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## CHAPTER 3 – AFFECTED ENVIRONMENT

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### 3.1 INTRODUCTION

This chapter provides a description of the existing biological, physical, and socioeconomic characteristics, including human uses, that could be affected by implementing the action alternatives for this RMP/EIS, as described in Chapter 2. Information from broad-scale assessments were used to help set the context for the planning area. The information and direction for BLM resources has been further broken down into fine-scale assessments and information where possible. Specific aspects of each resource discussed in this section (e.g., weeds, fire, OHV use) were raised during the public and agency scoping process. The level of information presented in this chapter is commensurate with and sufficient to assess potential effects of the action alternatives in Chapter 4.

Acres figures and other numbers used are approximate projections; readers should not infer that they reflect exact measurements or precise calculations. Acreages were calculated using GIS technology, and there may be slight variations in total acres between resources.

The planning area for the Cottonwood RMP is the CFO boundary and includes all lands regardless of jurisdiction. However, the BLM makes decisions on only those lands under its jurisdiction (on BLM-administered lands).

### 3.2 RESOURCES

This section contains a description of the existing biological and physical resources of the CFO and follows the order of topics addressed in Chapter 2, as follows:

- Air quality
- Geology
- Soil
- Water resources
- Vegetation communities
- Fish and wildlife
- Special status species
- Wildland fire ecology and management
- Cultural resources
- Paleontological resources
- Visual resources

#### 3.2.1 Air Quality

Airsheds with the CFO have been identified as part of the larger Interior Columbia Basin Ecosystem (Forest Service 1997), which is primarily composed of portions of Idaho, Montana, Nevada, Oregon, and Washington. An airshed is “a geographical area in which atmospheric characteristics are similar, such as mixing height and transport winds” (Montana/Idaho Airshed Group 2005). Airshed 13 and portions of Airsheds 12A, 12B, 14, 15 and 16 have been delineated within the planning area by the Montana/Idaho Airshed Group.

In considering impacts on air quality from activities within the CFO, the US EPA air quality permitting system suggests that an analysis of air impacts should include all areas within 100 kilometers of proposed facilities and projects (EPA 1992). To be consistent with this directive, the

area of consideration for air quality impacts includes airsheds over lands within the CFO, as well as lands within a 100-kilometer (62-mile) radius of the planning area boundary.

Air quality management in the CFO is coordinated through the Montana/Idaho Airshed Group and the IDEQ, which assesses atmospheric conditions and current pollution levels before approving submitted burn plans. Air quality management in the CFO places priority on protecting human health and the environment by mitigating the impacts on air quality from wildland and prescribed fire.

Planning area air quality is generally in the “good” category of the Air Quality Index. No nonattainment areas have been designated within the CFO planning area, but particulate matter with a diameter less than 10 micrometers (PM<sub>10</sub>) concentrations in the Pinehurst (Shoshone County) area, approximately ~~30~~ 50 miles north of the CFO boundary, have exceeded the PM<sub>10</sub> National Ambient Air Quality levels, and the area was designated as a nonattainment area. Emission sources for PM<sub>10</sub> in the Pinehurst area have been identified primarily as residential wood burning. Air quality in the Pinehurst area has improved in recent years, and the area has been documented to be in compliance with the PM<sub>10</sub> National Ambient Air Quality levels, though it currently remains designated as a nonattainment area. Throughout the CFO planning area, annual average particulate matter concentrations have remained fairly constant despite an increasing population base in northern Idaho. No nonattainment areas for other criteria pollutants have been identified in the CFO. However, the Spokane PM<sub>10</sub> and carbon monoxide (CO), Polson PM<sub>10</sub>, Ronan PM<sub>10</sub>, Missoula PM<sub>10</sub> and CO, and Sanders County (Thompson Falls and vicinity) PM<sub>10</sub> nonattainment areas are within the 62-mile area of consideration for the planning area.

Smoke has been identified as the primary source of air quality impact in the planning area. Air quality in the planning area is affected by the strength of local and regional sources of pollution and the meteorological conditions that disperse the pollutants. Smoke from regional and local wildland fires during the late summer can degrade air quality for extended periods. Regional wind storms can create wind-blown dust that degrades air quality during the storm. Based on long-term monitoring data, air quality is generally poorest from August through September due to increased levels of biomass burning (from the combination of wildland fires and crop field burning) and atmospheric conditions trapping pollutants.

Areas that have been identified as sensitive to air quality include nonattainment areas, Class I areas, impact zones, hospitals, airports, major transportation corridors, and population centers. There are two Class I visibility areas currently designated within the CFO boundary, namely, Hells Canyon Wilderness Area and Selway-Bitterroot Wilderness Area. There are seven Class I areas identified within the area of consideration: Sawtooth Wilderness Area, Eagle Cap Wilderness Area, Anaconda-Pintlar Wilderness Area, Mission Mountain Wilderness Area, Scapegoat Wilderness Area, the Flathead Reservation, and the Spokane Reservation.

Impact zones are considered by IDEQ and the Montana/Idaho Airshed Group to be areas where smoke is likely to be a problem because of local topography, meteorology, air quality problems, or other factors (Montana/Idaho Airshed Group 2005). Impact areas have not been designated within the CFO, but the Fernan, Pinehurst, Thompson Falls, Salmon, McCall, and Missoula impact zones have been designated within the 62-mile area of consideration.

The transportation corridors that run through the CFO and the area of consideration are US Highways 12, 95, and 195, and many state highways. There are also numerous hospitals, medical centers, and airports within the CFO planning area and the area of consideration.

PM<sub>10</sub> data for the planning area have shown an improvement in air quality from 10 years ago due to reductions in sources contributing to PM<sub>10</sub> events, especially during winter stagnation episodes. Annual average concentrations have remained fairly constant over the past few years despite an increasing population base in northern Idaho. Monitoring for particulate matter with a diameter of less than 2.5 micrometers (PM<sub>2.5</sub>) started in 1999 and has fewer years of complete data compared to the PM<sub>10</sub> database, which started in the late 1980s. The annual averages for PM<sub>2.5</sub> have shown a fairly constant level for the past several years.

### **3.2.2 Geology**

The geology of the CFO is described in detail in the CFO Planning Area Mineral Occurrence and Development Potential Report (Tetra Tech, Inc., and Silverfields Inc. 2005). The following section was summarized from this document.

#### ***Physiography***

The distinct physiographic character of the Cottonwood planning area reflects geologic differences in rock types, structures, and chemical and physical weathering processes. Mountain peaks in this area reach elevations of over 8,000 feet and are surrounded by deeply incised rivers and rugged topography. The elevation at Lewiston where the Snake River flows out of Idaho, and into Washington, is around 740 feet (there is a US Geological Survey benchmark just upriver from where the Snake and Clearwater rivers join).

The eastern portion of the planning area is in the Northern Rocky Mountain Physiographic Province. This province consists of a system of northerly trending mountains and broad upland plains. Broad plains of the Tristate Uplands form the western slope of the planning area, reaching altitudes of 3,000 to 4,000 feet. The subdued nature of this feature is related to relatively flat volcanic flows in the area. The western portion of the planning area contains rugged topography, including Hells Canyon, the deepest gorge in North America, with over 7,000 feet of topographic relief.

#### ***Geologic History and Units***

The geological history of central and northern Idaho is complex and spans billions of years. The following presents significant geologic units in the planning area, in order from oldest to youngest.

The oldest rocks in the planning area are metamorphic, including a series called the Belt Super Group. The Belt Super Group, estimated at over 50,000 feet thick, consists of various rocks that have been subjected to low-grade metamorphism. This series and the rocks that intruded it occur along the northern and eastern portions of the planning area. They provide sources of mineral resources in the planning area.

Along the western edge of the planning area, the Seven Devils terrain consists of volcanic rocks, rocks that cooled from magma below the earth's surface, and overlying sedimentary rocks. The terrain is exposed throughout Hells Canyon and the Seven Devils Mountains. Within the planning area, mass earth movements are more common where flat-lying volcanic flows overlie this relatively

impermeable rock. Water saturates the surface, resulting in mass earth movements, particularly in steep topographic terrain along major river systems.

Formation of the Idaho Batholith represents a dominant episode in the geologic history of the CFO planning area. This large igneous rock exposure formed beneath the earth's surface by cooling magma. Because of its granular structure, soils that develop in the Idaho Batholith are susceptible to surface erosion.

Volcanic flows of Columbia River Basalt cover the western portion of the CFO planning area. Combined, the flows are several thousands of feet thick. Extensive six-sided, columnar features formed as the basalt cooled and now are sources of decorative stone.

More recently, alluvium from weathered and reworked material has been deposited along streams and rivers in the planning area. During and following the latest Ice Age, the streams and rivers of Idaho carried a larger volume of water than they do now, enabling them to carry more sediment. The natural, enhanced river flow and the periodic floods scoured out many of the larger river canyons and increased the downcutting and erosion of the rivers and mountains, leaving the landscape that is present today. Runoff is much lower now than during the last glacial event, creating rivers and streams that are undersized compared to the erosional features that they occupy.

### **3.2.3 Soils**

#### ***Soil Types***

Soils in the Cottonwood planning area are affected by several physical properties, including elevation (and resulting climatic conditions), topography, and parent materials. Soils occur at elevations ranging from 740 feet to more than 8,000 feet. Soils form on uplands of steep and rugged mountains and on plateaus with rolling and moderate slopes. Within the planning area, primary parent materials include the Idaho Batholith, bordering metamorphic rocks (including the Belt Super Group), and Columbia River basalts.

Throughout the southern portion of the planning area, coarse-textured, highly erodible soils form in the Idaho Batholith. These soils are concentrated east and south of the Salmon River and east of the Little Salmon River. Major tributaries that drain this region include Lake Creek, Bear Creek, Elkhorn Creek, Partridge Creek, Hazard Creek, and French Creek. Generally, tributaries occupy deeply incised, steep-walled canyons dominated by high-energy streams.

North or west of the Idaho Batholith, soils associated with the metamorphic rocks are exposed in the canyon bottoms and along lower walls of the Snake, Salmon, Little Salmon, and Clearwater Rivers. Major tributaries include Big Canyon Creek, John Day Creek, and Eagle Creek. Erosion generally results in steep-sided valley walls covered by large blocks of rock. Resulting soil types are typically medium grained and highly erodible. In the Elk City area, the South Fork of the Clearwater River and its tributaries drain a region of soils formed in similar but much older metamorphic rocks. The landforms are characterized by rounded hills and meandering stream channels. Soil types are generally similar to other metamorphic rocks found in the region.

Throughout the western portion of the planning area, soils form in thick sequences of Columbia River basalt flows and interbedded sedimentary deposits. These soils meet the western margin of the

Idaho Batholith. At one time, the basalt flows formed an extensive plateau across the region. However, erosion has since created a dissected landform of deeply incised river canyons with the uplands capped by isolated remnants of basalt.

Soils in the planning area also vary based on differences in slope profiles, which contribute directly to differences in grain size and mineralogy. Coarse-grained basalt flows break down to form relatively gentle slopes, while fine-grained basalt flows weather to almost vertical cliffs. Similarly, some basalt flows weather to coarse-grained soil, while others weather to a fine-grained soil with higher clay content.

Detailed soil surveys prepared by the US Department of Agriculture, Natural Resources Conservation Service (NRCS) are available for most of the planning area. In addition, the Nez Perce National Forest has prepared descriptions of land types, including geologic erosion factors for much of the planning area. NRCS maps identify some areas of prime farmland in the planning area. However, BLM specialists have determined that prime farmlands, as defined by the NRCS, are relatively rare on any BLM-administered lands in the planning area.

### **Erosion**

Limited mass movement has occurred in the past on BLM-administered lands within the planning area. Landslides, slumps, and massive earth movements are influenced directly by the presence of flat-lying basalt flows overlying relatively impermeable rock units, such as portions of the Seven Devils terrain. This feature creates a water-saturated surface that is prone to mass earth movements, particularly in steep topographic terrain along major river systems. Other landslide-prone areas occur where soils are deep, topography is steep, contributing drainage is substantially large, and vegetative rooting strength is minimal. In the Payette National Forest, which borders the CFO planning area, landslide-prone areas have been documented (Dixon and Wasniewski 1998) primarily in basalts, in soil depths between two and four feet deep, on ground slopes between 55 and 70 percent, and in soils that exhibit evidence of water. The failure plane of field-verified landslides was generally below the depth of major root penetration. Fifteen percent of the landslides were associated with timber harvests. Because of similar conditions, these characteristics are likely to apply to landslide-prone areas in the CFO planning area. Limited geologic and localized erosion, caused by roads and other concentrated uses, still occurs in the planning area.

A number of factors have probably contributed to reduced soil loss from erosion since 1981, including reduced road construction and improved road construction methods, reduced timber harvesting and improved timber management practices, and positive watershed restoration efforts, including road obliteration, undersized culvert removal or replacement, and revegetation. Also contributing to reduced erosion and slight upward trends in water quality during the past decade are actions attributed to improved land management as a result of federal requirements for listed fish (ESA).

### **Compaction**

Soil compaction occurs in response to pressure exerted by field machinery or animals. The risk for soil compaction is greatest when soils are wet. Compacted soil usually allows less water to infiltrate, resulting in greater overland flow of water for longer periods of time. The overland flow has greater energy to detach and transport soil particles, resulting in increased soil erosion. Soil compaction has

the potential to affect the long-term productivity of a site by reducing the diameter and height of a stand of trees by 6 to 25 percent over the long term. Soil texture affects the potential for soil compaction. In general, finer-grained soils can withstand less soil compaction before restricting plant roots (NRCS 1996).

Heavily grazed allotments, log landings, and permanent and temporary roads within the planning area where heavy machinery has worked in the past display some soil compaction. Related research suggests that soil compaction from heavy machinery can cause long-term effects (Froehlich and McNabb 1984; Wert and Thomas 1981).

Soils that formed from fine-grained deposits throughout the planning area are particularly susceptible to soil compaction and displacement, and shallow coarse-grained soils are generally less susceptible. Where rock fragments are at the surface, soil compaction is normally not a concern.

### 3.2.4 Water Resources

#### **Surface Water**

Except for a small portion along the northern boundary of the planning area that is within the Spokane River watershed, the planning area is in the Snake River Basin. The Snake River Basin extends into parts of Wyoming, Idaho, Utah, Nevada, Oregon, and Washington and ultimately drains to the Columbia River in Washington. In most of the Columbia River and Snake River Basins, stream flow is dominated by runoff from snow melt. The snowpack accumulates from late fall through spring, and the snow melt begins in spring, which typically results in an early summer surge in runoff that is sustained into mid-summer. Stream water temperatures tend to start warming up in late spring, with highest temperatures generally occurring July through August. Headwater streams are relatively steep and are controlled by bedrock and glacially derived sediments (BLM and Forest Service 1995).

Within the planning area, BLM lands occur in 10 subbasins, including two subbasins of the Snake River, four subbasins of the Clearwater River, and four subbasins of the Salmon River. The BLM lands comprise from less than 0.1-percent to 7.0 percent of total lands within the subbasins. With the exception of several drainages, ownership is often fragmented and discontinuous along streams and rivers. Total stream lengths managed by the BLM in many drainages are minimal and may be less than 0.25 mile. Most drainages with stream segments managed by the BLM occur in the western two-thirds of the planning area; there are fewer than 150 acres of BLM-administered segments in the North and Middle Forks of the Clearwater River combined.

**Table 3-1** lists the distribution of the planning area and CFO lands within the watersheds of the principal streams that drain the planning area (eight-digit, or “fourth field,” hydrologic unit codes). Nearly 90 percent of CFO lands are in five watersheds, and nearly 40 percent of those are in the Lower Salmon River watershed.

**Table 3-1  
Fourth Field Hydrologic Unit Code Watersheds in the Planning Area**

<b>Basin Name</b> Subbasin Name	<b>Hydrologic Unit Code Number</b>	<b>Total Watershed Area (Square Miles)</b>	<b>BLM Land in Watershed (percent of watershed that is BLM)</b>
<b>Spokane River</b>			
St. Joe	17010304	1,860 (1,190,395 acres)	0
<b>Lower Snake River (below Hells Canyon)</b>			
Hells Canyon	17060101	545 (348,799 acres)	4,801 acres (1%)
Lower Snake-Asotin	17060103	711 (455,038 acres)	19,583 acres (4%)
Palouse	17060108	2,360 (1,510,394 acres)	0
Rock	17060109	962 (615,678 acres)	0
<b>Salmon River</b>			
Middle Salmon-Panther	17060203	1,810 (1,158,395 acres)	0
Lower Middle Fork Salmon	17060206	1,370 (876,797 acres)	0
Middle Salmon-Chamberlain	17060207	1,700 (1,087,996 acres)	10,146 acres (1%)
South Fork Salmon	17060208	1,310 (838,397 acres)	1,579 acres (<1%)
Lower Salmon	17060209	1,240 (793,597 acres)	56,021 acres (7%)
Little Salmon	17060210	582 (372,479 acres)	16,798 acres (5%)
<b>Clearwater River</b>			
Upper Selway	17060301	997 (638,077 acres)	0
Lower Selway	17060302	1,030 (659,197 acres)	0
Lochsa	17060303	1,180 (755,197 acres)	0
Middle Fork Clearwater	17060304	213 (136,320 acres)	93 acres (<1%)
South Fork Clearwater	17060305	1,170 (748,797 acres)	14,074 acres (2%)
Clearwater River	17060306	2,340 (1,497,594 acres)	20,692 acres (1%)
Upper North Fork Clearwater	17060307	1,320 (844,797 acres)	0
Lower North Fork Clearwater	17060308	1,170 (748,797 acres)	11 acres (<1%)
<b>Middle Snake-Powder River</b>			
Brownlee Reservoir	17050201	1,290 (825,597 acres)	0

Source: BLM 2004a; Seaber et al. 1987

Many watersheds are split between different jurisdictions, such as states, BLM field offices, and counties. Nearly half of the major watersheds in the planning area either straddle a state line or extend beyond the planning area into adjacent BLM field offices to the north or south. Because some natural systems are organized around, or are highly influenced by, topography and drainage patterns, cooperation among stakeholders within both large and small hydrologic units is increasingly needed in order to achieve common ecological objectives, such as protection of fisheries. Among the major watershed-based planning initiatives undertaken in recent years are the Forest Service/BLM ICBEMP, the Forest Service Inland Native Fish Strategy (INFISH), the Forest Service/BLM PACFISH, and the USFWS Bull Trout Draft Recovery Plan (USFWS 2005b), all of which are based on regional basin management because the stream systems that support both anadromous (migrating from the sea up a river to spawn) and land-locked fisheries in the northwestern US are both vast and interconnected.

Approximately 625 miles of streams and rivers flow across CFO lands, a little over half of which are perennial (flowing continuously), and the remainder of which are intermittent (flowing only at certain times of the year when receiving water from springs and melting snow) (BLM 2004a). Major rivers on CFO lands are summarized in **Table 3-2**. About 6.5 miles of rivers are listed as being state protected by the Idaho Department of Water Resources.

**Table 3-2**  
**Major Rivers on CFO Lands**

River	Linear Miles that Border and/or Cross BLM Parcels
Snake River	3.05
Clearwater River	15.75
South Fork Clearwater River	5.49
Salmon River	78.75
Little Salmon River	3.82
Lolo Creek	14.48

Source: BLM 2004a

Section 303(d) of the Clean Water Act requires that waterbodies violating state or tribal water quality standards be identified and placed on a 303(d) list. Waterbodies in which the water quality consistently does not meet these criteria are identified as impaired under section 303(d) of the Clean Water Act. It is the state's responsibility to develop its own 303(d) list and to establish a TMDL for the parameter(s) causing waterbody impairment. The development and implementation of water quality restoration plans (or, in some specific instances, sufficiently stringent management measures) provide the specific action by which the BLM will meet TMDL requirements on lands under its jurisdiction.

Updated 303(d) lists are issued every two years. The 303(d) list from 1998 is the most recent list approved by the US EPA. **Figure 43** (US EPA Water Quality Limited Water Bodies) (see Volume IV [of Cottonwood Draft RMP/EIS](#)) shows the locations of the impaired water quality segments within the planning area. **Table 3-3** is a summary list of those impaired water quality segments that may have relevance to BLM management decisions because of their location relative to BLM lands, although other segments that are not listed could also be relevant. **Table 3-3** also lists the completed TMDLs and the schedule for TMDLs under development (Settlement Agreement 2002). **Appendix O**, Watershed and Stream Water Quality Conditions (see Volume III), discusses in more detail the watershed and stream water quality conditions in the watersheds containing BLM land. The US EPA has approved the Idaho 2002 Integrated Report (IDEQ 2002). The draft Idaho 2004 Integrated Report is expected to be approved in 2006. These Integrated Reports were previously referred to as 303(d) lists.

**Table 3-3**  
**303(d) Listed Waterbodies with BLM Lands in Watershed**

<b>Waterbody (Water Quality Limited Segments Number)</b>	<b>Boundaries</b>	<b>Hydrologic Unit Code Number</b>	<b>Pollutant(s) of Concern</b>	<b>Total Maximum Daily Load Status</b>
<b><i>Snake River Subbasin</i></b>				
Snake River	Hells Canyon Dam to Salmon River (RM247-188)	17060101	Mercury, temperature (Oregon); temperature (Idaho)	Temperature completed 2004; mercury 2006
Divide Creek (2905)	Headwaters to Snake River	170601010201	Sediment	2007
Wolf Creek (2906)	Headwaters to Snake River	170601010301	Sediment	2007
Getta Creek (2907)	Headwaters to Snake River	170601010402	Sediment	2007
<b><i>Lower Snake River Subbasin</i></b>				
Snake River	Salmon River to Washington State Line	17060103	Temperature (added by EPA in 1998 and included by Washington Department of Ecology)	NA
<b><i>Lower Salmon River Subbasin</i></b>				
China Creek (3321)	Headwaters to Salmon River	170602090103	Sediment	2007
Deer Creek (3323)	Headwaters to Salmon River	170602090301	Sediment	2007
Cottonwood Creek (3324)	Headwaters to Salmon River	170602090403	Sediment	2007
Maloney Creek (3325)	Headwaters to Salmon River	170602090402	Bacteria, flow alteration, nutrients, sediment, temperature	2007
Deep Creek (3326)	Headwaters to Salmon River	170602090501	Bacteria, flow alteration, habitat alteration, nutrients, sediment, temperature	2007
Rice Creek (3327)	Headwaters to Salmon River	170602091701	Sediment	2007

**Table 3-3**  
**303(d) Listed Waterbodies with BLM Lands in Watershed** *(continued)*

<b>Waterbody (Water Quality Limited Segments Number)</b>	<b>Boundaries</b>	<b>Hydrologic Unit Code Number</b>	<b>Pollutant(s) of Concern</b>	<b>Total Maximum Daily Load Status</b>
Rock Creek (3328)	Confluence of Johns and Telcher Creeks to Salmon River	170602090601	Sediment	2007
Skookumchuck Creek (5157)	Confluence of North and South Forks To Salmon River	170602091001	Sediment	2007
Slate Creek (3333)	Headwaters to Salmon River	170602091101	Sediment	2007
China Creek (5041)	Headwaters to Salmon River	170602091201	Sediment	2007
Race Creek (3336)	Headwaters to Salmon River	170602091205	Sediment	2007
<b><i>Little Salmon River Subbasin</i></b>				
Little Salmon River (2863)	Round Valley Creek to Mouth Upstream of Round Valley Creek	17060210	Sediment Unknown	2007
Squaw Creek (2865)	Headwaters to Little Salmon River	170602100103	Sediment	2007
Elk Creek (2869)	Headwaters to Little Salmon River	170602100102	Sediment	2007
Big Creek (2877)	Headwaters to Little Salmon River	170602100403	Nutrients, sediment	2007
<b><i>Middle Salmon River Subbasin</i></b>				
Warren Creek (3352)	Headwaters to Wilderness Boundary	170602071901	Habitat alteration (dredge mining)	Subbasin assessment only (December 2002)
<b><i>Clearwater River Subbasin</i></b>				
Clearwater River (3139)	Confluence of North Fork to Washington line	17060306	Total Dissolved Gas	2005
Lapwai Creek (3143)	Unnamed tributary 16 miles downstream to Clearwater River	170603063103	Bacteria, dissolved oxygen, flow alteration, habitat alteration, nutrients, sediment, temperature	2005

**Table 3-3**  
**303(d) Listed Waterbodies with BLM Lands in Watershed** *(continued)*

<b>Waterbody (Water Quality Limited Segments Number)</b>	<b>Boundaries</b>	<b>Hydrologic Unit Code Number</b>	<b>Pollutant(s) of Concern</b>	<b>Total Maximum Daily Load Status</b>
Catholic Creek (3148)	Headwaters to Clearwater River	170603060201	Bacteria, dissolved oxygen, flow alteration, habitat alteration, ammonia, nutrients, organic, sediment, temperature	2005
Potlatch River (3149)	Bear Creek to Clearwater River.	170603060202	Bacteria, dissolved oxygen, flow alteration, habitat alteration, ammonia, nutrients, oil/gas, organic, pesticides, sediment, temperature	2005 (under development)
Middle Potlatch Creek (5125)	Headwaters to Potlatch River	170603060302	Bacteria, flow alteration, habitat alteration, nutrients, sediment, temperature	2005
Big Bear Creek (5225)	West Fork Big Bear Creek to Potlatch River	170603060401	Temperature	2005

**Table 3-3**  
**303(d) Listed Waterbodies with BLM Lands in Watershed** *(continued)*

<b>Waterbody (Water Quality Limited Segments Number)</b>	<b>Boundaries</b>	<b>Hydrologic Unit Code Number</b>	<b>Pollutant(s) of Concern</b>	<b>Total Maximum Daily Load Status</b>
Bedrock Creek (3162)	Headwaters to Boundary	170603060803	Bacteria, dissolved oxygen, flow alteration, habitat alteration, ammonia, nutrients, sediment, temperature	2005
Big Canyon Creek (7164)	Headwaters to Sixmile Canyon	170603061001	Bacteria, dissolved oxygen, flow alteration, habitat alteration, ammonia, organics, pesticides, temperature	2005
Big Canyon Creek (3164)	Sixmile Canyon to Clearwater River	170603061001	Bacteria, flow alteration, habitat alteration, nutrients, temperature	2005
Lolo Creek (3173)	Eldorado Creek to Clearwater River	17060306	Bacteria, dissolved oxygen, flow alteration, habitat alteration, nutrients, oil/gas, sediment, temperature	2005 (under development)
Texas Creek (5222)	Headwaters to Lolo Creek	17060306	Unknown	2005
Schmidt Creek (5223)	Headwaters to Lolo Creek	17060306	Unknown	2005
Mud Creek (5130)	Headwaters to Lolo Creek	17060306	Sediment	2005

**Table 3-3**  
**303(d) Listed Waterbodies with BLM Lands in Watershed** *(continued)*

<b>Waterbody (Water Quality Limited Segments Number)</b>	<b>Boundaries</b>	<b>Hydrologic Unit Code Number</b>	<b>Pollutant(s) of Concern</b>	<b>Total Maximum Daily Load Status</b>
Sixmile Creek (3179)	Headwaters to Clearwater River	17060306	Bacteria, dissolved oxygen, flow alteration, habitat alteration, ammonia, nutrients, oil/gas, organics, sediment, temperature	2005
Sevenmile Creek (3181)	Headwaters to Lawyer Creek	17060306	Habitat alteration, sediment	2005
<b><i>South Fork Clearwater River Subbasin</i></b>				
South Fork Clearwater River (5185)	Red River to Clearwater River	17060305	Habitat alteration, sediment, temperature	2004
Cottonwood Creek (3288)	Headwaters to South Fork Clearwater River	170603051311	Bacteria, dissolved oxygen, habitat alteration, ammonia, nutrients, sediment, temperature	2000
Threemile Creek (3291)	Headwater to South Fork Clearwater River	170603051201	Bacteria, dissolved oxygen, flow alteration, habitat alteration, ammonia, nutrients, sediment, temperature	2004

**Table 3-3**  
**303(d) Listed Waterbodies with BLM Lands in Watershed** *(continued)*

Waterbody (Water Quality Limited Segments Number)	Boundaries	Hydrologic Unit Code Number	Pollutant(s) of Concern	Total Maximum Daily Load Status
Butcher Creek (3292)	Headwaters to South Fork Clearwater River	170603050106	Bacteria, dissolved oxygen, flow alteration, habitat alteration, sediment, temperature	2004
Buffalo Gulch (5030)	Headwaters to American River	170603050601	Sediment	2004
Big Elk Creek	Headwaters to Mouth	170603050602	Temperature	2004
Little Elk Creek	Headwaters to Mouth	170603050602	Temperature	2004

Source: IDEQ 2002

The State of Idaho has identified on its draft 303(d) list for 2002 43 stream segments with impaired water quality, totaling about 62 miles, on planning area CFO lands. Most of the impairments are due to excessive suspended sediment loading or excessive temperature. Both criteria are set primarily for the purpose of protecting fish. In particular, they are intended to protect anadromous (migrating from the sea up a river to spawn) fish, such as salmon (*Oncorhynchus* spp.) and steelhead trout (*O. mykiss*), bull trout (*Salvelinus confluentus*), and other salmonids (such as cutthroat trout [*O. clarki*]). (Salmonids are any member of the family Salmonidae, which includes all species of salmon, trout, char [*Salvelinus alpinus*], whitefish [*Prosopium* spp.], and grayling [*Thymallus arcticus*].) Besides sediment and temperature, other pollutants of concern identified for 17 drainages includes a combination of bacteria, dissolved oxygen, nutrients, ammonia, organic pollutants, oil or gas, pesticides, habitat alteration, and flow alteration. Many of the pollutants or issues may be related to agricultural use of the land.

