ENVIRONMENTAL ASSESSMENT
and
RIVER MANAGEMENT PLAN

NORTH FORK OF THE SPRAGUE WILD AND SCENIC RIVER

Fremont National Forest

NORTH FORK OF THE SPRAGUE WILD & SCENIC RIVER
ENVIRONMENTAL ASSESSMENT

How this document is organized...

Information in this document is divided into three parts. Part 1 is the Environmental Assessment and includes five Chapters. Chapter I is the Purpose and Need for Action. This chapter includes the significant issues. Chapter II is the Existing Condition section. This section describes the existing management situation including river related values, land uses, and social/economic considerations. Chapter III identifies management goals and objectives, and is the Desired Condition for the river. Chapter IV is a Description of Alternatives considered for management of the river. Chapter V identifies the predicted Environmental Consequences of implementation of the alternatives considered. Chapter VI summarizes Public Involvement and Consultation With Others. Part 2 reflects the alternative selected by the Responsible Official and is the River Management Plan. Part 3 is Appendix material.

What the Environmental Assessment does...

The Environmental Assessment (EA) discloses the analysis done on the North Fork of the Sprague Wild and Scenic River by the Forest Interdisciplinary Team and the environmental effects of the alternatives. It analyzes the short term, long term, direct, indirect, and cumulative effects of the alternatives. It provides a basis for the responsible official to compare and select an alternative for management of the 15 miles of the North Fork of the Sprague River designated as a Wild and Scenic River. It also assures that all pertinent environmental information and analysis that was used in arriving at a decision for management of the river is available to interested citizens, public officials, and cooperating agencies.

The EA meets the legal requirements of NEPA and its development follows the direction of the National Environmental Policy Act of 1969 and the Council on Environmental Quality regulations pursuant to NEPA (40 CFR 1500-1508). For purposes of disclosure under NEPA, the EA and the accompanying River Management Plan are treated as combined documents.

The River Management Plan...

The alternative in the Environmental Assessment that is selected by the Forest Supervisor forms the basis for the River Management Plan. The River Management Plan is intended to preserve the resource values identified within the river corridor, as well as protect and/or enhance the values determined to be outstandingly remarkable.

The River Management Plan provides the goals and objectives for management of the river. It identifies the standards and guidelines that must be met if the river's values are to be preserved, the outstandingly remarkable values maintained and enhanced, and the Desired Condition achieved. It also identifies those items that must be monitored to insure that river values are being maintained and/or enhanced.

Appendix material...

Appendix material includes items that are of importance and/or significance in regards to the river, and its designation, but doesn't fit within the context of the Environmental Assessment and/or the River Management Plan. Appendix material includes such things as the Resource Assessment for the river, a copy of the Wild and Scenic River Act, etc.

CHAPTER I PURPOSE AND NEED

THE PROPOSED ACTION

The proposed action is the development of a comprehensive river management plan for the North Fork of the Sprague River. Fifteen miles of the river were designated as a Wild and Scenic River in the Oregon Omnibus Wild and Scenic Rivers Act of 1988. This Act amended Section 3(a) of the Wild and Scenic Rivers Act (Public Law 90-542, 82 Stat. 907; enacted October 2, 1968) by adding 40 additional rivers to the Wild and Scenic Rivers (W&SR) system.

The river was designated as follows:

> "NORTH FORK OF THE SPRAGUE RIVER, OREGON.--The 15-mile segment from Head of the River Spring in the southwest quarter of section 15, township 35 south, range 16 east, to where the river leaves National Forest land in the northwest quarter of the southwest quarter of section 11, township 35 south, range 15 east, as a scenic river; to be administered by the Secretary of Agriculture."

(A copy of the Wild and Scenic Rivers Act, and the Omnibus Oregon Wild and Scenic Rivers Act of 1988 is included in Appendix B.)

The decisions to be made include the following:

Methods to preserve the resource values associated with the river and the river ecosystem, and to protect and/or enhance those river and/or river related values determined to be outstandingly remarkable.

A determination of the detailed boundary of the river corridor.

A determination of the desired condition for vegetation, including riparian, water, fish and wildlife habitat; proposed, endangered, threatened, and sensitive plant and animal species; scenic quality; geology; recreation opportunities; cultural and historic; and river access.

PURPOSE AND NEED FOR ACTION

The Wild and Scenic Rivers (W&SR) Act of 1968 states that it is "the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." It further states that "for rivers designated on or after January 1, 1986, the Federal agency charged with the administration of each component on the Wild and Scenic Rivers System shall prepare a comprehensive management plan for such river segment to provide for the protection of river values." It continues to state that "the plan shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this Act." And it states the "the plan shall be prepared, after consultation with State and local governments and the interested public within three full fiscal years after the date of designation."

