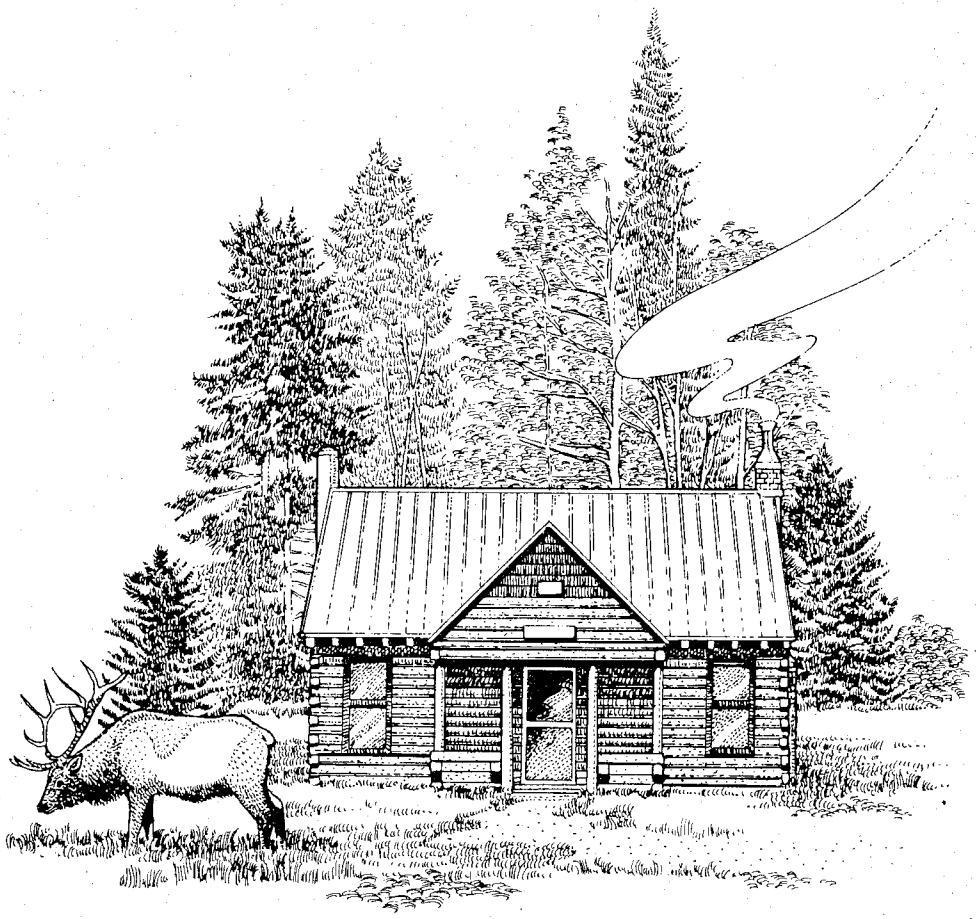
## Chapter II

# Affected Environment



## CHAPTER II. AFFECTED ENVIRONMENT

This narrative describes those portions of the physical or biological environment that may be affected by management activities proposed in the Wild and Scenic River corridor. Conditions stated represent those that existed at the time of designation or best approximation. It can generally be accepted that the conditions at time of designation are the current conditions today. The identified environmental qualities form a baseline for measuring changes and comparing alternatives.

### A. Fisheries/Water Quality

#### Species Present and Current Status

Native salmonid species present in the NFJD include chinook salmon (Oncorhynchus tshawytscha), bull trout (Salvelinus confluentus), and redband/inland rainbow trout (Oncorhynchus mykiss gairdneri) - both non-migratory resident populations and the anadromous form known as steelhead. Introduced non-native species are hatchery rainbow trout (derived from coastal rainbow stocks Oncorhynchus mykiss irideus) and eastern brook trout (Salvelinus fontinalis).

Bull trout and redband/rainbow trout are on both the State of Oregon and the Regional Forester's Sensitive Species List. Bull trout have recently been petitioned to the U.S. Fish & Wildlife Service for federal listing as endangered under the Endangered Species Act. The NFJD spring chinook is listed as a stock of special concern by the American Fisheries Society. In addition, redband/rainbow trout are a management indicator species as designated in the Forest Plans for both the Umatilla and Wallowa-Whitman National Forest.

#### Sensitive Species

Bull Trout

Before 1978, the Dolly Varden (Salvelinus malma) was grouped into anadromous and interior forms. Cavender (1978) redescribed the interior form as a separate species Salvelinus confluentus, commonly known as the bull trout. Morphometric, meristic and osteological characteristics were used to differentiate the bull trout from the Dolly Varden. Consistency between these features was found throughout each species' geographic range. Although bull trout were called Dolly Varden for many years in Oregon prior to their reclassification, the southern limit of the Dolly Varden's distribution is actually in Washington state in the Chehalis River drainage. Dolly Varden are predominately anadromous and have never been recorded in Oregon coastal streams. Although similar in appearance to the bull trout, S. malma may be more closely related to the arctic char (Salvelinus alpinus) (Cavendar 1984).

Historically, the bull trout was found in most major river systems in the Pacific Northwest. However, most populations outside of wilderness areas have shown accelerated declines in distribution and abundance in the last 30 years. In fact, many populations have been extirpated. An explanation for this decline may be related to the special habitat requirements of spawning adults and rearing juveniles. Bull trout, unlike most other salmonid species, require nearly pristine stream habitat and water quality in order to maintain viable populations. Maximum high water temperatures that they will tolerate are believed to be around 64°F but they prefer water that is much cooler.

Spawning adults require clean gravel with low levels of fine sediments and deep pools for overwintering. Rearing juveniles require habitat with clean, cool water, abundant woody debris, and are often found around overhanging stream banks and debris jams.