### **Groundwater**

Most of the planning area is in the Northern Rocky Mountain Intermontane Basins Regional Aquifer System. This region extends eastward into Montana and northward into British Columbia, Canada. It is bordered on the west by the Columbia River Regional Aquifer System and on the south by the Snake River Plain Regional Aquifer System (Whitehead 1994).

Most of the Northern Rocky Mountain Intermontane Basins Regional Aquifer System consists of small isolated aquifers in pre-Miocene rocks. The geologic materials that compose these aquifers vary widely and include igneous and metamorphic rocks, volcanic rocks, and consolidated marine and nonmarine sedimentary rocks, with a wide range of thicknesses and permeabilities. Water from wells completed in these aquifers is used mostly for domestic and livestock watering supplies.

Most of the western half of the planning area, including the plateau area north and west of Grangeville and south of the Clearwater River from Lewiston to the North Fork of the Clearwater River, is underlain by the Miocene Grande Ronde basalt formation of the Columbia Plateau Regional Aquifer System. This is the principal formation of the Columbia Plateau. Layers of basalt lava up to 15,000 feet thick occur in the central portion of the Columbia Plateau, but the basalts are thinner on the margins of the basin. The permeable zones in these layered basalt aquifers tend to be at the tops and the bottoms of the individual lava flow units, in cooling fractures or basalt rubble that formed on the flows, in permeable materials deposited between lava flows, or in fault fractures. Wells that are deep enough to penetrate several permeable zones can yield large volumes of water, but the yields in individual wells are highly variable, ranging from one to several thousand gallons per minute. Wells in Nez Perce County, which overlies the Grande Ronde basalt, yield up to 2,000 gallons per minute, although small yields are more common. The most intensive groundwater development in Nez Perce County is near the city of Lewiston. Wells withdraw water for public supply, domestic and commercial, agricultural, and industrial purposes. Water-resource development in the remainder of the area is sparse because of rugged topography and small population. Aquifers in the eastern part of the Columbia Plateau in Idaho generally are discontinuous and isolated (Whitehead 1994).

The plains in the central and western portion of the planning area are covered with a thin sheet of unconsolidated deposits consisting mainly of glacial outwash and containing local groundwater aquifers. The thickness of these aquifers is typically less than 50 feet throughout the region (Whitehead 1994).

As defined by EPA, “Source Water is untreated water from streams, rivers, lakes, springs, and aquifers that is used as a supply of drinking water.” Source Water Areas within the CFO planning area are the sources of drinking water delineated and mapped by the IDEQ. The BLM uses the source water database provided by the IDEQ to coordinate with the State regarding proposed activities within these areas. The BLM also continues to notify and coordinate with the public water system operator for proposed activities within all source water areas. Specific potential contaminants and protective measures for a proposed activity are identified at the project level.

### **Floodplains**

Floodplains are flat areas adjacent to stream courses that are subject to inundation during high water flows, including 100-year flows. ~~Typically, floodplains must be at least one acre or more to be considered in an analysis.~~ Floodplains also receive special protection under Executive Order 11988, the goal of which is to minimize the potential for flooding because of development. Most of the larger floodplains within the planning area are associated with larger rivers and streams, which include the Snake, Salmon, Clearwater, Little Salmon Rivers and South Fork of the Clearwater River.

### **3.2.5 Vegetation—Forests**

Forest vegetation groups in the CFO are primarily low elevation, mixed conifer forest ranging from early to mid-seral to old growth stands. Stand-replacement fires and fire suppression have significantly changed historic species composition and stand density.

Based on findings from the ICBEMP (BLM and Forest Service 1997) and statewide guidance, the CFO has identified the following priority vegetation communities to conserve and restore to historic sustainable conditions:

- **Ponderosa pine** (*Pinus ponderosa*) has decreased across its range, with a significant decrease in the amount of old trees in single-story structure. The primary transitions were to interior Douglas-fir (*Pseudotsuga menziesii*) and grand fir (*Abies grandis*)/white fir (*A. concolor*).
- **Western larch** (*Larix occidentalis*) has decreased across its range. The primary transitions were to interior Douglas-fir, lodgepole pine (*Pinus contorta*), or grand fir/white fir.
- **Whitebark pine** (*Pinus albicaulis*)/**alpine larch** (*Larix lyallii*) cover type has decreased by 95 percent across its range, primarily through a transition into the whitebark pine cover type. Overall, however, the whitebark pine cover type has also decreased, with compensating increases in subalpine fir (*Abies lasiocarpa*).
- There has been a loss of the **large tree component** (live and dead) within roaded and harvested areas. In dry and moist forests, there has been a loss of the large, scattered, shade-intolerant tree component and an increase in density of smaller-diameter shade-tolerant trees.
- **Old growth** forests are considered as ecosystems that are distinguished by old trees and related structural attributes. They encompass the later stages of stand development that typically differ from earlier stages in such characteristics as tree age, tree size, number of large trees per acre, and basal area. Specific attributes vary by forest type (Scott et al. 2002).

**Table 3-4** shows the differences between the 1974 and 1992 extensive inventories completed by the CFO.

**Table 3-4**  
**Forest Inventory Results, 1974 and 1992**

Indicator	1974 Inventory	1992 Inventory	Change
Live trees per acre five inches diameter at breast height <sup>1</sup> or less	807	1,574	+95%
Live trees per acre greater than an average of five inches diameter at breast height	144	120	-17%
Gross board feet per acre	12,156	13,882	+14%
Net board feet per acre	10,467	11,536	+10%
Average diameter at breast height trees greater than five inches diameter at breast height	11 inches	12 inches	+9%
Suppressed live trees per acre	29	484	+1,545%
Mortality trees per acre	21	41	+91%

<sup>1</sup> Diameter at breast height is a standard.

**Table 3-5** describes the vegetation cover types and general forest health interpretations by vegetation type. As noted in Table 3-5, the Gap Analysis Program (GAP) identified approximately 70 percent (100,990 acres) of the lands managed by the CFO to be in the dry conifer and wet/cold conifer cover types. Table 3-4 indicates that there has been a marked increase in stocking levels from 1974 to 1992. Forest Service data and observations from field staff show that this increase has continued into the present within the CFO.

**Table 3-5**  
**Vegetation Types and Forest Health**

Vegetation Type	GAP Cover Type <sup>1</sup>	General Forest Health <sup>2</sup>	BLM Acres <sup>3</sup>
Dry conifer: ponderosa pine, lodgepole pine, Douglas-fir, grand fir, western larch	Dry conifer	Generally poor. Douglas-fir and grand fir growing into forests in the absence of disturbance have overstocked a majority of these stands and are infected with insects and root rot.	66,431
Mid-elevation shrub steppe	Mid-elevation shrub steppe	N/A	5,677
Mountain shrub	Mountain shrub	N/A	4,642
Perennial grass and other (including canyon grasslands, agriculture, barren, and rock)	Perennial grass	N/A	30,113
Aspen ( <i>Populus tremuloides</i> )/conifer mix	Aspen/conifer mix	Good to fair. Many aspen patches are approaching maturity and beginning to fill in with conifers.	22
Wet/cold conifer: whitebark pine, lodgepole pine, spruce ( <i>Picea</i> spp.), western larch, grand fir, subalpine fir	Wet/cold conifer	Poor. Blister Rust and Mountain pine beetle are decimating Whitebark Pine. Root Rot is prevalent in the DF and GF stands. Our lodgepole pine forests are mature and mountain pine beetle is at epidemic levels. Western larch stands are being lost to density competition except where management actions have favored the species. Spruce stands experienced epidemic spruce beetle outbreak in the mid 1980's and subsequent wildland fire in 1994 to 1996.	34,537
Cottonwood ( <i>Populus</i> spp.), Riparian – Conifer, broadleaf, mixed conifer/broadleaf, mixed forest/nonforest, graminoid/forb, shrub	Riparian	N/A	2,404

<sup>1</sup>Using remote sensing and GIS technologies, the State of Idaho, with the support of the National Fish and Wildlife Foundation, mapped and analyzed Idaho's natural resources to produce the GAP (US Geological Survey 1995).

<sup>2</sup>Forest health interpretations in the table are based on observations by BLM foresters, as well as from forest inventory data collected in the 1974 and 1992 extensive forest inventories.

<sup>3</sup> Source: BLM 2004a

The departure from the historic condition on forested lands managed by the CFO shows an increase in stand density. Historically, before wildfire suppression, stocking levels of shade-tolerant trees were much lower than currently exist today. Extensive stand-replacing fires burned in Marshall Mountain (1994 and 2000), Elkhorn Creek (1994), and Craig Mountain (2000). Within the CFO, existing old growth or potential old growth stands have not been identified for all forested types.

As can be seen above, stocking levels increased significantly between 1974 and 1992. The number of dead trees within a stand also increased significantly. Not shown here are the significant increases in Douglas-fir bark beetle and the increasing population of mountain pine beetle now infecting the lodgepole pine stands or losses from stand-replacing fire mentioned above. The indicator forecast for forests and woodland vegetation in north-central Idaho demonstrates deteriorating forest health, which is expected to continue. Additionally, forest health conditions in their current state contribute to increasing accumulations of hazardous fuel, which affect management of the growing WUI. As the WUI expands, wildfire suppression will become more necessary, as will the need to reduce fuels and improve forest health.

Forests within the CFO are some of the most productive in Idaho and the area has historically supported timber harvesting as a livelihood and management tool, although there has been a dramatic decline in timber harvesting in the last two decades.

### 3.2.6 Vegetation—Weeds

Weeds include undesirable native or nonnative species. Legally, a noxious weed is any plant designated as undesirable by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property. As such, noxious weeds typically require control. A noxious weed is defined as any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind that is of foreign origin, is new to or not widely prevalent in the US, and can directly or indirectly injure crops or other useful plants, livestock, poultry, or other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or the public health (Federal Noxious Weed Act of 1974).

Invasive plants and noxious weeds are not the same. Invasive plants include not only noxious weeds but also other plants that are not native to the US. The BLM considers plants invasive if they have been introduced into an environment where they did not evolve. As a result, they usually have no natural enemies to limit their reproduction and spread (Westbrooks 1998). Some invasive plants can produce significant changes to vegetation, composition, structure, or ecosystem function (Cronk and Fuller 1995).

Many state and county governments in the western states have designated noxious weed lists. The Idaho Department of Agriculture maintains the Idaho State Noxious Weed List, which includes 36 different species of weeds that are designated noxious by state law. Weed species affect all resources that depend to some degree on vegetation. Weeds have degraded rangeland health and diversity by changing fire regimes. The most abundant invasive plant (also on Idaho's Noxious Weed List) in the planning area is yellow starthistle (*Centaurea solstitialis*), especially in the canyon grasslands. Management emphasis is directed toward regions in the planning area where cooperative management strategies are already in place and for which data exists through studies or GIS compilations. In addition to the species that are well documented in the planning area, new species

are appearing and may be even more disruptive to the native plant community than species that have existed in the planning area for a longer time.

Although weeds are spreading rapidly throughout the Upper Columbia River Basin (BLM and Forest Service 1997), which includes the planning area, a complete inventory of such species does not exist. The most common invasive species are yellow starthistle, spotted knapweed (*Centaurea biebersteinii*/*Centaurea stoebe* ssp. *micranthus*), Dalmatian toadflax (*Linaria dalmatica* ssp. *dalmatica*), and rush skeletonweed (*Chondrilla juncea*). These four species are also on Idaho's Noxious Weed List. In addition, cheatgrass (*Bromus tectorum*) has invaded many disturbed areas primarily in the canyon grasslands. Habitat areas that have been heavily disturbed by mining, grazing, roads, and other soil-disturbing activities may be composed almost entirely of annual invasive plants, while other areas may have such species as only a minor component. Plant communities at higher elevations seem to be more resistant to invasions of annual grasses and forbs.

Weeds have a competitive advantage over native plants because of characteristics that evolved as responses to grazing pressures. Therefore, plants already established in the planning area will likely continue to spread. Weeds will continue to proliferate in areas that have been disturbed and along roads. New species will appear within the planning area. Management strategies already in place may be able to slow or stop the spread of well-established weeds and the introduction of new species. Successful weed control depends on local cooperative efforts to prioritize and implement management strategies. The extent to which established populations will spread or new populations will become established depends on many factors, including climate, success of treatments, management on adjacent private lands, and the efforts of the CFO staff in cooperation with the County Weed Management Areas.

### 3.2.7 Vegetation—Rangelands

BLM rangelands in much of the planning area are comprised of scattered parcels of grasslands and forested grasslands. Conifer habitat encompasses approximately 57 percent of the public lands within grazing allotments (BLM 1981a). Vegetation types are diverse and represent a range of seral stages that are primarily influenced by livestock grazing, timber harvest, fires, and moisture availability. The canyon grasslands are primarily a broad extension of the Pacific bunchgrass formation. The dominant habitat types are bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*). Sand dropseed (*Sporobolus cryptandrus*) and red three-awn (*Aristida longiseta*) have become disclimax species on some river benches, bars, and toeslope areas. Disclimax communities are derived from other vegetative types, usually as a result of a disturbance such as grazing or fire. Yellow starthistle and annual grasses (e.g., cheatgrass) are common invaders of poor and fair ecological condition canyon grasslands within the CFO area. When a suitable seed source is available, yellow starthistle is also invading good condition grasslands.

Elevations above 3,000 feet often have patterned grassland and timbered sites, with bluebunch wheatgrass/Idaho fescue on south and west aspects and Douglas-fir sites on north and east aspects. Dry south-facing slopes may have grasslands, with scattered overstory conifers and shrubs. Grasslands are primarily located in the slope-bench complex of major river drainages within the southern half of the CFO. Basalt outcrops may be common on these sites. Draw bottoms and north- and east-facing slopes have mixed conifers and shrubs. Localized, steep rocky areas exist with low vegetation production. The mixed conifer overstory includes Douglas-fir, grand fir, western

larch, and ponderosa pine. Riparian vegetation is found at wet seeps, shorelines of reservoirs and catchment basins, outflow areas of springs, and along ~~perennial-perennial~~ streams. Plants commonly associated with riparian areas include willow (*Salix* spp.), cottonwood, rose (*Rosa* spp.), cattail (*Typha latifolia*), sedges (*Carex* spp.), and grasses. Above 5,000 feet, Douglas-fir and grand fir habitat types are common. At higher elevations (above 7,000 feet), Engelmann spruce (*Picea engelmannii*) and subalpine fir habitat types are common and whitebark pine may occur. The timber is interspersed with patches of perennial grassland, brush, and riparian vegetation, while other areas are heavily forested. In addition, a small amount of meadow habitat (approximately 350 acres) is found on CFO lands. Meadows are both dry and semi-wet, and are found between 2,500 and 8,400 feet elevation (BLM 1981b).

### 3.2.8 Vegetation—Riparian and Wetlands

Riparian zones are vegetated areas found along rivers and streams. They are important from an ecological standpoint because they provide a transition zone between aquatic and upland areas, provide cover for wildlife that access aquatic environments, and are a food source for fish and wildlife. They also provide water quality benefits by filtering out nutrients from runoff, for maintaining stream temperature by providing shade, and by controlling erosion.

Within the planning area, riparian areas and wetlands are generally associated with stream and river bottoms and springs/seeps. Approximately 625 miles of streams and rivers flow across CFO lands; a little over half are perennial, and the remainder is intermittent. Rivers and streams often have narrow riparian zones that typically vary from 25 to 200 feet wide and are confined by steep side slopes. Approximately 195 acres of wetlands (mainly springs, seeps, marshes/ponds, and wet meadows) occur on CFO lands. Acreage for wetlands may be somewhat higher, however, because new springs and seeps are being located while intensive vegetation inventories are being conducted for a variety of proposed projects on BLM lands. Vegetation cover types of riparian areas are listed in **Table 3-6**.

**Table 3-6**  
**Riparian Vegetation Cover Types on CFO Lands**

Riparian Vegetation Cover Type	Acres on BLM Land
Cottonwood	156
Riparian—conifer	381
Riparian broadleaf	95
Riparian—mixed conifer/broadleaf	21
Riparian—mixed forest/nonforest	35
Riparian—graminoid (all grasses and grasslike plants)/forb	931
Riparian—shrub	848
Riverine riparian	1
Marsh—deep	6
<b>Total</b>	<b>2474</b>

Source: BLM 2004a

The riparian area adjacent to mainstem rivers, including the Snake, Salmon, and Clearwater, often is very narrow (20 to 40 feet) within steep-sloped confined canyonland areas and is primarily associated with the area between mean high and mean low water. Some wider river bottom and floodplain areas may have large riparian habitats. The banks generally are rock and cobble and have a bank slope of 10 to 40 percent. Common riparian vegetation includes coyote willow (*Salix exigua*), riverbank sage (*Artemisia ludoviciana*), poison ivy (*Rhus radicans*), hackberry (*Celtis reticulata*), and common burdock (*Arctium minus*). It is often common to have upland vegetation extend upslope immediately adjacent to the riverbank. Such vegetation may include ponderosa pine, Douglas-fir, and various shrubs. On drier sites, annual grasses that are mainly bromes (*Bromus* spp.), weedy species, bluebunch wheatgrass, and sand dropseed are commonly found adjacent to the riverbank.

Tributary streams often have narrow riparian zones that typically vary from 25 to 200 feet wide and are confined by the steep side slopes. The lower elevation riparian area overstories are dominated by white alder (*Alnus rhombifolia*), black hawthorn (*Crataegus douglasii*), and water birch (*Betula occidentalis*), with occasional ponderosa pine, Douglas-fir, and black cottonwood (*Populus trichocarpa*). Common understory species include mockorange (*Philadelphus lewisii*), serviceberry (*Amelanchier alnifolia*), blue elderberry (*Sambucus cerulea*), coyote willow, redosier dogwood (*Cornus stolonifera* var. *stolonifera*), poison ivy, oceanspray (*Holodiscus discolor*), and grasses/forbs. At the mid- to upper-elevation areas, Douglas-fir and grand fir are more common in the overstories of the riparian areas. Common understory species include mockorange, black hawthorn, oceanspray, blue elderberry, gooseberry (*Ribes* spp.), rose, chokecherry (*Prunus virginiana*), ~~rocky-Rocky mountain-Mountain~~ maple (*Acer glabrum*), redosier dogwood, alder (*Alnus* spp.), willow, and grasses/forbs. The higher elevation areas may have grand fir, Engelmann spruce, lodgepole pine, and subalpine fir. Meadow areas may be dominated with sedges, willow, and alder.

Proper functioning condition is a qualitative method for assessing the condition of riparian wetland areas. Riparian and wetland areas are functioning properly and are rated as being in PFC when adequate vegetation, landform, or debris is present to dissipate flows and erosional processes to improve water quality, filter sediment, reduce erosion, and provide necessary habitat components for riparian/aquatic biodiversity and fish production. Functional-at-risk riparian-wetland areas are those that are in functional condition but have a soil, water, or vegetation attribute that makes them susceptible to degradation. Nonfunctional riparian-wetland areas do not have adequate vegetation, landform, or woody debris to dissipate high water flows and thus are not reducing erosion, improving water quality, or providing adequate riparian/aquatic habitats and biodiversity.

Streams and rivers crossing BLM lands within the planning area are classified by functioning condition as follows: about 86 percent (537 miles) are classified as being in PFC, about 13 percent (84 miles) are functional-at-risk, and less than 1 percent (4 miles) are nonfunctional. Of 195 acres of riparian wetlands in the planning area, 71 percent are in PFC, and the remaining area is classified as functional-at-risk. For most of the riparian corridors and wetlands, no trend in condition, either upward or downward, is apparent. Less than 1 percent of the riparian corridor and about 4 percent of the wetlands appear to be declining in quality, while a similar percentage are improving, suggesting that there is currently little change taking place in the condition of the resources and therefore little short-term risk of a decline in quality.

### 3.2.9 Wildlife and Special Status Wildlife

#### **Wildlife**

[The BLM manages fish and wildlife habitat, while fish and wildlife populations are administered by Idaho Department of Fish and Game, USFWS, or National Marine Fisheries Service.](#)

The diverse topography, vegetation, and climate in the planning area provide habitats for a variety of wildlife species. The presence of any species may be seasonal or year-round, depending on individual species requirements. Habitats vary from low-elevation canyon grasslands to high-elevation subalpine fir habitats. Of particular importance to wildlife are critical habitat niches and preferred habitats used by specific species for breeding, young rearing, feeding/foraging, traveling, habitat connectivity, and security.

Approximately 250 species of wildlife occupy CFO lands, either seasonally or yearlong. There are four federally listed species, one candidate species, and 37 BLM sensitive species (see Special Status Wildlife, below). Other species of special interest include big game, upland game birds, waterfowl, carnivores, raptors, snag-dependent species, predators, furbearers, and amphibians/reptiles.

#### **Big Game**

Big game species in the planning area include elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), white-tailed deer (*O. virginianus*), moose (*Alces alces*), Rocky Mountain bighorn sheep (*Ovis canadensis*), black bear (*Ursus americanus*), and mountain lion (*Felis concolor*). [Table 3-7 provides a summary of BLM big game habitats and their approximate acreage within the planning area.](#)

**Table 3-7**  
**Big Game Species and Habitat Summary of BLM Lands within Planning Area**

<b><u>Species</u></b>	<b><u>BLM Acres</u></b>	<b><u>Comments</u></b>
<a href="#">Elk</a>	<a href="#">130,000</a>	<a href="#">Area-wide, primarily associated with forested areas and early seral/conifer habitats. Canyon grasslands and breaklands used for winter/spring range and transitional late fall/winter range.</a>
<a href="#">Mule Deer</a>	<a href="#">137,000</a>	<a href="#">Area-wide, primarily associated with canyon grasslands and breaklands. Also utilizes adjacent forested areas for summer and fall habitats.</a>
<a href="#">White-Tailed Deer</a>	<a href="#">130,000</a>	<a href="#">Area-wide, primarily associated with forested areas and forest/early seral habitats. Utilizes canyon breaklands and patterned grassland/forested areas.</a>
<a href="#">Moose</a>	<a href="#">29,500</a>	<a href="#">Primarily found in grand fir/mixed conifer habitats and associated wetland/riparian habitats. Key winter range associated with grand fir habitats and understories of Pacific yew. Primary BLM land use areas occur in the Elk City area, higher elevations of the John Day drainage, and portions of the Marshall Mountain township.</a>
<a href="#">Bighorn Sheep</a>	<a href="#">65,000</a>	<a href="#">Primarily found in Snake and Salmon River canyonlands. Primary current use areas associated with Snake River, lower Salmon River, and upriver from Little Salmon River. Utilizes canyon grasslands and breaklands (patterned grassland/forested areas); and seasonal use of associated uplands.</a>

**Table 3-7**  
**Big Game Species and Habitat Summary of BLM Lands within Planning Area** *(continued)*

<u>Species</u>	<u>BLM Acres</u>	<u>Comments</u>
<u>Mountain Goat</u>	<u>2,000 – 4,000</u>	<u>Suitable habitat found in a few localized areas, preferred habitats include steep sloped topography, cliff areas, and subalpine habitats. Seasonal use areas may include lower elevation areas to higher elevation areas within planning area.</u>
<u>Black Bear</u>	<u>110,000</u>	<u>Primarily associated with forested areas. Will utilize canyon breaklands (patterned grasslands and forested areas) and riparian habitats.</u>
<u>Mountain Lion</u>	<u>110,000 – 120,000</u>	<u>Area-wide, associated with big game ungulate seasonal use areas (canyon grasslands to forested habitats).</u>

~~Upland game birds found within the planning area include chukar partridge (*Alectoris chukar*), gray partridge (*Perdix perdix*), ruffed grouse (*Bonasa umbellus*), blue grouse (*Dendragapus obscurus*), spruce grouse (*Canachites canadensis*), ring-necked pheasant (*Phasianus colchicus*), wild turkey (*Meleagris gallopavo*), California quail (*Callipepla californica*), and mountain quail (*Oreortyx pictus*). The mountain quail is a BLM sensitive species, and no authorized hunting season exists for this species in Idaho.~~

### Elk

Elk use a variety of habitats seasonally within the planning area, from low- to mid-elevation area grasslands and forested areas, to higher elevation forested and subalpine areas. Year-long or spring-summer-fall elk ranges are present at mid and lower elevation areas where ever cover and forage areas provide good security from roads, motorized trails, and other human activities. Important winter range areas vary within the planning area, and include canyon grassland-winter range areas and shrub/forest winter range areas at low to mid-elevations. Dependent on winter range vegetation type, primary forage may include perennial grasses or shrubs. Noxious weeds are encroaching on canyon grassland habitats within the planning area.

### Mule Deer

Mule deer are commonly associated with canyon grasslands, and associated shrub and forested areas. They also are found in mid- to higher elevation forested areas. Year-long use areas are found at lower to mid-elevation areas. Spring-summer-fall mule deer ranges are found at higher elevations. Preferred habitats include a mosaic of grass/shrub foraging areas, with shrub/forest or rugged topography in unroaded areas providing hiding and security cover. Low to mid-elevation shrub and shrub/grassland areas provide important winter range areas. Noxious weeds such as yellow starthistle are encroaching on canyon grassland habitats. Proximity to water is an important factor during the spring, summer, and fall periods. Overall, mule deer populations are presently considered low, with management direction emphasis on improving numbers.

### White-Tailed Deer

White-tailed deer are found in various habitats, from forests to fields or grasslands with adjacent cover. White-tailed deer habitats primarily include forest and shrub habitats, interspersed with openings and riparian areas. Agriculture areas, associated with adjacent shrub/forest areas providing cover and security areas also provide preferred habitats. With the exception of higher elevation

areas, white-tailed deer may utilize areas yearlong at the mid to lower elevations. White-tailed deer populations are presently increasing in some areas that were commonly used by mule deer.

### Moose

Moose are commonly associated with mid- to high elevation moist and cool forest habitats, which are interspersed with riparian and wetland habitats. Riparian and wetland habitats provide important components of preferred moose habitats, particularly during the summer. Winter habitats primarily occur in mid elevation areas with winter forage species and thermal cover requirements consisting of mature dense conifer stands. Preferred winter forage species include Pacific yew, willow, serviceberry, and other palatable shrubs.

### Bighorn Sheep

Existing bighorn sheep populations associated with BLM lands in the planning area occur in the Salmon River and Snake River drainages. The Salmon River, from the Middle Fork down, provides habitat for the only native (i.e., not reintroduced) bighorn sheep in Idaho. Populations have been greatly reduced from once common abundance throughout the historical range of the species. It has been estimated that, within the Columbia River Basin, half of the bighorn sheep habitat currently contains no bighorn sheep. Bighorn sheep populations are influenced by numerous factors, which include habitat, harvest, and disease. The largest population declines likely resulted from diseases transmitted from domestic sheep and over-harvest during settlement of the region 150 years ago. The current harvest of bighorn sheep is strictly controlled by state wildlife agencies. Re-introduced bighorn sheep populations have become established and are expected to expand, but only in those habitats where domestic sheep and goats are absent or confined because of potential disease concerns.

The majority of bighorn sheep habitat in the planning area occurs on lands administered by the federal government. Historically, bighorn sheep occupied the canyonlands and associated uplands within the planning area. Bighorn sheep population size and connectivity can be limited by habitat modifications on private lands, expansion of urban areas, highway construction, and reservoirs. Low to mid-elevation canyon grasslands and low elevation dry conifer forests are at high risk for noxious weeds and other non-native plant infestations. Yellow starthistle and other noxious weed infestations of canyon grasslands have reduced habitat quality in areas for bighorn sheep.

### Mountain Goat

Mountain goat populations occur within the planning area in localized areas. They are primarily associated with alpine and subalpine areas. Mountain goats utilize steep slopes, cliff areas, and alpine meadows. BLM lands within the planning area comprise a very small amount of suitable habitat.

### Black Bear

Black bear utilize a variety of habitats, and are primarily associated with coniferous forests. Within the planning area, most black bear habitat is found at the mid- and higher elevations, including the mountain shrub, riparian habitats, and dry conifer and moist conifer types. The black bear is an opportunistic omnivore; feeding on plant and animal food, including carrion and items from garbage

dumps. Idaho study found individuals fed on forbs/grass in spring, and mast in summer and fall. Black bear on occasion prey on livestock, primarily sheep.

### Mountain Lion

Mountain lions utilize a variety of habitats that are commonly utilized by deer and elk. Mountain lion are opportunistic and eat small and large mammals, but in many areas the primary prey is deer. They typically prefer remote montane and semi-wooded canyons and canyon grasslands with timbered stringers and shrubs. Generally, mountain lions rely heavily on deer, followed by elk. And will be found where there are healthy populations of deer and elk, and concentrated use may occur in winter range areas. They also occasionally prey on livestock, primarily sheep and cattle.

### Upland Game

Upland game birds found within the planning area include chukar partridge (*Alectoris chukar*), gray partridge (*Perdix perdix*), ruffed grouse (*Bonasa umbellus*), blue grouse (*Dendragapus obscurus*), spruce grouse (*Canachites canadensis*), ring-necked pheasant (*Phasianus colchicus*), wild turkey (*Meleagris gallopavo*), California quail (*Callipepla californica*), and mountain quail (*Oreortyx pictus*). The mountain quail is a BLM sensitive species, and no authorized hunting season exists for this species in Idaho.

### Wildlife Habitats

The 13 primary wildlife habitat vegetation types that occur in the planning area are riparian/wetlands; canyon/foothills grasslands, interspersed rock; agriculture; shrub steppe (low- and mid-elevation shrub); mountain shrub; montane parklands/subalpine meadows; dry conifer (ponderosa pine); dry conifer (Douglas-fir); dry conifer/mixed (Douglas-fir, grand fir, lodgepole pine); wet cold conifer (grand fir, mixed mesic, and western red cedar [*Thuja plicata*]); wet cold conifer (subalpine fir and mixed subalpine); wet cold conifer (lodgepole pine); and wet cold conifer (whitebark pine).

