sup>

*Mineral Material Sales*

Recreation Sites	1,451
ACECs	17,792
Riparian Areas	+
WSAs	<u>140,260</u>
Total closures	159,503

*Locatable Minerals*

Recreation Sites	1,451
WSAs	<u>140,260</u>
Total closures	141,711

<sup>1</sup>Acres are approximate, and totals for each type of mineral activity may not take overlapping special management areas into account.

\*Riparian areas in salmon, steelhead, and bull trout watersheds would be closed to non-energy leasing and mineral material sales. The total acreage involved would be small, and limited to the width of the riparian habitat area (see PRMP, Attachment 4).

\*Recommended for withdrawal from locatable mineral entry.

## Paleontological Resources

**No Reasonably Foreseeable Effects:** No reasonably foreseeable effects to paleontological resources would be expected from decisions listed under the following sections of the PRMP: Air Quality, Biological Diversity, Cultural Resources, Fire Management, Fisheries, Floodplain/Wetland Areas, Forest Resources, Hazardous Materials Management, Livestock Grazing, Minimum Streamflow, Noxious Weed Infestations, Rangeland Vegetation Treatment Projects, Recreation Opportunities and Visitor Use, Riparian Areas, Special Status Species, Transportation, Tribal Treaty Rights, Upland Watershed, Visual Resources, Water Quality, Wilderness Study Areas - Management if Released from Wilderness Review, Wild Horses and Burros, Wildlife Habitat, and Wild and Scenic Rivers.

### Summary of Effects

1. Proposed management actions would generally reduce the amount of potential damage to known and possible paleontological resources caused from ground disturbing activities, vandalism, collection, and erosion. Considering paleontological resources in watershed assessments and integrated resource activity plans would help integrate paleontological resource issues into the broader resource management framework.

### Direct and Indirect Effects, by Proposed RMP Section

#### *Land Tenure*

2. The transfer or sale of lands from Federal to private ownership could affect possible paleontological resources, if they exist in the tract disposed of. Lands containing significant paleontological resources would be retained on a case-by-case basis; there is some risk these lands (or lands with possible paleontological resources) could be transferred from Federal ownership. While some protection is given these resources under Federal ownership, no protection is provided under private ownership.

#### *Areas of Critical Environmental Concern/OHV Use*

3. Limiting motorized vehicle use in the Malm Gulch/Germer Basin ACEC to the existing road from Highway 93 to a point of closure in the NW 1/4, Section 28, T12N, R19E would reduce the risk of erosion and possible destruction of known paleontological resources. Closing the area to rock-hounding, mineral material collection, and mineral material sales would help preserve the paleontological values associated with the Malm Gulch/Germer Basin ACEC.

#### *Minerals*

4. Whenever surface mining is conducted in sedimentary rock, paleontological resources may be affected. However, the reasonably foreseeable development scenario for oil, gas, and geothermal activity during the next 15 years suggests that little or no fluid energy development would occur in the RA. If drilling does occur, no-surface-occupancy and standard stipulations would help protect known and possible paleontological resources in some portions of the RA, including existing ACECs.
5. Site-specific effects of mineral material sales and non-energy mineral leasing would be analyzed through the ID team and NEPA process, which could

help eliminate potential effects on known or possible locations of paleontological resources. New applications for non-energy mineral leases and mineral material sales may not be approved if the minerals are located in or adjacent to existing ACECs, which would further help to protect known paleontological resources. Closing the Malm Gulch/Germer Basin ACEC to rockhounding, collection of mineral materials, and mineral material sales would help protect known paleontological resources in that area from project disturbances.

6. Locatable mineral development would have the potential to affect paleontological resources by causing surface disturbance. Small scale (less than 5 acres) mineral location activities outside ACECs and areas designated "closed" to off-road vehicle use would have the greatest potential impact to paleontological resources, because a plan of operations would not have to be filed, an ID team review would not be conducted, and paleontological resources may not be identified or protected. Paleontological resources would be fully protected on portions of the RA withdrawn from locatable mineral entry, such as campgrounds and recreation sites.

*Paleontological Resources*

7. The general management and protection of paleontological resources would continue. Paleontological resources would be managed to protect specimens and maintain or enhance sites or areas for their scientific and educational values. Information would continue to be gained by promoting research (under permit) to document localities and their significance. Measures to protect paleontological resources from erosion, vandalism, and collection would be implemented at significant localities that are threatened. Significant paleontological localities would be protected from vandalism and rockhounding activities by not signing to identify their location or otherwise promoting public use of the area. Interpretive signing and a wayside along Highway 93 near the Malm Gulch/Germer Basin area would encourage preservation of known paleontological resources. Formal inventory of paleontological resources would increase knowledge of the resources' locations, characteristics, condition, and trend.

**Cumulative Effects**

8. The policy for managing paleontological resources on USFS lands is being developed. Once finished and implemented, it could have a cumulative benefit to paleontological resources on BLM lands by increasing protection of the resource in east-central Idaho in general.

Private land development in areas with high potential for paleontological sites may lead to a cumulative loss of paleontological resource sites and loss of opportunity to study these sites. These real and potential losses of resources on private land make protection of paleontological resources on Federal lands (BLM/USFS) even more important. Increased protection of paleontological resources on BLM lands under the PRMP would help offset losses of the resource from development on private lands.

## Recreation Opportunities, Visitor Use, and Off-highway Vehicle Use

**Introduction:** The Challis Resource Area recreation program has two types of opportunities: (1) *Intensive recreation* is site-specific, usually within a heavily used, developed and/or designated area such as a recreation site and/or a Special Recreation Management Area. (2) *Extensive recreation* is not site-specific, but is generally dependent on a larger, less controlled, dispersed area for the activity, such as backpacking and OHV use. Visits to the RA are likely to continue to increase during the next fifteen years. This increased recreation use of the RA will probably occur due to several factors, including population growth in the region, the Resource Area's rising popularity, and its location near nationally known recreation destinations such as the Sawtooth National Recreation Area, Sun Valley, the Frank Church River of No Return Wilderness, and the Middle Fork of the Salmon Wild and Scenic River.

**No Reasonably Foreseeable Effect on Recreation Opportunities, Visitor Use, and OHV Use:** Decisions listed in the PRMP under these sections would have no reasonably foreseeable effect on recreation opportunities, visitor use, and OHV use in the Challis Resource Area; Hazardous Materials Management and Tribal Treaty Rights.

### Summary of Effects

1. Overall, recreation activities which are not dependent on cross-country OHV use would be enhanced. Conversely, those activities which depend on cross country OHV use would be curtailed. OHV use on existing roads and vehicle ways would be curtailed slightly within SRMAs and ACECs, due to specific area limitations or closures; however, the majority of existing roads and vehicle ways would remain available for OHV use.

PRMP actions would protect natural and aesthetic values by limiting OHV use to existing roads, vehicle ways, and trails throughout the Resource Area and closing some ACECs to OHV use; by protecting Outstandingly Remarkable (OR) values on WSR segments found suitable or eligible for further study; and by maintaining primitive values in some WSAs, if released from wilderness review.

2. Visitor use of the RA would probably increase commensurate with regional population growth, but the increase attributable to PRMP actions would not be significant.

### Direct and Indirect Effects, by Proposed RMP Section

#### *Livestock Grazing/Rangeland Vegetation Treatment Projects*

3. Adjustments in livestock use, such as implementation of stubble height requirements and cover and bank shearing criteria, would improve riparian and streambank conditions. These changes would moderately improve the natural and aesthetic values for outdoor recreation experiences. Although vegetation and riparian conditions would improve, the potential for conflict between livestock and humans for high value recreation areas would continue to exist. As natural and aesthetic values improve due to PRMP actions, the presence of flies, dust, and feces associated with livestock would be somewhat less. Eliminating livestock grazing within the

recreation sites named in the PRMP would eliminate this concern within those areas. In extensive recreation areas, the presence of flies, dust and feces would be reduced due to management that would restrict cattle presence in riparian areas.

4. Range improvements such as fences and spring developments would be developed with sensitivity to recreation resources and natural aesthetics. Fencelines and troughs would be designed to minimize their negative impacts on natural aesthetics, sightseeing, and primitive and developed recreation opportunities. Vegetation treatment actions such as prescribed burns or seedings would encourage increased use by wildlife. However, range improvement structures, seedings, and prescribed burns could degrade scenic values slightly, especially in the short term.

*Wild Horses and Burros*

5. Wild horse viewing areas would generally benefit recreation activities such as photography and sightseeing. Restrictions on OHV use and displacement of viewable and huntable wildlife species (especially big game) by wild horses could negatively impact OHV use, wildlife viewing, and hunting.

*Wildlife Habitat*

6. Wildlife habitat management activities would continue to provide current levels of viewable and huntable species. Improving site-specific habitats (e.g., by improving water availability, modifying livestock fences, and acquiring wetlands habitat such as the Chilly Slough) could slightly improve recreation quality in those areas by improving vegetative cover, stabilizing streambanks, and increasing numbers of animals, especially bird and big game species. OHV use opportunities would be reduced because of limitations designed to protect wildlife in key areas (e.g., winter ranges and calving and fawning areas) and throughout the Resource Area. Permitted recreation activities such as OHV events and commercial outfitting may be restricted to protect wildlife.

*Noxious Weed Infestations*

7. Reducing noxious weed infestations would benefit recreation by improving the aesthetics of natural vegetative cover. In the short term, site-specific treatments could reduce the aesthetic appeal of the landscape, especially in designated recreation sites. However, in the long term reducing weed species would improve the natural and aesthetic appeal of a site.

*Upland Watershed*

8. Actions to improve upland watersheds would improve vegetative cover, water quality and quantity, wildlife habitat, and scenic viewsheds, and thereby benefit the quality of recreation opportunities such as sightseeing, photography, hunting, camping, and wildlife viewing by enhancing the natural and aesthetic values which attract people.

*Fire Management*

9. Full fire suppression of recreation sites would benefit site-specific intensive use activities, such as camping in campgrounds and other activities dependent on facilities. Recreation resources occurring elsewhere in the RA would also be managed under a full suppression strategy, unless an activity plan was developed to manage the area under a conditional suppression strategy; these resources would also continue to be protected from the

adverse impacts of fire. Locating fire suppression staging areas, fire camps, and other fire incident bases outside riparian areas would decrease the visual impacts to riparian areas, but would likely cause a greater disturbance to upland area viewsheds. However, "light on the land" fire suppression and rehabilitation specifications would mitigate most adverse effects on recreation values which may occur from fire suppression activities.

10. Primitive recreation values could benefit from naturally occurring fire, because a fire-altered landscape is part of the natural experience

*Riparian Areas*

11. Actions which improve streambanks and vegetative cover in riparian areas would improve recreation opportunities such as wildlife viewing, sightseeing, hunting, fishing, and camping by promoting a more natural and aesthetically pleasing environment. Providing interpretive facilities in some riparian and wetland areas would improve sightseeing, some motorized recreation, and interpretation opportunities in those areas.

*Floodplain/Wetland Areas*

12. Acquisition of the Chilly Slough wetlands would provide more public access, which would improve activities such as hunting, fishing, and wildlife viewing. Stipulations on new or renewed rights of way for water diversions would help protect the overall recreation experience and benefit stream habitats, visual quality, and recreation opportunities. (Natural-looking riparian areas and streams are attractants to people.)
13. The quality of the camping experience at the Summit Creek recreation site would be degraded tremendously, because camping in a sagebrush flat would be much less appealing aesthetically than being in the riparian area where shade and water are available. However, fishing opportunities could improve slightly as the stream stabilizes and more fish habitat becomes available.

*Water Quality*

14. Actions which improve water quality would, in general, improve most outdoor recreation experiences because high quality water is a natural attractant.

*Minimum Streamflow*

15. Acquiring minimum streamflows would provide major benefits to recreation. A guaranteed minimum flow could maintain and improve the quantity and quality of fishing, hunting, camping, and sightseeing opportunities wherever a minimum flow is obtained.

*Fisheries*

16. Improvement to fisheries habitat would provide substantial benefits to recreation opportunities such as fishing, hunting, wildlife observation, camping, sightseeing, photography, hiking, and backpacking. As fish habitat is improved, the human recreation environment would become more aesthetically pleasing. Riparian areas would become healthier, water quality and quantity would improve, and the impact of cattle grazing would become less noticeable. Improved water quality would likely increase wildlife numbers in riparian areas and the numbers of fishing and hunting opportunities. Projects designed to improve the ecological condition of fish habitat

could require restrictions to access and the types of recreation activities allowed. As a result, on a site-specific basis, recreation opportunities could decline in the short term. Major benefits could be accrued from the acquisition of priority fish habitat, which is often high value recreation land. However, if exchanges are used, disposal of certain tracts could eliminate all recreation opportunities on those tracts.

*Land Tenure and Access*

17. Land tenure adjustments (e.g., blocking up Federal lands, acquiring access to high value resource lands such as the Chilly Slough wetland and lands adjacent to the Main Salmon River and East Fork of the Salmon River) would continue to benefit recreation overall, especially water-based activities such as fishing, floating, and wildlife viewing, by providing more dispersal of opportunities. However, disposal of certain tracts could result in the loss of extensive recreation opportunities.
18. Acquiring motorized access to certain tracts of land could benefit motorized recreation by providing more access and recreation opportunities such as OHV use, fishing, hunting, camping, and sightseeing. Acquiring non-motorized access would benefit opportunities such as hiking, riding, hunting, fishing, nature observation, and mountain biking.

*Wild and Scenic Rivers*

19. Maintaining or enhancing OR values on river segments found eligible or suitable would continue to provide benefits to recreation in general, by protecting the values which made the river segments qualify. However, site-specific actions (e.g., habitat restoration and enhancement for fish and wildlife values; cultural and historic site protection) could limit the types of recreation activities allowed. Segments found suitable with a Recreation classification would not necessarily benefit all recreation opportunities along those segments, because this classification is defined by a high level of development. Segments found suitable with a Scenic classification would benefit both developed and primitive recreation opportunities along those segments. Segments found suitable with a Wild classification would benefit primitive based recreation, but would likely preclude the more developed, OHV-oriented recreation opportunities.

*Areas of Critical  
Environmental Concern*

20. Actions to maintain and protect ACEC values within designated Areas of Critical Environmental Concern (ACEC) would benefit most recreation opportunities in those areas. Hunting, fishing, sightseeing, nature observation, and other recreational activities which would not negatively impact protected values would continue to benefit, because good condition ACEC values would attract recreationists. OHV limitations or closures within ACECs would limit OHV use opportunities. Closing the Malm Gulch/Germer Basin ACEC to rockhounding would limit that recreational pursuit in that area.

*Wilderness Study Areas -  
Management if Released*

21. Existing primitive recreation values such as naturalness and opportunities for primitive and unconfined recreation and solitude could be degraded in some WSAs released from wilderness consideration. OHV use limitations and

closures in WSAs released from wilderness review would help maintain primitive values in those areas, but would slightly decrease OHV use opportunities in the RA. Placing no surface occupancy stipulations on suitable WSAs if released would help maintain some primitive recreation values such as solitude, naturalness, and unconfined recreation opportunities. Opening up released nonsuitable WSAs to all forms of mineral development could severely curtail the primitive recreation values that now exist in those WSAs, if mineral development should occur.

*Forest Resources*

22. Existing primitive recreation opportunities would be reduced in any area opened to timber harvest. Viewsheds could be damaged by the unnatural appearance of a timber cut, especially when associated with road construction. However, timber harvests and associated roads also create views in areas which are heavily wooded. Increased emphasis on regeneration would more quickly restore harvested areas to a natural and aesthetically pleasing condition. Hunting could be enhanced, depending on specific projects. For the short term (up to 2 years) motorized recreation and OHV use could be enhanced by construction of new roads which provide access to previously inaccessible areas. In the long term these roads would be available for non-motorized recreation uses such as hiking, mountain bicycling, and horseback riding. Timber harvest and silvicultural treatments that accommodate wildlife needs would benefit recreation by attracting non-game wildlife for wildlife viewing and by being less visually intrusive.

*Special Status Species*

23. Actions to manage special status species could enhance recreation activities such as nature observation and photography by maintaining a diversity of opportunities. Potentially, other activities such as hunting, fishing, camping, and OHV use could be curtailed or eliminated, depending on protection strategies. Specific actions to preserve sensitive plant species could restrict the following: (a) recreation activities which cause surface disturbances, such as OHV use; (b) recreation facilities development, such as trails; (c) recreation sites; and (d) trailhead facilities.

*Minerals*

24. Existing primitive recreation values could be degraded or lost on any site where surface development for mineral resources occurs, at least in the short term, because the on-site development would preclude any recreational use. Associated access roads could enhance motorized recreation if open to the public. Natural and aesthetic values would be lost because of the physical development, at least on-site. Viewshed values would be degraded by the physical development; the extent of degradation would depend on site location and size. Recreation values would be protected on areas stipulated no surface occupancy or closed to mineral development.