Bull trout are predominately bottom dwellers, preferring clean gravel or cobble substrate. They are aggressive by nature and highly piscivorous in their feeding habits, characteristics that make them vulnerable to sport angling pressure since they are easily caught.

Bull trout can be divided into several life history types, based mainly on migration characteristics and size. Non-migratory resident populations live in smaller headwater streams and tributaries during their entire life cycle. These isolated stocks mature at an early age, reach a maximum size of 8 to 12", and have low fecundity. Migratory populations spawn in the smaller headwater streams and then

return downstream to larger rivers (most common) or lakes. Their offspring generally rear for 2-3 years close to where they were spawned, then migrate downstream to live in a larger river or lake until they reach sexual maturity. They then join the yearly upstream spawning migration in late August, September, and October, thus completing the cycle. The fish in these migratory populations commonly reach sizes in the 5 to 15 lb. range.

Historically, bull trout inhabited most of the North Fork John Day River and its tributaries (Oregon Department of Fish & Wildlife Reports 1949-1979). Surveys were conducted in 1990 by the ODF&W for sensitive species in portions of the John Day River basin. Bull trout were found to exist as small populations in isolated sections of the North Fork John Day River and some of its tributaries. Most of these relict populations are apparently of the resident non-migratory life history type. However, there are still scattered reports of the larger migratory types being seen in the upper North Fork during the spawning period. From this we could speculate that these fish are surviving due to the water quality and habitat available in the downstream wilderness section of the river on the Umatilla National Forest.

Bull trout are rated as at moderate to high risk of extinction throughout the North Fork John Day River drainage (Ratliff and Howell, 1992). Mining, logging, road building, and livestock grazing are the activities that have seriously degraded water quality and fish habitat. Comprehensive surveys are needed in the analysis area to determine the presence, distribution, and life history type of the remaining populations of bull trout.

Redband/Inland Rainbow Trout

All native trout belonging to the rainbow trout complex (Oncorhynchus mykiss sp.) that are found east of the Cascade Mountains, are assumed to be of the redband/rainbow variety (Oncorhynchus mykiss gairdneri). These fish can be generally differentiated from coastal rainbow (O. mykiss irideus) on the basis of morphologic and meristic characters, and by electrophoretic genetic analysis. However, hybridization and gene flow between interior redband and coastal rainbow trout probably occurred during and after the last glacial epoch some 30,000 years ago (Behnke 1992).

Both resident non-migratory redband/rainbow trout and its anadromous (ocean going) form known as steelhead are found in the NFJD drainage.

Little is known about the specific life history characteristics of resident populations of redband/rainbow in the NFJD drainage. In general, they are spring spawners and often ascend smaller tributaries to spawn. Fish sampling by the ODF&W in the upper North Fork John Day drainage has found that an average of about 15% of the redband/rainbow population are resident/non-anadromous fish, with the other 85% being rearing steelhead juveniles (personal communication, Errol Claire, 1993).

Habitat affects all life history stages of redband trout, including spawning, incubation, rearing, and upstream and downstream migration. Habitats range from high-gradient headwater streams to low-gradient meandering streams, to larger streams like the North Fork John Day below Trail Creek. Redband/rainbow can tolerate a wider range of environmental conditions than bull trout. Some populations have adapted to surviving in intermittent streams with high summer maximum water temperatures in excess of 78°F and low dissolved oxygen levels. In general, however, temperatures of 54-64°F could be considered optimal for growth and production.

As with most other stream salmonids, the presence of large woody debris is an essential part of good habitat. Large woody debris traps spawning gravel and helps to form pools. Pools with large woody debris provide excellent cover for rearing juveniles as well as a nutrient source for aquatic insects, which are often the main food source for fish. Pool habitat is a critical part of redband/rainbow habitat. The fish biomass in a stream is often proportional to the quantity of pool habitat. Deeper pools are better and the presence of large woody debris and overhanging riparian vegetation greatly increases the value of pool habitat.

Clean gravel for spawning is necessary for optimum redband/rainbow populations. If there is too much embeddedness (silt load high enough to "cement" gravel together), it becomes difficult for the fish to create a redd (spawning depression) as they can't loosen and dig the gravel out with their tail. The percent of siltation or surface fines (particles smaller than 2 mm) is also critical to spawning success. Egg and alevin (sac fry) survival is inversely related to the

percent of silt in the gravel. Large amounts of silt prevent oxygen flow and eggs or alevins suffocate. Heavy siltation may also prevent emergence of alevins from the gravel.

Redband/rainbow are generally found throughout the North Fork John Day drainage in those areas where water quality and habitat is sufficient to allow their survival. The only exception to tying redband/rainbow distribution to water quality may be in the very headwaters of the upper North Fork (above North Fork Meadows) and Baldy Creek, in the wilderness area. Fish sampling by the ODF&W in this area has determined that salmonid fish present are almost entirely bull trout, with an odd eastern brook trout that drops down out of Baldy Lake (personal communication, Errol Claire, ODF&W, 1993).

The anadromous form of redband/rainbow are called steelhead. All redband steelhead (Columbia River basin populations east of the Cascades) are summer-run fish except for Fifteenmile Creek near The Dalles. The Fifteenmile fish are winter-run fish and are more closely related to coastal rainbow, apparently from being near the Cascades eastside/westside interface (Behnke 1992).

Summer steelhead in the North Fork John Day River are a pure wild stock with no hatchery influence (personal communication, Errol Claire, ODF&W, 1993). Therefore, they are an extremely valuable genetic resource as almost all other steelhead populations in the mid-Columbia River Basin are hatchery influenced and thus genetically diluted.