BLM lands comprise less than 0.1 to 7 percent of the lands within the subbasins that occur in the planning area. With the exception of a few areas, ownership is often fragmented and intermingled with private, state, and Forest Service lands. In several areas, larger contiguous tracts of public lands occur (e.g., Elk City township, Marshall Mountain township, Craig Mountains, Lower Salmon River, and Little Salmon River). Many tracts of public lands do not have public access provided, and access is dependent on private landowner permission. Primary vegetation/wildlife habitat cover types are summarized in **Table 3-8**.

A hierarchical habitat classification system (Wisdom et al. 2000) classifies wildlife species' use of habitats in the planning area. The three broad source habitats include: coniferous forest habitat; combination of forests, early-late seral forests; and rangelands. Wildlife diversity is directly tied to maintaining habitat diversity. Historic wildlife population levels and trends were a reflection of historic high vegetation diversity. For a variety of reasons, vegetation and wildlife habitats are less diverse than historic conditions. Such reasons include past timber harvest practices and fire exclusion, roading, livestock grazing, conversion of native vegetation to agriculture, noxious weed infestations, and increased recreational use of public lands.

**Table 3-8**  
**Primary Wildlife Habitat Vegetation Cover Types Occurring on BLM Lands**

<u>Cover Type</u>	<u>BLM Acres</u>	<u>Percent BLM Lands</u>	<u>Comments (Non-Native Plant Species Risk, HRV/DFC)</u>
<u>Riparian/Wetlands</u>	<u>2,800</u>	<u>2.0</u>	<u>Low to high risk for nonnative species infestations. High risks for weed infestations along roads, mined areas, recreations sites, and other disturbed areas.</u>
<u>Canyon/Foothills Grasslands</u>	<u>22,749</u>	<u>21.5</u>	<u>High risk for nonnative species infestations. Estimated that 60 to 80 percent of grasslands have more than 25 percent vegetation composition of weedy/nonnative species.</u>
<u>Interspersed Rock Agriculture</u>	<u>835</u>	<u>0.5</u>	<u>High risk for nonnative species infestations. Old agriculture fields, with the exception of recent restoration on several sites, generally are dominated with nonnative species. Historically primarily native grasslands. High potential for wildlife food plots.</u>
<u>Shrub Steppe – Low and Mid Elevation Shrub</u>	<u>5,740</u>	<u>4.0</u>	<u>Moderate to high risk for nonnative species infestations.</u>
<u>Mountain Shrub</u>	<u>4,594</u>	<u>3.0</u>	<u>Moderate to high risk for nonnative species infestations. Compared to HRV, loss of early seral shrub fields.</u>
<u>Montane Parklands/Subalpine Meadows</u>	<u>2,253</u>	<u>1.5</u>	<u>Moderate to high risk for nonnative species infestations. Some tree encroachments in meadows.</u>
<u>Dry Conifer – Ponderosa Pine</u>	<u>28,039</u>	<u>19.5%</u>	<u>Moderate to high risk for nonnative species infestations. Compared to HRV, loss of large trees and old forest ponderosa pine stands.</u>
<u>Dry Conifer – Douglas Fir</u>	<u>17,170</u>	<u>12.0</u>	<u>Moderate risk for nonnative species infestations. Compared to HRV, increase of mid-aged stands, loss of early seral stands, and loss of large/mature stands.</u>
<u>Dry Conifer/Mixed – Douglas Fir, Grand Fir, Lodgepole Pine</u>	<u>20,765</u>	<u>14.0</u>	<u>Moderate risk for nonnative species infestations. Compared to HRV, increase of mid-aged stands, loss of early seral, and loss of large tree/old forest stands.</u>
<u>Wet Cold Conifer– Grand fir, Mixed Mesic, and W. Red Cedar</u>	<u>18,799</u>	<u>13.0</u>	<u>Low to moderate risk for nonnative species infestations. Compared to HRV, increase of mid-aged stands, loss of early seral stands, and loss of large tree/old forest stands. Loss of larch, Douglas-fir, and ponderosa pine.</u>
<u>Wet Cold Conifer– Subalpine fir and Mixed Subalpine</u>	<u>5,294</u>	<u>4.0</u>	<u>Low to moderate risk for nonnative species infestations. Compared to HRV, increase of mid-aged stands, loss of large tree/old forest stands.</u>
<u>Wet Cold Conifer– Lodgepole Pine</u>	<u>5,333</u>	<u>4.0</u>	<u>Low to moderate risk for nonnative species infestations. Compared to HRV, increase of mid-aged/mature stands of lodgepole pine. Mid-aged to mature lodgepole stands have high risk for beetle infestation or are dead and dying. Loss of large tree/old forest stands (e.g., grand fir, Douglas-fir).</u>
<u>Wet Cold Conifer– Whitebark Pine</u>	<u>1,700</u>	<u>1.0</u>	<u>Low to moderate risk for non-native species infestations. Compared to HRV, large decrease overall of whitebark pine.</u>

Maintenance of compositional, structural, and functional diversity is essential for sustaining ecological processes. Wisdom et al. (2000) developed a system to evaluate source habitats for individual species as well as for groups of species. This hierarchical system placed 37 groups of broad-scale species of focus into 12 families or source habitats dominated by cover types and

structural stages (e.g., low elevation old forest, forest mosaic, range mosaic, grasslands, etc.). The 12 families have been grouped into three general source habitats, which include forests only, combination of forests and rangelands, and rangelands only. The three broad source habitats identified above and riparian habitat will be discussed briefly as they relate to the public lands and associated wildlife habitats in the planning area.

*Coniferous Forest Habitat (50 percent of BLM lands in planning area)*

Low to mid elevation forest vegetation types are generally dominated with Douglas-fir and grand fir habitats, followed by ponderosa pine forests. These habitats are commonly used seasonally by mule deer, white-tailed deer, elk, black bear, and mountain lion. Moose will use the mid to higher elevation grand fir habitats and the majority of moose habitats associated with public lands occurs in the Elk City township area. Upland game utilizing these habitats includes ruffed grouse, spruce grouse, and turkeys. Low elevation areas on south and west aspect may provide important winter range areas for big game. These habitats provide source habitats for species such as white-headed woodpecker, Lewis' woodpecker, blue grouse, Northern goshawk (summer), flammulated owl, marten, fisher, Williamson's sapsucker, black-backed woodpecker, and mountain quail. Many of the drier "open" canopy cover habitats and/or disturbed (e.g., roads, timber harvest, fire, etc.) timbered stands may be at risk for noxious weed or non-native species invasions.

High-elevation forest vegetation types are generally dominated with lodgepole pine, Engelmann spruce, and subalpine fir. These higher elevation areas provide summer and fall habitat for big game such as elk, mule deer, whitetailed deer, and mountain lion. Many wildlife species utilizing this habitat are seasonally migratory. The most extensive tracts of public lands associated with these habitats occur in the Marshall Mountain township.

*Combination of Forests, Early-Late Seral Forests, and Rangelands (30 to 35 percent of BLM lands in planning area)*

This includes a broad range of forest and rangeland cover types, and combinations of rangeland and early- and late-seral forests. Public lands within the planning area in this cover type generally occur at low to mid elevations. Typical areas include patterned breaklands that occur within the large river canyons or mid-aged timbered stands interspersed with early seral stands (e.g., fire, timber harvest). Timbered areas are dominated with Douglas-fir, grand fir, and ponderosa pine. Patterned areas consist of timbered/shrub fields on north and east aspects, while the south and west aspect may be canyon grasslands with scattered trees and shrubs. These areas may be used yearlong or seasonally by big game such as mule deer, whitetailed deer, elk, bighorn sheep, black bear, and mountain lion. These areas may provide important big game security and/or thermal cover (e.g., mid- and late-seral forested areas for wildlife). Grasslands and early seral shrub/forested areas provide important forage areas for big game ungulates. Upland game utilizing these areas include ruffed grouse, blue grouse, chukar partridge, gray partridge, and turkey. The higher elevation areas may be transitional use areas for big game using summer and winter ranges. The canyon grasslands often consist of bluebunch wheatgrass and/or Idaho fescue, however, poor ecological condition sites may have a high proportion of non-native species (e.g., yellow starthistle, cheatgrass). Some recent large fires have burned through these habitats in the past twenty years (e.g., Maloney Creek fire, Elkhorn fire, Corral fire, Burgdorf Junction fire, etc.). These habitats provide source habitats for species such as gray wolf, long eared owl, Rocky Mountain bighorn sheep, rufous hummingbird, black-chinned

hummingbird, Northern goshawk (winter), Yuma myotis, long eared myotis, fringed myotis, long-legged myotis, pine siskin, Townsend's big-eared bat, western small footed bat, and western bluebird. The grasslands are at high risk for noxious weed or non-native species infestations.

#### *Rangelands (15 to 20 percent of BLM lands in planning area)*

This includes canyon grasslands and a broad range of grasslands, shrublands, and other cover types. Public land rangelands within the planning area are primarily associated with canyon grassland areas. The canyonland rangelands may include moderate sloped river terraces and toeslopes, to steep and rugged topography with rock outcrops and cliffs. Typical habitat types are bluebunch wheatgrass and Idaho fescue. Some of the river terrace areas, benches, and toeslopes may be dominated with sand dropseed and red three awn. Noxious weeds and nonnative species infestations have resulted in significant degradation of wildlife habitats within this cover type. The most common invaders include yellow starthistle, Dalmation toadflax, and cheatgrass. Scattered trees such as hackberry ponderosa pine and Douglas-fir occur in some areas. Common shrubs include smooth sumac, snowberry, poison ivy, and service-berry. These rangelands may be used yearlong or seasonally during the winter and spring by big game, such as mule deer, elk, bighorn sheep, whitetailed deer, and mountain lion. Primary bighorn use on public lands is associated with Snake River canyonlands downriver from the Salmon River and the lower portion of the Salmon River downriver from Wapshilla Creek (Craig Mountain WMA). Common upland game species include chukar partridge, gray partridge, blue grouse, ruffed grouse, and mourning dove. These habitats provide source habitats for species such as short eared owl, vesper sparrow, lark sparrow, western meadowlark, Preble's shrew, Brewer's sparrow, and grasshopper sparrow. The grasslands are at high risk for noxious weed or nonnative species invasion and infestations.

#### *Riparian (2 percent of BLM lands in planning area)*

Approximately 624 miles of intermittent and perennial streams/rivers flow across public lands in the planning area. Approximately 84 percent of the stream/river length is rated as being in PFC, with 13 percent rated as functional at risk, and less than 1 percent is rated as non-functional. Lower elevation riparian community types often represent stringers of habitat through canyon grasslands, which may extend from mid and higher elevation forested areas. Overstories may include one or more of the following: white alder, black cottonwood, Douglas fir, and grand fir. Understory species may include mockorange, red-osier dogwood, willow, poison ivy, forbs, and grasses.

Mid- to high-elevation riparian habitats within forested and range/forested areas often include grand fir, lodgepole pine, Douglas fir, Engelmann spruce, or subalpine fir overstory trees. Understory species may include alder, willow, red-osier dogwood, forbs, and grasses. Some low gradient streams may have stringer meadows of sedges, willow, and alder.

Riparian habitats provide habitat for the largest number of wildlife species and may be used for watering, feeding, security, travel corridors, nesting, and thermal cover. These areas and associated waters are critical habitat niches for several amphibians such as spotted frog, tailed frog, western toad, Idaho giant salamander. Riparian habitats provide important travel corridors and connectivity between wildlife habitats.

### Wildlife Habitat Trends

The scientific assessment done for ICBEMP indicates that vegetation has changed significantly from historic conditions (Wisdom et al. 2000). Noxious weeds are spreading rapidly throughout the Upper Columbia River Basin, which includes the planning area (BLM and Forest Service 1997). Vegetation assessments done on public lands have validated these changes. Some forest types and structures have declined, while others have increased. Significant changes compared to historic include the following: old single story ponderosa pine forests have decreased, early seral forests have decreased, mid-age/mature stands of lodgepole and grand fir have increased, and white pine blister rust has almost eliminated western white pine and whitebark pine. Native canyon grasslands, primarily bluebunch wheatgrass and Idaho fescue have declined due to weed invasion. With the exception of a few remnant areas, agriculture has eliminated the majority of native Palouse grasslands within the planning area. These changes have implications for the health of ecosystems within the planning area.

Road densities and associated human use of wildlife habitats have increased in the planning area. Various road-associated factors negatively affect habitats of populations of many wildlife species. Effects of road associated factors can be direct, such as habitat loss and fragmentation because of road construction and maintenance. Effects also can be indirect, such as displacement or increased mortality of populations in areas near roads in relation to motorized traffic and associated human activities. Because of the high density of roads present across large areas of the basin, effects from road-associated factors must be considered additive to that of habitat loss.

Wildlife diversity is directly tied to maintaining habitat diversity. Historic wildlife population levels and trends were a reflection of historic high vegetation diversity. For a variety of reasons, vegetation and wildlife habitats are less diverse than historic conditions. Such reasons include: past timber harvest practices and fire exclusion, roading, livestock grazing, conversion of native vegetation to agriculture, noxious weed infestations, and increased recreational use of public lands.

Noss and others (1995) concurred with this conclusion when they reported 60 to 70 percent of old-growth ponderosa pine forest in Idaho has been degraded from fire suppression and logging of superior trees in more accessible areas. They also reported 85 to 98 percent decline of this same forest in the northern Rocky Mountains, Intermountain West, and eastside Cascades Mountains.

Among 132 neotropical migratory land bird species that breed in the interior Columbia River basin, 38 species showed significant population trends over two time periods: 1968 to 1994 (26 years) and 1984 to 1994 (10 years). Fourteen species had significant declines over the 26-year period and 13 over the 10-year period; 13 and 12 species showed significant increases over those same periods, respectively. More species were predicted to be more negatively affected by consumptive demand than any other theme (Saab and Rich 1997).

Several carnivores (e.g., grizzly bear, gray wolf) in the western US have declined dramatically in the last century and a half and are listed as threatened or endangered species, or are considered sensitive by land management agencies (Witmer et. al. 1998).

Various road-associated factors negatively affect habitats or populations of most of the 91 species of focus. Effects of road-associated factors can be direct, such as habitat loss and fragmentation because of road construction and maintenance. Effects also can be indirect, such as displacement or

increased mortality of populations in areas near roads in relation to motorized traffic and associated human activities. Because of the high density of roads present across large areas of the basin, effects from road-associated factors must be considered additive to that of habitat loss. Moreover, many habitats likely are underused by some species due to the effects of roads and associated factors; this may be especially true for species of carnivorous mammals (Wisdom et al. 2000)

The Idaho Department of Fish and Game has learned that: (1) elk in roaded habitats are more than twice as likely to be killed by a hunter than those in unroaded areas; (2) selective road closures help reduce the number of bull elk taken and allowed for longer hunting seasons; (3) the number of hunters in an area is often directly related to the number of roads; and (4) with more roads (i.e., easy access) and more hunters in an area, more elk are taken, resulting in low bull-to-cow ratios and fewer mature bulls.

Wildlife habitats for BLM management priority and emphasis within the planning area include low-elevation dry conifer (66,413 acres), wet/cold conifer (34,537 acres), perennial grass–canyon grasslands (30,113 acres), and riparian habitats (2,404 acres; 625 miles). Within some high road density areas that are open to public motorized use, wildlife habitat fragmentation and increased potential for disturbance ~~has~~ have occurred. Measures that reduce roads open to public motorized use would improve quality of wildlife habitats and provide security areas. Emphasis for road closures should occur in areas that have larger tracts of BLM lands or in areas where Forest Service or Idaho Department of Fish and Game have similar goals and objectives. The following are discussions of emphasis areas for wildlife habitat management.

### Low-elevation Dry Conifer

Departure from the historic condition has been influenced primarily by fire suppression and timber harvest. Old single story ponderosa pine forests have decreased on BLM lands within the planning area. Noss and others (1995) concurred with this conclusion when they reported 60 to 70 percent of old-growth ponderosa pine forest in Idaho has been degraded from fire suppression and logging of superior trees in more accessible areas. Many of the drier “open” canopy cover habitats and/or disturbed timbered stands (e.g., roads, timber harvest, fire, livestock grazing) may be at risk for noxious weed or nonnative species invasions. Management emphasis should be on achievement and maintenance of historic conditions, with special emphasis on mature and old growth stands of ponderosa pine, followed by Douglas-fir. In addition to providing a source habitat for several special status wildlife species (e.g., flammulated owl [*Otus flammeolus*], Northern goshawk [*Accipiter gentilis*]), these mature stands provide source habitats for other wildlife species, such as white-breasted nuthatch (*Sitta carolinensis*), pygmy nuthatch (*Sitta pygmaea*), and broad-elevation species such as pileated woodpecker (*Dryocopus pileatus*) and American three-toed woodpecker (*Picoides dorsalis*). These areas are used yearlong or seasonally by a variety of big game species, including elk, mule deer, white-tailed deer, black bear, and mountain lion. Lower-elevation areas also provide important big game winter ranges; consequently, management for historic conditions of early seral habitats and improved forage quality are important in these areas. Winter range areas should receive a management emphasis for weed-control activity. Where feasible, prescribed burning should be used for achievement and maintenance of historic conditions.

### Wet/Cold Conifer

Departure from the historic condition is also attributed to fire suppression and timber harvest. An abundance of midaged stands has resulted in conditions that are not similar to historic conditions, with a lack of old growth stands, followed by early seral. BLM management emphasis should be on achievement and maintenance of historic conditions, with special emphasis on old growth and potential old growth stands. In addition to providing a source habitat for special status species (e.g., fisher [*Martes pennanti*]), these mature stands provide source habitats for other wildlife species, such as Boreal owl (*Aegolius funereus*), and broad-elevation species such as great gray owl (*Strix nebulosa*), American marten (*Martes americana*), and pileated woodpecker. These areas also provide late spring, summer, fall, and early winter habitats for elk, white-tailed deer, and moose.

### Perennial Grass/Canyon Grasslands

This habitat includes canyon grasslands and a broad range of grasslands, mixed grass/shrublands, and other cover types. BLM grasslands within the planning area are primarily associated with canyon grassland areas, such as those found in the Salmon and Snake River canyons, and to a lesser extent in the Clearwater River canyon. The canyonland grasslands may include moderate sloped river terraces and toeslopes to steep and rugged topography with rock outcrops and cliffs. Typical habitat types are bluebunch wheatgrass and Idaho fescue. Some of the river terrace areas, benches, and toeslopes may be dominated with sand dropseed and red three awn. Noxious weeds and other nonnative species infestations have resulted in degradation of wildlife habitats and reduced ecological condition within a large percentage of the canyon grassland plant communities. The Snake and Salmon River canyon grasslands provide important big game winter range areas for elk and deer. The Snake River canyon and Craig Mountain WMA provide important winter and yearlong habitats for Rocky Mountain bighorn sheep. These habitats provide source habitats for species such as short-eared owl (*Asio flammeus*), vesper sparrow (*Pooecetes gramineus*), lark sparrow (*Chondestes grammacus*), western meadowlark (*Sturnella neglecta*), Preble's shrew, Brewer's sparrow (*Spizella breweri*), and grasshopper sparrow (*Ammodramus saviarum*). Special management emphasis for big game winter ranges would include noxious weed control, improved livestock management in localized areas, and restoration activities for establishment of native rangeland species (e.g., seeding, plantings). Highest priority for weed-control activities should include [weed infestations native plant communities](#) in good and excellent ecological condition (e.g., prevention of weed encroachment), followed by other cooperative weed-control actions.

### Riparian and Wetland Areas

More species of wildlife inhabit riparian and wetland areas than any other habitat because of the close proximity of food, water, and shelter. In addition to providing a source habitat for special status species, such as the federally listed bald eagle, salmon, steelhead, bull trout, and candidate yellow-billed cuckoo, these areas also provide an important habitat component for more than 140 species found in the planning area, such as waterfowl, amphibians, North American river otter (*Lontra Canadensis*), beaver (*Castor canadensis*), American mink (*Mustela vison*), and many migratory birds. Restoration of riparian habitats would benefit a large number of species within the planning area. Land uses that have impacted riparian areas to varying levels include, mining, roads, livestock grazing, timber harvest, and recreation. Emphasis should occur in areas where the majority of

ownership of the drainage is comprised of federal and/or Idaho Department of Fish and Game lands and in areas where private land cooperation would occur.

### **Special Status Wildlife**

Federally listed threatened or endangered wildlife occurring within the CFO includes the gray wolf (*Canis lupus*), bald eagle (*Haliaeetus leucocephalus*), Canada lynx (*Lynx canadensis*), and northern Idaho ground squirrel (*Spermophilus brunneus brunneus*). The yellow-billed cuckoo (*Coccyzus americanus*) is a federal candidate species that could occur within the planning area. A total of 37 BLM-designated sensitive species occur within the planning area (**Appendix G**, Idaho BLM Sensitive Species, **Table G-2**) (see Volume III).

#### Federally Listed and Candidate Species

**Gray wolf.** This species was listed as endangered in 1973. As part of the recent reintroduction effort, all wolves in central Idaho were listed in 1994 as an “experimental/nonessential population” under the ESA. Quality of wolf habitat is generally characterized by the quality of ungulate big game (prey species) habitat. Although isolation from human disturbance is not as important to wolf management as once thought, it is a factor in maintaining high quality big game habitat and reducing the risks of incidental wolf mortality. The Northern Rocky Mountain Wolf Recovery Plan identifies the key components of wolf habitat as a sufficient year-round prey base of ungulates and alternate prey, suitable and semisecluded denning and rendezvous sites, and sufficient space with minimal exposure to humans (USFWS 1987).

[The USFWS removed the distinct population segment of the gray wolf in the Northern Rocky Mountains from the list of endangered and threatened wildlife \(Federal Register 2008\), and the rule became effective March 28, 2008. The species is being delisted by the USFWS because the Northern Rocky Mountain population has exceeded recovery goals and potential threats have been resolved. Future management of the species will be in accord with applicable state and federal laws.](#)

**Bald eagle.** This species was listed as endangered in 1978. In 1995, the bald eagle was downlisted from endangered to threatened. In 1999, the proposed rule to remove the bald eagle in the lower 48 states from the list of endangered and threatened wildlife was published in the *Federal Register*. [The bald eagle was removed from the threatened and endangered species list with an effective date of August 8, 2007 \(Federal Register 2007b\). The protection provided to the bald eagle under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act will continue to remain in place. To date, no final action has been taken on the proposal to delist the bald eagle. However, USFWS reopened the comment period for removing the species from ESA protection on February 13, 2006 \(USFWS 2006b\). The species would still receive protection from the Bald Eagle Protection Act and Migratory Bird Treaty Act if it were delisted.](#)

With the exception of three nest sites in the Dworshak Reservoir area (North Fork Clearwater River subbasin), bald eagles are not known to nest in the planning area. These nest sites do not occur on BLM lands. The bald eagle is fairly common during the winter along larger mainstem rivers (e.g., Snake, Salmon, Clearwater, and South Fork Clearwater Rivers). Within the planning area, peak numbers occur between November and February, but periods of winter use occur from October 1 through April 1. Winter habitat for bald eagles is a function of perch and roost site availability, as well as access to fish, waterfowl, and ungulate carrion as forage/prey. Perch sites are characterized

by prominent, large trees in close proximity to winter foraging areas. Roost sites often are wind-sheltered, dominant trees in the canyon bottoms of larger rivers or along Dworshak reservoir. The factor that is considered most limiting is the availability of carrion, fish, or other forage species. Wintering bald eagles have also been observed on the Camas Prairie and may eat carrion, which is often associated with winter livestock feeding or calving operations on farms and ranches.

**Canada lynx.** The lynx was listed as threatened in 2000. The Lynx Conservation Assessment and Strategy (Ruediger et al. 2000) was developed by the Forest Service, USFWS, National Park Service, and the BLM to provide a consistent and effective approach to conserve Canada lynx on federal lands in the contiguous states. The Northern Rockies Lynx Amendment and Draft EIS will amend existing Forest Service and BLM land use plans.

In Idaho, lynx are most often found in Engelmann spruce/subalpine fir forests above 4,000 feet (Koehler and Brittell 1990). Important habitat features include den sites and foraging habitat. Den sites are typically located in hollow logs or rootwads within mesic, mature, or old growth coniferous forest (Koehler and Brittell 1990). Lynx foraging habitat corresponds with snowshoe hare (*Lepus americanus*) habitat because the hare is the lynx's primary prey, making up 35 to 97 percent of its diet throughout the range of the lynx (Koehler and Aubry 1994). Snowshoe hare are most abundant in seedling/sapling lodgepole pine, subalpine fir, and Engelmann spruce forest stands. Other prey species taken by lynx include red squirrel (*Tamiasciurus hudsonicus*), grouse, northern flying squirrel, ground squirrel (*Glaucomys sabrinus*), mice, vole, porcupine (*Erethizon dorsatum*), beaver, and ungulates as carrion or occasionally as prey.

**Northern Idaho ground squirrel.** The northern Idaho ground squirrel was listed as threatened in 2000. In 2003 the USFWS approved a Recovery Plan for the species (USFWS 2003). The northern Idaho ground squirrel is found only in Idaho. It has the smallest geographic range of any squirrel subspecies and one of the smallest mammal ranges in North America (Gill and Yensen 1992). Its present range is north of Council, Idaho, extending to the Boulder River and Rapid River divide. No known populations are documented as occurring on BLM lands. Some BLM lands within the Little Salmon River subbasin provide suitable habitat for the species and no site specific surveys have been conducted to date.

This ground squirrel occupies dry, rocky, sparsely vegetated meadows surrounded by forests of ponderosa-pine or Douglas-fir at elevation of 3,800 to 5,200 feet (Yensen 1991, Dnyi and Yensen 1996). Nearly all the meadow sites used by this ground squirrel are on dry, shallow soils with no young tree invasion (Sherman and Yensen 1994). Nest burrows are located in adjacent small patches of well-drained deeper soils (Yensen et al. 1991). Surface features, such as logs or rocks, make a site more attractive to this species. Ponderosa pine-shrub steppe habitat associations on south-facing slopes at less than 30 percent slope and elevations below 6,000 feet are considered to be potentially suitable habitat (USFWS 2003). During 2005, a new population of northern Idaho ground squirrels was located along a divide ridge between Boulder Creek and Rapid River. The habitats consisted of sub-alpine meadow habitats along a ridge at approximately 7,500 feet in elevation. This is approximately 2,000 feet higher and is several miles north of other previous documented probable historical distribution. Idaho ground squirrels have a long annual seasonal torpor (physical inactivity) that continues for seven to eight months from late July or early August to late March or early April (Yensen 1991, Yensen and Sherman 2003). Adult males emerge first, followed by adult females, then yearlings.

This species needs large quantities of native grass seed and other green leafy vegetation to store enough body energy for long hibernation period. Their diet consists of grasses, forb leaves, flowers, roots, and bulbs, and, as the summer progresses, seeds (Yensen and Sherman 1997). If vegetation grows too high, so that both the tender growing parts of the plants and the energy important seed head are out of the reach of this ground squirrel, these ground squirrels do not fatten properly and are likely to suffer increased mortality during their long hibernation (Sherman and Yensen 1994).

Most northern Idaho ground squirrel populations are found in areas with shallow reddish parent soils of basaltic origin (Yensen 1991). Nesting burrows are in well-drained soils greater than three feet deep in areas not covered with trees or used by Columbian ground squirrels (*Spermophilus columbianus*). The lack of extensive use of the same areas by the two species is probably a result of competition rather than different habitat requirements (Sherman and Yensen 1994). There are dietary similarities between these two species that make competition more likely (Dyni and Yensen 1996).

**Yellow-billed cuckoo.** The yellow-billed cuckoo is a candidate species. It prefers riparian areas with dense stands of cottonwood and willow. No recent observations for yellow-billed cuckoo have been documented within the CFO [Area](#).

### **BLM Sensitive Wildlife**

A total of 37 BLM-designated sensitive species occur on BLM lands within the planning area (**Appendix G**, Special Status Species, **Table G-3** [see Volume II]). Table G-3 provides a brief summary of preferred habitats for each species. However, because of land ownership, species occurrences, preferred habitats, and land uses occurring on BLM lands, several sensitive species have priority and special emphasis and management concerns for BLM lands in the planning area. One group of species occupy forested areas, which may be characterized as mature to old growth and/or open stands and/or snag dependent (i.e., Northern goshawk, flammulated owl, Lewis woodpecker [*Melanerpes lewis*], white-headed woodpecker [*Picoides albolarvatus*], Williamson's sapsucker [*Sphyrapicus thyroideus*], Hammond's flycatcher [*Empidonax hammondi*], and fisher). Several sensitive invertebrate species have very limited range and preferred habitats and are endemic to the Lower Salmon River canyonlands or beaches/riparian habitats (i.e., marbled disc [*Discus marmorensis*], shortface lanx [*Fisherola nuttalli*], Columbia pebblesnail [*Fluminicola columbianus*], Idaho banded mountainsnail [*Oreohelix idahoensis idahoensis*], whorled mountainsnail [*O. vortex*], boulder pile mountainsnail [*O. jugalis*], and striate mountainsnail [*O. strigosa goniogyra*]). The mountain quail (*Oreotys pictus*) has very limited range within Idaho, and localized populations are associated with BLM lands in the west portion of the planning area. Preferred habitats include riparian, shrub/forest, coniferous forests, and forest edges.