*Visual Resources*

25. Recreation facilities and development would continue to be designed in a manner consistent with the visual classification given an area. This could eliminate certain developed recreation opportunities (such as campgrounds, picnic areas, and boat launches) on a site-specific basis. In VRM Class II areas, developed recreation facilities would have to be much less visible and more in harmony with the natural environment; these requirements may pre-

clude recreation site development in a given area. It is also likely there would be fewer motorized and development-oriented recreational opportunities such as campground camping, day use areas, picnicking, and launch ramps. However, primitive and aesthetic recreation values would be improved, because fewer acres would be managed as VRM Class III and the existing landscape character would be retained on more acres.

*Recreation Opportunities  
and Visitor Use*

26. More developed recreational facilities would be constructed, which would benefit developed recreation opportunities such as campground camping, picnicking, and motorized recreation. Developed launches would make more areas available to floaters and powerboaters. Expansion of the Upper Salmon River SRMA and development of the Upper Big Lost River SRMA would negatively impact the more primitive spectrum of recreation activities, such as floatboating, by increasing access to and participation in those activities, but would, over time, expand developed opportunities such as camping and picnicking. OHV use would be negatively affected through closures and limitations on use in order to address resource concerns. However, motorized recreation could benefit from more interpretive opportunities, expansion of the Back Country Byway program, development of a hiking, biking, horse riding, and OHV trail, and greater developed recreation access from expansion of developed facilities.

*Off-highway Vehicle Use*

27. Limiting OHV use on the entire Resource Area to existing roads, vehicle ways, and trails, and adopting closures or additional limitations on specific areas, would have a major negative effect on OHV opportunities by eliminating cross-country travel and closing some areas to OHV use. However, this would have a major positive effect on recreation activities not dependent on OHV travel. Hunting, fishing, primitive camping, hiking, and backpacking opportunities would be expanded, although access to those activities could be much more difficult.

*Cultural Resources*

28. Protection of cultural resources would enhance recreation opportunities such as interpretation and hiking. In general, continued protection of cultural resources sites would not have a negative impact on recreation, except in site-specific cases where cultural resources protection would eliminate recreation facility development or limit or foreclose activities such as OHV use. Designation of the Lone Bird ACEC for the protection of cultural resource values would eliminate OHV use and rockhounding activities in that area; however, designation would enhance interpretive recreational opportunities.

*Paleontological Resources*

29. Protection of paleontological resources would enhance recreation opportunities such as interpretation and hiking. Designation of the Malm Gulch/Germer Basin ACEC for the protection of paleontological values would reduce OHV use and eliminate rockhounding activities in that area; however, designation would enhance interpretive recreational opportunities.

*Transportation*

30. In general, continued transportation management would provide benefits to recreation by providing access to public lands for recreation uses such as camping, hiking, hunting, and wildlife viewing. However, the presence of roads throughout the RA would degrade or eliminate primitive recreation, camping, hunting, and wildlife viewing in those road corridors because of continued motor vehicle use. Design, construction, and maintenance of roads to meet or exceed State-approved BMPs would benefit recreation by providing the highest safety standards for the recreating public. Development of a Transportation Plan and Maintenance Plan through the ID team planning process would facilitate road/trail management which considers the needs of recreation resources, as well as other RA resources and programs. Continuing to allow new road construction for campground development would benefit developed recreation opportunities.

*Biological Diversity*

31. Biodiversity actions would increase the presence and abundance of native plants and animals, thereby enhancing wildlife viewing, hunting, interpretive, and photography opportunities.

*Air Quality*

32. Existing high air quality would be maintained, thus enhancing outdoor recreation experiences.

**Cumulative Effects**

31. Overall, the cumulative effects of BLM actions on recreation opportunities would be continued growth of recreation use and increased demand for more diverse opportunities. There would likely be more conflict between users, especially hunters, anglers, and boaters, since these opportunities are most popular. Natural and aesthetic values would improve, which would help improve the quality of the recreation experience.
32. Forest Service activities would continue to have effects on BLM recreation, since access to opportunities is almost indistinguishable. USFS designations of a National Recreation Area, Wilderness, and Wild and Scenic Rivers further focuses attention on this region. As adjacent National Forests become more heavily used by recreationists, the demand for opportunities on BLM public lands are also expected to increase.
33. Local private land uses for agriculture, communities, and rural residences could benefit some recreation activities that are dependent on viewable and huntable wildlife species, since cultivated crops attract wildlife closer to existing roads. However, conversion of hay grounds into residential subdivisions and the growth of communities could reverse this trend. As more people visit and use the area and private land is developed, recreation opportunities on private land would be reduced and/or changed. In addition, fewer land owners are likely to grant access to the general public, especially along highly prized riparian areas. As access to opportunities on private lands diminishes and the demand for recreation opportunities exceeds the supply, both intensive and extensive recreation opportunities on BLM land are likely, over time, to become more developed.

## Soils

**No Reasonably Foreseeable Effect to Soils:** No reasonably foreseeable effects to soils are expected from the management decisions listed in the PRMP under the following sections: Air Quality, Cultural Resources, Land Tenure and Access, Minimum Streamflow, Paleontological Resources, Tribal Treaty Rights, Visual Resources, Water Quality, Wildlife Habitat, and Wild and Scenic Rivers.

**General Discussion of Effects to Soils:** Soil erosion is a natural process. Accelerated erosion occurs when soils erode faster than they are formed. Accelerated erosion typically begins as a lateral flow of sheet erosion. If left unchecked, these flows form channels, becoming rill erosion, which eventually leads to gully erosion. Many soil properties, both physical and chemical, dictate the susceptibility a particular soil has to accelerated erosion. All soils need protection from wind and water erosional forces. Vegetation and surface coarse fragments are the primary protective agents of rain drop impacts and water erosion. In addition, microbiotic crusts often play an important role in protecting soils in lower precipitation zones, where vegetative cover is sparse. When protection is lacking, rain drop forces dislodge surface soil particles, making them susceptible to the forces of moving water. If unchecked by live vegetation, litter or coarse fragments, channelized water flows develop, resulting in accelerated erosion. Rills and gullies often make their way to stream channels, supplying sediment to riparian and aquatic habitats, and resulting in direct and indirect impacts to fish viability and habitat condition. Soil compaction results when activities (e.g., off road vehicles, livestock grazing) occur on moist soils. Compaction layers exacerbate soil erosion by restricting water infiltration and by modifying the soil's ability to capture and hold water for plant uptake or for ground water supply. This modification of the natural soil/water relationship can lead to alterations of the natural plant community, resulting in less vegetative cover available to protect the soil.

Management actions described in the PRMP are not expected to stop soil erosion, but rather, to minimize the threat of accelerated erosion through improved management of vegetation, microbiotic crusts, soil cover, and surface disturbing activities.

### Summary of Effects

1. Management actions intended to protect vegetation and other resources would improve soil stability, condition, and trend. Improved upland and riparian vegetation conditions would have immediate and sustained soil stabilizing effects. Susceptibility of soils to compaction, erosion and the disruption of microbiotic crusts would receive greater consideration when planning resource use activities. In general, the soil resource would be maintained in the short term and likely improve over the long term.
2. Some site-disturbing activities such as road construction would cause an irreversible and irretrievable commitment of soil resources on a localized basis. However, the likelihood of new road construction or other major soil-disturbing activities is small.

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**Direct and Indirect Effects, by Proposed RMP Section***Livestock Grazing*

3. Allotments identified as priority allotments to determine proper stocking level would receive attention to rapidly address riparian and floodplain functioning problems that exist within some of those allotments (see **Chapter 4 - Fisheries - Table 4-3** (p. 368)). Improved riparian conditions in these streams would improve water storage capability, flood energy dissipation, flood attenuation functions, and overland flow filtering capabilities (and consequently the floodplain-building function of the riparian system). Improvements in riparian and floodplain condition and function would lead to improved soil stability and reduced compaction and erosion potential.

Upland soils would likewise benefit from prioritizing stocking level adjustments. Grazing intensity and use patterns would be modified to provide more vegetative litter to protect soils from erosion and compaction, through improved plant health, vigor, and long term productivity. More emphasis would be placed on protecting microbiotic crust populations where these organisms play a significant role in soil protection.

4. New and revised resource planning documents would incorporate knowledgeable and reasonable practices designed to maintain or improve water quality, support beneficial uses, and improve riparian condition. Improvement to riparian areas would improve soil stability, reduce compaction and erosion potential, and improve the overland flow filtering capabilities of these areas and the floodplain building function of the riparian system.
5. Retaining nonuse AUMs and AUMs that are lost, retired, relinquished, or otherwise canceled until watershed, wildlife, and aquatic habitat objectives are met would help accelerate improvement in soil stability and soil cover within watersheds where this occurs.
6. Livestock distribution would be improved by restricting livestock use in pastures until range improvement projects are in functional condition. Improved distribution would create more even utilization of the forage resource and limit the creation of overgrazed, unvegetated, compacted, sediment-producing zones within a pasture, thus reducing the threat of soil erosion and impacts to microbiotic crusts.
7. Upland utilization standards would generally maintain or improve the vigor of upland vegetation and overall watershed cover in the long term. These improvements would increase available vegetative litter and plant basal area needed to (a) improve infiltration and watershed storage, (b) protect soil surfaces from excessive runoff events, and (c) reduce overland flows and sediment transport. Increased consideration of the effects of new soil disturbing actions on soil compaction, erosion and microbiotic crusts would reduce upland sediment transport and riparian soil compaction.

*Wild Horses and Burros*

8. To some extent, maintaining existing wild horse numbers would continue to impact soil condition in selected riparian portions of the Herd Management Area (HMA) through soil compaction on moist riparian soils, streambank shearing through hoof action, and removal of vegetative soil protection. However, other actions in the PRMP (e.g., livestock grazing management, riparian area management) would help mitigate adverse effects by improving vegetative cover and reducing compaction and shearing of moist riparian soils in the HMA. In addition, modifications to wild horse numbers may be implemented when adverse impacts to riparian and upland soils can be attributed to wild horses. Wild horse numbers would continue to be closely monitored and controlled in known areas of fragile soils within the HMA (Malm Gulch, Sand Hollow), to mitigate adverse effects to soil resources from grazing and trampling of vegetation.

*Riparian Areas*

9. Stubble height and bank shearing criteria on streams indirectly limit livestock presence in riparian areas, and would improve riparian habitat by ensuring that sufficient plant material remains to sustain desirable plant communities, maintain plant vigor, provide for a functioning floodplain, and protect the streambank. Improved riparian conditions would improve floodplain storage capacity, flood energy dissipation, flood attenuation functions, overland flow filtering capabilities, and the floodplain building function of the riparian area, thus reducing sediment movement from the area. It would create a dynamic self-healing system that minimizes sustained erosion loss of streambanks.
10. Increasing public awareness of the value of good condition, functional riparian and wetland habitats would help land users become more knowledgeable about and sensitive to these issues. As land users modify their actions to be less of an impact on riparian and wetland areas, soil stability would improve and soil compaction of these areas would decrease.
11. Development of riparian study areas would help evaluate applied management strategies for riparian vegetation improvement (which benefit soils conditions) and identify potential bulk densities for uncompacted soils. Inferences may also be made to the potential soil conditions on like soil types within the RA.
12. Increased emphasis on riparian pasture development (and greater control of riparian forage and soil conditions in these pastures) would improve soil stability and reduce bank erosion and soil compaction problems in these typically wet and susceptible soils.

*Floodplain/Wetland Areas*

13. Proposed actions which would have adverse effects on floodplains or wetlands would be denied, and development of floodplain and wetland areas would be discouraged by withholding any support for development of these areas where practicable and requiring protection of the beneficial functions of these areas if developed. Protecting the vegetation and landform characteristics of these areas which improve the infiltration, filtration, flood attenuation, and stability characteristics of a stream system would help retain

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soils in place and reduce sedimentation.

*Fisheries*

14. Management actions intended to protect crucial habitats for designated priority fish species and achieve aquatic habitat objectives would, by associated vegetation improvements, reduce sedimentation and compaction and improve the soil stability of stream systems and upland watersheds.

*Fire Management*

15. In full suppression areas, impacts from fire suppression activities are likely to occur from vegetation removal and soil disturbance, resulting in increased soil erosion. However, the application of the Minimum Impact Suppression Tactics (MIST) Guidelines (Attachment 9) and other PRMP actions would help mitigate impacts resulting from fire suppression activities, especially in WSAs. Rehabilitation specifications would accelerate recovery of disturbed riparian and aquatic habitats if fire staging activities are unavoidable in those areas. Rehabilitation efforts in other localized areas (*i.e.*, uplands) would be implemented as necessary to rapidly revegetate soil types prone to erosion.

Full suppression would reduce the immediate threat of accelerated soil erosion resulting from large scale burning of vegetation and microbotic crust soil cover. However, suppressing fires also increases the risk of large uncontrollable fires that would result in large scale burn areas susceptible to widespread accelerated soil erosion.

16. In conditional suppression areas, similar fire suppression impacts would occur and similar MIST Guidelines criteria would apply. Suppression impacts are expected to occur at a reduced level since suppression activities would be more flexible and controlled. Conditional suppression activity plans would consider vegetation and soil disturbing effects by identifying and controlling fire in plant communities with a high risk of fire effects (*e.g.*, cheatgrass, microbotic crust populations) and including burn prescriptions to allow cooler, mosaic type burns, resulting in reduced threats to widespread accelerated soil erosion. The risk of large, uncontrolled fires may decrease over the long term as more small fires are allowed to burn.

*Transportation*

17. Restrictions on new road construction in riparian areas would minimize soil disturbance on these sensitive soils. Evaluation and appropriate modification of existing roads would reduce the sediment discharge that may currently exist. New roads built on upland slopes would be designed to reduce the potential for increased upland soil movement.
18. Focusing road maintenance on areas with the greatest potential for erosion or soil instability would reduce potential soil losses. Road construction and maintenance activities would be reviewed by appropriate staff specialists, and meet or exceed minimum standards contained in State-approved BMPs for road construction and maintenance. These limitations and reviews would minimize soil loss from constructed roads that are most sensitive to soil movement. Design specifications for road maintenance are intended to eliminate increased sedimentation.

*Rangeland Vegetation  
Treatment Projects*

19. In the short term (two to five years) vegetation treatment projects have the potential to increase soil loss by removing existing ground cover through treatments such as plowing or burning. However, an objective of the vegetation treatment project would be to maintain or increase vegetative cover, thereby reducing the potential for soil erosion in the long term.

*Noxious Weed Infestations*

20. Control activities to eliminate pure stands of noxious weeds could result in unprotected soils and some soil erosion. However, treatment areas would be seeded with perennial species within 8 months to provide adequate ground cover to minimize the potential for accelerated soil erosion.

*Forest Resources*

21. Reducing the commercial timber base by approximately 24% would maintain some forest lands in an undisturbed condition, reducing the potential for soil compaction, disturbance, and erosion from those lands. In forested areas where harvest does take place, the management practices and design specifications identified are expected to adequately protect the soil resource from adverse soil loss. Roads and skid trails associated with timber harvest activities would typically not be constructed in riparian areas or buffer strips, to protect sensitive soils. Water bar standards of the Idaho Forest Practices Act would minimally protect the soil resource from excessive erosion. Increased flows that could cause soil erosion would probably not occur on harvested areas limited to 10 acres or less, although erosion hazards are somewhat increased on larger sized harvest areas.

*Recreation Opportunities  
and Visitor Use*

22. The expanded recreation facilities proposed to accommodate increased recreation demand would cause increased compaction and could cause increased sedimentation in, and adjacent to, campground and casual use areas. However, these impacts could be monitored and controlled at the developed use sites. Further development of recreation facilities in riparian areas would be curtailed, protecting those fragile soils from further compaction or erosion. Casual use areas identified for closure or hardening would reduce sedimentation to adjacent streams. Not accommodating increased recreation use would have greater, more dispersed, and less controllable impacts on sedimentation and soil compaction than the proposed recreation development.

*Off-highway Vehicle Use*

23. OHV use limitations and closures throughout the RA would nearly eliminate new sedimentation and compaction impacts from off-road vehicle travel. Limiting OHV use to existing roads and vehicle ways would allow mitigation efforts to focus on maintaining existing roads and trails, in order to minimize existing adverse sedimentation effects. The stated exceptions to the OHV limitations may result in some surface soil disturbance, soil compaction, and disruption of microbiotic crusts in isolated instances. However, the potential for accelerated soil erosion would be minimal.

*Areas of Critical  
Environmental Concern*

24. Management actions to maintain ACEC values would directly or indirectly benefit the soil resource values within, and adjacent to, ACECs by maintaining and improving overall vegetation conditions and soil cover within ACECs. OHV use restrictions and closures would protect the soils from OHV-caused compaction and soil instability. Restrictions on timber harvest methods would protect the stability and condition of the soil resource in forested habitats. Livestock grazing closures would directly protect vegetation and soil cover, and reduce soil compaction.

*Wilderness Study Areas -  
Management if Released*

25. Suitable WSAs, if released from wilderness review, would primarily be managed to maintain their primitive values. Mineral closures and/or stipulations, timber harvest closures, and OHV use restrictions and road closures would be implemented according to decisions described in the PRMP. These restrictions would continue to protect the soil resource in these areas from surface disturbance and soil compaction.