Historically, the North Fork John Day River and most of its larger tributaries have been used by steelhead for spawning and rearing habitat. Because of a number of consecutive drought years (through 1992), some of the traditional tributaries were not used by steelhead due to extremely low flows that limited their access. Annual steelhead spawning index counts have been done by the ODF&W since 1959 in the John Day River basin. The ODF&W management goal is 8.6 redds/mile for the basin. For 1989, '90, and '91, the redds/mile were 3.2, 4.0, and 2.4, respectively. For 1992, the redds/mile increased somewhat to 5.7, which was a slight improvement of 4% above the most recent 5-year average of 5.5 redds/mile, but still 34% below the steelhead spawning escapement goal of 8.6 redds/mile.

Adult steelhead enter the John Day River in midsummer and reach the North Fork and upper tributaries in late summer and early fall. They overwinter and then spawn in the spring, during higher flows and cool stream temperatures. After emerging from the gravel, the juveniles rear for an average of two years, then migrate to the ocean in the spring of their second year. The majority of these fish spend two years in the ocean before migrating back to the John Day River system as adults.

## Stock of Special Concern

Spring chinook salmon in the North Fork John Day drainage are listed as a stock of special concern by the American Fisheries Society. These fish are thought to be the only remaining genetically viable (greater than 300 returning adults) population of wild spring chinook in the entire Columbia River Basin. The South Fork Salmon River in Idaho, and the Wenaha River and Lostine River in Oregon have some wild spring chinook still returning, but are termed relict populations because of their low numbers. All other rivers that support spring chinook salmon in the Columbia drainage thus have some degree of hatchery influence in the gene pool.

The North Fork John Day stock is also considered to be invaluable by researchers and biologists, in that these fish only have to pass three mainstem Columbia River dams (Bonneville, The Dalles, and John Day) before entering the totally free-flowing John Day River. As such, they are used as a comparison of relative mortality at dams (for both returning adults and downstream outmigrant smolts) with those spring chinook stocks that must survive seven or eight dams between the ocean and some of the Snake River tributaries.

There are several federally mandated plans that involve the John Day River spring chinook salmon. The Northwest Power Planning Council's (NWPPC) Columbia River Basin Fish and Wildlife Program calls for long-term planning for salmon and steelhead production. Specifically, the Council has directed the region's fish and wildlife agencies, and Indian tribes to develop a systemwide plan consisting of 31 integrated subbasin plans for major river drainages in the Columbia Basin. The John Day River is one of these 31 major subbasins. The main goal of this planning process is to develop options

or strategies for doubling salmon and steelhead production in the Columbia River.

The Salmon Summit Agreement was signed by the Regional Foresters for Regions 1, 4, and 6. It directs those Forests with anadromous fish in the Columbia Basin to list water diversions, mining activities, and grazing allotments that are located in anadromous drainages. It also directs the Forests to list possible land acquisitions that could be made which would ultimately improve fish habitat and water quality through proper management.

The Columbia River Basin Anadromous Fish Habitat Management Policy and Implementation Guide was signed by the Regional Foresters for Regions 1, 4, and 6. While the fish and wildlife agencies for Oregon, Washington, and Idaho, along with the Columbia River tribes have primary responsibility for management of anadromous fish populations, the Forest Service has primary responsibility for management of fish habitat on National Forest Lands. It is the policy of Regions 1,4, and 6 to fully support and participate in the achievement of Columbia basin anadromous fish restoration goals. The Policy Implementation Guidelines are premised on a landscape ecology view of fish habitat management, specifically, that natural production of fish habitat is directly influenced by the condition and function of watersheds, particularly the riparian portion of a watershed. Riparian areas play a key role in defining the quality of water, fish, and selected wildlife and plant resources. For this reason, the value of riparian areas is greatly disproportionate to the percentage of land base they occupy. In recognition of this importance, the Forest Service has afforded riparian-dependent resources preferential management over other resources in cases of conflict (FSM 2526).

The North Fork John Day River annually attracts about 70% of the distribution of the distribution of adult spring chinook in the John Day basin. Adult fish reach resting pools in the upper North Fork, Granite Creek, and Clear Creek in late June and spawn in late August and early September. The juveniles spend a year or so in the stream, then migrate to the ocean as smolts in the spring.

Until 1992, all areas in the John Day subbasin, except the North Fork Wilderness, have had steady decreases in spawning index counts since the higher counts of 1986 and 1987. The Granite Creek system on the upper North Fork has had the most significant reductions, while the North Fork Wilderness has had relatively good returns. Average redd density for spring chinook index areas increased in 1992 to 13.2 redds per mile for the John Day basin overall. The overall North Fork average increased from 6.4 redds/mile in 1991 to 18.8 redds/mile in 1992, with the North Fork Wilderness count the highest ever, at 28.1 redds/mile.

**Watershed**

In 1986 Pfankuch's "Stream Reach Inventory and Channel Reach Evaluation" was conducted by the Umatilla National Forest for their portion of the North Fork John Day River outside of wilderness. The results indicate the riparian habitat is in fair condition. Surface shading is poor to fair for this section of the river with an average of 26.86% shade. Mass wasting of the upper banks and cutting of the lower banks is a reoccurring problem in this area. Woody debris is essentially absent from the channel area. The average gradient is 1% and the average summer low flow during the survey was 111.08 cfs. Pool rating is poor to fair due to the depth and the lack of cover. No migration barriers were observed. Salmon smolts and adult chinook salmon were observed throughout this area. Chinook salmon were observed making redds. (The complete stream inventory for this area is located at the North Fork John Day Ranger District, Ukiah, Oregon.)

A Hankin and Reeves Stream Inventory was conducted in 1991 on the entire Wild & Scenic portion of the North Fork John Day River by the Wallowa-Whitman National Forest.

Results from the inventory indicate a good riparian area, inadequate stream shade, and a poor percentage of pools available as fish habitat. Pool habitat is 5% of the total stream area with an average pool depth of 3.60 feet. The percent of pool/riffle/glide for the entire river is 5/75/16 with 4% inside channels. The average sinuosity is 1.0, and average gradient is 2.05%. The stream substrate is primarily cobble and gravel. The stream shade is fair (20-39%), and the effective hiding cover averaged 2.7%. Over 50% (53.9%) of the stream banks were stable with grass-forbs as the dominant riparian cover. Hiding cover is provided by substrate (50%) and depth >1m. (19%), turbulence/woody debris (11%) and aquatic vegetation (8%).