### **3.2.10 Aquatic Resources, Fish, and Special Status Fish**

#### **Fish**

Fish species are widely distributed and occupy a variety of habitats, including large rivers, tributary streams, ponds, and lakes. Aquatic habitats occur from low elevation canyonlands to high elevation subalpine areas. The planning area is known to support 39 species of fish, including 26 native species (**Table 3-79**) and 13 nonnative species (**Table 3-810**). The planning area provides habitat for

**Table 3-9  
Native Fish Known to Inhabit the Planning Area**

<b>Common Name</b>	<b>Scientific Name</b>
Bridgelip sucker	<i>Catostomus columbianus</i>
Bull trout	<i>Salvelinus confluentus</i>
Chiselmouth	<i>Acrocheilus alutaceus</i>
Coho salmon	<i>Oncorhynchus kisutch</i>
Fall chinook salmon	<i>Oncorhynchus tshawytscha</i>
Largescale sucker	<i>Catostomus macrocheilus</i>
Leopard dace	<i>Rhinichthys falcatus</i>
Longnose dace	<i>Rhinichthys cataractae dulcis</i>
Mottled sculpin	<i>Cottus bairdi semiscaber</i>
Mountain sucker	<i>Catostomus platyrhynchus</i>
Mountain whitefish	<i>Prosopium williamsoni</i>
Northern pikeminnow	<i>Ptychocheilus oregonensis</i>
Pacific lamprey	<i>Lampetra tridentate</i>
Paiute sculpin	<i>Cottus beldingi</i>
Peamouth	<i>Mylocheilus caurinus</i>
Redband trout	<i>Oncorhynchus mykiss</i> <del><i>gairdneri</i></del>
Redside shiner	<i>Richardsonius balteatus balteatus</i>
Shorthead sculpin	<i>Cottus confusus</i>
Slimy sculpin	<i>Cottus cognatus</i>
Sockeye salmon	<i>Oncorhynchus nerka</i>
Speckled dace	<i>Rhinichthys osculus</i>
Spring/summer chinook salmon	<i>Oncorhynchus tshawytscha</i>
Summer steelhead	<i>Oncorhynchus mykiss</i>
Torrent sculpin	<i>Cottus rhotheus</i>
Westslope cutthroat trout	<i>Oncorhynchus clarki lewisi</i>
White sturgeon	<i>Acipenser transmontanus</i>

**Table 3-10  
Nonnative Fish Known to Inhabit the Planning Area**

<b>Common Name</b>	<b>Scientific Name</b>
Blue catfish	<i>Ictalurus furcatus</i>
Bluegill	<i>Lepomis macrochirus</i>
Brook trout	<i>Salvelinus fontinalis</i>
Brown bullhead	<i>Ictalurus nebulosus</i>
Carp	<i>Cyprinus carpio</i>
Channel catfish	<i>Ictalurus punctatus</i>
Flathead catfish	<i>Pylodictus olivaris</i>
Kokanee salmon	<i>Oncorhynchus nerka kennnerlyi</i>
Rainbow trout	<i>Oncorhynchus mykiss</i>
Smallmouth bass	<i>Micropterus dolomieu</i>
White crappie	<i>Pomoxis annularis</i>
Yellow perch	<i>Perca flavescens</i>
Yellowstone cutthroat trout	<i>Oncorhynchus clarki bouveri</i>

five federally listed species and four BLM sensitive species (also see Section 3.2.7, Special Status Species).

[The BLM manages fish and wildlife habitat, while fish and wildlife populations are administered by Idaho Department of Fish and Game, US USFWS, or National Marine Fisheries Service.](#)

Approximately 625 miles of streams and rivers flow across BLM lands (BLM 2004a). Approximately 214 miles of fish-bearing streams and rivers flow across or are adjacent to BLM lands within the planning area (**Table 3-119**). Six lakes (28 acres) occur on BLM lands and provide fish habitat. With the exception of Marshall Lake, none of these lakes support native salmonids, and fish presence is a result of fish transplants/stocking (e.g., rainbow trout, cutthroat trout, and brook trout). **Table 3-1120** summarizes rainbow trout, cutthroat trout, brook trout, and white sturgeon streams and rivers that flow across or are adjacent to BLM lands within the planning area.

**Table 3-11**  
**BLM Land Ownership within Subbasins**

<b>Subbasin Name and Hydrologic Unit Number</b>	<b>BLM Fish- Bearing Main Stem River (Miles)</b>	<b>BLM Fish- Bearing Tributaries (Miles)</b>	<b>BLM Total (Miles)</b>
Lower Snake– Hells Canyon 17060101	0.0	1.8 (4 streams)	1.8
Lower Snake – Asotin 17060103	1.5	6.4 (4 streams)	7.9
Middle Salmon –Chamberlain 17060207	0.0	6.0 (3 streams)	6.0
South Fork Salmon 17060208	0.0	0.4 (1 stream)	0.4
Lower Salmon 17060209	78.75	20.35 (30 streams)	99.1
Little Salmon 17060210	3.2	11.4 (11 <a href="#">streams</a> )	14.6
Middle Fork Clearwater 17060304	0.0	0.5 (1 stream)	0.5
South Fork Clearwater 17060305	5.5	29.2 (20 streams)	34.7
Clearwater 17060306	16.0	32.8 (28 streams)	48.8
Lower North Fork Clearwater 17060308	0.15	0.0	0.15
<b>Total</b>			<b>213.95</b>

**Table 3-12**  
**Fish Habitat Summary for Selected Species**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Length of Streams/Rivers on BLM Lands</b>
Rainbow trout	<i>Oncorhynchus mykiss</i>	204 miles
Cutthroat trout	<i>Oncorhynchus clarki</i>	157 miles
Brook trout	<i>Salvelinus fontinalis</i>	32 miles
White sturgeon	<i>Acipenser transmontanus</i>	80 miles

Historic aquatic and watershed conditions ranged from highly disturbed to highly stable. It is assumed that the landscape is constantly changing, either by natural or human caused events, or both. The influence of human activities on natural watershed processes and recognition of the natural range of variability is critical for evaluation of watershed conditions. Insect/disease impacts on forests, drought, large fires, floods, and debris torrents interact with human-caused disturbances such as timber harvest, roads, mining, livestock grazing, and development to either accentuate or lessen the intensity and duration of natural disturbance (Lee et al. 1997). Direct or indirect effects to instream channel condition, riparian habitats, and water quality have occurred.

Overall connectivity between populations within the planning area remains intact; the primary exception occurs at some road crossings (e.g., culverts/roads) where partial or complete barriers may prevent passage for juvenile and adult fish. Connectivity between populations and subpopulations is critical for providing genetic diversity.

In general, water quality, riparian habitats, and fish habitat have experienced slight upward trends during the past one to two decades within drainages that have a majority of ownership as federal and/or Idaho Department of Fish and Game. Such aquatic habitat improvements are primarily attributed to improved public land management practices, restoration activities, and federal listing of fish (ESA).

### **Special Status Fish**

Special status species are those that are listed as threatened or endangered under the federal ESA and species designated as sensitive by the BLM. The planning area provides habitat for eight special status fish species (Table 3-1311). Five federally listed threatened and endangered fish species occur within the planning area, the Snake River sockeye salmon (*Oncorhynchus nerka*), Snake River spring/summer chinook salmon (*O. tshawytscha*), Snake River fall chinook salmon (*O. tshawytscha*), steelhead trout, and bull trout. The Snake River steelhead Evolutionarily Significant Unit is proposed for relisting as the Snake River Basin *O. mykiss* Evolutionarily Significant Unit, which includes both resident and anadromous forms within the range of the existing steelhead Evolutionarily Significant Unit. Three additional species designated as BLM sensitive species occur within the planning area including and include the Pacific lamprey (*Lampetra tridentate*), redband trout (*O. mykiss gibbsi*), and westslope cutthroat trout (*O. clarki lewisi*). The Snake river spring/summer chinook salmon (Clearwater River basin) is listed as both federally threatened and BLM sensitive. Critical habitat has been designated within the planning area for spring/summer chinook salmon, fall chinook salmon, sockeye salmon, and steelhead trout. USFWS designated critical habitat for bull trout; however, such

**Table 3-13  
Federal Listed and BLM-listed Sensitive Fish Species in the Planning Area**

<b>Common Name and Scientific Name</b>	<b>Status</b>
Sockeye salmon <i>Oncorhynchus nerka</i>	Endangered
Fall chinook salmon <i>Oncorhynchus tshawytscha</i>	Threatened
Spring/summer chinook salmon <i>Oncorhynchus tshawytscha</i>	Threatened—Snake and Salmon River basins
	BLM sensitive—Clearwater River basin
Summer steelhead <i>Oncorhynchus mykiss</i>	Threatened
Bull trout <i>Salvelinus confluentus</i>	Threatened
Westslope cutthroat trout <i>Oncorhynchus clarki lewisi</i>	BLM sensitive
Pacific lamprey <i>Lampetra tridentate</i>	BLM sensitive
Redband trout <i>Oncorhynchus mykiss gibbsi</i>	BLM sensitive

designations did not include any streams or rivers flowing across BLM lands within the planning area.

The BLM has consulted with [National Marine Fisheries Service and USWFWFS](#) per Section 7 of the ESA for federally listed fish as they relate to a variety of activities, such as timber sales, new recreation sites, and herbicide spraying, and to such programs as livestock grazing and recreation. The BLM also has consulted at a subbasin and watershed level for all ongoing activities and programs for federally listed salmon, steelhead, and bull trout.

### Sockeye Salmon

The Snake River sockeye salmon was listed as endangered in 1991. Critical habitat was designated in 1994. Within the planning area, approximately 80 miles of the Snake and Salmon Rivers flowing across or adjacent to BLM lands provide habitat for the sockeye salmon. Sockeye salmon were once an abundant and widely distributed species in the Columbia River basin. Native stocks have declined and a remnant population of sockeye salmon exists at Redfish Lake in the upper Salmon River basin. An intensive, captive brood-stock program has been initiated to conserve the remaining population (Quigley and Arbelbide 1997).

### Fall Chinook Salmon

The Snake River fall chinook salmon was listed as threatened in 1992. Critical habitat was designated in 1994. Within the planning area, approximately 98.4 miles of the Snake River, Salmon River, Clearwater River, North Fork of the Clearwater River, and lower South Fork of the Clearwater River flowing across or adjacent to BLM lands provide habitat for the fall chinook salmon. Fall chinook

salmon are found in mainstem Snake River, Salmon River, and lower portion of South Fork of Clearwater River. The Nez Perce Tribe has initiated an active reintroduction effort for fall chinook salmon in the Snake and Clearwater Rivers, and fall chinook returns to mainstem rivers has increased substantially. **Table 3-12–14** shows monitoring results for the Salmon, Snake, and Clearwater Rivers.

### Spring/Summer Chinook Salmon

The Snake River spring/summer chinook salmon was listed as threatened in 1992. Critical habitat was designated in 1994. Within the planning area, approximately 119 miles of the Snake River, Salmon River, Little Salmon River, and tributary drainages flowing across or adjacent to BLM lands provide habitat for the federally listed spring/summer chinook salmon.

Spring/summer chinook salmon occurring within the Clearwater River basin are designated BLM sensitive species. Spring/summer chinook salmon in the Snake River and Salmon River are considered an Evolutionarily Significant Unit and are federally listed as threatened. However,

**Table 3-14**  
**Fall Chinook Salmon Redds Counted in the**  
**Snake, Salmon, and Clearwater Rivers, 1986-2005**

<b>Year</b>	<b>Snake River</b>	<b>Salmon River</b>	<b>Clearwater River</b>
1986	7	No surveys	No surveys
1987	66	No surveys	No surveys
1988	64	No surveys	21
1989	58	No surveys	10
1990	37	No surveys	4
1991	51 <sup>1</sup>	No surveys	4
1992	47 <sup>1</sup>	1	26
1993	127 <sup>1</sup>	3	36
1994	67 <sup>1</sup>	1	37
1995	71 <sup>1</sup>	2	20
1996	113 <sup>1</sup>	1	69
1997	58 <sup>1</sup>	1	72
1998	185 <sup>1</sup>	3	78
1999	373 <sup>1</sup>	0	181
2000	346 <sup>1</sup>	0	173
2001	709 <sup>1</sup>	22	312
2002	1113 <sup>1</sup>	31	524
2003	1512 <sup>1</sup>	18	571
2004	1709 <sup>1</sup>	19	630
2005	1442 <sup>1</sup>	27	487

<sup>1</sup>Redd counts include helicopter and underwater video.

spring/summer chinook salmon in the Clearwater River basin are not considered part of this Evolutionarily Significant Unit because it is believed that indigenous spring/summer chinook populations were eliminated from the Clearwater River Basin by construction of Lewiston Dam. It is widely believed that Lewiston Dam, constructed near the mouth of the Clearwater River in 1927,

virtually eliminated all runs of wild chinook salmon in the Clearwater basin until its removal in the 1940s. Harpster Dam, constructed on the South Fork Clearwater River in 1910, may have eliminated or reduced runs of spring chinook salmon into the South Fork Clearwater River prior to the construction of Lewiston Dam. Both dams have been removed and naturally spawning runs of chinook salmon have been established through supplementation with hatchery fish. Within the planning area (Clearwater River Basin), approximately 55 miles of streams and river flowing across or adjacent to BLM lands provide habitat for the designated BLM sensitive spring/summer chinook salmon.

### **Bull Trout**

The Klamath and Columbia River population segment was listed as threatened in 1998. Bull trout critical habitat was designated in 2004; however, the designation did not include any streams or rivers crossing BLM lands in the planning area. Bull trout appear to have more specific habitat requirements than other salmonids (Rieman and McIntyre 1993). Habitat characteristics including water temperature, stream size substrate composition, cover, and hydraulic complexity have been associated with the distribution and abundance (Jakober 1995; Rieman and McIntyre 1993). Bull trout have repeatedly been associated with the coldest stream reaches within the basins (Lee et al. 1997). Within the planning area, approximately 145 miles of main stem rivers and tributary streams provide habitat for bull trout.

### **Summer Steelhead**

Steelhead trout in the Snake River basin were listed as threatened in 1997. Critical habitat for steelhead trout was designated in 2005 and includes most streams historically occupied by steelhead trout crossing BLM lands within the planning area. Within the planning area, approximately 204 miles of mainstem river and accessible fish-bearing tributary streams provide habitat for steelhead trout and flow through BLM lands.

### **Westslope Cutthroat Trout**

Three life history strategies of westslope cutthroat trout are known to occur, which include adfluvial, fluvial, and resident forms (Likens and Graham 1988). Those most common in central Idaho include fluvial and resident forms, with fluvial fish comprising the only migratory populations in larger river systems. Historically, westslope cutthroat trout were the dominant salmonid in streams of central and northern Idaho (Behnke and Wallace 1986). Westslope cutthroat trout presently remain widely distributed within their historical range, and some extension of the natural distribution has also occurred through hatchery introductions (Quigley and Arbelbide 1997). Despite wide distribution, there appear to be a few remaining healthy populations outside the central Idaho mountains. Rieman and Apperson (1989) estimated that strong westslope populations exist in only 11 percent of the historical range in Idaho, and populations that were both numerically strong and genetically pure existed in only 4 percent of the historical range. Three factors believed to contribute most to the decline of westslope cutthroat trout include: 1) introduced species; 2) angling; and 3) habitat disruption (Quigley and Arbelbide 1997). Within the planning area, approximately 157 miles of streams and river flowing across or adjacent to BLM lands provide habitat for westslope cutthroat trout.

Steelhead trout, bull trout, and westslope cutthroat trout distribution in streams is similar to the historic distribution, with the exception that steelhead trout no longer exist in the North Fork Clearwater River upstream of the Dworshak dam. Although present in much of their historic range, it is believed that the abundance and resiliency of these three trout species has been significantly reduced from historic conditions as a result of habitat degradation, introduced species, harvest, and migration barriers (Lee et al. 1997).

### *Pacific Lamprey*

Pacific lamprey is anadromous and parasitic during the ocean phase. Historical distribution of Pacific lamprey is similar to Pacific salmon. Pacific lamprey enter freshwater between July and September and migrate several hundred miles inland (Quigley and Arbelbide 1997). They spawn in tributary streams during the following spring. Ammocoetes spend four to six years burrowing into fine stream sediments and filter feeding on algae, diatoms, and detritus. Juvenile lamprey migrate downstream after completing metamorphosis, or during its final states, in late fall through spring. They remain in the ocean 12 to 20 months before returning to freshwater to spawn. Similar to other anadromous fish, the distribution and abundance of Pacific lamprey has been reduced by the construction of dams and water diversions as well as degradation of spawning and rearing habitat. All mainstem rivers provide habitat for Pacific lamprey. The larger tributary drainages that are accessible to anadromous fish probably historically provided habitat for Pacific lamprey. Pacific lamprey upstream adult passage counts at Lower Granite have shown the decline in Pacific lamprey entering Idaho streams. Hydroelectric impacts (fish passage) and alteration of rearing habitat are considered to be two major factors contributing to Pacific lamprey decline in the Columbia River basin and Snake River subbasin (Jackson et al. 1996).

### *Redband Trout*

Nonanadromous rainbow (redband) trout in the Upper Columbia River basin have been further divided into two groups, one group which evolved in sympatry with steelhead and the other allopatric, or those that evolved outside the historical range of steelhead. Sympatric rainbow trout are considered, a nonanadromous form, historically derived or associated with steelhead and have been termed “residuals.” Both anadromous and nonanadromous forms exist in sympatry in most populations, and morphologically, juveniles of both forms are indistinguishable. The BLM has conducted genetic verification for presence of allopatric redband trout in several drainages and preliminary results indicated the presence of redband trout above several fish passage barriers.

Redband trout appear to be widely distributed within the Columbia River basin; however, their status is clouded by the uncertainty over taxonomic classification within the species and by more than a century of stocking nonnative rainbow trout and steelhead (Behnke 1992). Habitat degradation, hybridization or competition with introduced species, and a restricted range for some populations are the principal threats to conservation of the remaining redband trout (Williams et al. 1989).

### **3.2.11 Special Status Plants**

BLM special status plants are defined as those currently listed as threatened or endangered under the ESA, as well as species that are proposed or candidates for listing. It also includes species designated as sensitive by the BLM State Director. The BLM sensitive species are protected, managed, and

conserved in the same manner as federal candidate species. In Idaho, the BLM has defined and further clarified the management of special status plants by designating species as either BLM sensitive or watch list.

### ***Threatened and Endangered Plants***

The CFO provides habitat for two federally listed as threatened plants, MacFarlane’s four-o’clock (*Mirabilis macfarlanei*) and Spalding’s catchfly (*Silene spaldingii*). Five populations of MacFarlane’s four-o’clock occur on BLM lands in the lower Salmon River canyonlands, one of which is a transplanted population. One of these five populations occurs on both BLM and private lands, while the other four populations are located entirely on BLM-administered lands. ~~Several~~ Seven populations of Spalding’s catchfly occur on BLM lands in the lower Snake River canyonlands, and three populations occur in the lower Salmon River canyonlands.

#### **MacFarlane’s Four-o’clock**

In 1979, the USFWS listed MacFarlane’s four-o’clock as endangered under the ESA and downlisted it to threatened in 1996. The USFWS published a recovery plan in 1985 (USFWS 1985) and updated the recovery plan in 2000 (USFWS 2000). Ten populations of *M. macfarlanei* are currently known to occur on federal lands in Idaho and Oregon, including the Hells Canyon/Snake River canyon area, Salmon River area, and Imnaha River area. ~~Six~~ Five populations of *M. macfarlanei* occur on CFO lands, one of which was transplanted by the BLM at the Lucile Caves ACEC/RNA. A few small populations of *M. macfarlanei* occur on privately owned lands within the planning area. The total geographic range that the species occupies is an area of approximately 29 by 18 miles.

*M. macfarlanei* occurs in river canyon grassland habitats that are characterized by regionally warm and dry conditions. Precipitation occurs mostly as rain during winter and spring. Sites are dry and generally open, although scattered shrubs may be present. Plants can be found on all aspects, but plants often occur on southeast to western aspects. Slopes may be steep or nearly flat. Soil texture varies from sand to sandy-loam with inclusions of talus (consisting of gravel and cobbles). *M. macfarlanei* populations range from approximately 1,000 to 3,500 feet in elevation. Habitat for *M. macfarlanei* generally consists of bunchgrass communities dominated by bluebunch wheatgrass. The updated recovery plan (USFWS 2000) has identified the following as reasons for the decline of and the current threats to *M. macfarlanei*: (1) accidental herbicide and pesticide spraying; (2) slope failures/landslides; (3) road repair/maintenance; (4) insect damage and disease; (5) invasion of habitat by exotic plant species; (6) livestock grazing; (7) fire suppression; (8) trampling; (9) off-road vehicles; (10) collecting; (11) mining; (12) competition for pollinators; and (13) inbreeding and depression. No documented off-road vehicle use exists in any known population occurring on CFO lands. Nonnative plant species pose a serious threat to *M. macfarlanei* and other native plants because they compete for space, light, water, nutrients, and pollinators.

#### **Spalding’s Catchfly**

The USFWS listed Spalding’s catchfly as threatened under the ESA in 2001. The CFO has the largest known population of *S. spaldingii* in Idaho. These populations are the only ones occurring on federal lands in the state and occur in the Snake River and Salmon River canyon grasslands (Lower Snake River and Lower Salmon River subbasins). Seven populations occur on BLM lands within the Lower Snake River subbasin, and three populations occur on BLM lands in the Lower Salmon River

subbasin. These populations are threatened by yellow starthistle infestations. One of the Salmon River canyonland populations is currently threatened by the noxious weeds leafy spurge (*Euphorbia esula*), whitetop (*Cardaria draba*), and other weeds (Gray and Lichthardt 2003).

This species is primarily restricted to mesic (not extremely wet or extremely dry) grasslands. These grasslands may occur in prairie, steppe, or canyon grassland communities and make up the Palouse Region in southeastern Washington, northwestern Montana, and adjacent portions of Idaho and Oregon. In addition, there are approximately 100 plants in British Columbia. Palouse habitat is considered to be a subset of the Pacific Northwest bunchgrass habitat type (Tisdale 1983). In Idaho, Palouse habitat is confined to a narrow band along the western edge of central and north-central Idaho centering on Latah County (Tisdale 1983). Large-scale ecological changes in the Palouse region over the past several decades, including agricultural conversion, changes in fire frequency, and alterations of hydrology, have resulted in the decline of numerous sensitive plant species, including *S. spaldingii* (Tisdale 1961). More than 98 percent of the original Palouse prairie habitat has been lost or modified by agricultural conversion, grazing, invasion of nonnative species, altered fire regimes, and urbanization (Noss et al. 1995).

### **BLM Sensitive Plants**

The CFO has 126 plant species designated as sensitive. These sensitive plant species are listed in **Appendix G**, Idaho BLM Sensitive Species, **Table G-1** (see Volume III), along with their preferred habitat, their status, and the number of known populations within the CFO. These species occupy a wide range of habitats that include, but are not limited to, open grasslands, shrublands, forested areas, wetlands, riparian areas, rock outcrops, and specific substrates. Many of these habitats have had varying levels of impacts from a variety of land uses, such as livestock grazing, timber harvest, fire exclusion, mining, roads, and recreation. The greatest threats to BLM sensitive plants that occupy grassland habitats are from infestations of nonnative species. Some populations are experiencing habitat degradation and downward trends from nonnative plant species encroachment on preferred habitats. Currently, some populations of BLM sensitive plants have noxious and other weed infestations.

The Idaho Department of Fish and Game, Conservation Data Center and the Idaho Native Plant Society are tracking ~~four~~<sup>two</sup> watch list species that occur on CFO lands: ~~Payson's milkvetch (*Astragalus paysonii*)~~, ~~deer fern (*Blechnum spicant*)~~, sticky goldenweed (*Haplopappus hirtus* var. *sonchifolius*), and wolf's currant (*Ribes wolfii*) (Idaho Conservation Data Center 2004; Idaho Native Plant Society 2004). The CFO reports occurrences of these species to Idaho Department of Fish and Game, Conservation Data Center, but the Idaho BLM does not recognize them as special status plants.

## **3.2.12 Wildland Fire Ecology and Management**

### **Wildland-Urban Interface**

Since the MFP was approved in 1981, more homes, infrastructure, and other structures have been built near and around forests. These structures within the WUI are vulnerable should fires occur. People, homes, and structures continue to occupy the WUI as hazard fuels continue to accumulate due to fire suppression and lack of controlled burns or other fuel management measures, which creates a high-risk and volatile situation. A list of all WUI communities that are at high risk from wildland fire was published in the *Federal Register* (Volume 66, August 17, 2001). Approximately 63

communities of varying size and development are considered to be at risk within the CFO. Additionally, the CFO identifies Communities of Interest that are not on the *Federal Register* list, but have been identified at high or moderate risk from wildland fire.

Adams, Clearwater, Idaho, Latah, Lewis and Nez Perce counties have recently (August 2005) completed Community Wildfire Protection Plans that characterize risks and preparedness and recommend and prioritizes treatments. These plans identified 94,093 acres of WUI on CFO-administered lands. The “urban” WUI is 33,584 acres and is a subset of the total WUI. The area considered WUI is expected to expand with continued development.

**Fuel Conditions**

Fuels include live and dead vegetation. Grass, dead needles and leaves, dead branches (on the ground or on the tree), bark, and standing live or dead trees and shrubs can be fuel for a fire. Historically, on the dry sites, fires periodically removed forest floor fuels and dead trees, and even smaller standing live trees. Successful fire suppression has allowed these fuels to build up. On the wet-cold and wet-warm vegetation types, mixed severity and stand-replacing fires were the historic fire regime. Many of the mixed severity areas have transitioned to stand-replacing fires because of increased stocking and fuel load.

Fuel conditions caused by deteriorating forest health are conducive to supporting high-intensity fire behavior. As the number of trees-per-acre increases, so does fuel loading and extreme fire behavior potential. More small-diameter trees increase fuel loading, suppress tree populations, and promote tree mortality by insect and disease.

The change in fuel conditions on the forested lands in the CFO can be indicated using forest health condition measurements (stocking and mortality). **Table 3-13-15** shows the change in fuels related to live and dead trees that could be fuels in a fire, based on continuous forest inventories conducted in 1974 and 1992.

**Table 3-15  
Forest Health and Fuel Indicators, 1974 to 1992**

Indicator	1974 Inventory	1992 Inventory	Change
Live trees per acre five inches diameter at breast height <sup>1</sup> or less	807	1,574	+95%
Live trees per acre greater than an average of five inches diameter at breast height	144	120	-17%
Suppressed live trees per acre	29.4	483.7	+1,545%
Mortality trees per acre	21.3	40.7	+91%

<sup>1</sup> Diameter at breast height is a standard.

Fuel conditions have also been affected in the perennial grass type by nonnative, invasive species such as cheatgrass and yellow starthistle. When burning, these species exhibit fire behavior and effects that are different from the native bunch grasses which historically were found on these sites. Cheatgrass dries out faster in the summer, producing more fine fuels earlier in the fire season.

Yellow starthistle retains moisture longer and grows larger than native plants, so when it finally dries out, the fuel it creates is larger and burns slower and hotter, increasing fire severity.

### **Fire History**

There is a sharp decline in acres of large fires (greater than 10 acres or extending beyond the first 24 hours of suppression activities) in north-central Idaho from 1920 through the 1950s, most likely due to fire suppression. However, in recent decades, the acreage of large fires is increasing or is variable, which may be due to the buildup of fuels resulting from successful fire suppression and the increased risk and severity of fires.

BLM-specific data for the CFO from 1983 to 2002 indicates there were a total of 12,600 fire starts that burned 1.3 million acres in the planning area, with 26,000 acres of BLM-managed lands burned (BLM 2004b). There have been few fires on BLM-managed lands in the planning area that have needed emergency stabilization and rehabilitation, which is unlikely to change in the future.

### **Fire Regime Condition Class**

The success of fire suppression efforts and resource management activities over the last 100 years has influenced the structure and composition of forests and fuel conditions by changing tree species composition, increasing trees per acre, changing understory and overstory vegetation, and changing the volume of dead and dying woody vegetation that remains on-site. The function and process of ecological systems has changed. Fire is no longer a major agent of change, and tree species composition and density has led to increasing insect and disease problems. Population and development densities continue to increase within forested environments of the CFO. The risk and severity of fires continue to grow. On a large scale, the ICBEMP projects that if current fire management continues, ecological integrity will decline. Additionally, wildland fires have a high likelihood of adversely affecting human assets (BLM and Forest Service 1997).

Scientific findings from the ICBEMP highlight fire as a major ecosystem process. Fire severity and frequency have changed across the landscape. Before Euro-American settlement, most fires in low- and mid-elevation forests were nonlethal. Forests and rangelands benefited from these frequent surface fires, which thinned vegetation and favored growth of fire-tolerant [tree species](#). Lethal or stand-replacing fires played a lesser role on these landscapes; now those types of fires predominate. Lethal fire regimes now exceed nonlethal fire regimes in forested areas, where they should be the norm on only about 26 percent of the CFO. Fire exclusion, livestock grazing, timber harvest, and exotic plant introduction have contributed to these changes (BLM and Forest Service 1997). More detailed trend analysis for fire management is provided in the CFO Fire Management Plan (BLM 2004b, 2005c).

Fire regimes ([Table 3-1416](#)) are used as part of the fire condition class discussion to describe fire frequency (average number of years between fires) and fire severity (effect of the fire on the dominant overstory vegetation: low, mixed, or stand replacement).