Nonsuitable WSAs, if released, would allow somewhat less restricted timber harvest, mineral development, and OHV activities. However, helicopter logging requirements, OHV limitations and closures, and standard stipulations on mineral development would provide adequate protection to soils by maintaining soil cover and preventing compaction, thereby reducing the threat of accelerated soil erosion. Impacts from continued livestock grazing would be as described in analysis points #3 through 8 above.

*Minerals*

26. Restrictions on road construction for minerals exploration and development would reduce the potential for sedimentation and soil erosion.
27. The potential for energy mineral development within the RA is low, and therefore the likelihood of impacts to soils from energy mineral development is also low. If oil, gas, or geothermal development occurs, various stipulations, when applied, would minimize the potential impacts to soil stability, compaction, and toxic contamination from oil, gas, and geothermal development actions in selected areas (e.g., ACECs; SRMAs; riparian areas in salmon, steelhead, and bull trout watersheds). Lack of mandatory NSO stipulations in some riparian areas would create the potential for disturbance to vegetation communities which provide soil stability in riparian areas; protection of soil resource values would depend on ID team review and application of appropriate standard lease stipulations. Throughout the Resource Area, unless the mandatory NSO stipulation applies, the possibility exists that soils may be adversely affected by vegetation removal, compaction, sedimentation, and toxic impacts of oil, gas, and geothermal development.
28. There are no known deposits of non-energy leasable minerals in the RA; therefore, there are no reasonably foreseeable impacts to soils resources from non-energy mineral development.

29. Limitations and closures on mineral material sales would protect existing soil conditions from soil disturbance impacts of mineral material disposal. Closing riparian areas in salmon, steelhead, and bull trout watersheds to mineral material sales would eliminate potential adverse impacts to sensitive riparian soils in these areas. In other riparian areas, stipulations requiring operators to not hinder attainment of desired riparian and aquatic habitat conditions would protect the soil resource from excessive disturbance and compaction. In other portions of the RA, protection of the soil resource from adverse effects of saleable mineral development would generally be dependent on ID team review on a site-specific basis. Removal of soil cover, surface soil disturbance, and soil compaction are likely to occur and lead to localized soil erosion.
30. Maintaining the withdrawn status of recreation sites from locatable mineral entry would have a small benefit to soil conditions because of the small acreage involved. Withdrawing suitable WSAs, if released from wilderness review from locatable mineral entry would protect existing soil resources from impacts of mineral location in those areas. Mineral location activities which do not require a plan of operations (less than 5 acres and outside an ACEC or area closed to OHV use) would negatively impact the soil resource through removal of vegetation, soil disturbance and potential toxic contamination. Larger mineral location activity or activity within an ACEC or area closed to OHV use would be required to file a plan of operations and be subject to ID team review. Effects on the soil resources would vary, depending on the scope of the project and outcome of ID team review. Some additional protection of the soil resource could be provided through preparation of the plan of operations; however existing laws allow a high degree of flexibility to the mineral locator. Negative impacts to the soil resource could still include removal of vegetation and soil disturbance, soil compaction, and toxic contamination. Required reclamation actions associated with large scale mineral material location actions would mitigate some of the adverse impacts in the long term.

*Hazardous Materials  
Management*

31. Hazardous materials management decisions would minimize the chance and severity of hazardous materials toxic contamination impacts to soils.

**Cumulative Effects**

32. PRMP actions to improve management of upland and riparian vegetation communities in the RA would cause a sustained improvement in soil stability and reduce site-specific soil compaction problems. Improved vegetation conditions would be expected to maintain or improve soil health and function and reduce soil instability and movement. A general improvement in overall soil condition over the long term would be expected.
33. Forest Service and State land management practices are also being modified to improve soil conditions. As these practices continue to occur, sedimentation, and high runoff potential from these lands would be decreased and consequently have less impact on soil conditions on BLM lands. This would tend to reduce the cumulative impacts to soil disturbance which occur

on BLM lands.

34. The largest use of private lands within the boundaries of the Challis Resource Area has been agricultural use supporting the livestock industry within the area. These uses on private lands may produce soil loss on BLM lands along stream segments downstream of the private lands. The soil loss on BLM lands may be a result of stream alteration or bank stabilization projects or vegetation removal activities on private lands which cause a change in the streamflows and subsequent bank erosion on BLM segments of the stream.

Mineral development on private lands is a potential concern to soil resources on BLM lands. Mineral development on private land could cause increased soil erosion, gullying, and sediment loads on downstream BLM stream segments and adjacent uplands.

A minor impact to the soils resource on BLM lands may occur from toxic chemical use, storage, or disposal on private lands. The use of toxic materials on private lands is generally greater than on Federal lands. Private landowners may store or dispose of toxic substances, including agricultural chemicals and petroleum products, in a less regulated manner than is required on Federal lands. Unprotected storage facilities, inappropriate storage containers, and small family dumps are all potentially hazardous situations which may occur on private lands. An impact to soil resources on BLM land may occur if toxic substances migrate from the private lands to BLM lands.



## **Tribal Treaty Rights**

**Introduction:** Members of the Shoshone-Bannock Tribes and other Federally recognized Indian tribes exercise their hunting, fishing, and gathering rights on Federal lands outside the boundaries of their reservations, including public lands within the Challis RA and adjacent USFS lands. These pursuits include fishing for anadromous and resident game fish species, hunting large and small game, and gathering natural resources for subsistence and medicinal purposes.

**Mitigated Effects:** Consultation with appropriate Native American groups is proposed to ensure that all anticipated effects on treaty rights and trust resources are addressed in the planning, decision, and operational documents prepared for each proposed BLM action. Consultation can help protect treaty rights and trust resources by providing valuable information from tribal members concerning areas and resources important to the tribes in general. Consultation can also help ensure that areas important to the Native American communities are not inadvertently transferred from Federal ownership, or physically modified in such a way as to restrict or deny access for Native American Indians to use trust resources in a certain area. Through meaningful consultation, the resources that are important to Indian tribes can be better managed and protected.

**Summary of Direct and Indirect Effects:** As discussed above, effects on the pursuit of tribal treaty rights are expected to be mitigated during the activity and project planning process, and adverse effects, if any, are not expected to be significant. However, decisions in the PRMP which positively or negatively affect opportunities for hunting, fishing, or gathering natural resources in general could have an effect on the pursuit of tribal treaty rights. These effects are, for the most part, unknown because little information is available on the Federally recognized tribes' preferences (species and locations) for hunting, fishing, or gathering. The Chapter 4 discussions of environmental consequences for "Fisheries," "Vegetation," and "Wildlife Habitat" describe the effects of PRMP decisions on the three resources which may be of particular interest to persons concerned about tribal treaty rights.

Any transfer of public lands to private ownership could affect the tribes' ability to practice their tribal treaty rights on BLM lands. Land tenure actions could also block access to areas needed to practice tribal treaty rights, unless easements or covenants are negotiated to retain access.

## Vegetation

**No Reasonably Foreseeable Effects to Vegetation:** No reasonably foreseeable effects to the vegetation resource are anticipated from the actions listed in the PRMP under these sections: Air Quality, Cultural Resources, Hazardous Materials Management, Minimum Streamflow, Paleontological Resources, Tribal Treaty Rights, Visual Resources, and Water Quality.

Effects to the vegetation resource are described below under one or more of the following categories: **Summary of Effects, Direct and Indirect Effects, by Type of Vegetation Affected and PRMP Section** (includes impacts to upland vegetation, riparian vegetation, special status plant species, and noxious weeds), and **Cumulative Effects**. Although impacts are described under one of these categories, effects may also occur under one or more other categories.

### Summary of Effects

1. Adjusting long term livestock stocking rates would lead to progress toward achieving BLM vegetation goals. Watershed assessments completed during project or activity planning would consider the impacts of all factors affecting the vegetation resource and would ultimately improve vegetation. Criteria for vegetation treatments would ensure that the treatments accomplish the goals for which they were designed. More restrictive OHV limits would reduce vegetation damage throughout the Resource Area and reduce the spread of noxious weeds. Increased emphasis on riparian improvement would improve riparian conditions. Increased knowledge of special status plant species, the role of biodiversity, and the extent of old growth forested areas would enhance the BLM's ability to improve watersheds and protect those values. A more aggressive approach to noxious weed control would help limit the spread of noxious weeds and improve vegetation conditions. Use of prescribed fire to meet overall ecosystem goals would improve vegetation composition, vigor, and production.

### Direct and Indirect Effects, by Type of Vegetation Affected and PRMP Section

#### Upland Vegetation

##### *Livestock Grazing*

2. In the short term, allocations for livestock, wild horses, and wildlife would remain the same; however, in both the short and long term, actions such as utilization and cover requirements could result in active livestock use up to 12,657 AUMs less than active preference. This would result in less livestock impact to upland vegetation, resulting in improved plant vigor and movement toward meeting vegetation goals of the RMP. In the long term, stocking rates would be brought into line with forage production, thus moving vegetation condition closer to the stated goals (see PRMP: Livestock Grazing, Goal 1).
3. Areas closed to livestock grazing (about 21,343 acres) would continue to improve in ecological condition, thus helping to meet vegetation goals.
4. Utilization criteria for upland sites, specific by key species and phenological stage, would accelerate improvement of upland plant health and vigor by

requiring that livestock be moved when a specific seasonal utilization level has been reached.

5. Managing for late seral to Potential Natural Community (PNC) as the Desired Plant Community (DPC), unless an ID team selects otherwise, would ensure vegetation goals are met. When an ID team decides some other DPC is more desirable, ecological needs would be assessed to ensure vegetation goals are met.
6. Splitting or combining allotments to help meet riparian and upland objectives could improve grazing management and vegetation composition, vigor, and production.
7. Holding retired, cancelled, or other nonuse AUMs for nonconsumptive uses until allotment vegetation objectives are met would mean those AUMs would be available for plant vigor and maintenance; overall vegetation condition would benefit.
8. Managing all watersheds in the RA to achieve vegetation cover standards would ensure plant vigor and reproduction, proper water infiltration, less erosion, better conditions for seedings, and a more favorable microclimate around plants.
9. For the short term, managing under current AMPs with PRMP utilization and riparian stubble requirements would produce a more rapid rate of vegetation improvement than in the past. For the long term, watershed assessment to determine vegetation needs, monitoring to determine proper stocking levels, and completion of Integrated Resource Activity Plans would ensure vegetation improvement to achieve vegetation goals.
10. Allocating additional forage made available as a result of seedings, burns, range improvement projects, or seasonal variations for non-livestock grazing purposes until allotment management objectives are reached would improve the likelihood of achieving vegetation goals.
11. Rangeland prescribed burning to meet ecosystem objectives would move burned areas into an earlier seral stage by removing sagebrush cover. This would allow water and nutrients to be more available for existing grasses and forbs, and would increase their vigor and cover. Land treatments to achieve multiple resource objectives would improve vegetation conditions overall.
12. Managing for a herd of about 185 to 253 wild horses would have localized impacts to upland vegetation through grazing and trampling. If monitoring indicates this number of wild horses is shown to damage the vegetation resource, the Herd Management Area Plan would be modified to allow management of fewer horses. Allowing wild horses to use the Malm Gulch and Sand Hollow areas (as long as resource damage does not occur) would enable the BLM to gather horses that are causing damage elsewhere, thus

*Wild Horses and Burros*

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improving upland vegetation.

*Wildlife Habitat*

13. Encouraging the IDFG to maintain big game numbers at current levels, unless habitat data show greater numbers can be supported without resource conflicts, would maintain or enhance current vegetation conditions. Monitoring wildlife habitats would ensure that wildlife populations do not damage the vegetation resource.
14. Continuing to implement the Willow Creek Summit and East Fork Salmon River Habitat Management Plans would have positive impacts to upland vegetation.

*Rangeland Vegetation  
Treatment Projects*

15. Determining the priority and need for vegetation treatment projects through the ID team and activity planning process, would help ensure that projects are considered in an overall multiple use context and would be expected to result in management changes to enhance upland vegetation condition, as well as biodiversity.
16. Actions to manage vegetation treatment projects (a proportionate reduction in livestock use, establishment of success standards, post-treatment management plans, and criteria on post-treatment increases in grazing preference) would ensure that Resource Area-wide vegetation objectives are being met.

*Fire Management*

17. Suppression of all fires (except in WSAs) would result in areas of heavy sagebrush canopy, leading to large areas with little vegetation diversity. Unplanned fires would have the potential to increase the invasion of cheatgrass; however, the potential for this is low, since few wildfires occur with the Resource Area. In conditional fire suppression areas wildfire could lead to (a) a better mosaic of vegetation on the landscape, and resulting improved biodiversity; and (b) improved soil nutrient cycling, reduced competition for nutrients, water and sunlight among remaining plants, and resulting improved vegetation vigor. PRMP decisions to consider the potential for cheatgrass invasion would help ensure such invasion does not occur. Restrictions on fire suppression activities would protect areas from erosion and benefit vegetation. Rehabilitation of burned areas to prevent erosion would preserve the soil and improve vegetative cover.

*Wild and Scenic Rivers*

18. Actions to maintain OR values and free-flowing characteristics along the WSR corridors of the 10 segments found eligible for suitability study and 5 rivers found suitable for WSR designation would have little impact to upland vegetation because the WSR corridor is so narrow.

*Areas of Critical  
Environmental Concern*

19. Continued designation of existing ACECs and designation of new ACECs would have minor positive impacts to about 88,206 acres of upland vegetation, by highlighting management in those areas to protect vegetation communities.

*Wilderness Study Areas -  
Management if Released*

20. Watershed assessment and development of resource objectives for areas released from wilderness review, prior to development of range improvements, would ensure protection of vegetation values by considering all resource needs. Construction of range improvement projects in WSAs if released from wilderness review would potentially improve vegetation as a result of better livestock distribution. Vegetation may also be subject to greater levels of trampling and grazing on sites in close proximity to new range improvement projects.

*Forest Resources*

21. Commercial timber harvest would have significant impacts to upland vegetation in localized areas. Limiting clearcut size to 10 acres in Douglas-fir types would result in more, smaller cutting units and a higher likelihood of natural regeneration to native vegetation. Shelterwood cuts in Douglas-fir stands would result in impacts similar to clearcutting, except shelterwood cut units would seed in more quickly due to increased seed source and shading. In the long term, these areas would be regenerated naturally or artificially, resulting in eventual reversion back to vegetation with vertical structure similar to the original stand. Use of an ID team to plan projects would reduce vegetation impacts from forest management activities. Protection of 980 acres of old growth would preserve these unique areas and their values. For other impacts to forested areas from forest management actions, see *Chapter 4 - Forest Resources*.

*Minerals*

22. Due to the low potential for energy minerals in the Challis RA, the likelihood of impacts to vegetation from oil, gas, or geothermal development is also low. Upland vegetation would be protected in areas where standard stipulations are applied to protect resource values. Upland vegetation in areas with a mandatory "no surface occupancy" stipulation (suitable WSAs, if released) or closed to energy mineral leasing (existing WSAs; campgrounds and recreation sites) would be fully protected from the impacts of energy mineral leasing.
23. There are no known deposits of non-energy minerals in the RA; therefore, the likelihood of impacts to upland vegetation from non-energy leasing is considered very low.
24. Development of mineral materials sites would have disturbance impacts to upland vegetation in small, localized areas.
25. Locatable mineral activities would only have minor disturbance impacts to upland vegetation, unless another major mine of the scale of the Thompson Creek Mine was developed.

*Off-highway Vehicle Use*

26. Limiting OHV use on the entire RA to existing roads, vehicle ways, and trails, and closing additional areas to OHV use would protect upland areas throughout the RA from rutting, erosion, and vegetation trampling damage from OHVs.

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**Riparian Vegetation***Livestock Grazing*

27. Incorporating knowledgeable and reasonable practices to maintain water quality and support beneficial uses would result in improved management of riparian areas. Use of riparian stubble height and bank shearing criteria to move livestock from pastures would help ensure achievement of properly functioning riparian zones and meet RMP goals for riparian vegetation.
28. Continuing existing management of the Anderson Ranch riparian pasture should ensure slow improvement of riparian vegetation in this area. Increased emphasis on development of other riparian pastures throughout the Resource Area would ensure improvement of riparian vegetation in those pastures and in areas to which knowledge gained from these pastures is applied.
29. Locating new and existing livestock handling facilities outside of riparian areas would protect these areas and allow riparian recovery.
30. For the short term, managing under current AMPs, with RMP utilization and riparian stubble height requirements, would produce a more rapid rate of riparian vegetation improvement than currently occurs. For the long term, watershed assessment to determine riparian condition, trend, and management needs would ensure riparian vegetation improvement.