**Stream Temperatures**

From 1982-87 stream temperature data was collected from the lower portion of the North Fork John Day River, near Otter Creek and Turner Basin. From 1982-84 temperatures did not exceed 68 degrees fahrenheit. In 1985, 16 days were recorded with temperatures exceeding 68 degrees between July 12 and July 28. In 1986, one day exceeded 68 degrees, and in 1987 there were 19 such days recorded throughout the summer. These temperatures exceed ideal habitat conditions for steelhead, spring chinook and bull trout. Temperatures above 68 degrees exceed State of Oregon Water Quality Standards and favor non-game fish. Presently the North Fork does not produce water over 68 degree for long periods of time, mainly because of the contribution still available from cold water tributaries. (Stream temperature data from this area is located at North Fork John Day Ranger District, Ukiah, Oregon.)

Water temperatures were monitored this summer on the Wallowa-Whitman portion of the North Fork John Day River. Temperatures were monitored in two places: above the North Fork Campground and near Peavy Cabin. Average maximum temperatures above the campground were 61 degrees F., with a high of 72 degrees F. on August 17, 1992. Average maximum temperature near Peavy Cabin was 57 degrees F., with a high of 62 degrees F. on August 17, 1992. (Stream temperature data from this area is summarized in the 1992 Stream Temperature Report at the Baker Ranger District, Baker City, Oregon.)

**Water Condition**

The 1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution describes and assesses over 70 miles of the North Fork John Day River as one segment, not specifically identifying any one area. The assessment states that the North Fork John Day River has a pollution problem. Turbidity and erosion are listed as a moderate problem. DEQ states that fish and aesthetics have both been impacted. The probable causes, listed as disturbances, are: surface erosion, changes in flow pattern and timing, elimination of thermal cover, traffic and a decline in the alluvial water table. Alterations listed were water withdrawal, channelization and wetland drainage.

**Riparian Habitat**

The riparian habitat area for the North Fork John Day River has been historically used for mining, cattle grazing, road building, recreation and timber harvest. Historical mining has left eroding stockpiles, eroded banks, reduced bank stability and a reduction of riparian shrubs. Cattle grazing has been eliminated from the drainage but reduced riparian hardwoods are still evident. Roads are a significant source of sediment delivered to streams. In the North Fork John Day watershed, open road densities in most areas outside the Wilderness are not currently meeting Wallowa-Whitman National Forest Standards and Guidelines (equal or less than 1.5 miles/ sq. mile). A significant number of roads are maintained in an open status to accommodate mineral claim activity. The use of these roads continue to impact water by adding sediments. Recreational camping and vehicle parking occurs in the immediate floodplain, sometimes within a few feet of the river. This causes bank erosion and sediment production into the river.

The timber stands of the North Fork John Day basin are currently in various states of decline due to insect infestation. Trees have been affected by the spruce budworm, Douglas-fir bark beetle, tussock moth, and mountain pine beetle. The insect infestation has affected the fir species almost exclusively. Many of the infested trees are located within the special fish management area (an area identified in a Congressional report and identified in the Forest Plan), which is currently deficient in large wood and shading.

**MANAGEMENT DIRECTION AND DESIRED FUTURE CONDITION**

Land allocations for the analysis area designated by the Umatilla National Forest Land and Resource Management Plan (LRMP) are described as Management Areas. The Management Areas for the North Fork John Day River are A-7, Wild & Scenic Rivers, and B-1, Wilderness. Land allocations designated by the Wallowa-Whitman National Forest Land and Resource Management Plan (LRMP) are Management Area 7, Wild and Scenic River and Management Area 4, Wilderness.

**The Umatilla National Forest Wild and Scenic Management Area (A-7)**

Each component of the Wild and Scenic River System will be administered to protect and enhance the values for which the rivers were classified and to provide public use and enjoyment of those values. Emphasis will be given to protecting the outstandingly remarkable values for which the river was designated. Anadromous fisheries, wildlife, aesthetic, scenic, historic, archeologic, scientific and other features will be protected. Approved management plans will establish detailed corridor boundaries and specify management activities, land acquisition, easements, and other information necessary to protect each segment of the rivers.

**Management area A-7 standards and guidelines for wildlife and fish are:**

Wildlife and fish habitat improvement, development, and maintenance projects are permitted, provided Wild and Scenic Rivers objectives are met. Dead and down tree habitat will be managed to provide 80 percent of the potential population level for all primary cavity excavators.

**Management area A-7 standards and guidelines for water and soil are:**

All dams, diversions, levees, and hydroelectric power facilities are prohibited within the management area.

**Management area A-7 standards and guidelines for minerals are:**

Subject to valid existing rights, minerals that constitute the bed or bank or are situated within one-quarter mile of the bank of any river designated a Wild river are withdrawn from appropriation. On other river sections, through analysis and consideration of all public values, including minerals values, rivers may be recommended for withdrawal from mineral entry where appropriate and necessary.

**Umatilla National Forest Wilderness Management Area (B-1)**

**Management area B-1 standards and guidelines for fish and wildlife are:**

Wildlife viewing, hunting, and fishing are appropriate uses of Wilderness. Wildlife and fish habitat management will be permitted where they conform to the management of the wilderness resource. Re-establishment of indigenous species is permitted, subject to environmental assessments and Regional Forester approval.

**Management area B-1 standards and guidelines for water and soil are:**

Protect full natural flow of streams within the Wilderness, except for valid water rights existing at the time of classification. Water developments may be authorized by the President where such developments are deemed necessary. Meet Forest-wide Standards and Guidelines for soil and water.