The FRCC is a classification system that describes the amount of departure an area or landscape is from the historic condition to the present condition. Three FRCCs are used to classify existing ecosystem conditions that categorize the departure. [Table 3-15-17](#) presents total percentage of BLM

**Table 3-16**  
**Historical Fire Regimes**

Fire Regime	Description
I	0 to 35 year frequency, low severity
II	0 to 35 year frequency, stand replacement severity
III	35 to 100+ year frequency, mixed severity
IV	35 to 100+ year frequency, stand replacement severity
V	200+ year frequency, stand replacement severity 100 years

Source: Hardy et al. 2001

**Table 3-17**  
**Fire Regime Condition Classes on CFO Lands**

FRCC	Amount of CFO Lands	Definition of FRCC
1	13,880 acres 10% <sup>1</sup>	<ul style="list-style-type: none"> <li>• Fire regimes are within or near an historical range;</li> <li>• The risk of losing key ecosystem components is low;</li> <li>• Fire frequencies have departed from historical frequencies by no more than one return interval; and</li> <li>• Vegetation attributes (species composition and structure) are intact and functioning within an historical range.</li> </ul>
2	47,529 acres 33% <sup>2</sup>	<ul style="list-style-type: none"> <li>• Fire regimes have been moderately altered from their historical range;</li> <li>• The risk of losing key ecosystem components has increased to moderate;</li> <li>• Fire frequencies have increased or decreased from historical frequencies by more than one return interval, resulting in moderate changes in fire size, frequency, intensity, severity, or landscape patterns; and</li> <li>• Vegetation attributes have been moderately altered from their historical range.</li> </ul>
3	82,342 acres 57% <sup>3</sup>	<ul style="list-style-type: none"> <li>• Fire regimes have been significantly altered from their historical range;</li> <li>• The risk of losing key ecosystem components is high;</li> <li>• Fire frequencies have departed from historical frequencies by multiple return intervals, creating dramatic changes in fire size, frequency, intensity, severity, or landscape patterns; and</li> <li>• Vegetation attributes have been significantly altered from their historical range.</li> </ul>

Source: BLM 2004a; Schmidt et al. 2002

<sup>1</sup> Mostly in wet/cold conifers, with less than 10 percent in water.

<sup>2</sup> Across all vegetation types, except perennial grass.

<sup>3</sup> All of perennial grass and 72 percent of dry conifer.

lands (forested and nonforested) by FRCC. [Methodology used to determine FRCC is outlined in Idaho IM-2005-062.](#)

The FRCC strategy is one tool that projects the quantity and rate of fuels reduction treatments required on a landscape scale to restore fire-adapted ecosystems. Additionally, WUI risk reduction, or the change in vegetative conditions from supporting stand-replacing fire, to one that will not, is the rating method for WUI fuel-reduction efforts. FRCC 1 ecosystems are considered to be healthy and functioning adequately. FRCC 2 ecosystems are considered to be unhealthy and their rate of

deterioration is expected to increase moderately to rapidly. FRCC 3 ecosystems are considered to be unhealthy and nonfunctioning. It should be noted that stands within the WUI in a stand-replacing regime may be functioning within historic regimes (FRCC 1), but stand-replacing fire may not be socially acceptable and management activities to reduce the likelihood of stand-replacing fire may be encouraged. [As a part of the 2005 FMP effort, FRCC was determined and confirms that significant changes have occurred in the ecosystems because 90% of BLM lands are classified as FRCC 2 or 3.](#) ~~The CFO Fire Management Plan confirms that significant changes have occurred in the forest ecosystems because 90 percent of BLM lands are in FRCC 2 and FRCC 3 (BLM 2004b).~~ **Table 3-16 18** presents percentage of forested lands by FRCC.

**Table 3-18  
Forested Vegetation on BLM Lands by FRCC**

Historic Fire Regime Group	GAP <sup>1</sup> Cover Type	Approximate BLM GAP Acres <sup>2</sup>	Current FRCC <sup>3</sup>	Reason for Departure from Historical Condition
I	Dry conifer	66,431	FRCC 3	Modification of historic fire regimes, overstocked conditions, accumulations of litter and woody material, and multiple insect and disease pathogens.
II	Mid-elevation shrub steppe	5,677	FRCC 2	Modification of historic fire regime, heavier than historic fuel loads, decadent plants.
II	Mountain shrub	4,642	FRCC 2	
II	Perennial grass and other (including canyon grasslands, agriculture, barren, and rock)	30,113	FRCC 3	Modification of historic fire regime, invasion of nonnative vegetation.
III	Aspen/conifer mix	22	FRCC 2	Modification of historic fire regime, decadent vegetation, encroachment by conifers.
IV	Wet/cold conifer	34,537	FRCC 2	Modification of historic fire regime and disease infestation.
V	Riparian	2,404	FRCC 2	NA

Source: <sup>1</sup> Scott et al. 2002; <sup>2</sup> BLM 2004a; <sup>3</sup> BLM 2004b

### 3.2.13 Cultural Resources

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

The planning area lies in a complex setting of major drainages that form a link between three major culture areas. The Salmon River, Clearwater River, and Snake River dissect the planning area, which

provides major elevation and aspect changes, creating differences in flora and fauna seasonal availability. People living in the area would have had access to diverse natural resources found in both uplands and the drainage bottoms. This variability would have allowed for long-term settlement and use of the planning area, while allowing the exchange of diverse ideas from various other people in the Far West and Great Plains. Hence, the archaeological sites are deeply stratified and complex, indicating long-term and adaptive use of an ever-changing environment.

Cultural resources in the planning area are exceptional and have national importance. Archaeological sites along the Salmon and Snake Rivers include a substantial concentration of resources associated with multiple eras, ethnicities, and human uses. The Coopers Ferry site includes one of the earliest dated occupations in the Northwest and has already contributed valuable information on cultural and environmental history. The Lewis and Clark and Nez Perce ([Nee-Me-Poo](#)) National Historic Trail segments are a tangible link to the history of exploration and the treatment of the Nez Perce in the nineteenth century.

### **Cultural Periods**

Three cultural chronologies have been developed, reflecting major archaeological work that has been done in the three drainage systems. Leonhardy and Rice's (1970) Lower Snake River cultural chronology still functions as the standard for the Lower Snake River but has also been used in Hells Canyon, which is peripheral to what is generally considered the lower Snake River area. Sappington (1994) developed a cultural chronology for the Clearwater River drainage. Davis (2001) has presented a new culture history model for the Salmon River that includes six phases. Most BLM-managed prehistoric sites are within the Salmon River drainage; as such, that chronology is described.

The Lower Salmon River cultural chronology incorporates more than the last 11,500 years Before Present (BP). Six phases of human occupation include the Cooper's Ferry I (11,500-11,000 BP), Cooper's Ferry II (11,000-8,400 BP), Craig Mountain (8,400-3,500 BP), Grave Creek (3,500-2,100 BP), Rocky Canyon (2,100-600 BP), and Camas Prairie (600-150 BP).

Cooper's Ferry I (11,500-11,000 BP) and Cooper's Ferry II (11,000-8,400 BP) characterize some of the earliest occupation in the Northwest. The Cooper's Ferry site is one of the oldest dated sites, with both phases defined at this site. Little is known about the people who lived during the Cooper's Ferry I phase. A tool cache that dates to this phase indicates the use of stemmed points and the reliance on large ungulates. More information is available about the people who lived during the Cooper's Ferry II phase. A food source was large animals, such as elk and deer, supplemented with small animals and plant resources. There appears to be an increase in the use of the riparian zone with increased densely occupied living surfaces. Fish were increasing in importance as a food source. The climate during this phase is characterized by very cold dry winters and very hot dry summers.

The Craig Mountain Phase (8,400-3,500 BP) witnessed intensification of settlement, with an increase in river mussel and deer as food. Other big game remains have been found as well, including elk, antelope, and bison. Climatic changes were occurring, with a shift from mild dry winters and hot dry summers to cool wet winters and warm moist summers.

During the Grave Creek Phase (3,500-2,100 BP), similar game was hunted but with the addition of Rocky Mountain bighorn sheep. River mussels are found in increased abundance. Also, tools used to

grind roots are found in increasing abundance. This suggests increased use of root crops, such as camas and cous. The climate during this phase is characterized by cool wet winters and warm moist summers.

Permanent winter villages along the major river courses became common during the Rocky Canyon Phase (2,100-600 BP). The location of permanent winter villages in the canyon bottoms provided protection in the winter due to the milder climate created by the significant change in elevation from the plateau to the canyon bottom. Semisubterranean structures often referred to as pit houses were constructed. There were cool moist winters and warm moist summers during this period. The appearance of the village pattern indicates populations were becoming more permanent. Use of net sinkers and bone tools (possibly to repair nets) is more dominant. There appears to be an increase in the use of anadromous fish as a food staple.

The Camas Prairie Phase (600-150 BP) witnessed a continuation of intensive village use along the major river courses. Increased use of Euro-American trade goods begins during this time. Also, Euro-American diseases were transmitted to Native American populations with devastating results because the native groups had little, if any, natural resistance. The horse was also traded to the local Native American people from other Native American groups from the south. Although extensive trade networks had always existed, this increased mobility allowed for travel and resource trade over greater distances.

The next cultural development in the area can be referred to as the Historic Phase, or that phase when Euro-Americans first entered the region. The Lewis and Clark Expedition arrived in the area in 1805. [The trail route of the Lewis and Clark Expedition has been designated as the Lewis and Clark National Historic Trail.](#) Fur trappers soon followed by 1811. In 1855, the Nez Perce Tribe signed a treaty with the US government with the understanding that they would retain control over most of their original homeland, which encompasses the entire planning unit. Gold was discovered in the 1860s, which led to a new disputed treaty in 1863.

Mining soon ensued throughout the planning area. Mining districts at Elk City, Marshall Mountain, and several districts along the Salmon River soon developed. Initial mining focused on the use of hydraulic mining techniques. Water was used to excavate the gold-bearing earth and wash it through sluice boxes to recover the gold. Ditches and reservoirs were used to transport water to the mining sites. Chinese miners arrived on the scene in the ~~1870s~~<sup>1880s</sup> but were initially not allowed in the mining camps. Once the easily mined gold was removed by the Euro-Americans, the Chinese miners were allowed into the mine camps and reworked many of the claims that were thought to be exhausted. Lode, or hard rock, mining soon followed the 1860s rush with the extraction of minerals via underground adits and shafts in the Elk City and Marshall Mountain mine camps. Mill sites were developed to process these minerals and some operated until the 1940s.

Pack trails and wagon roads developed to supply the mines. Agriculture had its beginnings near the stations and stops along the trails to the newly formed mining districts. There are few homestead- and ranching-related sites because most of these sites are on land that was patented into private ownership.

A gold rush soon ensued, over the objections of the Nez Perce Tribe, when gold was discovered in 1860 on the Nez Perce Reservation. In 1863, a new treaty was drafted greatly reducing the area of the reservation, but only a portion of the Nez Perce agreed to the new reservation. The Nez Perce

War ignited in 1877 with the US Army chasing the non-treaty Nez Perce people who refused to sign the treaty through the planning area and into Montana before their capture. This event is memorialized by Congressional designation in 1986 as the Nez Perce (Nee-Me-Poo) National Historic Trail.

Nez Perce oral history relates that the Nez Perce people have used this area since time immemorial. Traditional subsistence, social, and religious activities continue to be practiced throughout the planning area. Other Native American groups may have used portions of the planning area at various times over the millennia as well. For example, the Coeur d'Alene Tribe may have used the northern end of the planning area, groups from the plains may have used the eastern part of the planning area, and groups from the Great Basin may have used portions of the southern end of the planning area.

### ***Inventories***

There are 493 known cultural resource sites administered by the CFO and many areas that have not been inventoried. These resources reflect at least 12,000 years of human use and occupation of the planning area. Cultural resource sites may be found in a variety of forms that include open lithic sites that consist of a scatter of flaked stone material that often depict seasonal camps, rock shelters, pit house sites that reflect longer terms of residence, trails, tool stone quarries, graves, rock art, including pictographs or petroglyphs, and rock cairns (stacked rock features), typically associated with Native American religious activities. Most of these sites are located along the major river corridors, riparian zones, and major ridgetops. Many of these cultural resources are multicomponent sites; that is, they have multiple layers of occupation that may span several prehistoric and historic phases, representing continuous occupation for millennia. The sites range in surface area from about 179,000 square yards to as little as one square yard. Most sites are buried under soil, with only a fraction of the cultural material exposed on the surface and the remainder extending to great depths, some over nine feet deep.

Also present are traditional cultural properties, defined as "...those beliefs, customs, and practices of a living community of people that have passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices" (US Department of Interior, National Park Service 1994).

Portions of the Nez Perce [\(Nee-Me-Poo\)](#) National Historic Trail and segments of the Lewis and Clark National Historic Trail are found in the planning area. The archaeological sites along the Lower Salmon River, from Hammer Creek to the confluence with the Snake River, are listed on the National Register of Historic Places as the Lower Salmon River Archaeological District. A portion of the Snake River, downriver from the confluence with the Salmon River, is listed on the National Register of Historic Places as the Nez Perce Snake River Archaeological District. Most other cultural resource sites have not been evaluated for their eligibility for listing on the National Register of Historic Places, but most are thought to be eligible.

[New directives for land use planning require categorizing known and expected cultural resources according to their nature and relative preservation value. Resource types are allocated to appropriate use categories that include scientific use, conservation for future use, traditional use, public use,](#)

experimental use, or discharged from management. The BLM has established six use categories, as follows:

- **Scientific Use** – Applies to any cultural resource determined to be available for scientific or historical study using currently available research techniques;
- **Conservation for Future Use** – A cultural resource included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resource uses, that threaten the maintenance of its present condition or setting;
- **Traditional Use** – Is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in maintaining the cultural identity, heritage, or well being of the group;
- **Public Use** – May be applied to a cultural resource found to be appropriate for use as an interpretive exhibit in place or for related educational and recreational uses by members of the general public;
- **Experimental Use** – May be applied to a cultural resource judged well suited for controlled experimental study, to be conducted by the BLM or others, concerned with the techniques of managing cultural resources that would result in the property's alteration, possibly including loss of integrity and destruction of physical elements; and
- **Discharged from Management** – Is assigned to cultural resources that have no remaining identifiable use, such as small surface scatters of artifacts or debris.

In conjunction with the RMP, the BLM has developed a Class I overview of the cultural resources of the lands administered by the CFO. A Class I overview is a summary of literature, records, and other documents providing an informed basis for understanding the nature of the cultural resources of the region. The BLM is also refining a GIS program to organize records for cultural resource sites, inventories, and maps. These are important steps in allocating resources to use categories and in identifying areas where there is resource potential or where there are threats from incompatible uses.

The future demand for cultural resources within the planning area is expected to remain minimal, with the exception of some Native American groups and local communities. Native Americans will continue to have an interest in protecting and preserving cultural sites and uses. Local communities have expressed a desire for interpreting historic sites.

The condition and trend of cultural resources in the planning area varies considerably due to the diversity of terrain, geomorphology, access and visibility, and past and current land use patterns. Because recorded sites are manifest by exposed artifacts, features, and/or structures, they are easily disturbed by elements such as wind and water erosion, animal and human intrusion, natural deterioration and decay, and development and maintenance activities. Based on limited site monitoring, and site form documentation, the trend of site conditions in the planning area is considered to be downward. Vandalism or collecting (for example unauthorized digging and surface collection and use of metal detectors) has been documented. Impacts from development and maintenance (such as grazing, mining, recreation use, OHV use) are known to be affecting sites. Bank erosion has created some of the most severe impacts but to only certain sites. Also, of concern is the natural deterioration and continuing decay of wooden and rock structures at historic mining

and homesteading sites. Collectively, these agents have adversely affected and continue to adversely affect many known cultural resources.

### 3.2.14 Paleontological Resources

Paleontological resources are the physical remains or other physical evidence of plants and animals generally preserved in soils and sedimentary rock formations. Paleontological resources are important for correlating and dating rock strata and for understanding past environments, environmental change, and the evolution of life.

The geologic units present in the planning area have little or no fossil potential because of composition and great age. The geology is dominated by extremely thick igneous and highly metamorphosed rocks, which do not support fossils, and very early Precambrian formations, which predate most life forms. Some invertebrate fossil localities are known on private lands in the planning area, and one is known on National Park Service lands. Fossils may be found in the Martin Bridge Limestone from the later Triassic (Hamilton 1925; Vallier 1977). The remains of mammoths (an extinct Pleistocene mammal of the elephant family) were found in Tolo Lake near Grangeville, Idaho. The age of the mammoth remains is unknown, but the geology of the area is briefly described by Breckenridge et al. (1994). Invertebrate fossil localities may also be found in interbedded sediments, between the basalt flows of the Latah Formation, although none are recorded at this time. There have been no inventories for paleontological resources, and there are no known vertebrate or invertebrate fossil localities on BLM lands in the CFO.

### 3.2.15 Visual Resources

The CFO has a tremendous variety of visual resources. Elevations ranging from 8,400 feet at Marshall Mountain to 800 feet on the Snake River create a tapestry of visual resources with widely varying points of contrast and interest. Deeply incised river canyons up to 4,500 feet deep bisect agricultural prairies and forested uplands. Vegetation ranges from subalpine to semiarid near-desert. From panoramic vistas to intimate scenic views, scenic variety is abundant. Generally undeveloped CFO lands provide natural landscapes and scenery largely unmodified by human hand.

The BLM classifies its lands according to the VRM System, which is a way to identify and evaluate scenic values to determine the appropriate levels of management (BLM 2005e). It also provides a way to analyze potential visual impacts and to apply visual design techniques to ensure that surface-disturbing activities are in harmony with their surroundings. The BLM's VRM System consists of the inventory stage (visual resource inventory) and the analysis stage (visual resource contrast rating).

The inventory stage involves identifying the visual resources of an area and assigning them to inventory classes using the BLM's visual resource inventory process (BLM 2005e). Visual values are considered throughout the RMP process, and the area's visual resources are then assigned to management classes. **Table 3-17-19** summarizes existing VRM classes on CFO lands, and **Figure 12** (Visual Resource Management – Alternatives A and B) (see Volume IV [of Cottonwood Draft RMP/EIS](#)) depicts these areas.

The underlying reason for establishing VRM objectives is to ensure that the visual value or scenic quality of the landscape is retained. Scenic quality is a measure of visual appeal. In the BLM system,

**Table 3-19**  
**Visual Resource Management Classes in the Planning Area**

<b>VRM Class</b>	<b>Objectives of VRM Class</b>	<b>Management Guidelines</b>	<b>Size (acres)</b>	<b>Percent of BLM Lands</b>
Class I	Preserve the existing character of the landscape. This class provides for natural ecological changes and limited management activity. It is used for special areas where management situations require preservation of a natural environment unaltered by humans, such as wilderness and WSAs.	Generally roadless, undeveloped lands, primarily WSAs and remote river canyons along the Salmon River. Management activities generally are not seen, do not attract attention, and do not change or modify the existing landform or vegetation. Structures are hidden by topography or vegetation.	12,704	9
Class II	Retain the existing character of the landscape. The level of change should be low and management activities may be seen but should not attract attention.	High-quality scenic areas managed to protect the visual quality. Management activities are designed and located to blend into the natural landscape and to not be apparent to the casual visitor.	41,195	36
Class III	Partially retain the existing character of the landscape. The level of change should be moderate, and management activities may attract attention but should not dominate the view of the casual observer.	Managed to maintain overall visual quality of the area. Management activities may be evident to the casual visitor, but the activity should remain subordinate to the visual strength and natural character of the landscape.	62,289	35
Class IV	Provide for management activities that require major modification to the existing character of the landscape. Activities may dominate the view and be a major focus of viewer attention.	Generally background areas where management activities may be apparent or dominant in the landscape.	27,639	19

Source: BLM 2004a

an A, B, or C rating is assigned. Landscapes are rated within the context of the physiographic province in which they are located. What largely determines its rating is the degree of harmonious visual variety and diversity in a landscape's landform, vegetation, and water features in terms of form, line, color, and texture. Additional rating factors include the influence of adjacent scenery, scarcity, and the degree to which cultural modifications detract from or enhance the landscape. **Table 3-18-20** summarizes scenic quality of CFO lands.

VRM guidelines are consistent with National Forest visual management objectives. Coordination with the Forest Service for the Payette, Nez Perce, Wallowa Whitman, and Clearwater National Forests is ongoing, particularly with regard to adjacent wilderness areas and potential or existing Wild and Scenic Rivers.

**Table 3-20**  
**Scenic Quality Areas in the CFO Planning Area**

<b>Scenic Quality Class</b>	<b>Degree of Visual Variety</b>	<b>Representative Areas</b>
A	Distinctive, high degree of visual variety	CFO lands along the Salmon, Little Salmon, Clearwater, and South Fork of the Clearwater rivers, and along Lolo Creek; Wilderness Areas and Wilderness Study Areas
B	Common or typical, moderate degree of visual variety	Most of the CFO
C	Minimal value or below average, low degree of visual variety	Primarily limited to small parcels

The Gold Rush Historic Byway along Idaho 11 provides a panoramic view of the Clearwater Valley, and the Northwest Passage National Scenic Byway traverses the winding Clearwater River Canyon. These byways are discussed in Section 3.4, Special Designations.

The condition and trend of the visual resources on CFO lands are generally good. Class A and B scenic quality areas are being maintained. Continual and increasing encroachment and development of non-BLM-administered land increases the value of the natural scenery provided by CFO lands. Increasing numbers of recreationists increases visual sensitivity.

### **3.3 RESOURCE USES**

This section contains a description of the existing human uses of resources in the planning area and follows the order of topics addressed in Chapter 2. These topics are as follows:

- Forest products;
- Livestock grazing;
- Minerals;
- Recreation;
- Renewable energy;

- Transportation and travel; and
- Lands and realty.

### 3.3.1 Forest Products

The PSQ is the amount of timber, measured in MBF, that could be produced on BLM lands where commercial forest uses are considered appropriate. Calculations are based on species, growth, mortality, land base, and sustainability. The PSQ does not include volume removed for other purposes from other areas (such as recreation sites where hazard trees are removed). The PSQ also is not a commitment to offer for sale a specific level of timber volume.

The current estimated annual harvest is 6,600 MBF. The CFO initially identified 35,757 acres of woodlands as suitable for timber management, which was used in calculating the annual harvest. De-emphasis on meeting the annual harvest, along with forestry program staff reductions, have reduced the sale quantity. Since 1992, the CFO has offered between 2,000 MBF and 11,000 MBF of timber annually.

The saw log market continues to be good, but, as historically happens, there are periodic downturns that cannot be accurately predicted. Sawlogs produced from timber sales continue to provide income for the federal government and for purchasers in the CFO. Recently, the alternative forest product markets (for example, hew wood, ton wood, hog fuel) have provided increasing income to the federal government, and mills designed to use this material are being built.

Since about 1995, the BLM has observed that the hew wood market has increased and there has been a significant increase in demand for such products. The BLM has no records to show this trend because it has been selling timber per MBF and has not tracked size of logs sold.

Much of the increased stocking that has occurred between 1974 and 1992 ([Table 3-1315](#)) is from ingrowth from shade-tolerant species (mostly Douglas-fir and grand fir). Much of this ingrowth is in the smaller diameter classes. As noted above, the demand for hew wood is increasing. Much of the ingrowth can supply this market. The same applies to hog fuel, which is used as burnable biomass to run cogeneration power plants. Currently, most cogeneration plants cannot compete with hydroelectric power, but an increasing number of sawmills are using cogeneration plants to run their operations and selling the surplus power. The market for alternative forest products is expected increase.

In today's sawlog market, sawlogs are generally broken into three categories: large, regular, and small. Generally, large sawlogs are considered to have scaling diameters larger than 24 inches and are sold per MBF (scaling diameter is measured at a log's small end). Regular sawlogs generally have scaling diameters ranging from nine to 24 inches. This is the most common sawlog sold in northern Idaho. Smallwood sawlogs, or hew wood, are a recent addition to the sawlog market and generally are sold by the ton. Generally, smallwood sawlogs have scaling diameters ranging between five and nine inches. In some cases, mills will accept logs with four-inch scaling diameters. As noted above, the market for these logs is increasing.

### 3.3.2 Livestock Grazing

The BLM manages grazing under 43 CFR 4100.0-3 by authority of the Taylor Grazing Act of 1934, as amended (43 USC 315, 315a through 315r); the FLPMA of 1976 (43 USC 1701 et seq.), as amended by the Public Rangelands Improvement Act of 1978 (43 USC 1901 et seq.); Executive Orders transferring land acquired under the Bankhead-Jones Farm Tenant Act of 1937, as amended (7 USC 1012), to the Secretary of Interior and authorizing administration under the Taylor Grazing Act; Section 4 of the Oregon and California Grant Lands Act of 1937 (43 USC 118[d]); the Public Rangelands Improvement Act of 1978 (43 USC 1901 et seq.); and public land orders, Executive Orders, and agreements authorizing the Secretary of Interior to administer livestock grazing on specified lands under the Taylor Grazing Act or other authority, as specified. Under this management, ranchers may obtain leases for an allotment of BLM-administered land on which a specified number of livestock may graze. An allotment is an area of land designated and managed for grazing of livestock. The number of permitted livestock on a particular allotment is determined by how many AUMs, which is the quantity of forage required by one mature cow and her calf (or the equivalent in sheep or horses) for one month, that land will support.

The CFO manages livestock grazing on BLM-administered lands in Adams, Clearwater, Idaho, Latah, Lewis, and Nez Perce Counties that are under CFO jurisdiction. It also manages livestock grazing for the BLM Boise District in the northern portion of the BLM Four Rivers Field Office in Adams County under a memorandum of understanding signed in 1995. In addition, the CFO manages a narrow strip of Forest Service lands east of and adjacent to the Snake River in the Hells Canyon National Recreation Area of the Wallowa Whitman National Forest in Idaho County under an agreement signed in 1981.

There are 168 ~~active~~ grazing allotments in the CFO planning area, consisting of 122,732 acres (**Appendix P**, Current Grazing Allotments, **Table P-1** [see Volume III]). These allotments are used by 135 livestock operators with 7,204~~0~~ AUMs. Sixty-seven percent of grazing allotments in the planning area are small isolated tracts that are surrounded by large blocks of private lands, typically ranches.

The CFO has a number of Section 15 grazing allotments that have remained vacant for over ten years. These vacant allotments range in size from 3 acres to 12,541 acres, and from 1 AUM to 809 AUMs. There are various reasons why these allotments have remained vacant over the years. For example, the Wapshilla Ridge Allotment (36279), Craig Mountain Allotment (36289), and Corral Creek Allotment (36290) have remained vacant for over ten years because the base property owner has no interest in grazing livestock. In addition, these three allotments are intermingled with the base property; therefore, they could not be leased without affecting the private ground. Other examples of why allotments have remained vacant over the years include that the owner of the base property is not a qualified applicant under 43 CFR, 4110.1, and the allotment does not have administrative or public access.

The rangeland reform process of 1994 modified the grazing regulations identified in 43 CFR 4100. A new regulation was developed and is currently being implemented throughout the BLM. The regulation, 43 CFR 4180, addresses the fundamentals of rangeland health. In 1997, the Idaho State Director approved the Idaho *Standards for Rangeland Health and Guidelines for Livestock Grazing Management* (BLM 1997a) developed in consultation with the BLM Resource Advisory Councils.

These standards and guidelines are intended to provide a clear statement of agency policy and direction for those who use public lands for livestock grazing and for those who are responsible for their management and accountable for their conditions. [The process by which standards and guidelines for grazing administration will be implemented is outlined in 43 CFR 4180.2.](#)

The Standards for Rangeland Health, as applied in Idaho, are to be used as the BLM's management goals for the betterment of the environment, protection of cultural resources, and sustained productivity of the range. They were developed with the specific intent of providing for the multiple uses of the public lands. Rangelands should be meeting the Standards for Rangeland Health or making significant progress toward meeting the standards. Meeting the standards provides for proper nutrient cycling, hydrologic cycling, and energy flow. The CFO established a plan to complete Standard and Guideline Assessment on all grazing allotments over a 10-year period (1999 to 2009). Ninety-nine of the 168 assessments (59 percent) have been completed (**Appendix P**, Current Grazing Allotments, **Table P-2** [see Volume III]).

### ***Allotment Categorization Process***

Three selective management categories of improve, maintain, and custodial were developed by the BLM in 1981 to prioritize grazing allotments according to management needs. Each allotment went through the selective management process and was then placed into one of these categories according to management needs, resource conflicts, potential for improvement, and BLM funding/staffing constraints. Improve category allotments are managed to improve current unsatisfactory resource conditions and receive the highest priority for funding and management actions. Maintain category allotments are managed to maintain current satisfactory resource conditions and are managed to ensure that resource values do not decline. Custodial category allotments are managed by the BLM to protect resource conditions and values. The CFO categorized its allotments in 1982, although the selective management criteria did not take into consideration scattered parcels, access, or management opportunities. The 1982 categorization process resulted in 40 maintain allotments, 49 improve allotments, and 82 custodial allotments.

### ***Allotment Prioritization Process***

The CFO completed the Allotment Prioritization Criteria for Completing Rangeland Standards & Guidelines for Allotments in 2000. Each allotment was reviewed and placed into one of three categories. The first is high priority grazing allotments, where there are resource issues needing resolution that can be attributed to livestock grazing, the BLM has legal access to the land regardless of the grazing lease, the allotment is not available for exchange or disposal, and the BLM can reasonably manage the resources on the allotment. The second category is medium priority grazing allotments, where there are resource issues needing resolution that can be attributed to livestock grazing, the BLM has legal access only because of the grazing lease, and the BLM can reasonably manage the resources on the allotment. The third category is low priority grazing allotments, which are all the remaining allotments that are not high or medium priority. The CFO has 10 high-priority allotments, 45 medium-priority allotments, and 116 low-priority allotments.

### **3.3.3 Minerals**

Development of the mineral resources on federal lands is one of the multiple uses managed by BLM under the direction of FLPMA. The BLM manages the surface and subsurface of federal lands

under its jurisdiction and, in some cases, has administrative duties for mineral activities occurring on lands managed by other federal agencies (an example being acquired lands within the National Forest), or on lands with other ownership where the mineral estate remained with the federal government (known as split estate lands). Minerals exploration and development activities on BLM-administered lands are subject to the regulations in 43 CFR, Subchapter C, Minerals Management (3000). Depending on the level of activity, a plan of operations must be submitted to the BLM for approval prior to initiating any ground disturbing activities. The BLM's review of the plan includes ensuring compliance with NEPA, compliance with federal, state, county, and local laws and regulations, and ensuring that the proposed activity (if completed as approved) will not cause unnecessary or undue degradation to the lands involved. Reclamation of disturbed sites is required sometimes during and always upon completion of exploration and development activities. To help ensure that the lands are properly restored, federal regulations require the operator to post a financial guarantee (or bond) sufficient to cover the cost of reclamation.