*Riparian Areas*

31. Maintaining existing riparian exclosures and constructing some new ones would improve some riparian areas and provide information that could be used to improve other areas
32. Road construction and campground development limits would minimize impacts to riparian areas from roads and increased human activities.
33. The "no net loss" policy of like riparian values would ensure that the net amount of valuable riparian vegetation within the Resource Area would not be diminished. Other riparian and wetland areas, if transferred out of public ownership, would have covenant language in the deed to protect wetland values and vegetation. Moving the Summit Creek campground from the riparian area would protect riparian and special status plant values in that area, by reducing the possibility of human-induced disturbance.

*Floodplain/Wetland Areas*

34. Not allowing development actions which would cause adverse effects to floodplains or wetlands would protect riparian vegetation.

*Wild Horses and Burros*

35. Managing for about 185 to 253 wild horses would have localized impacts to riparian vegetation. If monitoring indicates this number of wild horses is shown to damage the riparian resource, the HMAP would be modified to allow management of a lower number of horses. Adjusting wild horse numbers if riparian and aquatic habitat standards are not met would improve riparian conditions within those watersheds in the Herd Management Area.

- Fisheries*
36. Attainment of desired riparian and aquatic habitat conditions would ensure meeting riparian vegetation goals.
  37. Reintroduction of native wildlife species would have the potential to cause riparian impacts if beaver are reintroduced into streams within the Resource Area. Use of the ID team process should ensure that only positive impacts to riparian areas result.
- Fire Management*
38. Locating fire control facilities outside of riparian areas would help protect those areas from minor, short term trampling and mechanical damage associated with fire control activities. Limits on the use of fire retardant and heavy equipment for fire control would also protect riparian areas. Fire rehabilitation designed to achieve desired aquatic and riparian conditions would limit riparian degradation.
  39. The use of prescribed fire to enhance ecosystem health and functioning would result in riparian vegetation improvement.
- Land Tenure and Access*
40. Eliminating unauthorized use of public lands through reclamation of agricultural or occupancy trespasses would have the potential to restore native riparian vegetation to some localized areas. Over the life of the RMP, up to about 63,075 acres of public land would be available for disposal (including up to about 4,806 acres which could be sold). The actual amount of land that would be transferred out of public ownership would be anticipated to be much lower. These transfers to private or State ownership could result in some type of vegetation conversion.
- Wild and Scenic Rivers*
41. Management to protect OR values and free-flowing status on the 15 eligible or suitable segments would help protect riparian values along those WSR corridors.
- Areas of Critical Environmental Concern*
42. ACEC designation would enhance riparian vegetation in the East Fork Salmon River Bench, Malm Gulch/Germer Basin, Thousand Springs, Birch Creek, Donkey Hills, Dry Gulch, Pennal Gulch, Herd Creek Watershed, and Summit Creek ACECs.
- Wilderness Study Areas - Management if Released*
43. Watershed assessment and development of resource objectives for areas released from wilderness review, prior to development of range improvements, would ensure protection of riparian vegetation by considering all resource needs.
- Forest Resources*
44. Restrictions on commercial timber harvest, firewood cutting, and tree cutting in riparian areas would reduce impacts to riparian vegetation.
- Minerals*
45. For riparian areas in salmon, steelhead, and bull trout watersheds, mandatory NSO stipulations on energy mineral leases, closure to mineral material sales and extraction and non-energy leasing, and special design and opera-

tion of locatable mineral facilities would help protect these riparian areas. For riparian areas within other fish-bearing streams, minerals actions would be designed, constructed, and operated so as to not hinder the attainment of desired riparian and aquatic habitat conditions. This is expected to provide protection to riparian vegetation.

*Recreation Opportunities  
and Visitor Use*

46. Recreation actions could potentially impact riparian vegetation in localized areas through use of existing campgrounds and construction or upgrading of semi-developed campgrounds. Continued use of casual use areas, particularly along the Salmon and Big Lost rivers and Summit Creek, would also impact riparian vegetation through vegetation trampling by vehicles and people. River access facilities for floatboating would impact riparian vegetation by increasing human activities in those areas.

*Off-highway Vehicle Use*

47. Limiting OHV use to existing roads, vehicle ways, and trails throughout the RA would benefit riparian vegetation by limiting the amount of damage these types of vehicles can cause in riparian areas.

**Special Status Plant Species**

*Special Status Species*

48. Increasing the rate of inventory of special status plants from about 2,000 acres to about 3,000 acres per year would increase knowledge of these plant species. Requiring a site-specific field assessment of special status plant species as part of the assessment of all authorized actions would ensure protection of these vegetation resources. Moving the Summit Creek campground from the riparian area would help protect special status plant values in the area. Data files, inventories, and field assessments of non-vascular and special status plants, species management plans, and cost-share partnerships would help ensure protection of special status and non-vascular plant values, by highlighting management of these types of plants.

*Areas of Critical  
Environmental Concern*

49. Designation and management of the Malm Gulch/Germer Basin, Summit Creek, Dry Gulch, Pennal Gulch, Herd Creek Watershed, Sand Hollow, Birch Creek, and Lone Bird ACECs would help enhance rare plant populations in those areas.

*Off-highway Vehicle Use*

50. OHV limitations and closures would help protect special status plant values by reducing the opportunity for OHVs to drive over special status plants or cause erosional damage to their habitats.

*Biological Diversity*

51. Actions to manage for biological diversity would provide protection for special status plants, by ensuring that their unique values are considered as a part of the ecosystem at all levels of biodiversity.

### Noxious Weeds

#### *Noxious Weed Infestations*

52. Increasing the rate of noxious weed control from about 77 to about 150 acres per year and utilizing integrated pest management would help preclude the spread of noxious weeds within the RA. Large areas currently infested with weeds would be controlled on their periphery to prevent the spread of weeds, and biological control agents would be used to control weeds within the infested areas. As new outbreaks are discovered, they would be aggressively attacked, thus reducing the chance of infestation.
53. Seeding areas where vegetation is removed during construction with a suitable seed mix would help impede the spread of noxious weeds by occupying bare ground areas with desirable plant cover.
54. Requiring applicants for land permits and rights-of-way to control noxious weeds would help limit their spread. Requiring the use of certified weed-free hay on public land would reduce the rate of spread of noxious weeds from this source.

#### *Off-highway Vehicle Use*

55. Off-highway vehicles would have the potential to spread noxious weeds throughout the Resource Area along roads and vehicle ways. Increased OHV limitations and closures would slightly reduce the potential for the spread of noxious weeds by virtually eliminating cross-country travel.

#### *Transportation*

56. Road maintenance and new road or trail construction activities would have the potential to spread noxious weeds by providing disturbed sites for new weed invasions and corridors for weed dispersal. Many existing roads and trails would not receive regular maintenance; new road construction in riparian areas would be limited; heavy equipment would be cleaned on site; and roads not needed for management would be closed and rehabilitated. These actions would limit the amount of disturbance and the spread of noxious weeds.

### **Cumulative Effects**

57. In addition to the cumulative effects from BLM actions listed in the **Summary of Effects**, actions from adjacent landowners could have cumulative impacts to the vegetation resource. Much of the Resource Area is adjacent to National Forests, private lands, or State lands. Generally, other than casual uses like recreation, any action that crosses from other ownership to BLM managed lands and would impact vegetation on public land would need a permit, right-of-way, etc. from the BLM. This would provide an opportunity to design or mitigate the action in accordance with the requirements of the RMP. One possible exception would be incidental recreation use, which could bring noxious weeds onto BLM lands. These weeds could be difficult to control and may impact vegetation for some time to come. Watershed assessments would include consideration of adjacent land uses on the vegetation component of the ecosystem. This would allow the opportunity for adjacent landowners, other agencies, etc. to help the BLM develop actions which would consider the overall needs of vegetation, regardless of land ownership patterns.

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## Visual Resources

**No Reasonably Foreseeable Effects to Visual Resources:** No reasonably foreseeable effects to visual resources would occur from PRMP decisions listed under the following sections: Air Quality, Hazardous Materials Management, Special Status Species, Tribal Treaty Rights, and Wild Horses and Burros.

### Summary of Effects

1. Current visual quality in the Resource Area is very good, and the RA is very natural in appearance overall. PRMP decisions are expected to alter the visual quality of the landscape, but, except on a site-specific basis, would have no significant adverse or beneficial effects on visual quality. Visual quality would remain high, because a significantly larger portion of the RA would be in VRM Class II and the character of the existing landscape would be preserved on more acres.

### Positive Effects

2. Positive effects are those activities which retain or enhance the natural visual aesthetics by maintaining or enhancing the form, line, texture, and color of the landscape - components which attract the eye. PRMP actions which enhance water quality, protect riparian and upland areas, and maintain the natural and aesthetic qualities of the landscape would have positive effects on visual quality. Examples of such actions include removing livestock for various time periods from certain streams; implementing grazing systems; modifying fire suppression practices; preserving high quality habitat in exclosures; acquiring wetlands; restricting road construction in riparian areas; retaining and/or designating special management areas (*e.g.*, SRMAs, ACECs, WSAs); modifying timber harvest practices (such as helicopter logging on Lone Pine Peak); stabilizing streambanks; limiting OHV use to existing roads, vehicle ways, and trails Resource Area-wide; and OHV closures in critical areas.

### Negative Effects

3. Negative effects are visual intrusions on the landscape which degrade the existing natural visual aesthetics. Although negative effects to visual resources may occur from PRMP actions, surface disturbing activities would not exceed the allowable visual intrusion for a given area (*i.e.*, VRM Class). The following are examples of PRMP actions which would have a short or long term negative effect on visual quality, if they were to occur: range improvement projects and seedings; new road construction; timber harvest; recreation site development; and mineral development.

### Cumulative Effects

4. All BLM actions would be in compliance with VRM class guidelines assigned a delineated area, and would either maintain or enhance those values. PRMP actions which would, in general, protect watersheds and improve wildlife and fisheries habitat, water quality, and riparian health would also benefit the VRM landscape. Class I and II areas would emphasize preservation of the natural landscape character, which would preclude development of any kind that could not attain visual standards. Class III areas would allow major changes to the landscape.

USFS actions within the adjacent National Forest could have a positive or negative impact on overall visual quality in the RA, especially if VRM goals on adjacent USFS lands differ.

The effects of private land uses for agriculture, communities, and rural residences would be the greatest threat to maintaining visual quality on BLM-administered lands. Some actions, such as farming, could benefit VRM goals because many ranching activities help maintain visual quality. However, some ranching activities (such as fencing, corrals, buildings, and diversion structures) could alter the landscape character. The conversion of hay grounds into residential subdivisions could cause major alterations to visual quality.



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## Water Resources

**No Reasonably Foreseeable Effects to Water Resources:** No reasonably foreseeable effects to water resources would be expected from the actions listed in the PRMP under the following sections: Air Quality, Cultural Resources, Paleontological Resources, Tribal Treaty Rights, Visual Resources, or Wildlife Habitat.

**General Discussion of Effects to Water Resources:** The impacts to hydrologic resources vary in type, intensity, and magnitude; some management actions tend to produce beneficial impacts, while others produce adverse impacts. Effects on water resources are best understood by recognizing the direct and indirect effects of management decisions on water quality and the quantity of water available within watersheds. The condition of upland and riparian vegetation, surface disturbance and associated soil movement, toxic contamination, and natural events (*e.g.*, fire, landslides) all have the potential to directly affect water quality or quantity in watersheds.

Water quality is determined by the level of support to beneficial uses which are "designated" by the Idaho State Department of Environmental Quality or "identified" by the BLM. Beneficial uses for the major streams within the Resource Area are listed in *Appendix J, Item 1*, pp. 657-661. Water quality standards vary for each beneficial use. Sediment, temperature, dissolved solids, and water chemistry (pH, dissolved oxygen) are common water quality standards that are either directly or indirectly monitored and managed within the Challis Resource Area.

Upland watershed vegetation influences the infiltration and runoff characteristics of a watershed. It affects the ability of a watershed to store and release water through ground water flow to a stream over a long period, and minimize the extent of "flashy," sediment-laden, overland flow events. A healthy, well-vegetated watershed improves watershed storage production capacity, which tends to maintain adequate summer and fall season base flows through a sustained inflow of cool ground water to the stream system. The stable flows and cool temperatures are required for fish, maintaining high water quality, and sustaining flows for downstream private agricultural, municipal, and domestic uses.

Good riparian vegetation community conditions improve the infiltration, filtration, and stability characteristics of a stream system. They allow a riparian system to store and release water through ground water flow to a stream over a long period, dissipate energy of high flows without stream degradation, revegetate degraded conditions, and filter water quality contaminants of overland flows prior to entering the stream channel. Improved riparian conditions will generally result in narrowing channels, which will cause more frequent overbank flows which dissipate stream energy, reduce flood flow peaks, and extend the time of runoff from a flood event. The longer period of time of overbank flow results in greater water storage within riparian soils and more sustained, higher, and cooler base flows following the flood event. These conditions improve the water quality and quantity needs for fish and downstream private agricultural, municipal, and domestic uses.

Soil type and conditions also have an impact on water quality, water quantity, and the timing of water release from a watershed. Different soil types have differing abilities to store and release water and differing resistance to erosion. Coarser soils with lower amounts of organic matter have a lower water-holding or water retention capability, tend to be less vegetated, and can be very erosive if not adequately

protected. These soil types tend to be found on the higher slopes, are generally not as compactable, and depend on live vegetation, vegetative litter, and surface coarse fragments to improve infiltration and resist erosion. The sedimentation impacts of these soils tend to be a result of overland flow carrying sediments to stream channels. Finer textured soils have a higher content of silts, clays, and often organic matter. These soils have a very high water storage capacity, have the ability to support more vegetation, and are somewhat resistant to erosive forces when well-vegetated. The vegetation-water-soil combination tends to be more dynamic and have greater healing abilities when eroded. The sedimentation impacts of these finer textured soils tend to be silts and clays eroded directly by the stream, and are often the result of poor quality or inadequate vegetation. These soils can also be susceptible to mass wasting or slumping in saturated conditions.

The introduction of toxic materials in watersheds has the potential to adversely affect water quality. The effect of toxic materials spilled in either riparian or aquatic habitats would depend on the toxic substance spilled and the concentrations arriving in the water course. If toxic contamination were to occur, it could significantly and adversely affect water quality.

Natural events can have a sudden and dramatic impact on both water quality and water quantity. Wildfire will release nutrients which had been bound in the soil surface and plant material and make them readily available. Following wildfire, there can be a surge of nutrient loading in streams. In addition, when vegetation is removed by wildfire the soil surface becomes more susceptible to erosive precipitation events, resulting in the potential for increased sediment loading to streams. Extreme precipitation events can also impact both water quality and water quantity. Vegetation and soils conditions have evolved under a regime of climatic events and precipitation amounts. When an extreme precipitation event or an uncommon duration of precipitation occurs, soils can become saturated. Excess precipitation will flow rapidly to streams, causing flood conditions. Both the overland flow and streamflows from these events can be highly erosive, especially in the absence of adequate vegetative cover. High intensity rainfall events can actually seal the soil surface, reducing the water storage capacity of the soil and allowing rapid overland flow to accumulate to flood conditions in streams. This phenomenon tends to be a highly localized event. Rain-on-snow events can also cause severe flooding and erosion of stream channels. Rain on snow will cause a rapid release of water stored in snowpack, in addition to the rainfall. These events also typically occur when the ground is frozen and the water storage capacity of the soil is unavailable. This phenomena has caused some of the most severe flood events in the western U.S. Landslides can cause a significant and rapid, although generally localized, contribution of sediment to a stream system. Not only may a large quantity of sediment be input into the stream system in a short time, but the instability of the landslide soils may contribute sediment for an extended period of time until the landslide becomes stable.

#### **Summary of Effects**

1. PRMP management actions would improve water quality condition and trend. Watershed storage capacity and floodplain and riparian function would also improve. A number of specific management actions would improve upland and riparian vegetation conditions and associated upland, riparian, and aquatic habitats. Indirect benefits to water resources would include (a) reduced nutrient loading and sediment transfer to aquatic habitats and (b) improved watershed storage and production capacity. Improved vegetation conditions would result in immediate short term improvement, and establish the conditions for long term maintenance and continued

improvement of water resources. Identified beneficial uses (see *Appendix J, Item 1*, pp. 657-661) would not be adversely affected, and would achieve full support status over the long term.