**Management area B-1 standards and guidelines for minerals are:**

The wilderness is closed to mineral entry and mineral leasing, subject to valid existing rights. Occupancy, structures and use of motorized and mechanized equipment related to mining activities are permitted to the extent allowed by law and regulations. Every reasonable effort should be made through the Operating Plan to minimize their effect on the wilderness resource, compatible with rights of claimants and lessees. Geological and mineral surveys may be performed by the U. S. Geologic Survey and Bureau.

**The Wallowa-Whitman National Forest Wild and Scenic Management Area (7)**

**Management Area 7 standards and guidelines for Watershed are:**

Construction of water impoundments, diversions, straightening, riprapping, and other modification of the waterways will generally not be allowed. Exceptions would include protection of major improvements (such as an existing bridge) and then only to the extent that they do not diminish the values that caused the river to be designated. Instances where any construction activities are permitted are expected to be very rare and small scale.

**Management Area 7 standards and guidelines for Minerals are:**

> Formal designation by Congress as a Wild river precludes further mineral entry but does not affect valid existing rights. Evaluate proposals for activities in Scenic and Recreational segments to prevent pollution and unnecessary impairment of scenic quality.

Permit no new entry into Study rivers pending study completion.

**Management Area 7 has no standards and guidelines for fish.**

**The Wallowa-Whitman National Forest Wilderness Management Area (4)**

**Management Area 4 standards and guidelines for Watershed are:**

> Apply Forest-wide standards and guidelines.

**Management Area 4 standards and guidelines for Minerals are:**

> Designated Wilderness is withdrawn from further mineral entry, but mining on valid claims that existed prior to December 31, 1983, or establishment of the Wilderness (whichever is later) may continue.

**Management Area 4 standards and guidelines for Wildlife (re: fish) are:**

> Permit fish stocking and wildlife reintroduction only where compatible with overall wilderness objectives.

## B. Recreation

**Umatilla National Forest - Existing Recreation Condition:**

The North Fork John Day River corridor provides a wide variety of recreational opportunities for the forest visitor, including hunting, fishing, horseback riding, camping, gold panning, hiking, water play, sightseeing, cross-country skiing and snowmobile travel. The river segment in wilderness is paralleled by the North Fork John Day River Trail, #3022. Numerous trails leading to and from the river provide scenic and challenging hiking and horseback riding opportunities. River segments outside wilderness are easily accessed by roads and provide a full range of recreational opportunities.

Two developed campgrounds (North Fork John Day CG, and Tollbridge CG), three Forest Camps (Oriental, Gold Dredge, Driftwood), and numerous dispersed campsites are located within the corridor. These sites are used throughout the summer and fall months, especially during the big game hunting and fishing seasons. Opportunities for establishing two additional campgrounds/day-use areas/river access points are found near the junctions of Roads 55/5506 and Highway 395/Road 3963. Three trail head facilities are located within the corridor to provide access to the river and Wilderness area.

Heaviest use in the river corridor occurs in the summer and fall seasons. This use is primarily associated with camping, fishing, and upland bird and big-game hunting, drawing many visitors from outside the area. Big-game hunters utilize this area heavily during the fall in search of the high quality hunting for which the area is known. Fishing along the banks of the North Fork John Day River is also very popular, while recreational gold mining is another activity pursued by visitors. Only during the spring runoff period are the last few miles of the designated portion of the river floated by rafts, canoes, or kayaks. Pursuit of this recreational opportunity is currently modest, probably due to the very short season, and below the expected carrying capacity of the river. Some snowmobiling and cross-country skiing occurs during the winter months.

Six outfitter guide are currently permitted within the North Fork John Day Ranger District. One operates within the Wild river segment and the remaining are district wide permits (outside the Wild river segement). One of the six does not have access to the river corridor. There is only occasional use within the river corridor. These permits are for cougar/bear and/or elk hunting.Only occasional use . No permits exist for floating the river and none are expected as the is has a short float season and does not have a high use.

**Wallowa-Whitman National Forest - Existing Recreation Condition:**

The North Fork John Day River corridor provides a wide variety of recreational opportunities for the forest visitor, including hunting, fishing, horseback riding, camping, gold panning, hiking, water play, sight seeing, cross-country skiing and snowmobile travel. The river segment in wilderness is paralleled by Trail #1640. Several trails lead to the Elkhorn Crest National Recreation Trail. This trail follows the crest of the glaciated Elkhorn Mountains and affords spectacular views of the North Fork John Day River headwaters.

River segments outside wilderness are easily accessed by roads and provide a full range of recreational opportunities. Visitors to the area often travel the Elkhorn Drive National Scenic Byway, which is adjacent to part of the North Fork John Day Wild and Scenic River.

Heaviest use in the river corridor occurs in the summer and fall seasons. Use is primarily associated with camping, fishing, and big-game hunting, all drawing many visitors from outside the area. Big-game hunters utilize this area heavily during the fall in search of the high quality hunting for which the area is known. Fishing along the banks of the North Fork John Day River is also very popular. Some snowmobiling and cross-country skiing occurs during the winter months.

Only one outfitter guide is currently permitted within this area. This use within the river corridor is only occasional. The permit is district wide for the Baker Ranger District and is for cougar/bear. No permits exist for floating the river and none are expected as is not floatable.

**Current Umatilla Forest Plan Direction**

Forest Plan direction is summarized as follows: (1) river-oriented recreational opportunities may be provided, consistent with maintaining and protecting the OR values; (2) river area recreation will be managed to an Recreation Opportunity Spectrum (ROS) compatible with the river classification: Wild sections managed as wilderness with primitive to semi-primitive non-motorized recreation, Scenic sections managed for semi-primitive non-motorized and motorized activities, Recreation sections managed as roaded natural; and (3) trail and recreation facility construction, reconstruction, and maintenance are permitted in all classes.