There are three categories under which minerals on federal lands will be classified: locatable, leasable, and salable. Locatable minerals (sometimes referred to as hardrock minerals) can be explored for, developed, and disposed of by staking mining claims (Mining Law of 1872, as amended). Examples of locatable minerals include gold, silver, lead, zinc, and gemstones. Staking of mining claims is a nondiscretionary activity. In other words, unless the lands are withdrawn, the miner has the right to stake and develop a mining claim. Leasable minerals can be explored for via prospecting permits, exploration licenses, and permits to drill. If exploration results indicate a developable resource is present, then the lands covering the deposit may be leased and a royalty (usually based on a unit value, i.e., dollars per ton) will be applied to the sale of the subject resource. Examples of leasable minerals include coal, phosphate, sulphur, oil, natural gas, and geothermal resources (Mineral Leasing Act of 1920, as amended and Geothermal Steam Act of 1970, as amended). Salable minerals are used mainly for construction and are disposed of by sales or special permits to local governments, commercial operators, and the public (Materials Act of 1947, as amended and Federal Aid to Highway Act of 1958). Sand, gravel, and building stone are examples of salable minerals. Salable and leasable mineral disposals are discretionary activities.

For lands managed by another surface management agency, that agency's consent is required prior to the BLM's issuance of mineral leases for those lands. This is the case with acquired lands in National Forests. During the past 20-plus years, the BLM has administered over 40 prospecting permits and mineral leases covering more than 20,000 acres of acquired lands within the St. Joe, Clearwater, and Nez Perce National Forests. Most were issued for garnet recovery in the Emerald Creek area of Latah and Clearwater Counties; the rest were dedicated to precious metals, limestone, uranium, clay, feldspar, and mica. Currently there are 8 cases either requesting renewal, authorized, or pending on the St. Joe National Forest (6 for garnets covering over 2,160 acres) and the Clearwater National Forest (2 for precious metals covering over 70 acres). Although this information is relevant with respect to presenting the mineral resources that occur within the planning area, it must be stressed that these cases involve acquired lands in the National Forests and are not part of the CFO land base. Land management decisions outlined in the CFO RMP do not apply to these lands.

The activity level for the BLM mineral management responsibility is highly variable throughout the planning area and has historically fluctuated, depending on the viability of various sectors of the mining industry. The CFO continues to address the mineral issues on BLM-administered lands and

is involved in ongoing administration related to leasable, locatable, and salable minerals in the planning area.

Continuous mineral development has occurred within the planning area for over 140 years, including the initial rich placer gold along the major rivers and more recent extensive garnet and clay mining at the Emerald Creek District. Within the past decade, development of various industrial minerals, including sand, gravel, and aggregate, dimension stone, and limestone, has expanded in response to urban growth and construction. The mineral resources and development potential of the CFO are described in detail in the CFO Planning Area Mineral Occurrence and Development Potential Report (Tetra Tech, Inc. and Silverfields Inc. 2005). In summary, CFO lands appear to have a low potential for the occurrence of a developable leasable minerals deposit, but there is abundant evidence supporting the occurrence of locatable and salable minerals. (**Figure 44**, Mineral Potential [see Volume IV [of Cottonwood Draft RMP/EIS](#)]). Also refer to **Appendix Q**, Reasonably Foreseeable Development Scenarios for Minerals (see Volume III).

### ***Leasable Minerals***

There are no active federal leases within the planning area for any of the mineral resources covered by the Mineral Leasing Act or the Geothermal Steam Act (Sanner 2004). Several warm springs and wells occur throughout the planning area, but none qualify as a geothermal resource site under the Idaho Department of Water Resources criteria (Tetra Tech, Inc. and Silverfields Inc. 2005). No significant occurrences of leasable minerals have been identified within the planning area and the geologic environment is not favorable for the formation of leasable minerals. These facts support the low potential rating for a leasable resource on CFO land in the planning area.

### ***Locatable Minerals***

The Mining Law of 1872, as amended, provides citizens of the US with the opportunity to explore for, discover, and purchase certain valuable mineral deposits on federal lands open to that use. A mining claim is a parcel of federal land with valuable mineral deposits claimed by an individual. This right of possession is restricted to the extraction and development of a mineral deposit. The mining claimant can use only so much of the surface as is necessary for mining operations. A patented mining claim is one for which the federal government has passed its title to the claimant, making it private land.

A variety of locatable minerals occur within the planning area; however, gold has been the most sought after commodity. The BLM manages substantial blocks of land in two historic gold mining districts, Elk City and Marshall Lake, and a patchwork of BLM land is present along the Salmon River. The high terrace gravels along the Salmon were early targets for placer mining operations. All of these areas currently have locatable mineral operations that range in status from pending or authorized to expired/on going reclamation. The amount of surface disturbance attributed to these 12 operations is about 265 acres. A number of silver, lead, and zinc deposits are located throughout the planning area, but none resemble the significant Coeur d'Alene Mining District.

One current issue being addressed by this RMP/EIS is the ongoing effort to include the Salmon River in the NWSRS. Upon designation for potential addition to the NWSRS, federal lands and the reserved federal minerals (split estate lands) within one-quarter mile of the river bank were

withdrawn from all forms of appropriation under the mining laws. This withdrawal only affects the availability of locatable minerals and is subject to prior existing rights.

Strategic minerals generally have low potential for occurrence in the planning area. The CFO manages lands within the potential thorium/rare earth placer mining area in the Elk City Mining District; however, the potential development of thorium/rare earth-bearing deposits is considered low.

The Clearwater River Valley in Nez Perce County is one of few locations in the world for collecting sillimanite (fibrolite or cats eye), a popular gemstone among rock hounds. The Geuda sapphire deposit along the north fork of the Clearwater River could produce sapphires in the future if techniques are developed.

Mineral potential for mica, feldspar, and other accessory minerals in the planning area is moderate. About 18 inactive mines and prospects occur on the south side of Mica Mountain, but there is no land under BLM jurisdiction in this area. The only documented occurrence of tungsten in the planning area is in the Tenmile District in Idaho County. The potential for development is low, but the geological terrain is prospective.

### ***Salable Minerals***

Salable minerals known to be present within the planning area include sand, gravel, stone for use as aggregate, silica sand, limestone, common clay, decorative/building stone, and petrified wood. The primary sources for sand, gravel, and stone are alluvial material in the Snake, Salmon, and Clearwater Rivers. The Columbia River basalt flows along the western portion of the planning area are good sources for decorative stone, and building stone can be found almost anywhere throughout the area. The BLM currently has 2 authorized contracts for mineral materials (salables) covering approximately 40 acres, and one pending case that would involve an additional 40 acres if authorized. All three are for stone to be used as aggregate and are located in Idaho County. Two material site right-of-way leases issued by the BLM to the Idaho Transportation Department cover 35 acres for sand, gravel, and aggregate material along the Salmon River in Idaho County.

Limestone mining and development has been a significant industry, with over 10 producers located within the planning area during the past 100 years. Principal deposits are found in Nez Perce, Clearwater, and Idaho Counties. No operating limestone quarries currently exist in the planning area.

Recently, the landscaping industry has expressed interest in decorative stones from Columbia River basalt, which underlies much of the western part of the planning area between Lewiston, Grangeville, and Riggins, and is well exposed south of Lewiston, along the Snake River to the confluence with the Salmon River. However, no BLM sales contracts exist for dimension stone within the planning area.

### **3.3.4 Recreation**

#### ***Recreation Opportunities and Visitor Use***

Primary recreation activities on BLM lands are water sports (whitewater boating, swimming, water play), driving for pleasure, picnicking, fishing, camping, and big game hunting. The planning area receives over 500,000 recreation visits per year (BLM 2005f). Although the BLM manages a

relatively small amount of land in the region, much of the land is strategically located along major rivers in the area. Most recreation opportunities and activities are centered around water-based resources, particularly rivers. CFO lands along the Lower Salmon River and the Clearwater River receive the most visitors.

Information and education are key components of recreation management in the planning area. Numerous publications, including a Lower Salmon River Guide, river maps, and environmental ethics brochures, and signs have been developed to help educate recreationists on land use ethics and stewardship and to inform visitors of recreation opportunities and responsibilities.

The CFO recreation program has responsibility for the following:

- 11 developed recreation sites (including three fee campgrounds) (**Figure 45**, Developed Recreation Sites [see Volume IV [of Cottonwood Draft RMP/EIS](#)]);
- 183 miles of water trails;
- Over 200 undeveloped or semideveloped recreation sites along the Clearwater and Salmon Rivers;
- A 750-acre portion of the Frank Church/River of No Return Wilderness (see Section 3.4, Special Designations) (**Figure 46**, Wilderness and Wilderness Study Areas [see Volume IV [of Cottonwood Draft RMP/EIS](#)]);
- Three SRMAs (**Figure 26**, Special Recreation Management Areas – Alternative A [see Volume IV [of Cottonwood Draft RMP/EIS](#)]);
- Segments of the Nez Perce National Historic Trail and the Lewis and Clark National Historic Trail; and
- Dispersed recreation throughout the approximate 143,830 acres of lands administered by the CFO.

The CFO has developed management strategies to protect and enhance the recreation resources in the planning area, particularly along the Salmon and Clearwater Rivers. These strategies include acquiring key access parcels and recreation areas, acquiring conservation easements, supporting key withdrawals along the Salmon River, and entering into cooperative management agreements with local, state, and federal partners to enhance management capabilities.

### ***Recreation Opportunity Spectrum***

The BLM uses the ROS framework to identify recreation opportunities and to develop strategies to manage recreation use of CFO lands. The MFP identified recreation values and plans for recreation uses within the framework of ROS classes (BLM 1981a). The ROS inventory characterizes lands in terms of the types of recreation experiences, activities, and settings that are provided. These opportunities are within a spectrum of six land classes (**Table 3-4921**), and all BLM land in the planning area is categorized within an ROS class (**Figure 25**, Recreation Opportunity Spectrum Classifications [see Volume IV [of Cottonwood Draft RMP/EIS](#)]).

**Table 3-21  
Recreation Opportunity Spectrum in CFO**

<b>ROS Class</b>	<b>Description of Class</b>	<b>Acres</b>	<b>Percent of BLM Lands</b>	<b>General Location</b>
Primitive	Areas characterized by essentially unmodified natural environments of relatively large size where there is opportunity for isolation from the sights and sounds of man.	14,381	10	East of the Snake River
Semiprimitive nonmotorized	Areas characterized by a predominantly unmodified, moderate to large natural environment, where there is some opportunity for isolation from the sights and sounds of man.	18,816	13	Craig Mountain ACEC/RNA and south of Lower Salmon River
Semiprimitive motorized	The same as semiprimitive nonmotorized, except motorized use is permitted within the area.	26,206	18	Concentrated around Captain John Creek ACEC/RNA, Marshall Mountains WSA, and north and south of the Lower Salmon River SRMA
Roaded natural	Areas characterized by a generally natural environment, with moderate evidence of human sights and sounds. There is about equal opportunity for affiliation with other user groups and for isolation.	55,988	39	Primarily in the northwest and southeast planning area and outside major road and river corridors
Rural	Areas characterized by a substantially modified natural environment where sights and sounds of man are readily evident.	27,349	19	Concentrated around roads weaving from Potlatch to Lewiston and east/southeast through the Cottonwood area; also along the Lower Salmon River (south of Whitebird)
Urban	Areas characterized by a highly modified environment, although the background may have natural elements. Opportunities to experience affiliation with individuals and groups are prevalent.	40	<0.1	Scattered
Unclassified areas	These areas are currently not classified in the ROS system (per the 1981 MFP).	1,046	<1	Scattered

Source: BLM 2004a

### **Special Recreation Management Areas**

The SRMAs are those that have congressional or secretarial designations or have significant recreation issues requiring special management and for which activity plans are required- [to address recreation settings; management of resources, facilities, and visitors; administration, marketing and visitor information; and monitoring. These areas provide specific structured recreation opportunities \(i.e., activity, experience, and benefit opportunities\).](#) The portions of the planning area that are not designated as SRMAs may provide recreation opportunities but may not require intensive management. These recreation areas outside of SRMAs are extensive recreation management areas. [Direction for extensive recreation management areas focuses primarily on visitor safety, use and user conflict, and resource protection. Changes in demand or recreation opportunities trigger future planning for SRMAs.](#) Changes in demand or recreation opportunities trigger future planning for SRMAs.

The three SRMAs covering approximately 26,682 acres in the planning area are the Lower Salmon River—Scenic (16,245 acres), the Lower Salmon River—Recreational (6,899 acres), and the Clearwater River (3,538 acres) (**Figure 26**, Special Recreation Management Areas – Alternative A [see Volume IV [of Cottonwood Draft RMP/EIS](#)]). Activity plans have been written and implemented for all three. In addition, cooperative management plans for the Clearwater River and for the Craig Mountains SRMA have been developed and implemented with the Clearwater Management Council and the Idaho Department of Fish and Game, respectively.

### **Special Recreation Permits**

Special Recreation Permits for commercial use, competitive use, group use, and individual use of special areas have been analyzed and authorized in SRMAs and in extensive areas. Most commercial Special Recreation Permits are for commercial use on the Salmon River. Individuals are required to obtain a Special Recreation Permit for boating on the Salmon River, and organized groups meeting established criteria are required to obtain Special Recreation Permits along the Salmon and Clearwater Rivers. Commercial recreation use of the upland areas primarily involves big game hunting and trail rides.

### **Interagency Coordination**

When appropriate, the CFO coordinates recreation management with other agencies. Cooperative management plans for the Clearwater River and the Craig Mountains SRMA have been developed and implemented with the Clearwater Management Council and the Idaho Department of Fish and Game, respectively. The BLM has also entered into four other formal cooperative management agreements, as follows:

- With Idaho, to manage recreation use on the Salmon River;
- With the Nez Perce and Wallowa-Whitman National Forests, to coordinate management of the Salmon and Snake Rivers;
- With the Idaho Department of Fish and Game, to coordinate recreation management along the Clearwater River and the Craig Mountain area.

In addition to these cooperative management agreements, the BLM participates in the development of the Statewide Comprehensive Outdoor Recreation and Tourism Plan with the Idaho Department

of Parks and Recreation [and has interagency agreements with the Forest Service and Idaho Outfitters and Guides Licensing Board](#). The BLM's recreation management is generally consistent with and complementary to the state plan.

### 3.3.5 Renewable Energy

Renewable energy includes solar power, wind, biomass, and geothermal resources. As demand has increased for clean and viable energy to power the nation, consideration of renewable energy sources available on public lands has come to the forefront of land management planning. No special management provisions were considered in the MFP (BLM 1981a) specifically for renewable energy resources.

In cooperation with the National Renewable Energy Laboratory, the BLM assessed renewable energy resources on public lands in the western US (BLM and DOE 2003). The BLM reviewed the potential for concentrated solar power, photovoltaics, wind, biomass, and geothermal energy on US Department of the Interior, Bureau of Indian Affairs, and Forest Service lands in the West. Hydropower was not addressed.

The planning area lacks commercial concentrated solar power and photovoltaics energy potential (BLM and DOE 2003). There is little commercial potential for geothermal resources, as geothermal potential on CFO lands is low.

Wind power classes range from 1 (lowest) to 7 (highest). BLM-managed lands in portions of the planning area are Class 3 and higher, although the planning area is not in the top 25 BLM planning units in the US having the highest wind energy potential (BLM and DOE 2003). The Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States (BLM 2005d) categorizes BLM-administered lands into areas having a low, medium, or high potential for wind energy development from 2005 through 2025, on the basis of their wind power classification. Wind resources in Class 3 and higher could be developed economically with current technology over the next 20 years. Class 3 resources have medium potential; resources in Classes 4 and higher have high potential. The Final Programmatic EIS identifies scattered CFO lands with medium or high wind resource potential that might be developed economically with current technology; these are concentrated south of Riggins and northwest of Cottonwood. This finding was based on historical weather data and the MesoMap System, which produces a high-resolution assessment of wind resources to identify and characterize the most attractive wind project sites. The MesoMap System combines the strengths of a mesoscale weather model and a microscale wind flow model (AWSTruewind 2005). None of the areas with medium or high potential are of sufficient size, have suitable topography, or are located in sufficient proximity to necessary infrastructure (such as roads and transmission lines) to be developed economically. The identified areas are in remote locations that are miles from improved roads and power lines and are mostly on steep slopes with dense timber and vegetation. Due to these physical constraints, there is realistically no potential for commercial wind energy development.

The BLM/National Renewable Energy Laboratory study identifies portions of the planning area as having high potential for biomass resources, although the area is not in the top 25 BLM planning units having the highest potential for biomass resources (BLM and DOE 2003). The planning area provides for biomass utilization for energy production via fuels and forest products contracts

through either salvage rights or as a product. The CFO is working with the Forest Service, US Department of Energy, and private entities to develop cogeneration capabilities in the planning area.

### 3.3.6 Transportation and Travel Management

The scattered and fragmented nature of BLM lands in the planning area, as well as the rugged terrain, has physically limited off-road use and minimized conflict in the CFO, compared to other BLM field offices. However, there is a steady increase in the number of motorbikes and all-terrain vehicles registered in Idaho and in the planning area. Technological advances in motorized recreation equipment have increased accessibility to areas that had limited use in the past. Conflicts between motorized and nonmotorized recreation continue to grow.

The MFP (BLM 1981a) identifies areas in the planning area as open, limited, or closed to vehicle use (Table 3-2022):

- **Open.** Designated areas where all types of motorized vehicles (jeeps, all-terrain vehicles, motorized dirt bikes, etc.) are permitted at all times, anywhere in the area, on roads or cross country, subject to the operating regulations and vehicle standards set forth in 43 CFR subparts 8341 and 8342.
- **Limited.** Designated areas where motorized vehicles are restricted to designated routes. Off-road, cross-country travel is prohibited in Limited areas, unless an area is specifically identified as an area where cross-country over-snow travel is allowed. Some existing routes may be closed in Limited areas.
- **Closed.** Designated areas where off-road motorized vehicle travel is prohibited yearlong. Emergency use of vehicles is allowed yearlong.

**Table 3-22**  
**Current OHV Designations on CFO Lands**

OHV Designation	Area (Acres)	Approximate Percentage of CFO Lands
Closed to vehicle use	18,054	13
Limited vehicle use	40,437	28
Undesignated or open to vehicle use	85,308	59

Source: BLM 2004a

There are currently no designations for mechanized travel (such as mountain bikes, wheelbarrows, and game carts). They are permitted at all times, anywhere in the planning area, on roads or cross-country, except in designated wilderness.

There are approximately 393 miles of roads and trails on 143,830 acres of BLM lands in the CFO, 346 miles (approximately 88 percent) of which are managed by the BLM. BLM routes total 238 miles in Open areas, about 30 miles in Closed areas, and 83 miles in Limited areas.

Within Limited areas, designations include both open and restricted routes. Restrictions are placed on routes because of resource concerns, including threatened and endangered species, cultural resources, and riparian areas. Restrictions can range from full vehicle closures yearlong to seasonal

and/or various vehicle size restrictions. **Table 3-21-23** depicts current OHV route designations within Limited areas on CFO lands.

Of the 83 miles of routes within Limited areas on CFO lands, all routes are identified as either open or restricted. There are approximately 49 miles of open routes with public access, available yearlong, and almost 12 miles of open routes that do not have public access. Approximately 31 miles of routes have vehicle restrictions, designated as full vehicle closure yearlong. Seventy percent of CFO lands are currently open to over-snow travel.

The CFO maintains a road classification in accordance with the BLM Manual 9113-Roads (**Table 3-2224**). Route maintenance on CFO lands provides for resource protection and accommodation of users. Most of the identified BLM-managed roads within the CFO (approximately 72 percent) are classified as Road 3. These are segments that were once a road, but may no longer be passable because of lack of maintenance or because of natural causes. Approximately 11 percent of BLM-managed roads are passable, classified as Road 2, but may not be passable by all vehicles, and 3 percent are highly maintained, classified as Road 1. Trails make up nearly eight percent of the travel routes and six percent of the routes are classified as “unknown,” identifying routes no longer in use or features that could not easily be defined.

**Table 3-23**  
**Current OHV Route Designations within Limited Areas on CFO Lands**

OHV Designation	Approximate Distance or Area
<b>Open Routes within Limited Areas:</b>	
Open routes with public access that are open yearlong	40.69 miles
Open routes with no public access that are open yearlong	11.91 miles
Total open routes in Limited areas	61.30 miles
Approximate density of open routes within Limited areas	0.97 miles/square mile
<b>Restricted Routes within Limited Areas:</b>	
Full vehicle closure yearlong	30.82 miles
Open yearlong for vehicles under 50 inches	0 miles
Open 6/15-9/15 for vehicles under 50 inches (closed 9/16-6/14)	0 miles
Seasonal vehicle closure 10/1-6/15 (open 6/16-9/30)	0 miles
Two-wheel motorized only	0 miles
Other vehicle restrictions	0 miles
Route restrictions total	30.82 miles
Total open and restricted routes in Limited areas	83.42 miles
<b>Over-Snow Travel Areas:</b>	
Open to over-snow travel	101,545 acres
Closed to over-snow travel	42,149 acres

Source: BLM 2004a

**Table 3-24**  
**Miles of Road and Trail on BLM-managed Lands in CFO**

Route Type	Total Miles
Road 1 <sup>1</sup>	11
Road 2 <sup>2</sup>	38
Road 3 <sup>3</sup>	248
Trails <sup>4</sup>	27
Unknown <sup>5</sup>	22
<b>Total BLM-managed Route Miles</b>	<b>346</b>
<b>Proportion of Total Route Miles</b>	<b>88%</b>

Source: BLM 2004a

<sup>1</sup>Road 1: Passable by most all types of vehicles; highly maintained road.

<sup>2</sup>Road 2: Passable road, but may not be passable by all types of vehicles (may not be paved or wide enough for some vehicle types) or may not be maintained with the assumability of a Road 1

<sup>3</sup>Road 3: These are segments that were once a road, but may or may not be passable because of not being maintained or because of natural causes. The history/condition on these roads is limited.

<sup>4</sup>Trails: Trail segments that have an established use as a motorized or nonmotorized trail.

<sup>5</sup>Unknown: Items such as railroads that are no longer in use or features that could not easily be classified into other road/trail types.

### 3.3.7 Lands and Realty

#### ***Utility Corridors and Communication Sites***

There are no communication sites within the planning area. The BLM has not formally designated any right-of-way corridors or use areas within the planning area, although it attempts to group compatible facilities where possible. The CFO currently has no right-of-way exclusion or avoidance areas in its land use plans, although specially designated areas, such as wilderness, WSAs, ACEC/RNAs, and proposed Wild and Scenic Rivers, do restrict such uses. The CFO right-of-way program is consistent with the recommendations of the Western Regional Corridor Study, completed by the Western Utility Group (Western Utility Group 1992) and updated in 2003, which identified priority utility corridors, none of which are within the planning area.

#### ***Land Tenure***

Land ownership in the planning area is mixed (Table 3-2325). BLM-administered lands total 143,830 acres. The CFO manages numerous blocks of BLM land, ranging in size from less than 40 acres to over 12,000 acres.

**Table 3-25**  
**Land Ownership in the Planning Area**

<b>Land Ownership</b>	<b>Size (Acres)</b>	<b>Percent of Total</b>
BLM	143,830	<2
Forest Service	5,528,167	63
Nez Perce tribal lands	94,705	1
State	444,791	5
Private	2,581,685	29
Other	48,019	<1
<b>Total</b>	<b>8,841,197</b>	

### **Land Use Authorizations**

The CFO administers several land use permits of small acreage. These permits are for agricultural uses and for beekeeping sites. There are no Recreation and Public Purposes Act leases within the planning area.

The CFO has five memorandums of understanding that permit other agencies and organizations to occupy or conduct certain activities on BLM-administered lands. These agencies include the Idaho Department of Fish and Game, Idaho Department of Lands, The Nature Conservancy, and the Nez Perce Tribe Fisheries Restoration Department.

The planning area currently has more than 200 active rights-of-way that encumber over 5,000 acres of CFO lands. These rights-of-way are for a variety of uses ([Table 3-2426](#)) and are held by private individuals and groups, as well as various businesses and government entities.

The CFO completes approximately 20 right-of-way actions annually, including processing applications for new rights-of-way and amending, assigning, renewing, or terminating existing right-of-way grants. The number of active rights-of-way and other authorizations changes weekly as new authorizations are issued and existing ones expire or are terminated.

**Table 3-26**  
**Active Right-of-Way Authorizations in the Planning Area**

<b>Type</b>	<b>Number of Authorizations</b>	<b>Length (Miles)</b>	<b>Size (Acres)</b>
Road	136	194	1,927
Railroad	24	131	3,196
Powerline	22	26	142
Telephone	10	36	42
Water facilities	20	3	9
Other	4	n/a	5
<b>Total</b>	<b>216</b>	<b>390</b>	<b>5,321</b>

Source: Grant 2005

### **Land Tenure Adjustment**

Land tenure, or land ownership, adjustment refers to those actions that result in the disposal of BLM-administered lands and the acquisition of non-federal lands or interests in nonfederal lands. Current planning guidance for changes in land ownership is provided by the 1989 District Land Tenure Adjustment Plan, a supplement to the 1981 MFP. Land exchange is the preferred method of land ownership adjustment. The Land Tenure Adjustment Plan establishes management areas, where the BLM will retain public land ownership and in some cases acquire additional lands, and adjustment areas, where BLM-administered lands are potentially available for disposal. Management areas typically are larger blocks of BLM-administered lands, but some are areas with smaller tracts or scattered parcels of BLM-administered lands that have high resource and public values that justify their being retained in public ownership, such as the Clearwater River SRMA. BLM-administered lands outside of management areas, in the adjustment area, are potentially available for the full range of land ownership adjustment opportunities, including retention, exchange, sale, or transfer. Land ownership adjustment proposals in the planning area are analyzed in project-specific reviews using the aforementioned guidance.

Since the completion of the MFP (BLM 1981a), the primary means of land ownership adjustment within the planning area has been through exchange and purchase, utilizing funds allocated from the Land and Water Conservation Fund. There are currently two active congressionally recognized Land and Water Conservation Fund projects in the planning area, the Lower Salmon River ACEC Project and the Clearwater River SRMA Project.

As part of the resolution of the Nez Perce Tribe's water right claims in the Snake River Basin Water Rights Adjudication, [the Snake River Water Rights Act of 2004](#) (Public Law 108-792/108-447, [Division J](#), Title X, Section 6) authorizes the transfer of administration of approximately ~~44,297~~ [11,304](#) acres from the CFO to the Bureau of Indian Affairs to be managed in trust for the benefit of the Nez Perce Tribe. [This administrative transfer became effective upon publication of the Federal Register Notice \(Federal Register 2007a\) on May 15, 2007. The revised surface management planning area is shown in the revised Figure 1, Planning Area Land Status \(see Chapter 1\). This administrative transfer can occur upon a finding by the Secretary of the Interior that certain requirements specified in the legislation have been satisfied. At that time, the CFO would make the appropriate changes necessary to reflect the revised CFO acreage.](#)

### **Access**

Access, as used here, refers to the physical ability and legal right of the public, agency personnel, and authorized users to travel across and use lands that are not owned or administered by the BLM. The lands and realty program acquires easements for this purpose in support of various BLM programs and needs. An easement is a right afforded to the BLM to make limited use of another's real property for access or other purposes. Most easements are in support of the CFO's timber management program. Emphasis for easement acquisition is on those roads or trails identified through a route analysis process.

Access to CFO lands is an issue of concern to both the BLM and the public. The planning area's fragmented pattern of BLM ownership, intermingled with private, state, and other federal lands, creates considerable problems in providing access to the CFO lands. Easements are acquired only from willing landowners, and very seldom will landowners agree to allow the public to cross their

property. There are estimated to be more than 30,000 acres of BLM-administered lands in the planning area that lack legal access. The large amount of BLM-administered lands without legal public or administrative access is one of the principal reasons that the 1989 Land Tenure Adjustment Plan was developed.

The planning area has approximately 70 existing easements that provide access across private, state, and federal land. The majority of these easements are for road access, but some authorize such activities as stream improvements on nonfederal land. Most easements are permanent, but some are short term for the life of a specific project, such as a BLM timber sale. Some easements include the right of public access, while others are limited to use by federal employees and their designated agents. The CFO acquires approximately four to six easements each year to facilitate the BLM's programs.

Current planning guidance for access is provided in the MFP. In accordance with that guidance, the CFO has focused access acquisition efforts on larger blocks of BLM-administered lands that are designated for retention in BLM ownership, areas with important resource values, areas where public demand for access is high, and areas with substantial BLM investments.

Generally speaking, access is acquired from willing landowners on a case-by-case basis as needs or opportunities arise, using criteria and direction provided in the guidance referred to above. There is far more demand and need for public access to BLM-administered lands than can be met by the CFO.

Although used much less frequently than easement acquisition, land exchanges can provide needed access to BLM-administered lands. When disposing of BLM-administered lands containing roads or trails necessary for access to other BLM-administered lands, the CFO protects these access routes by reserving them in the conveyance documents.

### **Withdrawals**

A withdrawal is created by statute or secretarial order that withdraws public land and minerals from the operation of the public land and mining laws. The practical effect of a withdrawal is to restrict or prohibit specific uses or activities on public land. A withdrawal can also transfer jurisdiction of the land from the BLM to another federal agency, such as the Army Corps of Engineers, the Federal Energy Regulatory Commission, or the Forest Service, for specific dedicated uses.