### Direct and Indirect Effects, by PRMP Section

#### *Livestock Grazing*

2. Allotments identified as priority allotments to determine proper stocking level would receive added attention to rapidly address riparian and floodplain functioning concerns that exist within some of those allotments (see *Chapter 4 - Fisheries, Table 4-3*, p. 368). Actions designed to improve hydric species vegetation composition, structure, and cover on riparian areas would result in improved water storage capability, flood energy dissipation, and flood attenuation functions. Improved riparian conditions would also improve the overland flow filtering capabilities of these areas, and consequently the water quality within streams in the drainage. More stringent upland utilization level criteria would improve vegetation vigor and increase vegetative cover for watershed protection.
3. New and revised resource planning documents would incorporate knowledgeable and reasonable practices designed to maintain or improve and monitor water quality and support beneficial uses of intermittent and perennial streams.
4. Nonuse AUMs and AUMs that are lost, retired, relinquished, or otherwise canceled would be retained until watershed, wildlife, and aquatic habitat objectives are met. These actions would help accelerate improvement towards the identified hydrologic objectives within watersheds.
5. Livestock distribution would be improved by restricting livestock use in pastures until range improvement projects are in functional condition. The improved distribution would create more even utilization of the forage resource and limit the creation of overgrazed, unvegetated, sediment-producing zones within a pasture. Improved distribution would reduce the sedimentation impacts to water quality beneficial uses and improve water storage capacity in these zones.
6. Upland utilization standards would generally maintain or improve the vigor of upland vegetation and overall watershed cover in the long term. Use restrictions on key upland species during the critical growing period would further improve vigor and watershed cover. These improvements would increase available vegetative litter and plant basal area needed to (a) improve infiltration and watershed storage, (b) protect watersheds from excessive runoff events, and (c) reduce overland flows and sediment transport. Watershed storage capacities would be expected to increase, helping to maintain warm season base flows and cool water temperatures. Increased consideration of the effects of surface disturbing activities on soil compaction, erosion, and microbiotic crust populations would reduce upland sediment transport impacts to water quality beneficial uses and improve watershed storage capabilities.

*Wild Horses and Burros*

7. Maintaining existing wild horse numbers would continue to impact water quality in some locations in the Herd Management Area (HMA), primarily through excessive woody and herbaceous use in some riparian areas and localized bank shearing and soil compaction. However, other actions in the PRMP (e.g., livestock grazing management, riparian area management) would improve vegetation and riparian conditions in the HMA, potentially mitigating some of these localized adverse effects. Wild horse numbers may be modified when adverse impacts to upland watersheds, riparian habitats or aquatic habitats can be attributed to wild horses; this would ensure no substantial degradation of water resources occurs. Wild horse numbers would continue to be closely monitored and controlled in known areas of fragile watersheds within the HMA (e.g., Malm Gulch, Sand Hollow) to mitigate adverse effects to water resources from grazing and trampling of vegetation.

*Riparian Areas*

8. Riparian stubble height and bank shearing criteria indirectly limit livestock presence in riparian zones and would improve both riparian and aquatic habitat by ensuring that sufficient plant material remains to sustain desirable plant communities, maintain plant vigor, provide for a functioning floodplain, and protect the streambank. Improved riparian habitat conditions would, in turn, improve floodplain storage capacity, flood energy dissipation, flood attenuation functions, overland flow filtering capabilities, and water quality within streams.
9. Emphasis on increasing public awareness of the value of good condition functional riparian and wetland habitats, would help land users become more knowledgeable about and sensitive to these issues. As a result, land users may modify their actions to be less of a negative impact on water quality and aquatic resources.
10. Development of riparian study areas would help evaluate the success of applied management strategies for riparian improvement and the potential for vegetation succession. Applying this information in order to improve vegetation conditions outside the study enclosures would improve water quality outside the enclosed study area through reduced sedimentation and nutrient loading to streams. Significant benefits to water quality would only be realized if vegetation management improved throughout an entire drainage or watershed as a result of information gathered within the reference area. An allotment-scale grazing management demonstration project would provide information on the efficacy of selected land management strategies which may be applied for water quality improvement throughout other appropriate watersheds.
11. Increased emphasis on riparian pastures would provide greater control of riparian forage use and management objectives for riparian and aquatic habitat conditions, resulting in reduced sedimentation and nutrient loading and improved water storage capabilities within those pastures.

*Floodplain/Wetland Areas*

12. Discouraging development of floodplain and wetland areas and requiring protection of the beneficial functions of these areas if developed would benefit hydrologic resources. Water quality and availability would be improved by protecting the vegetation and land form characteristics of these areas, which would improve the infiltration, flood attenuation, filtration, and stability characteristics of a stream system.

*Fisheries*

13. Management actions intended to protect crucial habitats for designated priority fish species and achieve aquatic habitat objectives would, by association, reduce sedimentation and nutrient loading to streams and improve the infiltration, filtration, and stability characteristics of stream systems and upland watersheds.

*Minimum Streamflow*

14. Acquiring minimum streamflows on priority streams would improve both surface water quantity and water quality conditions (through dilution of contaminants). Maintaining minimum streamflows supports riparian vegetation, which enhances the floodplain storage capacity, flood energy dissipation, and flood attenuation functions of riparian areas. Improved riparian conditions would improve the overland flow filtering capabilities of these areas, and consequently the water quality within the stream. Maintaining minimum streamflows would help assure sustained quantities of water for downstream uses.

*Water Quality*

15. Actions intended to maintain satisfactory water quality and improve unsatisfactory water quality would have a positive effect on water quality beneficial use values, principally by reducing sedimentation and nutrient loading to aquatic habitats in the long term. The Procedures for Nonpoint Source Consistency Review identified in the PRMP, *Attachment 12*, pp. 145-146 would protect water quality from nonpoint sources of pollution, and provide strategies for managing all activities which may impact water quality.

*Fire Management*

16. In full suppression areas, fire suppression activities which remove vegetation and disturb soils are likely to impact water resources through increased sediment and overland water flows. The application of the Minimum Impact Suppression Tactics (MIST) Guidelines (see PRMP Attachment 9, pp. 124-134) would help mitigate some impacts resulting from fire suppression activities. Restrictions on motorized fire fighting equipment in WSAs would protect hydrologic resources in those areas from some suppression activities. Rehabilitation specifications would accelerate recovery of disturbed riparian and aquatic habitats if fire staging activities are unavoidable in those areas. Rehabilitation efforts in other localized areas (*i.e.*, uplands) would be implemented as necessary to rapidly revegetate soil types prone to erosion. Full suppression would reduce the immediate threat of sedimentation, overland water flow, and nutrient loading resulting from the burn. However, suppressing fires increases the risk of large, uncontrollable fires that would result in large scale burn areas susceptible to higher rates of sedimentation and overland water flows and widespread nutrient loading.

In conditional suppression areas, similar fire suppression impacts would also occur and similar MIST Guidelines criteria would apply. Impacts from fire suppression are expected to occur at a reduced level since suppression activities would be more flexible and controlled. Conditional suppression activity plans would consider vegetation and soil disturbing affects by identifying and controlling fire in plant communities with a high risk of adverse fire effects (e.g., noxious weeds, cheatgrass, microbiotic crust populations) and include burn prescriptions to allow cooler, mosaic type burns, resulting in reduced risk of sedimentation and overland water flows and reduced potential of nutrient loading to streams. The risk of large, uncontrolled fires may decrease over the long term as more small fires are allowed to burn.

*Transportation*

17. Restrictions on new road construction in riparian areas would minimize new sediment loadings to aquatic habitats. Design specifications for new road construction are intended to eliminate the impacts of increased sedimentation on water quality. Evaluation and appropriate modification of existing roads would reduce the sediment loading to aquatic habitats that may currently exist and impact identified beneficial uses.
18. Focusing road maintenance on areas with the greatest potential for erosion and water quality impacts would minimize the potential for sedimentation. Road construction and maintenance activities would be reviewed by appropriate staff specialists, and meet or exceed minimum standards contained in State approved BMPs for road construction and maintenance. Design specifications for road maintenance are intended to eliminate sedimentation impacts to aquatic habitats. These limitations and reviews would minimize sedimentation impacts.

*Rangeland Vegetation  
Treatment Projects*

19. In the short term following treatment (two to five years), vegetation treatment projects such as plowing or burning could impact hydrologic resources by increasing sedimentation, water release, and overland flows from the treated areas. However, an objective of the vegetation treatment project would be to increase vegetative cover, thereby reducing the potential for sedimentation and increased water release and overland flows in the long term. In addition, designing irregular treatment patterns, untreated islands, and buffer strips would reduce the potential of overland water flows and sedimentation to adjacent stream reaches.

*Noxious Weed Infestations*

20. Spraying noxious weeds in conformance with the Northwest Area Noxious Weed Control Program EIS would reduce the potential for toxic contamination of water resources. In addition, increased emphasis on integrated pest management and other actions would further minimize the potential for toxic impacts to water quality. Reseeding ground disturbing treatment activities with perennial species within 8 months would provide soil cover and reduce the threat of sedimentation and overland water flows.

*Forest Resources*

21. Reducing the commercial timber base by approximately 24% would maintain some forest lands in an undisturbed condition, reducing the potential for induced sedimentation from timber harvest on those lands. In forested areas where harvest and associated road construction occur, the identified management practices, SOPs, and design specifications would adequately protect water quality beneficial uses from adverse sedimentation impacts. No significant beneficial or adverse effects to water quality would occur from management of forest resources within the Resource Area.

*Recreation Opportunities  
and Visitor Use*

22. The expanded facilities proposed to accommodate the expected increase in recreation use could cause increased sedimentation to aquatic habitats in, and adjacent to, campground and casual use areas. These impacts could, however, be monitored and controlled at the developed use sites. Not accommodating increased recreation use would have greater, more dispersed, and less controllable impacts on sedimentation and water quality. Further development of recreation facilities in riparian areas would be curtailed. Casual use areas identified for closure or hardening would reduce sedimentation and nutrient loading to adjacent streams. Expected increases in recreation use pose a greater risk of hazardous or other pollutant material spills into streams. However, site development would typically be away from the streamside to minimize this potential.

*Off-highway Vehicle Use*

23. OHV use limitations are designed to protect fragile soils, wildlife, upland vegetation, and riparian habitat. OHV limitations throughout the RA and localized closures would nearly eliminate sedimentation and vegetation disturbance impacts from off road vehicle travel. Limiting OHV use to existing roads and vehicle ways would allow mitigation efforts to be focused on maintaining existing roads and trails to minimize adverse sedimentation effects. The stated exceptions to the OHV limitations may result in some surface disturbance leading to accelerated erosion and altered water flows. However, these instances, should they occur, would be minimal and localized.

*Land Tenure and Access*

24. A "no net loss" policy of like riparian values on individual land tenure adjustments would be pursued. In the long term there would likely be a net increase in the protection of these habitats, by managing for the protection of acquired lands and applying conditions for the protection of released lands through land tenure agreement. Acquired habitats would be managed for their special values (*e.g.*, sensitive fish species) and to maintain or enhance water quality and wetland characteristics. Improving or maintaining these habitats would improve water flow, associated hydrologic characteristics, and water quality.
25. A priority for land tenure adjustment would be acquisition of lands with identified high resource values, such as riparian resources. Lands acquired for these special values would be managed for those values. This policy would help maintain and improve water quality beneficial uses by protecting riparian vegetation conditions.

*Wild and Scenic Rivers*

26. The BLM would maintain WSR values on the 5 segments found suitable and 10 segments identified as eligible, with a suitability study deferred. Management to maintain the free-flowing character of these 15 segments and fisheries Outstandingly Remarkable values on 9 segments would indirectly benefit the water quality, riparian habitat, and wetland characteristics associated with these waterways.

*Areas of Critical  
Environmental Concern*

27. Special management actions designed to protect the various ACEC values (e.g., grazing, OHV use, timber harvest, and mining restrictions; seasonal OHV restrictions; and vegetation management) would directly (a) reduce sedimentation and nutrient loading impacts to water quality, (b) reduce the threat of overland water flow and altered water release, and (c) stabilize water quantity within the watershed.

*Wilderness Study Areas -  
Management if Released*

28. Suitable WSAs released from wilderness review would primarily be managed to maintain their primitive values, and protection of riparian and water quality would remain a high priority. Actions designed to protect and stabilize soils and provide adequate vegetative cover would continue, resulting in water resources protection. Restrictions on OHV use, timber harvest, and mineral development would also protect water resources by reducing sedimentation, reducing overland flows, and improving water quality.

Less restrictive timber harvest and mineral development would be allowed in nonsuitable WSAs, if released. However, helicopter logging requirements, proposed road closures, and standard stipulations on mineral development would provide reasonable protection from disturbances to surface soil and vegetative cover, thus reducing the threat of excessive soil movement, sedimentation, or altered overland water flows.

Allowing rangeland improvements to be constructed within suitable and nonsuitable WSAs, if released from wilderness review, would enhance water resources by improving livestock distribution in order to reduce surface disturbance and better control livestock presence in and around riparian/wetland areas.

*Minerals*

29. There is low potential for oil, gas, and geothermal resources in the Challis Resource Area, and therefore little potential for energy mineral leasing to impact water resources. Wherever they are applied, the "no-surface-occupancy" stipulation or other standard stipulations would effectively protect the soil and vegetation resources and reduce the threat of excess sedimentation, overland water flows, altered water release, and toxic contaminants, thus protecting water quality. Water resources in areas closed to energy mineral leasing (campgrounds, recreation sites, existing WSAs) or with a mandatory NSO stipulation (riparian areas in salmon, steelhead and bull trout watersheds) would be fully protected from adverse impacts of energy minerals leasing.

30. There are no known non-energy leasable minerals within the Resource Area; therefore, no reasonably foreseeable impacts to water resources from non-energy mineral development are expected.
31. Water resources would be fully protected from mineral material development impacts in areas closed to mineral material sales (campgrounds, recreation sites, existing WSAs and suitable WSAs if released from wilderness review, Lone Bird and Malm Gulch/Germer Basin ACEC, and riparian areas in salmon, steelhead, and bull trout watersheds). These closures would protect existing water quality conditions from sedimentation and toxic contaminants in the major stream segments and tributaries within the closed areas, and protect upland watersheds from surface soil and vegetation disturbances.

Within SRMAs and ACECs, mineral material disposals would be subject to ID team review and protection of special management area values; these requirements would provide some protection to water resources characteristics within these areas. Requiring mineral material disposal activities in riparian areas not within salmon, steelhead, and bull trout watersheds to not hinder attainment of desired riparian and aquatic habitat conditions would protect or enhance water resource characteristics through protection of riparian vegetation, soil cover, and wetland processes.

Mineral material development specifications in the remainder of the Resource Area not previously identified would be dependent upon ID team review. Surface soil and vegetation disturbances are likely to occur, which would disrupt overland water flow processes, soil water holding and release cycles, and accelerate soil erosion. Although likely to occur, these impacts are expected to be localized and limited in size and scope.

32. Continuing to withdraw recreation sites from locatable mineral entry would have a small benefit to hydrologic values, because of the small acreage involved. Mineral location activities which do not require a plan of operations (generally less than 5 acres) could negatively impact water quality through riparian vegetation removal, increased sedimentation, and toxic water quality contamination. For larger locatable mineral activities (5 acres or more) and in some special management areas, some protection of the hydrologic resource could be provided through preparation of a plan of operations and ID team review. However, existing laws allow a high degree of flexibility to the mineral locator, and negative impacts to the hydrologic resource could still include removal of riparian vegetation, increased sedimentation, and toxic contamination. Required reclamation for large scale mineral material location actions would mitigate some of the adverse impacts in the long term. Design specifications which prohibit mining facilities in riparian habitat areas of anadromous fish and bull trout watersheds where feasible could help control sedimentation and toxic effects to water quality in those areas. Withdrawing suitable WSAs released from wilderness review from locatable mineral entry would protect existing hydrologic values in those areas from sedimentation and toxic impacts of

locatable mineral activity.

*Hazardous Materials  
Management*

33. Hazardous materials management decisions would minimize, although not eliminate, the chance of hazardous material toxic contamination affecting water quality. The severity of an occurrence would depend upon the substance and concentration.

**Cumulative Effects**

34. Management actions applied to all resources would complement each other, resulting in a sustained improvement of overall water quality and watershed production over the long term, primarily through better management of riparian and upland vegetation communities. Improved vegetation conditions would be expected to (a) quickly reduce sedimentation to aquatic habitats and nutrient loading of water courses, (b) establish conditions to stabilize stream systems, allowing the systems to take advantage of flows which tend to flush silted-in channels, and (c) provide upland vegetation adequate to moderate overland water flows and normalize water release processes. Other decisions in the PRMP to directly manage aquatic habitat, surface disturbing activities, and floodplains and wetlands would also support achieving beneficial uses as part of an overall resource management package.
35. Forest Service and State land management practices are also being modified to improve water quality. As these practices are implemented, sedimentation and nutrient loading impacts would decrease on these lands and consequently have reduced cumulative impacts to the water quality of streams on BLM lands. A more sustained streamflow on BLM lands would also be expected as a result of controlled overland flows and water release processes on higher elevation Forest lands.
36. Agricultural uses on private lands within RA boundaries tend to produce adverse sedimentation and nutrient loading impacts to water quality. Water diversion on BLM or private lands for private land irrigation significantly reduces or dewatered streamflows. This may reduce water availability to users on downstream segments and negatively affect riparian vegetation on dewatered segments. Minimum streamflow rights granted by the State of Idaho as a result of BLM actions may help to stabilize some of the flows at current levels on selected priority streams within the Resource Area.

Mineral development on private lands could affect water quality on BLM lands. If the private landowner retains the mineral rights on and under the private land, development would be subject to State standards. Otherwise, development would be subject to Federal standards described in the RMP. The potential impacts to water quality include sedimentation, loss of protective vegetation, and toxic contamination.