**Current Wallowa-Whitman Forest Plan Direction**

Forest Plan direction is summarized as follows: (1) permit only primitive recreation developments within the Wild river segments, while primitive or non-primitive development may occur along Scenic and Recreational segments, (2) maintain existing river access points and establish no new access until a management plan for the river is completed; (3) allow off road vehicle use to continue on existing routes, but no new routes or areas will be established; and (4) manage trails consistent with objectives for the individual river segments.

## C. Scenery

**Current Umatilla Forest Plan Direction**

| River Classification | Visual Quality Objective |
|---|---|
| Wild | Preservation |
| Scenic | Retention |
| Recreation | Partial Retention |

The Forest Plan direction is summarized as follows: (1) activities within the corridor will maintain the Visual Quality Objectives (VQO) as designated; (2) principles of visual management will be applied so that positive attributes of a managed forest can be enjoyed while negative visual aspects of activities will be minimized; (3) landscapes containing negative visual elements will be rehabilitated, and (4) landscapes may be enhanced by opening views to features of interest.

**Existing Visual Condition:**

The Wild and Scenic River corridor on the Umatilla National Forest runs generally east to west and can be characterized as a narrow canyon with steep hillsides containing a diversity of landforms and vegetation that captures the attention of the viewer. The river corridor is very scenic, from the open ponderosa pine stands and wider stretches of the river, to dense fir stands and narrow rock canyon walls.

The north and south sides of the river differ greatly in vegetative composition, as well as in the variety of past human activities. The south side of the river has less evidence of past logging activity and consists of heavily stocked mixed conifer or fir stands. Tree species include grand fir, Douglas-fir, western larch,

ponderosa pine, and small amounts of lodgepole pine. Due to the reduced amount of harvest activity, size and age classes tend to be more narrow and uniform, with less regeneration under the closed canopies. A few of the stands are more open where logging has occurred or where open ponderosa pine stands have been maintained. Much of the fir along the river has been severely impacted by spruce budworm defoliation and bark beetle infestations, resulting in sparse, dying crowns and many dead trees. This has negatively affected the scenic value along this portion of the river. Other visual characteristics include rock outcrops, grass-sedge meadows, two historic structures associated with mining activity, one historic homesite, three forest camps, and two developed campgrounds.

The north side of the river consists of a variety of open areas, from open ponderosa pine stands to grassy scab rock slopes and rock walls. The upper reaches in the Wilderness include some mixed conifer stands. Some of the pine stands outside wilderness have been partially cut in the past; this activity is relatively old and not readily apparent. Tree regeneration occurs in the openings, with an intermediate story of young to mature pine and scattered dominant old growth pine over the top, creating more diversity in size and age classes. State Highway 395 and Forest Roads 5500 and 5506 provide access along the river on this side, running parallel to the river. There are three established Forest Camps along the route, visible from the river as well as the roads. Several mining claims are scattered along the corridor, with associated signs of human activity including fences, gates, driveways, and minor amounts of equipment.

During the 1930's and 1940's, a gold dredge operated in the river itself and large tailing piles from this operation are still evident in the corridor.

Several bridges cross the river within the viewshed. One is located at the intersection of Roads 55/5505/5506, a second at the intersection of Roads 55/10 near Tollbridge campground, a third at the intersection of Highway 395 and Road 55, a fourth occurs at Highway 395 and Road 3963, and the last is at the west end of the viewshed as Highway 395 crosses Camas Creek.

There are sections of privately owned land that encompass one or both sides of the river in the lower section of the corridor. These areas include some large dispersed campsites centered around the 55/5505/5506 and 395/3963 road junctions, and some evidence of recent partial cutting on the south side. The upper north side of the downriver section of the corridor is designated as Big Creek Game Management Area. It is visible from the river and is owned and administered by the Oregon Department of Fish and Wildlife.

**Current Wallowa-Whitman Forest Plan Direction**

| River Classification | Visual Quality Objective |
|---|---|
| Wild | Preservation |
| Scenic | Retention |
| Recreation | Partial Retention |

The Forest Plan direction is summarized as follows: (1) activities within the corridor will maintain the VQO's as designated, (2) principles of visual management will be applied so that positive attributes of a managed forest can be enjoyed while negative visual aspects of activities will be minimized.

**Existing Visual Condition**

The Wild and Scenic River corridor on the Wallowa-Whitman National Forest runs generally south to north in the Baldy Unit of the North Fork John Day Wilderness and generally east to west outside of the Wilderness. The designated river corridor contains a diversity of landforms and vegetation that captures the attention of the viewer.

The headwaters of the North Fork John Day River is located in the Baldy Unit of the North Fork John Day Wilderness, which comprises approximately 15,000 acres of scenic alpine lake basins. The headwaters and the overlapping Wilderness is in the glaciated Elkhorn Mountains. The south side of the river is characterized by stands of lodgepole pine, interspersed with stands of mixed conifer. Spruce and western larch are found near the river. Subalpine fir is present above 6,000' in elevation.

The north side of the river is outside of Wilderness and has had past harvest activities for removal of beetle-killed lodgepole pine. The associated conifer species remain. Several large meadows and other smaller wetland areas provide diverse scenery and outstanding wildlife habitat. An "old growth" aspen stand along the river corridor is part of the proposed Cougar Meadow Research Natural Area, as recom-

mended in the Forest Plan, and is a notable plant community feature.

Forest Road 73, which parallels the North Fork John Day River outside of Wilderness, is included in the National Forest Scenic Byways Program. The intent of this nation-wide program is to identify those roads which travel through the spectacular scenery of the National Forests. Recognition was given to this portion of road, due in part to the scenic beauty provided by the river environment.

## D. Wilderness

**Current Umatilla Forest Plan Direction:**

River sections located within wilderness will be managed under Wilderness or Wild and Scenic River principles, standards and guidelines, whichever is most restrictive.