Power site reserves are one of the most common types of withdrawal. They are located along rivers where there is either a federal water project, such as a dam or the potential to construct one. Public lands are withdrawn to restrict or prohibit uses that would be inconsistent with the federal water project. There are approximately 15 existing power site reserves in the planning area.

Other withdrawals protect valuable resources from being affected by certain uses. Since the 1981 MFP, the CFO has processed three withdrawals, one to transfer 10 acres of BLM-administered lands to the Forest Service for a pine tree seed orchard and two to protect critical resource values along 112 miles of the lower Salmon River. The withdrawals on the Salmon River [were renewed in 2006 and](#) prohibit mining, mineral entry, and mineral patents. ~~These two withdrawals will expire in 2006 and 2008 if they are not renewed before then. There is an application for renewal pending.~~

Other types of withdrawals serve miscellaneous purposes such as the protection of recreation sites or government facilities from being affected by mining or the risk of mineral patent.

### **Unauthorized Use**

Generally, there are three categories of unauthorized use or trespass: [use, occupancy, and development](#). ~~Unauthorized~~ use is an activity that does not appreciably alter the physical character of the BLM-administered lands or vegetative resources, such as the abandonment of property or trash, enclosures, or use of existing roads and trails. ~~for purposes that require a rights-of-way grant; unauthorized~~ ~~Unauthorized~~ occupancy involves human occupancy or use, such as the construction, placement, occupancy, or assertion of ownership of a facility or structure (for example, cabin, house, natural shelter, or trailer). ~~;~~ ~~and unauthorized~~ ~~Unauthorized~~ development is an activity that physically alters the character of the BLM-administered lands or vegetative resources, such as cultivation of BLM-administered lands or road construction.

The scattered BLM-administered lands pattern in the planning area contributes to trespass problems, particularly where the topography and vegetation make the determination of federal/private property lines difficult. The CFO attempts to abate trespass through prevention, detection, and resolution. Priority for resolving trespass is given to newly discovered, ongoing uses, developments, or occupancies where resource damage is occurring and must be stopped to prevent further environmental degradation. Lower priority is given to historic trespass cases where little or no new resource damage is occurring. ~~Old trespass cases are resolved as time permits.~~ Each year the CFO processes and resolves approximately two to four unauthorized use or trespass cases. There are typically five to 10 pending cases of unresolved trespass or suspected trespass.

## **3.4 SPECIAL DESIGNATIONS**

This section describes the existing condition of special designations areas in the planning area. Special designations include ACECs, ACEC/RNAs, WSAs, Wilderness, National Trails, Backcountry Byways, Wild and Scenic Rivers, and Watchable Wildlife Areas.

### **3.4.1 Areas of Critical Environmental Concern and Research Natural Areas**

An ACEC is an area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards (BLM 2005g). An ACEC/RNA is an area where natural processes are allowed to predominate and that is preserved for the primary purposes of research and education. Under current BLM policy, ACEC/RNAs must meet the relevance and importance criteria of ACECs and are also designated as ACECs (BLM 2005g).

There are four ACECs and six ACEC/RNAs totaling over 26,000 acres on CFO lands (**Table 3-2527**) (**Figure 39**, Existing ACECs and ACEC/RNAs – Alternative A [see Volume IV [of Cottonwood Draft RMP/EIS](#)]). The ACECs and ACEC/RNAs were established in 1989 (BLM 1989b).

The scientific assessment done for ICBEMP indicates that vegetation has changed significantly from historic conditions (Wisdom et al. 2000). Noxious weeds are spreading rapidly throughout the Upper

**Table 3-27**  
**Designated ACECs and ACEC/RNAs on BLM CFO Lands in the Planning Area**

<b>Name</b>	<b>Size (acres)</b>	<b>Attributes for which the Area Was Designated</b>
1—Wapshilla Ridge ACEC/RNA	401	Supports the ecological processes associated with representative plant communities for the Tri-State Uplands Section of the Columbia Intermontane Geomorphic Province. A population of Simpson's hedgehog cactus occurs in the area.
2—Lower and Middle Cottonwood Islands ACEC/RNA	43	Excellent condition plant communities of ponderosa pine/bluebunch wheatgrass and coyote willow; has high values for research reference areas. The islands provide valuable nesting habitat for geese and ducks. Bald eagles use the Clearwater River corridor during the winter.
3—Captain John Creek ACEC/RNA	1,321	Near-pristine representative plant communities and supports the ecological processes for the Tri-State Uplands Section of the Columbia Intermontane Geomorphic Province. Provides habitat for the spring/summer chinook salmon and steelhead trout.
4—Long Gulch ACEC/RNA	47	MacFarlane's four-o'clock, a federally listed plant (threatened) occurs in the area.
5—Lucile Caves ACEC/RNA	404	Provides a unique example of a wet limestone cave environment, along with associated vegetation and vegetative communities of the Lower Salmon River drainage. Designation necessary for protection, maintenance, and enhancement of the area, as well as to provide an education, research, and reference area.
6—Skookumchuck ACEC/RNA	18	MacFarlane's four-o'clock, a federally listed plant (threatened), occurs in the area.
7—Craig Mountain ACEC	3,956	Area managed for high-quality wildlife, fisheries, ecological, recreational, cultural, and historical values. The Craig Mountain WMA is the largest Idaho Department of Fish and Game management area in Idaho.
8—Elk City/American Hill Lake ACEC	30	American Hill Lake and the old Elk City landfill site include CFO lands that have been adversely affected by past mining and a public landfill.
9—Lower Lolo Creek ACEC	3,678	High-quality wildlife, fisheries, recreation, and watershed values. This is the largest undeveloped segment of the Lolo Creek Canyon.
10—Lower Salmon River ACEC (Hammer Creek to confluence)	15,702	The Lower Salmon River has very high resource values for scenic, recreation, cultural, wildlife, fisheries, watershed, and other ecological values. The recreation, cultural, and fishery resource values found in this area have been identified as being nationally significant.
<b>Total</b>	<b>25,600</b>	

Columbia River Basin, which includes the planning area (BLM and Forest Service 1997). Vegetation assessments done in ACEC/RNAs have validated these changes. Within ACEC/RNAs, some forest types and structures have declined, while others have increased. Old single-story ponderosa pine forests and early seral forests have decreased. Native canyon grasslands, primarily bluebunch wheatgrass and Idaho fescue, have declined because of weed invasion.

### **Wapshilla Ridge ACEC/RNA**

This designated ACEC/RNA totals 401 acres and is approximately 40 air miles southeast of Lewiston and occurs within the Craig Mountain WMA. The vegetation in the area is primarily composed of canyon grasslands, while northerly aspects are timbered. The Wapshilla Ridge area supports the ecological processes associated with representative plant communities for the Tri-State Uplands Section of the Columbia Intermontane Geomorphic Province. A population of Simpson's hedgehog cactus occurs in the area. Since being designated as an ACEC/RNA, the adjacent lands have been acquired by the Idaho Department of Fish and Game, and livestock grazing has been curtailed within the area. Overall, the area has a slightly upward trend but is susceptible to noxious weed infestations.

### **Lower and Middle Cottonwood Islands ACEC/RNA**

This designated ACEC/RNA totals 43 acres and is approximately 19 air miles northeast of Lewiston. Lower Cottonwood Island (river mile 19.2) and Middle Cottonwood Island (river mile 19.5) are in the Clearwater River. The area is managed under a cooperative BLM and Idaho Department of Fish and Game HMP and Sikes Act Agreement (BLM and Idaho Department of Fish and Game 1981). When designated these islands had excellent condition plant communities of ponderosa pine/bluebunch wheatgrass and coyote willow and had high values for research reference areas.

Very little information is available on plant communities that occupy islands and shoreline of Columbia River tributaries, considering how much of this habitat has been altered by dams and reservoirs. The islands provide valuable nesting habitat for geese and ducks. The federally listed bald eagle uses the Clearwater River corridor during the winter and uses larger trees for roosting. Noxious weed infestations (primarily spotted knapweed) have degraded the site since designation, and overall trend is downward. A detailed field evaluation and report was prepared for this ACEC/RNA (Lichthardt 1992) and the conclusion was that, in spite of the weed problems, the islands are good examples of several plant communities that have been degraded by historical cattle grazing elsewhere in the Clearwater River valley: ponderosa pine/bluebunch wheatgrass and black cottonwood/Idaho fescue.

### **Captain John Creek ACEC/RNA**

This designated ACEC/RNA totals 1,321 acres and is approximately 16 air miles southeast of Lewiston, within the Craig Mountain WMA. The area is managed under a cooperative BLM, Idaho Department of Fish and Game HMP, and Sikes Act Agreement. When designated, the area contained near pristine representative plant communities and supports the ecological processes for the Tri-State Uplands Section of the Columbia Intermontane Geomorphic Province. [Expansion of yellow starthistle had degraded some of the grasslands within the area.](#) Plant communities represented include Douglas-fir, bluebunch wheatgrass, Idaho fescue, and riparian habitats. The area occurs within the Captain John Creek drainage and provides habitat for the federally listed

spring/summer chinook salmon and steelhead trout. The steep and rugged topography has restricted past land uses (e.g., timber harvest, roading), and this area is currently not leased for grazing. The area provides important habitat for a variety of BLM sensitive wildlife and plants. In addition, the area is used by a variety of nongame species, upland game, and big game species (namely Rocky Mountain bighorn sheep, elk, mule deer, mountain lion, and black bear). Noxious weeds have increased in canyon grassland habitats and have infested portions of the area.

### ***Long Gulch ACEC/RNA***

This designated ACEC/RNA totals 47 acres and is approximately 13 air miles south of White Bird. MacFarlane's four-o'clock, a federally listed threatened plant, occurs in the area. The BLM is managing the area in accord with a HMP developed in 1981 and MacFarlane's four-o'clock recovery plans (USFWS 2000, 1985). The BLM constructed a fence around the site in 1981 and cancelled livestock grazing. The BLM also has initiated noxious and other weed control projects in the area. Noxious weed infestations are increasing and have degraded portions of the area, where the BLM has done long-term monitoring studies and found that overall trends have been static to slightly downward for MacFarlane's four-o'clock plants and associated habitats.

### ***Lucile Caves ACEC/RNA***

This designated ACEC/RNA totals 404 acres and is approximately nine air miles north of Riggins. The area provides floristic and geologic components that are unique for the region. The area has a transplant population of MacFarlane's four-o'clock and also contains several state rare plant species, BLM sensitive plant species, and BLM sensitive land snails. Lucile Caves is a unique example of a wet limestone cave, along with associated vegetation and vegetative communities of the Lower Salmon River drainage. The area is currently managed under a cooperative BLM, Idaho Department of Fish and Game HMP, and Sikes Act Agreement that was developed in 1985 and under the MacFarlane's four-o'clock Recovery Plans (USFWS 2000, 1985). The ACEC/RNA designation of this area is necessary for the protection, maintenance, and enhancement of the area, as well as to provide an education, research, and reference area. During June 1987, 15 acres surrounding sensitive areas were fenced to exclude livestock grazing and now has an upward trend for ecological condition. Most of the area is still leased for livestock grazing and has a stable trend, with toe slopes and moderate sloped areas being grazed at moderate to heavy levels.

### ***Skookumchuck ACEC/RNA***

This designated ACEC/RNA totals 18 acres and is approximately 3.5 air miles south of White Bird. MacFarlane's four-o'clock, a federally listed plant (threatened), occurs in the area. The area is between US Highway 95 and the old highway that parallels the Salmon River. The BLM is managing the area in accordance with a HMP developed in 1983 and under the MacFarlane's four-o'clock recovery plans (USFWS 2000, 1985). Having steep slopes and being located between two highways have restricted cattle grazing in the area. The listed plant population is close to US Highway 95, and the BLM is coordinating with the Idaho Transportation Department to control undesirable vegetation along this 0.25-mile stretch of highway. The area has a slightly downward trend, and no increase in population size has been noted from long-term monitoring. The area is being invaded by noxious weeds and other weeds. After ACEC/RNA designation, a small group of MacFarlane's four-o'clock plants was found immediately upslope of US Highway 95.

### ***Craig Mountain ACEC***

This designated ACEC totals 3,956 acres and is approximately 12 air miles south of Lewiston, and occurs within the Craig Mountain WMA. This area is managed for high-quality wildlife and fisheries and for ecological, recreational, cultural, and historical values. The Craig Mountain WMA is the largest Idaho Department of Fish and Game WMA in Idaho. At the time of ACEC designation, the largest area managed by The Nature Conservancy in the state of Idaho also occurred in this area. The BLM has since acquired most of The Nature Conservancy lands in the area. The area is managed under a cooperative BLM, Idaho Department of Fish and Game HMP, and Sikes Act Agreement, which was developed in 1983. However, with the recent Idaho Department of Fish and Game and The Nature Conservancy acquisitions the area, a memorandum of understanding for the Craig Mountain Cooperative Management Area was developed in 1997 among BLM, Idaho Department of Fish and Game, The Nature Conservancy, and Idaho Department of Lands. Ecological trends are upward, particularly with Idaho Department of Fish and Game acquisition and management of Bonneville Power Administration mitigation lands in the Craig Mountain area. Canyon grasslands have infestations of noxious weeds, and cooperative control efforts are taking place in the Tri-State Weed Management Area.

### ***Elk City Landfill/American Hill Lake ACEC***

This designated ACEC totals 30 acres and is approximately nine-tenths of a mile south of Elk City. American Hill Lake and the old Elk City landfill site include BLM-administered lands that have been adversely affected by past mining and a public landfill. Such land uses reduce water quality and affect watershed conditions. Site closure efforts had not been effective and concerns for surface and groundwater contamination and possible contamination of the American River were identified. Further rehabilitation included closing, grading and vegetating the site. Rehabilitation efforts have been successful in establishing vegetative cover and reducing erosion. Limited water quality monitoring of American Hill Lake has not identified water quality problems. The trend is upward for the area.

### ***Lower Lolo Creek ACEC***

This designated ACEC totals 3,678 acres and is approximately 11 miles northwest of Kamiah. The purpose of the ACEC designation is to maintain the high-quality wildlife, fisheries, recreation, and watershed values. This is the largest undeveloped segment of the Lolo Creek canyon. ACEC designation gave priority recognition to this sensitive landscape, which contains very high resource values. Lolo Creek provides habitat for the federally listed steelhead trout and bull trout. Other BLM sensitive fish species occurring in the drainage include spring/summer chinook salmon, westslope cutthroat trout, and Pacific lamprey. Numerous BLM sensitive wildlife and several special status plant species also occur in the area. The area is generally still undeveloped and many land uses are restricted by steep and rugged topography. Some of the grasslands (for example, those on the south aspect) have had some noxious weeds and other weed infestations.

### ***Lower Salmon River ACEC (Hammer Creek to Confluence)***

This ACEC includes 15,702 acres, including all lands contiguous with the Salmon River or generally within 0.25- to 0.50-mile of the Salmon River from the mouth (river mile 0.0) to White Bird Creek (river mile 53.6). This designated ACEC includes 15,702 acres, including all BLM-administered lands

contiguous with the Salmon River, from Hammer Creek to the confluence. The Lower Salmon River corridor has very high resource values for scenic, recreation, cultural, fisheries, wildlife, and ecological values. The area provides critical and important habitat for a large variety of wildlife species. The scenic and cultural resources have national significance. The Lower Salmon River ACEC area encompasses primarily canyon grasslands and over-steepened canyon slopes, with moderately sloping terraces, toeslopes, and benches. The Salmon River is the longest free-flowing river in the lower 48 states.

### **3.4.2 Back Country Byways**

There are no Back Country Byways on BLM-administered lands in the planning area. The BLM's Back Country Byways are a system of low-standard roads and trails that pass through BLM-administered lands with high scenic or public interest value. The BLM developed the Back Country Byway Program to complement the National Scenic Byway Program. There are two state scenic byways near BLM lands in the planning area. US Highway 12 along the Clearwater River is designated as the Clearwater Canyons/Northwest Passage Scenic Byway. The Idaho Transportation Department is revising its management plan for the byway, which crosses or borders approximately 16 miles of BLM-managed land. The Gold Rush Historic Byway follows Idaho 11 and does not traverse BLM lands. There are no areas on BLM lands that meet Back Country Byway designation criteria.

### **3.4.3 National Trails**

The National Trail System Act of 1968 (Public Law 90-543) authorized the creation of a national trail system composed of National Recreation Trails, National Scenic Trails, and National Historic Trails. While National Scenic Trails and National Historic Trails may be designated only by an act of Congress, National Recreation Trails may be designated by the Secretary of Interior or the Secretary of Agriculture to recognize exemplary trails of local and regional significance in response to an application from the trail's managing agency or organization. Through designation, these trails are recognized as part of America's National Trail System.

Portions of the Nez Perce (Nee-Me-Poo) National Historic Trail and segments of the Lewis and Clark National Historic Trail are found in the planning area. The exact location of National Historic Trails is often unknown but is estimated, based on the best available information. The trail routes have been mapped from the western boundary of the Forest Service-administered lands across BLM, state, private, and tribal lands to the western boundary of the planning area. There are 169 miles of Nez Perce National Historic Trail within the planning area boundary, nine miles of which are on BLM-administered lands. There are 270 miles of the Lewis and Clark National Historic Trail, which includes the Sergeant Ordway trip to the Salmon and Snake Rivers, within the planning area boundary. Of the total, there are 12 miles of trail on BLM-administered land. These trails are discussed further under Section 3.2.139, Cultural Resources. There are no known areas on BLM lands that meet National Trail designation criteria that are not already designated as a National Trail (Sisson 2005).

### **3.4.4 Wild and Scenic Rivers**

Wild and scenic rivers are rivers or river sections designated by Congress or the Secretary of the Interior, under the authority of the WSR Act of 1968 (Public Law 90-542, as amended; 16 US Code

1271-2287), to protect outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and to preserve the river or river section in its free-flowing condition (BLM 2005g).

Congress enacted this act to provide a national policy for preserving and protecting selected rivers and river segments in their free-flowing condition for the benefit and enjoyment of present and future generations. Section 5(d)(1) of the act directs federal agencies to consider potential wild and scenic rivers in their land and water planning processes. To fulfill this requirement, the BLM inventories and evaluates rivers when it develops an RMP for BLM-administered lands in a specified area. The inventory is conducted during the data gathering stage of RMP development, and the study phase is done during the formulation of the draft and proposed RMP.

There are five rivers in the planning area currently managed under the WSR Act: four are designated in the NWSRS, and one has been recommended to Congress for inclusion in the NWSRS. None are managed by the BLM. The four segments included in the NWSRS total 404 miles and include:

- 67 miles of the Snake River (through Hells Canyon), including 33 miles of Wild river designation and 34 miles of Scenic river designation. The Lower Salmon River enters the Snake River in a designated Scenic segment.
- 27 miles of the Rapid River (Wild designation). Rapid River is a tributary of the Little Salmon River.
- 125 miles of the Main Salmon River, including 79 miles of Wild river designation and 46 miles of Recreational river designation. The Main Salmon River is designated as Wild immediately upstream of the Lower Salmon River at Long Tom Bar.
- 185 miles of the Middle Fork of the Clearwater River, which includes a 54-mile stretch of the Selway River (Wild) and 131-mile segment of the Lower Selway and Lochsa Rivers (Recreational). The Middle Fork of the Clearwater River joins with the South Fork of the Clearwater River to form the Clearwater River, a BLM SRMA.

The 112-mile segment of the Lower Salmon River, Long Tom Bar to the confluence of the Snake River, was designated a study river in 1968. The river was studied, was found eligible and suitable, and was recommended to Congress for inclusion in the NWSRS as Recreational (59 miles Long Tom Bar to Hammer Creek) and Scenic (53 miles Hammer Creek to the Snake River Confluence). Congress has deliberated the issue of designation numerous times but has yet to act.

Several segments of rivers and streams within the planning area have been assessed for eligibility in conjunction with adjoining Forest Service stream segments. These include Lake Creek, French Creek, Hard Creek, and Hazard Creek. In addition, Lolo Creek has been assessed for eligibility and can be carried forward either on its own or with a concurrent Forest Service study.

**Appendix K** (see Volume III) contains the Cottonwood RMP [Final Draft](#) Wild and Scenic Rivers Eligibility and Suitability Study for this RMP/EIS. Six river segments were determined to meet the eligibility requirements for study. Four of these segments, totaling 29 miles, were determined to be preliminarily suitable for inclusion in the NWSRS, as follows:

- Lake Creek (2.18 miles), headwaters to National Forest Boundary;

- Hazard Creek (1.52 miles), National Forest boundary to confluence with Little Salmon River;
- Hard Creek (1.64 miles), National Forest boundary to confluence with Hazard Creek; and
- Lolo Creek (24 miles), National Forest boundary in Section 24, T34N, R5E, to confluence with Clearwater River.

### 3.4.5 Wilderness and Wilderness Study Areas

A national Wilderness Area is designated by Congress and defined by the Wilderness Act of 1964 as a place “where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.” Designation is aimed at ensuring that these lands are preserved and protected in their natural condition. [Instruction Memorandum ID-2004-059 provides Idaho-specific guidance to implement Washington Office Instruction Memorandum 2003-275 stating that RMPs being developed in Idaho will not designate additional lands as WSAs, per Section 603 of FLPMA, nor propose managing any additional lands under the Interim Management Policy for Lands Under Wilderness Review \(BLM 2004c\). BLM has authority under Section 201 of the FLPMA to inventory public land resources including characteristics associated with the concept of wilderness and to consider such information during land use planning. Wilderness character can be defined by the following criteria as outlined under Section 2\(c\) of the Wilderness Act \(16 US Code 1131-1136\): \(1\) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; \(2\) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; \(3\) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and \(4\) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value \(16 USC 1131\). Wilderness Areas, which are generally at least 5,000 acres or more, offer outstanding opportunities for solitude or a primitive and unconfined type of recreation; such areas may also contain ecological, geological, or other features that have scientific, scenic, or historical value \(BLM 2005g\).](#)

A WSA is an area designated by a federal land management agency as having wilderness characteristics, thus making it worthy of consideration by Congress for wilderness designation. While Congress considers whether to designate a WSA as permanent wilderness, the federal agency manages the WSA to prevent impairment of the area’s suitability for wilderness designation (BLM 2005g). There are two WSAs on CFO lands and one designated wilderness area (**Table 3-2628**) (**Figure 46**, Wilderness Areas and Wilderness Study Areas [see Volume IV [of Cottonwood Draft RMP/EIS](#)]).

**Table 3-28  
Wilderness and Wilderness Study Areas in the CFO Planning Area**

<b>Name</b>	<b>Size (acres)</b>	<b>Wilderness Suitability Recommendation</b>
Frank Church/River of No Return Wilderness	750	Designated wilderness area in Marshall Mountains
Marshall Mountain WSA	5,571	Designated WSA recommended for nonwilderness
Snowhole Rapids WSA	6,463	Designated WSA recommended for nonwilderness

Congress designated the Frank Church-River of No Return Wilderness in 1980; it totals over 2.3 million acres, 750 acres of which are located on BLM-administered lands in the CFO. The remainder of the Wilderness is on six national forests. It is the second largest unit of the National Wilderness Preservation System in the lower 48 states (Wilderness.net 2006).

Most Idaho WSAs, including those located in northern Idaho, were designated through an inventory process that identified lands with wilderness characteristics as required by Congress in Sections 201 and 603 of FLPMA. The North Idaho Proposed MFP Amendment and Final EIS for Wilderness, approved in 1986 (BLM 1986a), analyzed alternative land use allocations, including wilderness suitability, for five WSAs located in northern Idaho. This document provided the basis for the Secretary of Interior's wilderness recommendations to the President and subsequently to Congress. The ROD for the Idaho Wilderness Study Report incorporated the Secretary's wilderness suitability recommendations and was signed in 1991.

The Idaho Wilderness Study Report recommended ~~that~~ the Marshall Mountain WSA, 22 air miles east of the town of Riggins, ~~was recommended~~ for nonwilderness. ~~If the~~ Upon approval of that recommendation is approved by Congress, recommendations are to manage the area for semiprimitive recreation, with 3,920 acres to be managed under custodial forest management guidelines. Congressional action is pending. Marshall Mountain is surrounded by the Payette National Forest. The topography varies from 8,400 to 3,600 feet and is generally rugged mountainous terrain incised by perennial streams. Most of the area is covered with a mixed-conifer forest. There are numerous mining claims in the area, most of which are lode claims for gold. Several large fires in the past 10 years have burned large portions of the WSA. There is one grazing lease for sheep.

The Snowhole Rapids WSA, eight air miles southwest of the town of Cottonwood, was recommended for nonwilderness. ~~Upon approval of that~~ If the recommendation is approved by Congress, recommendations are to manage the area for semiprimitive recreation, primarily whitewater boating and fishing. Congressional action is pending. It is a linear unit, nearly 20 miles long and half a mile wide, on both sides of the Salmon River, from American Bar to just below China Rapids. The entire unit consists of steep, rocky river canyons. Management emphasis is on recreation and visual resources. The entire area is under lease for grazing in the winter. Several threatened and endangered species are present.

There are no anticipated, obvious, or evident trends in either the designated wilderness or the two WSAs. The designated wilderness is managed per the Wilderness Act, and the WSAs are managed under the BLM's Interim Management Policy.

The BLM interdisciplinary team reviewed existing lands that had been dropped from the previous inventory, those not already designated as wilderness or WSAs, to determine if conditions have changed and additional lands might be identified that possess wilderness characteristics. Also, lands acquired since the previous wilderness inventory were reviewed to determine if they contain wilderness characteristics. This review is based upon knowledge from resource staff that have completed field work throughout the planning area. Based upon further review, none of the lands previously dropped from the original inventory or newly acquired lands contain wilderness characteristics.

~~Criteria for lands to be designated by BLM as WSAs and subsequently considered by Congress for designation as a National Wilderness Area can be found in the Wilderness Inventory and Study Procedures Manual (H-6310-1). However, Instruction Memorandum ID-2004-059 provides Idaho-specific guidance to implement Washington Office Instruction Memorandum 2003-275 and states RMPs being developed in Idaho will not designate additional lands as WSAs nor propose managing any additional lands under the Interim Management Policy (BLM 2004e)~~

### **3.4.6 Watchable Wildlife Areas**

The federal Watchable Wildlife Program is a cooperative, nationwide effort among 13 organizations, including the BLM, to foster the conservation of wildlife and wildlife habitats by the following means:

- Providing enhanced opportunities for the public to enjoy wildlife;
- Promoting learning about wildlife and habitat needs;
- Contributing to local economies; and
- Enhancing active public support for resource conservation.

There are four watchable wildlife areas on planning area BLM lands:

- The Craig Mountain WMA contains 24,200 acres and is managed primarily for big game and upland birds and supports Rocky Mountain bighorn sheep (Carpenter 1990). Lewiston is the closest town.
- The Lower Salmon River Canyon watchable wildlife area contains 87 miles of river. Common wildlife include the golden eagle, red-tailed hawk, and prairie falcon, American kestrel, mule deer, white-tailed deer, elk, Canada goose, chukar, and river otter. Riggins and White Bird are the closest towns.
- The Middle Salmon River Canyon watchable wildlife area contains 80 miles of river. Mountain goat, Rocky Mountain bighorn sheep, golden eagle, waterfowl, and river otter are often seen. Riggins and North Fork are the closest towns.
- Although the BLM manages no land in the Elk City (Red River) watchable wildlife area, it works in partnership with the Idaho Department of Fish and Game to manage the area. The Elk City Watchable Wildlife Area includes a 45 mile one-way route starting at McAllister Campground along the South Fork Clearwater River (Highway 14) and ending at the old Red River Ranger Station, which is the last stop (Carpenter 1990). The route includes various stops and side trips, which includes seasonal opportunity to view a variety of wildlife; including elk, white-tailed deer, bald eagles, steelhead trout, chinook salmon, waterfowl, water birds, raptors, and wild flowers that are visible in the area. The Idaho Department of Fish and Game Red River WMA provides an excellent opportunity to view a large herd of elk during the spring and Red River flows through the area and provides habitat for chinook salmon and variety of native fish. The BLM manages land in the Elk City area and has cooperated on several projects with Idaho Department of Fish and Game at the Red River WMA. A large amount of this route is through Nez Perce National Forest Service lands.

### 3.5 SOCIAL AND ECONOMIC

#### 3.5.1 Native American Tribal Uses

Indian trust resources and tribal treaty rights are legal interests in assets held in trust by the federal government for federally recognized Indian tribes or nations or for individual Indians. These assets can be real property, physical assets, or intangible property rights. Examples include lands, minerals, water rights, hunting and fishing rights, other natural resources, money, or claims.

The federally recognized Nez Perce Tribe has long used natural resources and conducted its social and religious activities in the planning area. ~~Between 1855 and 1863, t~~The Nez Perce Tribe and the US signed various treaties and agreements that relinquished ownership of millions of acres of land to the US, established and modified the Nez Perce Reservation to guarantee a permanent homeland for the tribe, and maintained the tribe's rights to fish, hunt, ~~and~~ gather and pasture its animals on open and unclaimed lands (Sisson 2004). The original Treaty with the Nez Perce in 1855 specifically guaranteed the tribe a reservation homeland, as well as “the right of taking fish at all usual and accustomed places...[and] the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land.” Due to the direct relationship with and access to natural resources guaranteed by this treaty, BLM natural resource management decisions have the potential to affect treaty rights. Developments resulting from other treaties and agreements in 1863, 1868, 1871, and 1893 resulted in ceded lands and a reduction in the reservation acreage.