The use and storage of toxic materials on private lands poses a fairly significant risk of toxic contamination impacts to water quality on BLM lands. The use of toxic materials on private lands is generally greater than

on Federal lands. Private landowners may store or dispose of toxic substances, including agricultural chemicals and petroleum products, in a less regulated manner than is required on Federal lands. Unprotected storage facilities, inappropriate storage containers, and small family dumps may occur on private lands and cause adverse impacts to water quality.



## Wilderness Study Areas, if Released from Wilderness Review

**Introduction:** This analysis describes the effects of proposed management decisions on primitive values (opportunity for primitive and unconfined recreation, "naturalness," and opportunity for solitude) and biodiversity in WSAs, assuming that WSAs in the Challis RA are *released* from wilderness review. (See *Chapter 4 - Biological Diversity; Recreation Opportunities, Visitor Use, and OHV Use; and Visual Resources* for additional discussions of effects on biodiversity, primitive recreation, and the natural character of the landscape.)

Two designated U.S. Forest Service wilderness areas (Frank Church - River of No Return Wilderness and Sawtooth Wilderness) lie within 25 air miles of WSAs in the Challis RA (see *Map 29: Local Wilderness Status*). U.S. Forest Service areas which retain a roadless character and primitive values, but were recommended unsuitable for wilderness designation and are currently managed for non-wilderness uses such as timber management, minerals development, and motorized recreation, lie adjacent to the Goldburg WSA (portions of the North Lemhi RARE II area) and the Boulder Creek WSA (portions of the Boulder/White Cloud RARE II area). One USFS area recommended suitable for wilderness designation (Borah Peak RARE II area) lies adjacent to the portion of the Burnt Creek WSA which is recommended suitable for wilderness designation.

**No Reasonably Foreseeable Effects to WSAs if Released from Wilderness Review:** No reasonably foreseeable effects on primitive values or biodiversity in WSAs released from wilderness review would be expected as a result of management decisions listed in the PRMP under the following sections: Air Quality, Cultural Resources, Hazardous Materials Management, Land Tenure and Access, Paleontological Resources, Recreation Opportunities and Visitor Use, Tribal Treaty Rights, and Wild and Scenic Rivers.

### Summary of Effects

1. Primitive values and biodiversity would be partially maintained in WSAs released from wilderness review. OHV use and forested area management actions would reduce proliferation of new roads and vehicle ways. Potential for adverse effects of timber harvest on primitive values and biodiversity would be reduced by stipulations on harvest methods, limitations on haul road construction, and closing suitable portions of the Jerry Peak WSA to timber harvest.

### Direct and Indirect Effects, by PRMP Section

#### *Areas of Critical Environmental Concern*

2. Designating the Herd Creek Watershed ACEC and managing the ACEC to maintain ACEC values would help contribute to the maintenance of primitive values and biodiversity in the Jerry Peak and Jerry Peak West WSAs, if released from wilderness review (see *Chapter 4 - Biological Diversity, #2 (ACECs)*).

#### *Fire Management*

3. Stipulations on fire suppression activities would contribute to the maintenance of primitive values in WSAs released from review by ensuring protection of riparian habitats and other resource values from damaging effects of suppression activities, and by requiring rehabilitation of burned and damaged areas. Development of fire management activity plans is

expected to help maintain biodiversity through the development of fire prescriptions and implementation of prescribed burning in WSAs released from review.

*Livestock Grazing, Wild Horses and Burros, Riparian Areas, Fisheries, Floodplain/Wetland Areas, Minimum Streamflow, Noxious Weed Infestations, Water Quality, Wildlife, and Upland Watershed*

4. PRMP decisions to manage livestock grazing, wild horses, riparian areas, fisheries, floodplains, minimum streamflows, wetlands, noxious weeds, water quality, wildlife and upland watersheds would help to maintain and improve natural plant and wildlife communities in WSAs released from review, thereby contributing to the maintenance of primitive values and biodiversity in these areas.

*Forest Resources*

5. Timber harvest activity is expected to remove old growth timber, with potential for adverse effects on biodiversity (see *Chapter 4* - Biological Diversity, #7 and 9) and old growth forest values associated with large, undisturbed patches of forest land. Timber harvest would also result in a decline of primitive values in WSAs released. Timber stand improvement and sanitation treatments would help reduce the potential for adverse effects from disease, insect infestation, wildfire, and other natural events in WSAs.

Closing suitable portions of the Jerry Peak WSA (26,750 acres) to all timber harvest would help maintain old growth forest values, biodiversity and primitive values associated with large, undisturbed patches of forest land. In the Corral-Horse Basin WSA and suitable portions of the Burnt Creek WSA, timber harvest restrictions would help maintain primitive values and the natural character of the landscape, except where modified by timber harvest and within 1/2-mile of existing roads where timber haul roads may be authorized. Timber harvest would also preclude opportunities for primitive recreation and solitude for short periods during the time when harvest actually takes place.

*Minerals*

6. Mineral development in WSAs released from wilderness review, if it were to occur, would be likely to increase proliferation of roads and vehicle ways, change the natural character of the landscape, and degrade primitive values. However, the probability of fluid energy, saleable, non-energy leasable, and locatable mineral development is low in all WSAs, and the potential for adverse effects is therefore also low. In suitable WSAs released from wilderness review (38,930 acres), no surface occupancy stipulations on energy mineral development, closure to saleable minerals and non-energy leasing, and withdrawal from locatable mineral entry would help maintain primitive values, reduce proliferation of roads and vehicle ways, and help maintain the natural character of the landscape.

*Off-highway Vehicle Use/  
Transportation*

7. Limiting motorized vehicle use to existing roads and vehicle ways in WSAs released from review, limiting new road construction in the Jerry Peak, Jerry Peak West, Corral-Horse Basin and Burnt Creek WSAs, closing the Dry Creek Road and Herd Creek trail to motorized vehicle use, and developing a transportation plan for the RA would help reduce proliferation of roads and vehicle ways in WSAs released from review and help maintain primitive values.

*Special Status Species/  
Biological Diversity*

8. Special status species management actions would promote biodiversity in WSAs released from review by requiring (1) inventories, surveys, and field assessments of projects and other actions that may affect special status species in the WSAs; and (2) development of species data files and field inventories for amphibians, reptiles, insects, and nonvascular plants that would provide more detailed information upon which to base management decisions in the WSAs. Biodiversity management actions would contribute to knowledge of biodiversity and require the effects of management actions on biodiversity in the WSAs to be considered.

*Visual Resources*

9. Managing WSAs released from wilderness review (which are Class I until released) under the VRM class of adjacent BLM public lands would have the potential to result in a decline of visual quality if actions that reduce visual quality are approved.

**Cumulative Effects**

10. In the long term, primitive values on BLM and National Forest lands are expected to decline slightly due to increased recreation use and other human activity, except in designated wilderness areas and other roadless areas (see *Map 29: Local Wilderness Status*), where recreation use and human activity would more likely be managed or controlled. Maintenance of primitive values in the Jerry Peak and Burnt Creek WSAs, if released from wilderness review, would help to maintain the overall primitive character of the public and National Forest lands in the region.

## Wild Horses and Burros

**No Reasonably Foreseeable Effects to Wild Horses and Burros:** No reasonably foreseeable effects to wild horses and burros are anticipated from the actions listed in the following sections of the PRMP: Air Quality, Biological Diversity, Cultural Resources, Floodplain/Wetland Areas, Hazardous Materials Management, Minimum Streamflow, Paleontological Resources, Special Status Species, Transportation, Tribal Treaty Rights, Visual Resources, Water Quality, Wilderness Study Areas - Management if Released from Wilderness Review, and Wild and Scenic Rivers.

**Introduction:** No portion of the Morgan Creek Allotment has been designated as a Wild Burro Area. Any burros released there in the future would be removed. Therefore, there would be no impact to wild burros from any actions in the PRMP, and wild burros will not be discussed further.

Effects to wild horses and wild horse habitat would be limited to the Herd Management Area portion of the Challis Resource Area (see *Map 48*). Effects to wild horses are described below under one or more of the following categories: Summary of Effects; Direct and Indirect Effects, by Type of Effect and PRMP Section ("Types of Effects" include Impacts to Wild Horse Habitat, Competitive Impacts to Wild Horses, and Disturbance Impacts to Wild Horses); and Cumulative Effects. Improvement or maintenance of wild horse habitat or increased forage availability, as noted in the following analysis, would help to ensure the productivity and viability of the wild horse population. Competitive impacts, as used below, refer to conflicts between wild horses and livestock or wildlife for available forage, space, or water. Disturbance impacts, as used below, refers to actions which impact the viability and productivity of the wild horse herd, rather than disturbance to individual members of the herd. While some actions may disturb individual animals, causing them to run off a short distance, rarely do disturbances result in disruptions to the viability and productivity of the herd.

### Summary of Effects

1. Establishing proper livestock stocking rates for grazing allotments within the Herd Management Area (HMA) would improve wild horse habitat and reduce competition and disturbance from livestock. Watershed assessment would benefit wild horse management by considering all components of the ecosystem. Upland utilization standards, riparian stubble height criteria, and upland cover requirements would reduce livestock/wild horse competition and lead to improved wild horse habitat by maintaining or increasing the availability of forage for wild horses. Range improvements to achieve multiple use objectives would lead to improved wild horse habitat. Helicopter logging of the Lone Pine Peak area or the Jerry Peak or Corral-Horse Basin WSAs could impact wild horses through disturbance of individual animals, but would not impact herd viability. OHV closures and limitations would benefit wild horses through less harassment and improved vegetation conditions.
2. Overall, PRMP decisions would have very positive impacts to wild horses, leading to a thriving natural ecological balance within the HMA.

## Direct and Indirect Effects, by Type of Effect and PRMP Section

### Impacts to Wild Horse Habitat

#### *Livestock Grazing*

3. PRMP requirements such as stubble height, utilization, cover, and bank shearing criteria could result in active livestock use up to 12,657 AUMs below the existing active preference level Resource Area-wide. In the long term, establishing proper stocking rates for the Warm Springs and Mountain Springs (San Felipe) allotments would benefit wild horse habitat by reducing competition between livestock and wild horses, and leading to increased vigor of vegetation, changes in vegetation composition, and increased forage production and availability.
4. Continuing to close the Malm Gulch and Sand Hollow areas to livestock grazing would maintain vegetation and may provide additional forage for wild horse use.
5. Development of watershed assessments and Integrated Resource Activity Plans (IRAPs) would benefit wild horse habitat by ensuring consideration of all components of the ecosystem.
6. The use of upland utilization standards, riparian stubble height criteria, and bank shearing criteria to determine when to move livestock from one pasture to another would maintain or improve wild horse habitat by ensuring that livestock overuse does not occur within the Herd Management Area.
7. Managing for late seral to Potential Natural Community as the Desired Plant Community would improve wild horse habitat conditions by maintaining or improving vegetation health and vigor.
8. Holding unused AUMs for non-consumptive uses would help ensure improvement of wild horse habitat and/or would be expected to increase forage availability for wild horses by increasing vegetation vigor, density, and production.
9. Achieving upland cover requirements would improve wild horse habitat by providing ground cover to reduce runoff and erosion and by providing a favorable microclimate for seedling establishment.
10. In the long term, PRMP upland utilization and stubble height requirements and the use of watershed assessments to identify habitat conditions, trends, and wild horse habitat needs would ensure improvement of wild horse habitat.
11. Requiring livestock permittees to maintain range improvements would benefit wild horses by helping to ensure that water is available at troughs within the wild horse herd area and that livestock remain in areas where they are permitted. Requiring permittees to delay turnout until all improvements are functional would benefit wild horse habitat by controlling the

area's livestock use.

12. Using land treatments and improved grazing management as tools to achieve multiple resource objectives would improve wild horse habitats. Allowing permanent increases in livestock forage attributed to range improvements only after an ID team analysis has indicated that all allotment objectives have been met would ensure that wild horse habitats would be improved by the range improvement.

*Wild Horses and Burros*

13. Managing to maintain a herd of about 185 to 253 wild horses is expected to ensure that wild horse habitat is maintained, and that a thriving natural ecological balance is achieved, as required by the Wild Horse and Burro Act. Localized impacts of wild horse use would be handled through periodic gatherings of excess animals, as described in the HMAP. If conditions throughout the herd area deteriorate due to too many wild horses, the Appropriate Management Level would be adjusted downward to protect wild horse habitat. Allowing wild horses to use the Malm Gulch and Sand Hollow areas would increase the BLM's wild horse management flexibility. The BLM could gather wild horses from any place they are causing resource damage, instead of having to gather all horses from within the Malm Gulch or Sand Hollow areas, whether or not they are causing resource damage.
14. Adjusting wild horse management to cause progress toward meeting desired riparian and aquatic habitat conditions would improve wild horse habitat by providing higher quality riparian habitat and improved water quality.

*Wildlife Habitat*

15. Providing forage and habitat for current stable populations of big game animals would have minimal impact to wild horse habitat. Encouraging IDFG to keep big game numbers at their current level would benefit wild horse habitat, as additional numbers of big game, if excessive, could impact wild horse habitat through overuse.
16. Actions to implement the Salmon BLM's *Fish & Wildlife 2000 Plan* would improve wild horse habitat to the extent that these actions are undertaken in the Herd Management Area.

*Noxious Weed Infestations*

17. Decisions regarding noxious weeds control would have little impact on wild horse habitat, as there is only one small weed infestation currently present within the Herd Management Area. Requiring seed for revegetation projects to be certified weed-free from noxious weeds for Idaho and adjoining states would benefit wild horse habitat if any revegetation projects are implemented within the Herd Management Area.

*Rangeland Vegetation  
Treatment Projects*

18. Determining the need and priority for vegetation treatment projects through the ID team and activity planning process would ensure that any project undertaken would benefit wild horse habitat by improving overall range condition.

*Upland Watershed*

19. Fire rehabilitation to meet multiple use objectives as determined by an ID team would ensure protection of wild horse habitat.

*Fire Management*

20. In the short term, full suppression of wildfires throughout most of the RA could lead to large, uniform areas where fire exclusion results in a monoculture of sagebrush-dominated grasslands. These types of habitats are not optimum for wild horses. Conditional fire suppression areas could, in the long term, eventually cover most of the Herd Management Area. This would allow fire to play a more natural role in the ecosystem and lead to improved habitat conditions within the Herd Management Area.
21. The use of an ID team to develop activity plans and fire prescriptions to enhance ecosystem health and function would benefit wild horse habitat.

*Riparian Areas*

22. The use of riparian stubble height and bank shearing criteria for livestock grazing would improve wild horse habitat by helping to ensure that overuse of riparian habitat does not take place.

*Fisheries*

23. Developing management strategies and objectives through the activity planning process to meet or exceed desired riparian and aquatic habitat conditions and improve 90% of non-functional or functional-at-risk aquatic and riparian habitats would ensure good quality riparian habitat and water quality within the Herd Management Area.

*Land Tenure and Access*

24. Land tenure adjustments (including DLEs, sales, exchanges, etc.) would have little or no impact to wild horse habitat. Of the sale tracts proposed, only 31.36 acres fall within the Herd Management Area. DLEs would comprise a small but unknown acreage, and other land tenure adjustments would not be expected to impact wild horse habitat. Rights-of-way, land leases, permits, and withdrawals would have little or no impact to wild horse habitat.

*Areas of Critical  
Environmental Concern*

25. Continuing the existing designation of the Antelope Flat, East Fork Salmon River Bench, and Malm Gulch/Germer Basin ACECs would have no impact to wild horse habitat, as no actions are proposed for these ACECs that are incompatible with wild horse habitat. Designation of the Sand Hollow ACEC would have little impact to wild horse habitat, as the area would remain closed to livestock grazing. The Lone Bird ACEC would be closed to motorized vehicle use, potentially affecting the ability of the BLM to conduct wild horse gatherings in that area. This would not, however, be a major impact to wild horse habitat, as there are sufficient other sites available outside the ACEC to ensure gathering can take place as needed to protect wild horse habitat.

*Forest Resources*

26. Using the ID team process and information gained through watershed assessment to manage 23,578 acres of forest lands for multiple uses would result in improvement of wild horse habitat, as the needs of all components of the ecosystem would be taken into account.

27. Road construction and logging activities within the HMA would have minimal impacts to wild horse habitat, as the potential for these types of actions is low. Impacts to habitat in a small portion of the HMA would be expected until logged areas regenerated, but would not be significant, as these timbered areas are used primarily for summer shade and winter cover.

*Minerals*

28. Oil, gas, and geothermal leasing would have limited potential for impact to wild horse habitat on the acres of the Resource Area open to leasing, due to low development potential and the use of stipulations to protect resource values. The use of standard stipulations on ACECs (23,087 acres within the Herd Management Area) would ensure protection of wild horse habitat in those areas. The use of NSO stipulations within SRMAs (14,234 acres within the HMA) and suitable WSAs if released (12,726 acres within the HMA) would help to reduce the potential for disturbance or loss of wild horse habitat.

29. There are no known deposits of non-energy leasable minerals in the RA, so no reasonably foreseeable impacts to wild horse habitat from non-energy leasing are expected.