**Existing Wilderness Condition:**

The North Fork John Day Wilderness was congressionaly designated in June 1984, thereby predating the Wild and Scenic River designation by four years. The Wilderness, and Wild and Scenic River corridor within it, is managed as a primitive or semi-primitive, non-motorized recreational experience. The North Fork John Day River winds through the center of the main Wilderness unit, and a trail traverses its length from Big Creek Trailhead on the west end to North Fork John Day Trailhead on the east end. Visible from the river and trail is evidence of the large amount of historic mining activity that occurred here, as well as some small-scale current mining on valid, existing mineral claims. An established system of trails leads in and out of the river canyon to various access points on the uplands. Most of these trails were originally established as mining roads or motorcycle trails, but since the designation of the Wilderness they have been managed for non-motorized use only.

**Current Wallowa Whitman Forest Plan Direction:**

River sections located within Wilderness will be managed under Wilderness or Wild and Scenic River principles, standards and guidelines, whichever is most restrictive.

**Existing Wilderness Condition:**

The North Fork John Day Wilderness was congressionaly designated in June 1984, thereby predating the Wild and Scenic River designation by four years. The Wilderness, and Wild and Scenic River corridor within it, is managed as a semi-primitive, non-motorized recreational experience.

## E. Wildlife

**Existing Condition**

The North Fork John Day Wild and Scenic River Corridor and adjacent areas support a wide variety of wildlife species. Populations are thought to be generally stable. The North Fork John Day river drainage is used as a major migration route by big game species. Approximately 2,500 Rocky Mountain elk migrate in and around the drainage from their summer range in the Elkhorn Mountains to their winter range in the Bridge Creek Wildlife Area. Approximately 1,000 mule deer also use the drainage as a similar migration route. A small population of white-tailed deer reside in the dense, brushy, mosaic-type habitat found at lower elevations.

There are documented sightings of black bear, cougar, bobcat, and wolverine in the river drainage. Populations of these species are thought to be low to moderate in numbers, based on the number and frequency of sightings. The wolverine is a Pacific Northwest Region sensitive species and is listed as threatened by the Oregon Department of Fish and Wildlife.

There are numerous sightings of bald eagles wintering along the North Fork John Day River near the confluence of Camas Creek at the lower end of the Wild and Scenic Corridor. The bald eagle is listed as threatened both by the U.S. Fish and Wildlife Service and ODFW. Golden eagles occur throughout the river corridor. Osprey also utilize most of the corridor. Perch trees and nest trees have been found along the river's lower reach.

A variety of woodpeckers are present in the river corridor including the pileated woodpecker, an indicator species of old-growth habitat. Goshawks and great gray owls also utilize the area.

Furbearers such as beaver, mink, and river otter, all dependent on aquatic habitats, reside along the river. The corridor also contains habitat for a variety of small mammals including pine marten, squirrels, chipmunks, and snowshoe hares.

A great variety of migratory songbirds use the riparian vegetation and adjacent coniferous forest for nesting and foraging. These habitats are critical to the survival of many of these species.

Several species of reptiles and amphibians also inhabit the river corridor, including snakes, lizards, salamanders, Pacific tree frog, and western toad.

In general, excellent wildlife habitat exists in the Wilderness portions of the watershed. Natural wet meadows in the upper reaches of the North Fork John Day River are in near pristine condition, having not been grazed by sheep for approximately forty years. This area provides high quality habitat for a variety of wildlife. Riparian areas are also in very good condition in the Wilderness. Within the Wilderness area on the Umatilla National Forest, portions of the river are bounded by rock outcrops, cliffs, and steep side slopes, forming river canyons. These are unique features and provide habitat for cliff-dwelling species of birds and bats.

Impacts from resource use and management such as timber harvest, mining, road construction, and fire suppression have degraded portions of the river corridor, generally outside of wilderness. Recreational use has impacted some of the open meadows and riparian areas. Several large meadows and other smaller wetland areas do provide diverse and outstanding wildlife habitat. The north side of the river has had past harvest activities for removal of beetle-killed lodgepole pine.

The amount of dead and dying trees due to insect infestations and recent fires has created very good habitat for a variety of woodpeckers and for great gray owls. Burned areas also provide habitat diversity and good forage for deer and elk.

An important wildlife habitat feature of the North Fork John Day Wilderness and Wild and Scenic River area is a natural, relatively undisturbed ecological corridor, part of which forms a link between the designated North Powder Wild and Scenic River and the North Fork John Day River. This corridor extends over a saddle (7400 feet) in the Elkhorn Mountains. The entire stretch of Wild and Scenic sections on both these rivers, plus the saddle dividing these two drainages, constitutes a geographical and vegetational corridor through which a variety of wildlife species can travel, forage, reproduce, and find shelter. This corridor is approximately 64 miles in length, with the connecting area over the saddle being only about one mile long. The saddle is included in Management Area 6, Backcountry, of the Wallowa-Whitman National Forest Plan. It is currently roadless, and has only one hiking trail.

**PETS (Proposed, Endangered, Threatened, Sensitive) Wildlife Species**

Three animal species in this category have been documented by District personnel in the river corridor: the bald eagle, wolverine, and an invertebrate - the Blue Mountain cryptochian, a type of caddis fly. Potential habitat exists in the river corridor and surrounding areas for eight other sensitive species of birds and mammals.