The BLM manages a portion of the Nez Perce's ceded lands and maintains a government-to-government relationship with the tribe. These areas were once used by the tribe for settlement, subsistence, and religious use. The BLM now “has a trust responsibility to provide the conditions necessary for Indian tribal members to satisfy their treaty rights” (Sisson 2004) guaranteed them in the 1800s. Today, the Nez Perce utilize resources on BLM public lands within their ceded territory for subsistence and cultural purposes, but the tribe is not dependent upon BLM resources for their economic livelihood. There is little information available to define what resources or areas the tribe currently utilizes, but they have expressed their concerns regarding natural resource management, particularly water quality and fisheries management.

There is a record of long-term use of the ecosystem by the Nez Perce prior to ~~Euro-~~Euro-American settlement. This use was based on a balance between the human population and the ecosystem. This balance was disturbed by the ~~arrival~~arrival of Euro-Americans in the area. Changes in resource uses have introduced nonnative plant and animal species and ~~decimated~~decimated or otherwise reduced other plant species that were traditionally used by the Nez Perce. “Without the plants available for use, the intertwined socio-cultural values associated with the gathering and processing of the plants or animals ~~is~~are lost or diminished” (Sisson 2004). Other changes in resource use have created visual intrusions into the environment, further impacting Native American activities associated with subsistence gathering and hunting.

Nez Perce tribal demographics and economy are discussed in Section 3.5.4, Environmental Justice.

#### 3.5.2 Public Safety—Abandoned Mines and Hazardous Materials

Public safety includes the management actions of the AML and Hazardous Materials Management (HMM) programs. Hazardous materials represent a significant risk to public safety, human health,

and the environment and are therefore important issues that warrant the attention of the BLM management. Hazardous materials management also involves the prevention of illegal hazardous materials actions on public lands, the proper use, authorization, permitting, and regulation of hazardous materials on public lands, and timely, efficient, and safe responses to hazardous materials incidences on public lands.

The HMM and the AML programs in the CFO have seen limited activity toward cleaning up lands affected by mining. The AML hazards on CFO-administered lands have only been investigated to a limited extent, and the specific hazards have not been documented. Currently, the preeminent concern of the AML program in the planning area is identifying and mitigating physical hazards on lands affected by mining practices.

Typical hazardous materials issues on CFO lands are associated with past mining activities, illegal dumping, past landfill activities, and accidental material releases from transport vehicles (**Table 3-2729**). There are five identified primary hazardous materials sites on CFO lands. The five sites are composed of three closed solid waste landfills and two past mining heap leach sites. The main directive for these five sites is that they are protected and not improperly disturbed by future activities.

The three former landfill sites are in Idaho County and are the Riggins Landfill, the Blackhawk Bar Landfill, and the Elk City Landfill. Closure actions have been taken at all three landfill sites, and they are considered closed. The Elk City Landfill is located partially on and near tailings piles from historical placer mining operations. The MFP (BLM 1981a) identified the site as an ACEC. The Riggins landfill is downstream of the town of Riggins, and the Blackhawk Bar Landfill is upstream of Slate Creek. Both of these landfills are on lands which are within the existing withdrawal for the Salmon River Proposed Wild and Scenic River segment.

The two past mining heap leach sites being addressed by the CFO are near Elk City and are known as the Elk City Heap and the Buffalo Gulch Heap. The heap leach process uses cyanide to remove gold or other desirable metals from mined materials. The Elk City Heap is immediately north of Elk City and about 1,200 feet from the eastern bank of Elk Creek. The reprocessing efforts at this site were generally unsuccessful and operations were suspended in 1983. Remediation efforts at the Elk City Heap site included rinsing the cyanide from the tailings, placing a plastic liner over and capping the pile, and consolidating the unprocessed tailings at the valley edge in the mid-1980s. The Buffalo Gulch Heap is northwest of Elk City and is not considered to be completely closed. The Buffalo Gulch Heap is atop an impermeable liner but is not capped. The site is being monitored until final reclamation is conducted and considered successful.

Not all AML sites include conditions that are hazardous to humans or the environment. However, the physical hazards that may be encountered at AML sites include basic trip and fall hazards from debris, obscure mine shafts, dilapidated mine buildings and equipment, harmful chemicals or contaminated soils, unused explosives, and open mine adits with oxygen-depleted or toxic environments. The potential for injuries and deaths from these hazards increases with the growth of the western population and recreational use of public lands. Therefore, sites easily accessed by the public are given first priority for implementation of mitigation or closure measures.

**Table 3-29  
Activities and Associated Hazardous Materials Management**

Potential Hazard	Examples
Hazardous materials associated with historic and active mine operations	<ul style="list-style-type: none"> <li>• Mine water drainage</li> <li>• Chemicals associated with processing ore or used in laboratories, such as cyanide</li> <li>• Explosives, such as dynamite, ammonium nitrate, caps, and boosters</li> <li>• Heavy metals, such as tailings, mill sites, and rock dumps</li> <li>• Asbestos</li> </ul>
Illegal dumping	<ul style="list-style-type: none"> <li>• Unauthorized dumps</li> <li>• Containers with hazardous substances dumped on public land</li> </ul>
Illegal activities	<ul style="list-style-type: none"> <li>• Drug labs</li> <li>• Wire burn sites</li> </ul>
Spillage of hazardous materials	<ul style="list-style-type: none"> <li>• Waste spills and residual materials</li> <li>• Weed spray equipment spills</li> <li>• Materials spilled from overturned trucks or train cars</li> </ul>
Facilities on public land	<ul style="list-style-type: none"> <li>• Leaky storage tanks</li> <li>• Oil dumps or landfills</li> <li>• Asbestos</li> </ul>

When hazardous conditions are present at AML sites, they can include both on-site and off-site impacts. Mine wastes on AML sites may affect or preclude the growth of vegetation on-site and give rise to fugitive dust with hazardous heavy metal constituents when disturbed. Water quality issues may come from the direct flow of heavy metals-laden water out of mine adits or leaching from mined materials contributing undesirable heavy metal constituents to nearby stream and river subbasins. Heavy metal constituents can adversely affect many aquatic species and also may adversely affect avian and mammalian species around such mine sites and drainages via direct and indirect routes of intake. The metals associated with the mining activities in the CFO are primarily gold, silver, lead, zinc, copper, and arsenic. Mines within the planning area are shown on **Figure 47** (Mine Sites) (see Volume IV [of Cottonwood Draft RMP/EIS](#)).

Few AML sites for the CFO have been inventoried, and none have been entered into the BLM's Abandoned Mines Module database, due primarily to a lack of AML efforts being undertaken. The BLM estimates that the CFO may contain as many as 100 or more AML sites.

The CFO responds to a number of instances of illicit dumping on BLM-administered lands. Much of the illicit dumping activity within the CFO is intentional, small quantity waste dumping. Illicitly dumped materials may include hazardous substances, household wastes, petroleum products, solid waste, and agricultural materials. Illicit dumping may occur anywhere on BLM-administered lands, but is generally concentrated around recreation areas and alongside roadways. These dumping incidents normally do not fit the specific category of hazardous waste dumping, but the dumped materials are normally screened for hazardous components, then all of the materials are removed

and appropriately disposed. Overall, instances of significant or hazardous dumping on CFO lands are fairly limited, which is attributed to the relatively low population density around the public lands.

The CFO has responded to a number of vehicular accidents that involve the accidental release of hazardous materials or petroleum products from transport vehicles. The HMM program can become involved with a particular response action or cleanup when the release affects BLM-administered lands.

In recent years, the BLM has responded a number of times to dumped methamphetamine lab wastes, or related drug wastes, on its administered lands. Methamphetamine drug lab wastes are frequently found to include highly toxic chemicals, flammable materials, and potentially explosive materials. Discarded drug paraphernalia is also a concern as it can include wastes that present a skin puncture/disease transmission hazard. Methamphetamine drug lab wastes present a direct health and safety hazard to individuals who may inadvertently come across them and also present a hazard to wildlife.

Hazardous materials may legitimately be brought onto BLM-administered lands for weed control or resource development. The types of hazardous materials used for weed and insect control include pesticides (herbicides and insecticides). The general types of hazardous materials that may be used include petroleum products (fuels and lubricants), solvents, surfactants, paints, explosives, batteries, acids, gases, antifreeze, and mineral products (mine waste, cement, and drilling materials). Another source of hazardous materials is from actions involving rights-of-way, leases, and permits. Examples of these types of actions are on-site storage and use of fuels (oil and gas), telecommunication sites, and transportation facilities.

### **3.5.3 Social and Economic Conditions**

The demographics and the economies of the six planning area counties are affected by public land uses within the planning area. Similarly, social structure and values within the counties influence the demand for recreation and other opportunities provided by the public lands, as well as the acceptability of proposed land management decisions. Socioeconomic resources include demographic information on population, housing, and schools; economic conditions, such as employment, income, and earnings; and social values.

#### ***Population***

**Table 3-28–30** displays population trends from 1990 to 2000 and the percent change over the decade in the six planning area counties. In 2000, the three largest county populations in the planning area were Nez Perce (37,410), Latah (24,935), and Idaho (15,511) Counties, which experienced increases of 10.8 percent, 14.1 percent, and 12.5 percent, respectively, from their 1990 populations. The growth in each of these counties over the decade did not exceed the state average of 28.5 percent. Census data indicates a recent trend for all counties of a negative net domestic migration, or more persons moving out than moving in (Adams-Russell Consulting 2004).

Growth in the planning area is projected to continue to be lower than state population growth, as shown in **Table 3-29–31**.

**Table 3-30**  
**County Population Totals and Median Ages (1990-2000)**

County	1990	2000	1990-2000 Change	1990-2000 Percent Change	Median Age (2000)
Adams	3,254	3,476	222	6.8%	44.4
Clearwater	8,505	8,930	425	5.0%	41.7
Idaho	13,783	15,511	1,728	12.5%	42.3
Latah	30,617	34,935	4,318	14.1%	27.9
Lewis	3,516	3,747	231	6.6%	42.5
Nez Perce	33,754	37,410	3,656	10.8%	38.1
Planning area	93,429	104,009	10,580	9.3%	39.5
State of Idaho	1,273,855	1,273,593	368,417	28.5%	33.2

Source: US Census Bureau 2004; Real Estate Center 2003 (utilizing US Census Bureau data)  
 Note: Decade years represent April 1 Census data, not mid-year estimates.

**Table 3-31**  
**County Population Projections**

County	2000	2005	2010	2015	2020	2000-2020 Population Change	2000-2020 Percent Change
Adams	3,756	3,838	3,934	4,014	4,154	398	10.6%
Clearwater	9,320	9,556	9,829	10,088	10,341	1,021	11.0%
Idaho	14,961	15,344	15,788	16,208	16,619	1,658	11.1%
Latah	32,735	33,562	34,522	35,430	36,320	3,585	11.0%
Lewis	3,914	4,019	4,138	4,252	4,363	449	11.5%
Nez Perce	36,695	37,622	38,698	39,717	40,714	4,019	11.0%
Planning Area	101,381	103,941	106,909	109,709	112,511	11,130	11.0%
State of Idaho	1,273,855	1,386,489	1,497,548	1,609,314	1,722,954	449,099	35.3%

Source: US Census Bureau 2004

### **Employment and Economy**

**Table 3-30–32** shows employment data for all planning area counties in 2000. The three most populated counties, Nez Perce, Latah, and Idaho, had unemployment rates ranging from 4.6 to 10.2 percent, while the planning area counties had an average unemployment rate of approximately 8.4 percent, larger than the state's 4.9 percent average. Clearwater, Idaho, and Lewis Counties, which had the highest unemployment rates in the planning area in 2000, demonstrate seasonal employment patterns because of the effects of employment in jobs related to the agriculture and timber industries (Adams-Russell Consulting 2004).

Between 1990 and 2000, the sector with the greatest percentage increase in employment (for all planning area counties) occurred in the services sector (53.2 percent). After services, the highest percentage of employment growth in the six-county area occurred in the construction (46.9 percent), public administration (40.5 percent), and finance/insurance/real estate (37.1 percent) sectors. Over

**Table 3-32**  
**County Employment Statistics (2000)**

Location	Employed Persons	Unemployed Persons	Unemployment Rate
Adams County	1,403	117	7.7 %
Clearwater County	3,270	427	11.5 %
Idaho County	5,925	673	10.2 %
Latah County	17,223	1,420	7.6%
Lewis County	1,514	143	8.6 %
Nez Perce County	17,856	867	4.6 %
Planning Area	47,191	3,647	8.4%
State of Idaho	636,237	163	4.9 %

Source: US Census Bureau 2004; Idaho Commerce and Labor 2004

the decade, employment in the other industry sectors declined, including transportation/utilities (-8.9 percent), agriculture/forestry/fishing, and mining (-13.6 percent), manufacturing (-18.4 percent), and trade (-21.5 percent).

In addition, agriculture, also a historically important industry within the planning area, underwent significant changes. During the past decade and through the present, the agriculture industry in the planning area has trended toward fewer small family farms and more large corporate farms. Much of this can be explained by the difficulty in maintaining small scale operations that are economically feasible (Adams-Russell Consulting 2004).

### **Income and Earnings**

As shown in **Table 3-3133**, in 2000, per capita personal incomes for the planning area counties remained below \$20,000, with an average increase of 41.3 percent since 1990, but below the state average of \$23,987 in 2000. Overall, in 2000, Nez Perce County had the highest per capita income (\$18,544), and Idaho County had the lowest (\$14,411) (US Department of Commerce, Bureau of Economic Analysis 2004).

**Table 3-33**  
**Per Capita Income**

Location	1990	2000	Percent Change
Adams County	\$13,626	\$14,908	8.6%
Clearwater County	\$11,234	\$15,463	37.6%
Idaho County	\$10,527	\$14,411	36.9%
Latah County	\$10,892	\$16,690	53.2%
Lewis County	\$9,780	\$15,942	63.0%
Nez Perce County	\$12,476	\$18,544	48.6%
Planning Area	\$11,440	\$15,993	41.3%
State of Idaho	\$15,858	\$23,987	51.3%

Source: US Department of Commerce, Bureau of Economic Analysis 2004

Note: Figures calculated without taking into account the inflation rate.

Between 1990 and 2000, farm earnings decreased significantly in all planning area counties, with the exception of Clearwater County, which showed relatively low decrease of 11 percent. Adams County experienced the largest decrease in farm earnings of all the counties, 167 percent. All planning area counties showed an average decrease in farm earnings of 79 percent between 1990 and 2000. In a similar pattern, farm earnings decreased at the state level by 12 percent between 1990 and 2000.

**Protection of Children**

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks (Executive Order 13045 [Federal Register 1997]), states that each federal agency shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. Environmental health risks and safety risks mean risks to health or to safety that are attributable to products or substances that the child is likely to come into contact with or to ingest.

**Economic Influence of BLM-Managed Lands**

Local economies realize direct and indirect benefits from a variety of activities on public lands, including visitor expenditures and the processing and harvesting of timber, minerals, and forage. The agricultural, hunting, forestry, and fishing sectors (which are industries that use BLM-managed lands) have shown increases in employment due to an increase in activity (Forest Service 2004). In addition, the federal government redirects revenues collected from public lands back to the states in which they were collected.

The BLM also contributes directly to the economy of the planning area through the employment of 20 permanent employees and 15 to 20 seasonal employees in the CFO. These employees live and work in the planning area and spend money on housing, transportation and general purchases. The Field Office helps support local businesses through purchases of goods and services.

The BLM collects revenues from recreational and commercial activities that take place on the nearly 12 million acres of BLM-managed lands in Idaho. These revenues are collected from facility fees (e.g., campgrounds), BLM recreation permits (special, competitive, organized group activity, and event use permits), timber sales, mining leases and mineral revenues, and grazing fees. **Table 3-32 34** shows collections received from specific activities on Idaho BLM-managed lands in 2002.

**Table 3-34  
Total Federal Collections from Idaho BLM-Managed  
Land and Minerals in 2002**

Activity	Collection
Recreation and use fees	\$433,676
Grazing fees	\$1,367,092
Timber receipts, public domain	\$612,510
Mining claim holding fees and service charges	\$791,900
Mineral royalties, rents, and bonuses	\$7,874,520
Miscellaneous receipts	\$513,004

Source: BLM 2004d

**Recreation Sector**

Growth and expansion in Idaho’s tourism and recreation industry have been a significant factor in Idaho’s economy. Tourism is the state’s third largest industry, and in 1998 tourists and visitors spent an estimated \$1.7 billion, accounting for approximately \$134 million in local, state, and federal tax revenues (Business Enterprise for Sustainable Travel 2001) and 6 percent of the state’s annual \$29 billion in gross revenues (Idaho Game Fishery 2001), which in turn created more jobs and income for Idaho citizens (Idaho Department of Commerce and Labor 2004).

Recreation-related visits to Idaho are estimated to continue to increase at an annual rate of 1 to 4 percent within the planning area. Population growth, as well as an increase in the number of annual visitors, has created a rising demand for recreation opportunities. In 2002, the Outdoor Industry Association’s State of Affairs ranked Idaho as the number one state in the nation for recreation, with 86.8 percent of residents participating in outdoor activities (Outdoor Industry Association 2002). A total of 4,732,799 visitor days were spent on recreation activities on BLM lands in Idaho in 2002 (BLM 2004d).

The planning area includes 112 miles of the Lower Salmon River, approximately 79 miles of which are on BLM-administered lands (BLM 2004a). This is a widely used recreation area and visits to the recreation sites and semideveloped campgrounds along the river corridor totaled over 300,000 in 2002 and are increasing every year (BLM 2004d).

**Table 3-33-35** presents the travel spending estimates in each of the six planning area counties. **Table 3-34-36** shows employment and labor income information related to recreation and tourism activities in planning area. The annual figures include all part-time, seasonal, and full-time jobs, as well as proprietor incomes.

**Table 3-35**  
**Travel Spending Estimates and**  
**Travel-Generated Employment**  
**in Six Planning Area Counties in 2002**

County	Payment (\$000s)	Jobs
Adams	\$1,642	73
Clearwater	\$3,286	170
Idaho	\$6,688	631
Latah	\$29,024	668
Lewis	\$1,855	62
Nez Perce	\$29,809	472
Planning area total	\$72,304	2,076

Source: Idaho Department of Commerce and Labor 2004

**Table 3-36**  
**Estimated Sales, Employment, and Labor Income Resulting from**  
**Recreation- and Tourism-Related Activities in the Planning Area in 2002**

Sector: Direct Effects	Sales \$000s	Employment (Average Annual Jobs)	Payroll (Average Annual Dollars)
Motel, hotel, cabin, bed and breakfast, camping	\$18,012	551	\$7,057
Restaurant and bars	\$19,659	653	\$6,627
Admission and fees	\$8,476	485	\$7,251
Retail trade	\$19,744	580	\$9,542
Wholesale trade	\$2,954	38	\$1,220
Local production of goods	\$1,817	2	\$17
Total direct effects	\$70,660	2,308	\$28,085
Secondary effects	\$8,988	166	\$3,651
Total effects	\$79,646	2,474	\$31,736

Source: Idaho Department of Commerce and Labor 2004

In 2001, recreation and tourism employed approximately 2,474 workers in the planning area. Of total visitors, nonresidents traveling to Idaho were estimated to be 13 percent in the summer, 11 percent in the fall, 8 percent in the winter, and 13 percent in the spring.

By 2020 the population in the planning area is expected to increase by 11 percent from its 2000 value, an increase that will further increase recreational visits to the planning area. The most common and most desired activities on BLM lands were fishing, hiking, camping, photography, wildlife/bird observation, picnicking, hunting, and OHV use (Idaho Department of Commerce and Labor 2004).

### Forestry Sector

Forestry remains Idaho's number one nonfarm basic industry, providing 10.9 percent of the state's gross product and approximately 9 percent of total jobs. In 2003, forestry provided an estimated 19,000 jobs, and forest-based earnings totaled approximately \$580 million (Forest Service 2004). However, the forestry industry is not as large an employer in some planning area counties as it is in others (Idaho Department of Commerce and Labor 2004). Of the CFO-managed lands in the six planning area counties, most forestry-related activities take place in Idaho and Lewis Counties (Craig 2005). All forested BLM-administered lands within the CFO are potentially available for commercial timber harvest and sales except for public lands in the Craig Mountain WMA and Marshall Mountain Township.

Although 41 percent of Idaho is forested, the CFO administers only a fraction of that area, which is used for timber harvest. Forestry is more prevalent on Forest Service [and private](#) lands within the planning area and includes the surrounding Clearwater National Forest, [Payette National Forest](#), and Nez Perce National Forest (**Figure 1**, Planning Area Land Status) (see Volume IV [of Cottonwood Draft RMP/EIS Chapter 1](#)). The CFO manages 35,757 varying acres as commercial forest land within the planning area (Craig 2005), constituting 25 percent of total CFO-managed land within the planning area.

There are seven mill communities in the CFO boundary: New Meadows (Adams County); Orofino and Weippe (Clearwater County); Kooskia and Grangeville (Idaho County); Kamiah (Lewis County); and Lewiston (Nez Perce County). Additionally, many communities have small milling operations (less than 10 employees) that contribute substantially to their economy. The Elk City mill has closed and relocated in Grangeville (Idaho Statesman 2005).

During fiscal year 2002, the Idaho BLM collected \$612,510 from timber sales, of which direct BLM financial transfers to the state from timber receipts amounted to approximately \$253,000 (BLM 2004d). In fiscal year 2004, sales of forest products derived from the 35,757 acres of commercial forest land managed by the CFO was estimated to value approximately \$130,479 from 1,037,100 board feet (BLM 2004d). These figures reflect the portion of receipts from public domain timber harvest collected by the federal government and shared with the state to distribute to the counties. Timber receipts are not a part of payments in lieu of taxes but are additional payments paid to the counties. Payments in lieu of taxes provide for payments to local governments containing certain federally owned lands and are described in more detail in the “Payments in Lieu of Taxes” section below.

Stewardship contracting is a contracting tool that authorizes the BLM to exchange goods for services. This is accomplished by entering into stewardship projects (by contract or agreement) with private persons or public or private entities to perform services that achieve public land management goals that meet local and rural community needs. Stewardship contracting provides for the sale or exchange of vegetative material, such as commercial sized timber, in exchange for service work, such as tree planting, in one contract or package. Contracts allow the value of forest products sold to offset the cost of contracted services. Projects must have close involvement with a local community group whose goal is community economic viability to maintain the woods and mill work social infrastructure. Also, the value of timber or biomass removed must be applied as payment for various conservation or restorative services. In 2004, the CFO also offered 9 million board feet of saw timber under a stewardship contract (\$1.5 million in revenue), which included \$1.3 million of service work. A contract requirement was to use local work force. Stewardship efforts will continue into the future and have an economic effect on communities.

### **Mining Sector**

In 2000, mining employment data for Adams, Clearwater, and Lewis Counties were found to be either zero or suppressed. The BLM CFO administers leases and prospecting permits on acquired lands in the Payette and Clearwater National Forests. Currently, eight pending or authorized cases for gold or garnet encompass about 2,237 acres in Latah and Clearwater counties. The BLM CFO manages substantial blocks of land in two gold mining districts, Elk City and Marshal Lake. In general, the minerals of greatest economic significance within the planning area include precious metals, aggregates, garnets, clay, and dimension/decorative stone (BLM 2004e).

### **Livestock Grazing/Rangeland Management**

The BLM manages public land grazing by issuing grazing permits/leases. The grazing fee for western public lands managed by the BLM and the Forest Service has been set at \$1.43 per AUM for 2004. One AUM is equal to the amount of forage used to support one cow and calf for one month (approximately 800 pounds of forage).

Presently, the CFO has allocated a total of 7,2047,200 AUMs, and approximately 135 livestock operators in the CFO planning area actively graze 168 allotments. In addition, there are 20 vacant allotments with 1,098 AUMs that are currently not being leased. The grazing allotments vary, from less than three acres up to 11,630 acres. Presently, approximately 6,350 AUMs are allocated for cattle, 740 AUMs for sheep, and 110 AUMs for horses, bison, and goats (Danly 2005, Huibregtse 2005).

**Payments in Lieu of Taxes**

Congress appropriates funds for the payments in lieu of taxes to eligible units of local government each year. The BLM calculates the payment amounts using a formula based on population and the amount of federal land in a jurisdiction. These payments are in addition to federal revenues transferred to local governments under other programs, such as income generated from the use of public land for livestock grazing, timber harvests, and mineral receipts (BLM 2004d). **Table 3-35-37** presents payments in lieu of taxes received by planning area counties in 2004.

**Table 3-37  
Payments in Lieu of Taxes to Planning Area Counties  
(Fiscal Year 2004)**

County	Payment	BLM Entitlement Acres
Adams	\$102,819	5,470
Clearwater	\$278,402	3,887
Idaho	\$842,713	94,565
Latah	\$117,699	199
Lewis	\$11,307	8,194
Nez Perce	\$47,570	31,486
Total	\$1,400,510	143,830

Source: BLM 2004d

**3.5.4 Environmental Justice**

This section addresses issues related to environmental justice, in accordance with Executive Order 12898. On February 11, 1994, President Clinton issued Executive Order 12898, entitled “Federal Actions to Address Environmental Justice in Minority and Low-Income Populations.” This order requires that “each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations” (Executive Order 12898, 59 Federal Register 7629 [Section 1-201]).

All counties in the planning area have a lower per capita income than the Idaho average, and, except for Nez Perce County, all counties also have lower median household incomes than Idaho. The state’s poverty rate (13.8 percent) exceeds the poverty rates of three out of six planning area counties (Nez Perce, Lewis, and Clearwater) and was below the rest of the planning area counties’ percentages, which ranged from 13.5 to 16.7 percent.

In 2000, the average estimated poverty threshold for an individual in the US was an annual income of \$8,787 and for a four-person household it was \$17,601. The US Census Bureau estimates that approximately 12.0 to 16.7 percent of county populations in the planning area were below the poverty line in 2000. The percentages in Latah (16.7 percent), Idaho (16.3 percent), and Adams (14.3

percent) Counties exceeded the state average of 13.8 percent (US Census Bureau 2004). While these counties displayed lower values from 1990, Adams, Clearwater, and Idaho Counties had a 3.5-percent, 1.3-percent, and 2.5-percent increase, respectively, in the number of individuals below the poverty line from 1990 levels (US Census Bureau 2004).

In 2000, the Native American population formed the dominant ethnic group within the planning area, and the African American population had the smallest representation. Nez Perce (6.3 percent), Lewis (5.0 percent), and Idaho Counties (4.0 percent) had the largest Native American populations, roughly three to four times higher than the state average Native American population of 1.4 percent. The following paragraphs further describe the socioeconomic relationship of this minority group with planning area public lands.

**Nez Perce Tribal Demographics and Economy**

**Figure 1**, Planning Area Land Status (see [Volume IV Chapter 1](#)) shows the location of the Nez Perce Tribe Reservation within Lewis, Nez Perce, and Clearwater Counties in the planning area. The CFO lies entirely within the ceded territory of the Nez Perce Tribe, whose reservation lies entirely within the CFO. There are about 17,586 acres of BLM-administered land within the reservation. There are approximately 3,300 enrolled tribal members, and there are another 1,000 members who live off the reservation. Lapwai and Kamiah are two principal communities of residence for tribal members, but members also live throughout the planning area (Adams-Russell Consulting 2004).

**Table 3-36-38** displays population, labor, housing, and income trends of the Nez Perce Tribe from 1980 to 2000. Population growth during that time totaled 638 people, representing a 43.6 percent

**Table 3-38**  
**Nez Perce Tribe Reservation Populations, Employment, and Income Trends (1980-2000)**

Socioeconomic Indicator	1980 <sup>1</sup>	1990 <sup>1</sup>	2000
Population	1,463	1,863	2,101
<i>Decade change</i>	-	27%	12.8%
Age structure			
<i>Under 18</i>	44%	38%	38.4%
<i>Ages 18-64</i>	49%	56%	54.7%
<i>Above 65</i>	7%	6%	6.9%
Household type			
<i>Family household</i>	211	471	540
<i>Non-family household</i>	104	122	127
Owner occupied housing units	452	592	667
Value of owner occupied housing units	\$61,761	\$65,854	\$82,691
Labor force participation	74%	57%	62.2%
Median household income	\$16,599	\$25,599	\$32,383
Per capita income	\$8,316	\$8,715	\$11,023
Poverty level	36%	30%	26%

Source: Northwest Area Foundation 2004; US Census Bureau 2004

<sup>1</sup> Most 1980 and 1990 numbers are rounded.

increase. In 2000, 54.7 percent of the Tribe's population was between the ages of 18 and 64, with the population of people under the age of 18 declining between from approximately 44 percent to 38 percent. During the same period, the number of family households and number of owner-occupied housing units increased, from 452 to 667 units, representing a 47.6-percent increase. In 2000, of the 7,735 tribal members in the civilian labor force (available for employment), 7,025 members (about 91 percent) were employed; although, between 1980 and 2000, labor force participation decreased from 74.4 percent to 62.2 percent. During this period median household income and per capita income increased and poverty level decreased, indicating an increase in the economic well-being of the Nez Perce Tribe population in the planning area (Northwest Area Foundation 2004).

This economic prosperity can be attributed to the financial improvement and increase of activity of Nez Perce Tribe-operated casinos in the region: the Coyote Casino in Kamiah (Lewis County) (formerly the It'se-Ye-Ye Casino) and the Clearwater River Casino in Lewiston (Nez Perce County). Together, the casinos employ approximately 250 people and annual net revenues total \$2 million to \$3 million. Revenues generated by the casinos support tribal government, tribal economic development, and tribal member services. The revenues are also used to support local police and fire services, as well as local schools and charitable organizations (University of Idaho 2004). Overall, tribal enterprises increased nearly 300 percent from 1995 to 2000. Most of the earnings (\$10.5 million) came from the Clearwater River Casino.

Employment increased 220 percent, dramatically decreasing high winter unemployment figures (almost 70 percent) that existed before the advent of tribal gaming (University of Idaho 2004).

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