30. Mineral materials development would have limited potential to impact wild horse habitat, because there is little potential for mineral materials within the HMA. Closing the Lone Bird and Malm Gulch/Germer Basin ACECs to rockhounding, mineral material collection, and mineral material sales would protect wild horse habitat within those areas. Continuing to close about 12,726 acres of suitable WSAs within the HMA to disposal of mineral materials, if released from wilderness review, would also protect wild horse habitat.

31. Locatable mineral development could impact wild horse habitat if a large-scale mine were to be developed within the Herd Management Area. However, the potential for this to occur would be low. Suitable WSAs, if released, would be withdrawn from locatable minerals entry, providing protection for 12,726 acres within the HMA from the impacts of locatable mineral development.

*Off-highway Vehicle Use*

32. Limiting OHV use throughout the Resource Area to existing roads, vehicle ways, and trails yearlong, and closing the Lone Bird and Sand Hollow ACECs to OHV use, would protect wild horse habitat from OHV trampling, erosion, and soil loss impacts.

**Competitive Impacts to Wild Horses**

*Livestock Grazing*

33. The current livestock allocation of 51,069 AUMs, coupled with a wild horse herd management level of 185 to about 253 horses, has resulted in livestock/wild horse competition. Periodic drought has resulted in livestock foraging into areas normally used only by wild horses. However, the competitive impact on wild horses has not been significant, as evidenced by the general good health, good condition, and reproductive success of the

herd. For the long term, as proper stocking rates are established for grazing allotments within the Herd Management Area, competitive impacts to wild horses would be reduced.

34. The Malm Gulch and Sand Hollow areas would be closed to livestock use but not wild horse use; no competition would occur.
35. Development of watershed assessments and Integrated Resource Activity Plans (IRAPs) would help ensure competition between livestock, wildlife, and wild horses would be minimized.
36. The use of utilization criteria, riparian stubble height criteria, and bank shearing criteria to determine when to move livestock from one pasture to another or from an allotment would decrease livestock/wild horse competition.
37. Holding available livestock grazing AUMs for watershed and wildlife purposes until allotment vegetation objectives are met would decrease the competition between livestock and wild horses.
38. Prescribed burns and seedings, if planned by an ID team to promote overall ecosystem health and diversity, would be unlikely to increase competition between livestock and wild horses.

*Wildlife Habitat*

39. Providing forage and habitat for current stable big game populations would have competitive impacts to wild horses. Ensuring that big game populations do not exceed proper levels or damage habitat would indirectly ensure competition does not increase.
40. Developing new wildlife watering sources could result in competitive impacts to wild horses if wildlife are attracted into formerly unused areas
41. Developing riparian study exclosures would have a very minor adverse impact to wild horse competition, as livestock are displaced to other areas by these exclosures.
42. Wildlife reintroductions would be unlikely to compete with wild horses, as the reintroductions would not be allowed if they would result in competition.

*Rangeland Vegetation  
Treatment Projects*

43. Developing vegetation treatment projects through the ID team and activity planning process would ensure competition between livestock and wild horses would be minimized.

*Upland Watershed*

44. Watershed cover criteria would ensure competition between livestock and wild horses for forage, water, and space is minimized by controlling livestock use within the HMA.

- Riparian Areas*
45. Procedures to maintain water quality, support beneficial uses, and restore and maintain riparian/wetland areas; and designing grazing systems to improve riparian areas could have competitive impacts to wild horses, if livestock are moved from riparian areas into upland areas normally used only by wild horses.

**Disturbance Impacts to Wild Horses**

- Livestock Grazing*
46. Continued livestock grazing at historic levels would have disturbance impacts to individual horses or bands, but no impact to overall herd viability. Over the long term, as appropriate livestock stocking levels are determined, disturbance impacts would decrease.
  47. Continued closure of the Malm Gulch/ Germer Basin area to livestock would not have disturbance impacts, as wild horses could use the Malm Gulch/Germer Basin area as long as resource damage does not occur.
  48. Integrated Resource Activity Plans (IRAPs) resulting from watershed assessment would still include grazing systems incorporating pasture movements, which would continue to have minor disturbance impacts to wild horse individuals or bands through rotation of livestock through grazing systems and the need for riders, salting, fence maintenance, monitoring, and other necessary activities associated with livestock grazing.

- Wild Horses and Burros*
49. Periodic gatherings of wild horses would have disturbance impacts. The policy of gathering only adoptable animals would mean that some horses would be returned to the Herd Management Area, potentially disrupting band integrity and the social structure of individual bands. The overall impact of this would not be significant.

- Wildlife Habitat*
50. Developing and maintaining wildlife habitat improvement projects would have disturbance impacts to wild horse individuals and bands during the construction phase as well as from increased wildlife activity adjacent to springs, streams, etc. Animal Damage Control (ADC) activities could have disturbance impacts to wild horses through aerial activities, although lack of ADC activities could increase disturbance impacts through predation of young wild horses.

- Fire Management*
51. Fire suppression activities would have disturbance impacts to wild horses during the time they are undertaken, although much of the Herd Management Area is within Wilderness Study Areas, thus limiting the suppression methods available. Where activity plans are developed for conditional suppression areas, suppression efforts would be minimized, resulting in fewer disturbance impacts to wild horses.

- Riparian Areas*
52. Livestock management systems designed to improve riparian habitat would cause disturbance impacts to wild horse individuals and bands if they cause livestock to move into areas normally used only by wild horses. The overall impact would be slight, as horses are "habituated" to the presence of

livestock.

*Land Tenure and Access*

53. Land disposal actions would have disturbance impacts to wild horses to the extent that the existing land uses (grazing) are modified by a change in ownership. Rights-of-way and other lands permit actions would have disturbance impacts during the construction phase, as well as continued disturbance from increased human activity. Resolution of occupancy or agricultural trespass would generally reduce disturbance impacts as lands are rehabilitated. The overall impact of these actions would be minimal.

*Forest Resources*

54. All forest management planning and projects would be designed and analyzed by an ID team, which would minimize disturbance impacts. Helicopter logging of the Lone Pine Peak area or other areas within the HMA would cause disturbance impacts, as wild horses are very sensitive to helicopter activities. This could cause temporary displacement of individual wild horses or bands from the helicopter logged areas, but would not impact overall herd viability.

*Minerals*

55. Although oil, gas, and geothermal operations would have potentially have disturbance impacts to wild horses through exploration activities such as drilling and road building, the low likelihood of any future development, together with no surface occupancy stipulations on 75,597 acres of WSAs and 8,502 acres of ACECs within the Herd Management Area, would ensure no disturbance would occur.
56. Saleable minerals activities would cause minor disturbance impacts to individual horses or bands through extraction and road building in the very few instances where they are permitted.
57. Locatable minerals exploration, extraction, and associated road development would cause disturbance to wild horses. However, the potential for these effects would be very slight, as there is low potential for development. Withdrawing suitable WSAs from mineral entry, if released, would protect wild horses from disturbance in those areas.

*Recreation Opportunities  
and Visitor Use*

58. Developing a public viewing area for wild horse observations would have minimal disturbance impacts to wild horses. The proposed Wild Horse Back Country Byway would also have disturbance impacts from increased vehicular traffic along the route through the HMA. These impacts would not affect herd viability.

*Off-highway Vehicle Use*

59. Limiting OHV use on the entire Resource Area to existing roads and vehicle ways yearlong and closing the Lone Bird, Sand Hollow and East Fork Salmon River Bench ACECs to OHV use would ensure that disturbance impacts to wild horses from OHV use would be minimized.

**Cumulative Effects**

60. Cumulative impacts to wild horses from actions on BLM-administered lands could result from any actions that impact wild horse habitat, actions that increase or decrease competition between wild horses and livestock or wildlife, or actions that disturb the normal life cycle of these animals. Overall, the net effect of actions taken in the PRMP would improve vegetation conditions within the HMA, leading to improved habitat for wild horses. Competition between wild horses and livestock or wildlife would not be expected to increase over the existing situation. The overall impact of disturbances to wild horses would not be expected to be severe enough to disrupt their life cycle. PRMP actions should result in a thriving, natural ecological balance within the HMA.
  
61. In addition to the cumulative impacts of BLM actions, there would be little impact to wild horses from the actions of adjacent private landowners or State of Idaho lands within the Herd Management Area (HMA). These lands are used for essentially the same purposes as the HMA. No National Forest system lands are adjacent to the HMA, so no impacts from Forest Service activities would be anticipated.



## Wildlife Habitat

**No Reasonably Foreseeable Effects to Wildlife:** No reasonably foreseeable effects to wildlife would be expected as a result of management decisions listed in the PRMP under these sections: Air Quality, Hazardous Materials Management, Tribal Treaty Rights, and Visual Resources.

**Assumptions of Analysis:** The following assumptions were made when developing the wildlife impact analysis:

- a) Maintenance, protection or improvement of wildlife habitats or habitat condition, as described in this analysis, means the maintenance or improvement of habitats or habitat sites (see *Chapter 3 - Wildlife*) that are important to the survival, productivity, and stability of wildlife populations. Adverse effects, as used in this analysis, means the displacement of animals from preferred habitats, or the decline of habitat condition, habitat suitability, survival rates, productivity, or population stability. Motorized vehicle use and other human caused disturbances can result in displacement of wildlife from preferred habitats, declines in reproductive success, and mortality during critical periods.
- b) Wildlife populations are subject to decline or fluctuations in size from year to year due to the effects of weather, hunter harvest, disease, predation, and competition. The effects of these factors can be significantly greater than the effects of most decisions in this PRMP. However, the influence of these factors can be much more significant on key habitats where habitat condition or habitat suitability is less than adequate to provide for the needs of dependent wildlife species.

### Summary of Effects

1. Decisions in the PRMP would result in general improvement of habitat condition for most wildlife species. In the short term, habitats in less than satisfactory condition would begin to improve as riparian stubble height and upland utilization criteria are implemented and adjustments of livestock use are made. Adjustments in livestock use would reduce competition between wildlife and livestock and increase the availability of food and cover for most wildlife species. In the long term, completion of watershed assessments and implementation of integrated resource activity plans, range improvement projects, and other management actions would continue the general trend of habitat improvement and reduce competition for forage and cover among domestic livestock, wild horses, and wildlife.
2. Riparian habitat stubble height criteria would result in the gradual improvement of habitat conditions for species dependent on riparian habitat.
3. On upland habitat sites, adjustments of livestock use based on application of forage-specific utilization criteria would result in gradual improvement of upland wildlife habitat (cover; forage; grass, forb and shrub composition).
4. Big game populations are expected to be maintained by the commitment to provide sufficient forage and habitat for current big game populations. Actions taken to limit other resource uses and maintain important habitat areas (e.g., limitations on OHV use; stipulations on land use activities within key big game habitat areas and special management areas) would help to

ensure that current populations are maintained.

## Direct and Indirect Effects, by PRMP Section

### *Areas of Critical Environmental Concern*

5. ACEC designations would indirectly or directly help maintain or improve wildlife habitats in those areas as a result of management to maintain ACEC values. Surface disturbing activities and other land use activities that may adversely affect wildlife are expected to occur less frequently in ACECs, thus helping to maintain wildlife populations and habitats. Management of the Birch Creek, Cronk's Canyon, Donkey Hills, and Thousand Springs ACECs for wildlife-related ACEC values would directly help maintain and improve key wildlife habitats and populations (see **Chapter 4** - ACECs).

### *Fisheries, Floodplains/ Wetland Areas, Riparian Areas*

6. Construction of riparian study exclosures and riparian pastures would provide for rapid riparian habitat recovery and allow application of carefully controlled grazing treatments that would improve habitat for riparian-dependent wildlife species.
7. Application of riparian stubble height and bank shearing criteria would result in rapid improvement of habitat conditions for riparian dependent wildlife species. Sage grouse, blue grouse, snipe, waterfowl, mule deer, and many other species would benefit directly from increases in residual cover and forage provided by stubble height requirements or other knowledgeable and reasonable practices. The improvement trend would be expected to continue over the long term.
8. Stipulations on right-of-way authorizations for new water diversion structures on BLM lands would help mitigate any potential for adverse effects on riparian habitat and riparian-dependent wildlife species. Actions to protect Federal water interests on public lands would ensure that water is maintained for wildlife and that water would remain available to provide for the needs of riparian-dependent species.
9. Riparian, fisheries, floodplain/wetland, and water quality management actions would supplement stubble height and bank shearing criteria and help maintain and improve riparian habitats (see Environmental Consequences - Water Resources). Population productivity and abundance of riparian dependent species would likely increase.

### *Forest Resources*

10. Wildlife habitat would be maintained on forested areas or woodlands set aside to protect old growth forest, wildlife cover, and other resource values. However, loss of wildlife habitat or a decline in habitat suitability could occur in these areas due to (1) progressive stagnation of forest stands from lack of natural fire or lack of timber management, or (2) loss of forest stands to catastrophic fire.

11. Timber harvest and associated forest management activities would result in displacement of wildlife and reduced habitat suitability for many species of wildlife dependent on forested habitats.
12. Stipulations and limitations on forest management activities would help minimize adverse effects on wildlife. Limiting the size of Douglas-fir clearcuts to 10 acres would help maintain habitat suitability for big game and wildlife species associated with old growth forest. The decision to time forest stand management treatments to promote forest stand structure and diversity typical of all seral stages on a drainage basis would help maintain a diversity of wildlife habitats by providing for a mix of seral stages and stand characteristics that would promote the existence of a diverse wildlife community. Timber management and harvest in stands that are decadent would improve wildlife habitat if the harvest is designed to promote a more open stand structure and the recruitment of large-diameter trees and snags.
13. Clearcuts up to 40 acres in size (except in the Donkey Hills) would result in displacement of wildlife species and decline of habitat suitability for species dependent on lodgepole pine. However, clearcuts would promote regeneration of lodgepole stands, and populations of dependent species would be maintained. Seasonal harvest restrictions, road closures, and buffer strips adjacent to riparian areas would help maintain wildlife habitat values. Leaving 3 snag trees per acre after timber harvest would help mitigate the loss of nest sites for cavity nesting bird species.

*Land Tenure and Access*

14. Acquisition of high value wildlife habitats would provide additional opportunities for habitat improvement and management on acquired lands and adjacent public lands. Stipulations to retain lands in Federal ownership that are acquired for special resource values (including wildlife habitat) would ensure maintenance of those values to support wildlife populations.
15. Potential would exist for disposal of lands with wildlife values. Private development and use of lands transferred out of public ownership could result in partial or complete loss of wildlife values on those lands, depending on the type and extent of use or development, and the wildlife values that exist on those lands. The potential for loss of wildlife values on lands transferred out of public ownership is expected to be offset by acquisition of lands with equal or greater values and management of the acquired lands for those values.
16. State land exchanges may result in transfer of some key wildlife habitats out of Federal ownership. Effects on wildlife would depend on subsequent management of these lands by the State. In exchange for these lands, BLM would likely acquire other State lands that would contain high value wildlife habitats.
17. It is anticipated that some public lands would be patented under desert land entry (DLE) applications over the life of the RMP. It is not possible to predetermine the location or ultimate effects of these patents on wildlife

populations or habitat. If these DLEs involve key wildlife habitats such as winter ranges or birthing/nesting sites, potential would exist for loss of these values due to subsequent cultivation or other development. The site-specific effects of DLE patents would be analyzed in an environmental assessment. Limiting consideration of DLE applications to those lands within the proposed adjustment areas would ensure that wildlife habitats are protected on lands outside of adjustment areas.

18. Stipulations and restrictions on right-of-way applications across Federal lands would help reduce loss of wildlife habitat from surface disturbance and human activity associated with rights-of-way. Resolution of agricultural trespass through transfer of lands out of Federal ownership may result in loss or degradation of wildlife habitats. Stipulations to protect wetland riparian habitats and habitats for threatened or endangered species would help mitigate adverse effects. Termination of all new trespasses would protect and restore habitats that were degraded or damaged by unauthorized use.

*Livestock Grazing*

19. Upland and riparian studies implemented to monitor vegetation conditions and livestock use would provide useful data on wildlife habitat conditions. Adjustments of livestock use based on proposed utilization criteria, vegetation monitoring, revision of activity plans and other knowledgeable and reasonable practices to ensure rangeland health would generally improve wildlife habitat by improving the vigor, average height, and density of herbaceous vegetation. However, the presence of cattle and other livestock would displace some wildlife species from preferred habitats and reduce the availability of herbaceous forage and cover on some sites. The magnitude of effects would vary between wildlife species and from site to site. On big game ranges, grazing use would reduce available forage and birthing cover. Some studies, e.g. Leckenby *et al* 1986, suggest that moderate livestock grazing may improve forage conditions on elk ranges. Other studies (Westenskow-Wall, et. al. 1994) have questioned this conclusion. On sage grouse nesting/brood-rearing areas, grazing use would reduce hiding cover for sage grouse chicks and nests. On key wildlife habitat sites, the removal of herbaceous vegetation by livestock would have potential to reduce the productivity and survival of wildlife species dependent on herbaceous vegetation. Herbaceous cover on steep slopes, ridgetops and other areas that receive little or no grazing use would be unaffected and would remain available for use by species that are capable of meeting their habitat needs on these areas.
20. Closing some areas to livestock use (21,343 acres) and implementing planning/design requirements for land use activities within key big game habitat areas (bighorn sheep and elk winter ranges) would eliminate and reduce competition between livestock and wildlife for forage-and space, and help ensure that habitat conditions are maintained or improved to support wildlife populations in these areas.