## F. Vegetation (Including Forest Health)

The headwaters and upper reaches of the North Fork John Day River are characterized by stands of lodgepole pine interspersed with mixed conifer. Englemann spruce and western larch are present near the river. Subalpine fir occurs above 6000' in elevation. A deciduous component of alder and willow is present along the river in spots. Areas north of the river, and outside of wilderness, have had past harvest activities for removal of beetle-killed lodgepole pine, leaving the associated tree species. Several large meadows, moist to wet, and smaller wetland areas such as seeps and bogs are occupied by a wide diversity of aquatic and mesic plant species, including sedges, rushes, grasses, cattails, pondweeds, and mosses. The meadows are rich in forbs and grasses. An "old growth" aspen stand within the upper river corridor is part of the proposed Cougar Meadow Research Natural Area and is a notable plant community feature. Farther downstream rock outcrops, rimrock topography and sheer cliffs are habitat for entirely different plants than those found in the forested, shaded areas. Most of these are adapted to growing in very shallow soils or even in cracks in the solid bedrock. Stands of conifers in rocky areas within the side canyons and along the river consist of ponderosa pine, Douglas fir, and western larch.

**PETS Plant Species**

There is one documented sensitive plant in the upper river corridor, a grapefern - Botrychium minganense. This species was discovered in the fall of 1992 when the plants were senescent and population numbers could not be determined. This will be done during 1993. There are large areas of habitat for a number of species of Botrychiums, and it is almost certain that more exist within the river corridor. Overall, there is potential habitat for at least 16 species of sensitive plants along the corridor.

**Forest Health**

The North Fork John Day River Wild and Scenic Corridor is approximately 10,791 acres, 65% of which is classified as plant communities capable of supporting stands of grand fir and Douglas-fir. The interim management direction for the river is Management Area A7 (Umatilla Forest Plan) and Management Area 7 (Wallowa-Whitman Forest Plan).

Many of the fir stands on the North Fork John Day River are in poor condition and massive mortality has occurred in some because of:

1. acceptable past management practices,
2. nearly a century of fire exclusion,
3. several years of drought,
4. a decade of epidemic defoliation by western spruce budworm,
5. an epidemic of bark beetle activity, and,
6. a general increase in damages caused by dwarf mistletoes, stem decays and root diseases.

Past harvesting practices and fire exclusion have allowed stands previously dominated by earlier successional species such as ponderosa pine and larch to be invaded by shade tolerant species such as grand fir and Douglas-fir. These shade tolerant species become established and continue to regenerate in their own shade. This has resulted in increased total stocking of the less disease and insect resistant fir species. Stand conditions vary in the Scenic corridor from wholesale destruction in fir dominated stands to healthy, more resistant pine stands.

Following a decade of western spruce budworm infestation and its defoliation of grand fir and Douglas-fir, the numbers of Douglas-fir beetles began growing. Those Douglas-fir already weakened by drought and defoliation were more susceptible to the beetle and many were killed.

Grand fir dominated stands with excessive mortality levels have numerous problems that exist or will develop if left untreated. Long suppressed grand fir stands almost always have multiple indian paint fungus infections; defoliating insect outbreaks are more frequent, more severe and last longer; and most understories have some level of defoliation. These stands will provide few future resource benefits.

In mixed conifer and ponderosa pine/Douglas-fir plant communities, Douglas-fir understories have increased because of past management activities and fire exclusion. In some cases these stands are in better condition than the grand fir dominated stands but still have heavy damages due to western spruce budworm and bark beetle. Defoliating insects can be expected to increase future damage.

The effects of this and other catastrophic events, such as potential wildfires, will create large areas of dead trees or areas devoid of trees. In many infected stands small diameter trees will begin to fall from the combined actions of decay organisms and weather. Both hiding and thermal cover will be reduced as trees lose their needles and branches and tree boles fall. As the canopy naturally opens, ground vegetation will increase and will begin to occupy the site thus delaying any natural regeneration. Natural regeneration that does occur will be scattered species that will provide less than optimum wildlife cover. The species mix in this type of stand will be dominated by grand fir and will increase the chance that the future condition of these stands will be similar to what they are now. In addition, catastrophic fire from high fuel build-up may well remove all cover in large areas, including those stands which are not now heavily infected.

## G. Minerals and Energy

The North Fork of the John Day River has a long history of placer mining that dates back to the initial placer discovery of 1845 near McCarty Gulch. Active Placer Mining took place from 1861 to 1950 as can be seen by extensive tailing piles, ditches and flumes along the river. Major placer mines were the Klopp Mine located just south of the North Fork John Day Campground and the Thornburg Mine located about 5 miles west of the Klopp Mine. These mines were worked for many years by hydraulic means in the late 1800's and early 1900's. A portion of the river east of Dale, Oregon was worked with a dragline and floating washplant in the late 1940's and early 1950's producing several thousand ounces of Gold. Total production of placer gold is estimated at $2,000,000 involving approximately 2-3 million cubic yards of gravel worked.

No major mining has taken place on the river since the early 1950's and the current level of mining is limited to handwork, small-scale placer exploration, and small suction dredges. Above the North Fork John Day Campground, the river corridor contains about 70 mining claims that pre-date the Wild and Scenic River designation. Twenty mining claims are still located within the wilderness portions of the river. Most of these wilderness claims have not had valid existing rights established. Before any significant surface disturbances could take place on the claims, a mineral examination would be conducted to establish valid existing rights before a plan of operation can be approved. Thirty-five claims are located along the river downstream from the wilderness boundary to Dale, Oregon.

Based on a 1984 U.S. Geological Survey and U.S. Bureau of Mines report, the North Fork of the John Day River contains significant resource potential for placer gold. No lode mining claims are located along the river. No geothermal, oil, gas leases or lease applications exist in or near the corridor.

Federal lands within the administrative boundary of scenic or recreation river segment downstream from the wilderness are currently open to mineral entry and subject to the operation of leasing laws and disposal of mineral materials. Mineral leases, licenses or permits are regulated under the applicable leasing or mineral material disposal regulations including, among other things, the use of conditions to safeguard the river against pollution and unnecessary impairment of scenery. The portion of the river upstream from the North Fork John day Campground has been segregated from mineral entry pending final action by the BLM on a mineral withdrawal application.