21. Actions taken to hold canceled or nonuse AUMs until allotment vegetation objectives are met would improve wildlife habitat on allotments where this occurs. Opportunities to withhold use of AUMs are infrequent, however, and this action would have only limited potential benefit.
22. Managing for potential natural plant communities (PNC) and watershed cover objectives would provide a natural mix of good condition plant communities to provide for the needs of most wildlife populations. The provision for managing some sites for desired plant communities other than the PNC would provide opportunity to maintain habitats for species that are better adapted to range sites in early or mid-seral stages, but would result in a decline of habitat condition for species that are best adapted to range sites in late-seral or PNC.

*Minerals*

23. The probability of fluid mineral development in the Resource Area is low. Standard lease stipulations that may be applied to any fluid mineral leases are expected to be adequate for preserving the physical characteristics of crucial habitat areas, minimizing human disturbance of big game animals during crucial periods, and protecting key habitat components for raptors, sage grouse, and other wildlife species. Stipulations on permitted activities on or near important wildlife habitat areas (see PRMP: Wildlife Habitat, Goal 2, #8) would help mitigate adverse effects from energy mineral development on wildlife habitats and populations.
24. Sale of mineral materials would have potential for limited loss and degradation of wildlife habitat and disturbance of wildlife. However, the number of sale sites and acres disturbed would be small and potential for adverse effects would be limited. Selection of alternate sites or other considerations may mitigate adverse effects in most situations. Stipulations and limitations on mineral material sales within riparian areas would minimize potential for adverse effects on riparian dependent wildlife populations.
25. Non-energy mineral development would have little or no potential to affect wildlife due to the low potential for occurrence of non-energy minerals in the RA.
26. Locatable mineral development would have the potential to result in site-specific loss and degradation of wildlife habitat, or disturbance of wildlife on sites where mineral development occurs. The likelihood of significant loss or degradation of habitat would be low, unless extensive development occurred on key wildlife habitats within areas of high mineral occurrence (see *Map 30: Locatable Minerals Land Classification*). Designation of the Birch Creek ACEC, Donkey Hills ACEC, Cronk's Canyon ACEC and Thousand Springs ACEC would help limit the potential for adverse effects from locatable mineral development. Withdrawal of suitable WSAs from locatable mineral development and limitations on mineral development in riparian areas would help mitigate any adverse effects from mineral development on important wildlife habitats or

populations in those areas.

*Off-Highway Vehicle Use*

27. Limiting motorized vehicle use to existing roads and vehicle ways throughout the RA, and adopting additional closures or limitations in specific areas (e.g., Lone Bird ACEC, Sand Hollow ACEC, Burnt Creek WSA, Jerry Peak WSA), would help prevent damage to wildlife habitats from motorized vehicle use and limit disturbance of wildlife populations.
28. Motorized vehicle seasonal use limitations in the Birch Creek ACEC, Donkey Hills ACEC, Old Stage Road, Carlson Hills, Willow Creek Summit elk winter range, and Second Spring Basin would help ensure that big game populations in these areas are protected from human disturbance and stress-related mortality during crucial winter periods, and help prevent damage to wildlife habitats from OHV use during the wet spring period.

*Rangeland Vegetation  
Treatment and Range  
Improvement Projects*

29. The effects of new range improvements on wildlife habitat would vary, depending on the type of project, location, and size. Range improvements generally change patterns of livestock use, and these changes may reduce wildlife cover and forage on areas that previously received little or no livestock use. Range improvements may also result in lighter livestock use on some areas, resulting in an improvement of wildlife forage and cover. Requiring range improvement projects to be functional prior to livestock turnout would help improve livestock distribution and avoid overuse of wildlife forage and cover on many riparian and upland habitat sites.
30. Livestock water developments located on big game winter ranges would lead to greater use of forage that would otherwise be available to wintering big game. Water developments located away from important winter ranges may lead to lighter grazing pressure and increased availability of forage for wintering big game. In areas where lack of water limits use by big game, new water developments may improve the area's suitability for big game and other wildlife species. The use of an ID team during planning would help avoid some of the adverse effects of new water developments on important wildlife habitat areas.
31. New fences may improve wildlife forage and cover by improving livestock distribution and alleviating livestock concentration problems. However, fences can adversely affect big game animals by restricting movements between habitat areas or foraging areas and by hampering escape from predators. All fences have potential to increase wildlife mortality and injury through entanglement or collision. Design specifications requiring three-wire fences (except around riparian habitats and in domestic sheep allotments) would help alleviate some of the adverse effects of fences on wildlife movements, because big game animals can more easily pass through 3-wire fences.

32. Vegetation treatments may be located and designed to increase the availability and quality of wildlife forage and cover. Prescribed burning in particular would improve forage availability for big game species such as elk or bighorn sheep that are attracted to burned areas. Vegetation treatments can result in loss of important forbs, or the loss of significant browse or shrub cover if conducted on wildlife winter ranges. Loss of shrubs or forbs would reduce the abundance of some wildlife species in the area of the treatment or displace wildlife into adjacent habitats, depending on the location, design, or seed mix used. Stipulations on the design of vegetation treatments, development of treatment objectives, establishment of standards, interdisciplinary team involvement, and post-treatment forage allocations would significantly reduce or mitigate the potential for adverse effects on wildlife habitat and populations. Sagebrush-dependent wildlife species, such as sage grouse, antelope and Brewer's sparrows are likely to decline or be displaced regardless of the project's design if the treatment were carried out in a key habitat area.

*Special Status Species*

33. A biological assessment of potential effects on threatened or endangered wildlife species was prepared as required by the ESA. Consultation with the USFWS on this biological evaluation concluded that the PRMP may affect, but is not likely to adversely affect, any threatened, endangered or candidate terrestrial wildlife species.
34. Standard operating procedures requiring site-specific field assessments and analysis of management actions through the NEPA process would ensure consideration of potential effects on special status species from authorized actions. Prediction of effects from PRMP management decisions on special status species is limited by lack of specific locations and plans for future land use activities. Potential effects would vary widely between species, due to differences in habitat preferences and sensitivity to human disturbance or different types of land uses. In general, some special status animal species would benefit from maintenance and improvement of wildlife habitat condition, as described elsewhere in this analysis. For example, riparian habitat improvements would improve conditions for riparian-dependent species such as the river otter or spotted frog.
35. Requirements for site-specific field assessments and inventories or surveys for special status animal species would increase the amount and quality of biological data (*i.e.*, distribution of populations and habitat preferences) on special status animal species in the Resource Area. Better biological data would permit the incorporation of design specifications and other mitigation measures to avoid or reduce the potential for adverse effects. Design specifications or seasonal restrictions on human activities in special habitat areas (see PRMP: Wildlife Habitat, Goal 2, #8) would reduce or eliminate the potential for adverse effects on some populations of special status species, particularly raptors.

*Wilderness Study Areas -  
Management if Released*

36. Existing WSAs provide big game habitat that is relatively secure from motorized vehicle disturbance and other human activities as a result of restrictions on resource development, low road densities and limitations on motorized vehicle use. Motorized vehicle use and potential increases in new road construction and timber harvest activity in WSAs released from wilderness review would have the potential to displace big game animals into adjacent habitat areas or cause a decline in habitat condition. The two road closures in WSAs released from wilderness review would help protect wildlife habitat from damage by motorized vehicles and maintain habitat for big game animals that is secure from human disturbance. Limitations on new road construction, timber harvest and mineral development in WSAs, if released from wilderness review would help minimize adverse effects on wildlife habitat by helping reduce potential for disturbance or habitat degradation from motorized vehicle use or other land use activities.

*Wild Horses and Burros*

37. Maintaining existing numbers of wild horses would preclude improvement of wildlife habitat condition on some riparian and upland habitat sites in the Wild Horse Herd Management Area (HMA). The abundance and use by riparian dependent wildlife species would remain low on sites in the Corral Basin Creek and Horse Basin Creek watersheds, where most of the concentrated wild horse use occurs. Other effects of wild horse use on wildlife would be the same as described above for livestock grazing and wildlife species dependent on herbaceous vegetation (see #19). If wild horse numbers are reduced to improve resource conditions, wildlife habitat would improve.

*Wildlife Habitat*

38. Big game populations are expected to be maintained by the commitment to provide sufficient forage and habitat for current big game populations. If it is determined that forage competition between big game and livestock is causing a decline in habitat conditions, actions would be taken in consultation with livestock operators and the IDFG to resolve the conflict and improve habitat conditions. Reduction of big game numbers in the problem area may occur, if necessary to improve habitat conditions.
39. The requirement to plan, design, and manage land use activities on key bighorn and elk habitat areas to ensure the continued viability of these big game populations would help minimize the potential for competition between livestock and wildlife, and reduce potential for stress, mortality or population declines associated with conflicting land use activities in these areas.
40. Installation of wildlife water developments, modification of fences, use of prescribed fire, and providing wildlife water would improve habitat quality for big game, upland game, and nongame wildlife. Such projects would have potential to enhance habitat suitability and quality on up to 90,000 acres of public lands. More efficient range use by antelope (Copeland 1980), upland game birds, and nongame species would be expected. Implementing a formal program to maintain water for wildlife at key locations would have the potential to improve habitat suitability on extensive areas.

41. Construction of nesting platforms on BLM lands along the Salmon River would improve habitat suitability for ospreys and increase numbers of nesting pairs. In waterfowl habitat areas, construction of fences and placement of nest boxes, platforms, or nesting islands would increase the productivity of the Resource Area's waterfowl populations by increasing nesting cover.
42. Continued coordination with the U.S.D.A. Animal and Plant Health Inspection Service (APHIS) on animal damage control (ADC) activities on the RA's public lands would help ensure that ADC activities have no significant adverse effects on wildlife populations. Effects of the current ADC program were analyzed in an environmental assessment (EA) completed in October, 1993. The EA states that coyote and other populations would not be significantly affected by animal damage control. The EA would be updated by APHIS before any changes in the current program would be approved.
43. Restrictions and design requirements for BLM permitted activities in important big game habitats, raptor nesting territories, sage grouse strutting grounds, and fawning/calving areas, etc. would help prevent adverse effects on important habitat areas; reduce the potential for disturbance and associated stress or mortality from human activity during crucial winter, birthing, and rearing periods; and reduce the potential for decline of wildlife numbers and reproductive success.
44. Reintroductions of bighorn sheep or other native wildlife species into historic ranges or habitat areas may result in establishment of viable populations of native species that would otherwise remain absent from unoccupied habitats. Existing populations may be augmented by introducing additional animals to improve genetic viability and stability. IDFG proposals to reintroduce bighorn sheep into historic range around Jerry Peak, Germer Peak, and the Sheep Mountain area of the Herd Creek watershed are not anticipated to conflict with existing or future land uses. Any conflicts would be resolved through the ID team process, or the reintroduction would not occur.

*Wild and Scenic Rivers*

45. Wildlife habitats and populations associated with free-flowing streams and rivers (e.g., river otters) would be protected from hydropower development on rivers found suitable for designation, or eligible for further study as wild and scenic rivers. Limitations on development along four segments with a tentative classification of Scenic or Wild would help protect habitat for riparian-dependent species along the river corridor.

**Cumulative Effects**

46. Factors such as weather, predation, disease, forage competition, hunter harvest, and subdivision or development of private lands may limit the productivity of big game populations over the long term. Habitat conditions on adjacent USFS lands (including management of roads and timber harvest) may also affect big game populations dependent on both USFS and public lands. However, big game populations are expected to be maintained over the long term.

47. Populations of riparian-dependent wildlife species would be maintained, although the abundance of some species is expected to decline as a result of habitat degradation or loss on adjacent private lands. Some populations of riparian-dependent neotropical migratory bird species are expected to decline due to the fragmentation and loss of winter habitats in the southern U.S. and countries to the south.
48. Populations of upland game birds are expected to be maintained. Climate, predation, and disease would continue to be the primary factors affecting the stability of upland game bird populations. Potential would exist for further declines in sage grouse populations due to the effects of climate, region-wide alterations of sagebrush-grassland habitat and other unknown factors. Implementation of PRMP decisions and management strategies that improve vegetation conditions would contribute to the maintenance of sage grouse and other upland game bird populations
49. Cumulative effects on nongame wildlife populations would vary widely by species. Populations of some neotropical nongame birds are likely to decline as a result of habitat degradation and loss in southern wintering areas. Populations of other riparian-dependent and upland-dependent species are expected to be maintained. Emphasis on suppression of wildfires on public, private, State and National Forest lands in the region is generally expected to continue, along with timber harvest practices selecting for large-diameter trees. Due to this emphasis, forested areas characterized by a mix of forest stands in early to late-seral stages, and large diameter trees and snags would continue to decline. The abundance of wildlife species dependent on these forested habitats are also expected to decline. PRMP stipulations on forested area management, buffer zones around sensitive raptor habitats, maintenance of undisturbed areas, and other forest resource and fire activity management actions would help mitigate these declines.

## Wild and Scenic Rivers

**Introduction:** At present, no Wild and Scenic Rivers (WSR) are designated in the Challis Resource Area. The Wild and Scenic Rivers Act directs the BLM to manage rivers found eligible or suitable for possible inclusion into the National Wild and Scenic Rivers System in a manner that protects and/or enhances the outstandingly remarkable (OR) values and the free-flowing and water quality characteristics which caused the rivers to be found eligible. PRMP actions affecting eligible and suitable rivers must not degrade those values. Accordingly, the PRMP would provide at least the minimum standard of protection for eligible and suitable rivers required by the Wild and Scenic Rivers Act. Specific protection strategies would be developed in activity plans.

**No Reasonably Foreseeable Effects to Wild and Scenic Rivers:** Decisions listed in the PRMP under the following sections would have no reasonably foreseeable effect on Wild and Scenic Rivers: Air Quality, Hazardous Materials Management, Tribal Treaty Rights, Wilderness Study Areas - Management if Released from Wilderness Review, and Wild Horses and Burros.

### Summary of Effects

1. The PRMP finds 5 river segments suitable for WSR designation and identifies 10 river segments as eligible for a coordinated river suitability study. These 15 rivers would receive the protection required by the WSR Act, unless later found unsuitable or released by Congress. PRMP actions which improve wildlife and fisheries habitat, water quality, riparian health, and watershed protection would provide high levels of protection to natural and aesthetic values. Thus, WSR values on all 15 segments would be maintained and probably enhanced.

### Positive Effects

2. PRMP actions which go beyond the minimum protective requirements of the WSR Act would benefit WSRs by enhancing the values which have been identified. WSR-enhancing actions include PRMP decisions which are expected to improve natural and aesthetic values, riparian area health, visual quality, fish and wildlife habitat (including habitat for special status species), and primitive and some developed recreation opportunities (such as camping, interpretation, fishing, hunting, and sightseeing). Specific examples of such activities include (a) stabilizing riverbanks, which would decrease sedimentation, improve the natural visual appearance, and increase fish presence; (b) limiting or closing areas to OHV use to maintain wildlife lifecycle needs, protect fragile soils, and maintain visual aesthetics; (c) designing range, timber, and wildlife projects to be less visually intrusive; (d) modifying livestock grazing management on upland watersheds and riparian areas; (e) modifying fire suppression practices (e.g., moving fire suppression staging areas and base camps outside of riparian areas); (f) limitations on new road construction in riparian areas; (g) acquiring wetlands and fish habitat within the WSR corridor; (h) minimum streamflow acquisition; (i) modified timber harvest practices (e.g., clearcutting restrictions, riparian buffer zones); (j) increased standards for vegetative cover, and (k) recreation site development in segments with a tentative classification of "Scenic" or "Recreational."

**Negative Effects**

3. The types of actions listed above under "Positive Effects" would decrease the potential for adverse effects on WSR values. Some negative effects on WSR values could still occur (but not more than allowed by the WSR Act or other PRMP direction) from actions such as livestock grazing, road construction, and recreation facilities development in riparian areas, site-specific vegetation treatments, some OHV use, mineral and timber harvest practices which cause surface and visual disturbance, and transportation routes which intrude into the WSR corridor.

**Cumulative Effects**

4. The cumulative effects of BLM actions would be the same as described above in the "Summary of Effects."

USFS actions on rivers which flow into BLM study segments could have a positive or negative impact on WSR values in those segments, specifically water quality and OR fisheries values, depending on USFS management decisions.

Current uses of private lands along or adjacent to WSR segments could benefit WSR values by providing wildlife habitat and access to rivers and riparian areas. Changing private land uses (*e.g.*, conversion of hay grounds into residential subdivisions) could increase conflicts between land users, reduce visual aesthetics, decrease recreation use and access opportunities on private lands, and increase recreation demand on BLM lands.

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