The purpose of the River Management Plan is to preserve the resource values associated with the river and the river ecosystem, including the free-flow character of the river, and to protect and enhance those values determined to be outstandingly remarkable.

When the North Fork of the Sprague River was added to the Wild and Scenic Rivers system an interim boundary of 1/4 mile from either side of the river (measured from the ordinary high water mark) was established. Determining an actual, or detailed boundary that is responsive to the geography and the outstandingly remarkable values is part of the process in the development of a river management plan. The detailed boundary can not encompass more than an average of 320 acres per mile of river. Management guidelines included in the Wild and Scenic Rivers Act apply to all lands within the river corridor (see Appendix B for copy of the W&SR's Act).

Therefore an additional purpose of the River Management Plan is to determine a detailed boundary for the river corridor that provides for protection of the outstandingly remarkable river values.

ISSUES

Issues were developed from public input (meetings, letters from the public, and a field review of the river that included the public), consultation with the Klamath Tribes, and from resource specialists on the Interdisciplinary Team. The issues identified are as follows:

Boundaries

When the river was designated as a Wild and Scenic River an area 1/4 mile from each side of the river was designated as an interim corridor. Part of the development of a River Management Plan includes the establishment of a detailed boundary that is more congruent with the geography and responsive to the outstandingly remarkable values of the river, yet does not exceed an average of 320 acres per river mile.

Grazing/Livestock Management
Livestock grazing has occurred along and within the general vicinity of the river since about 1860. Some portions of the river have been heavily impacted by grazing. Riparian vegetation, including shrub species such as willow, is in a deteriorated condition in some sections of the river corridor. Grazing has had an effect on fish and wildlife values.

Because grazing has occurred along and within the general vicinity of the river for many years, the owners of the livestock have come to depend on both the forage and the water that is available within the river corridor. Loss of this forage and water may cause an economic hardship on those that depend on it.

Timber
There is merchantable sawtimber located within the river corridor. The Forest Plan states that "Timber harvesting shall not be permitted within the river corridor unless specified in completed management plans" (p. 182), and harvest of the timber could have a negative effect on scenic values, as well as the wildlife values found in the late seral and climax stage stands. If harvest were to occur within the river corridor, post timber sale activities such as brush disposal and tree planting activities could change the character of the river corridor from a natural appearing environment, to an environment that has a "managed" appearance.

Firewood has been gathered within the river corridor for many years. While the affects on scenic values are minimal, the harvest of snags within the river corridor reduces habitat for snag dependant bird species. Firewood and snag harvesting also reduces large woody debris necessary for fish habitat, aquatic diversity, and hydrologic function.

Travel and Access Management
Visitors and managers desire access to the river. Most visitors feel that the existing access points provide adequate access to the river.

Managers and resource specialist have both voiced concerns about the places along the river where tank trucks fill up with water (called "water chances"). In addition to the actual water that is removed from the river with these usages, large tank trucks moving that close to the water could add sediment to the river .

Cultural, Historic & Traditional Use-Cultural values
Several hunting/gathering sites exist within the upper portion of the river corridor, but an on-the-ground survey for such sites within the lower portion of the corridor has not yet been conducted. The probability of significant cultural sites occurring in this latter portion of the river is low, primarily because of the steep and rugged terrain. The sites that do exist, however, need to be protected, while at the same time the public needs to be provided with the desired knowledge and understanding about previous occupation of lands within the river corridor.

No evidence of unique traditional-use activities has been found within the designated segment, nor are there any known historic sites or features within the corridor.

Fish and Wildlife
Threatened, endangered, proposed, and sensitive fish and/or wildlife species may occupy the river and/or adjacent habitats. These species are afforded special protection under the law, and may have special protection and/or habitat needs. Other unique wildlife habitat needs, such as hiding and/or thermal cover for deer, and snags for birds may require special consideration if they are to be maintained or improved.

Botanical
Threatened, endangered, proposed, or sensitive plant species, such as Green tinged paintbrush (Castilleja chlorotica) and Blue-leaved penstemon (Penstemon glaucinus), occupy areas within the river corridor. Resource specialist have expressed particular concern about management of the large meadows in the upper reaches of the river, as well as wetland and/or riparian habitats along the river.

Recreation
The river was designated as a wild and scenic river largely because of its scenic values. Any activities within the river corridor must maintain and protect these scenic values. Of particular concern are activities that have the potential to heavily impact the land (i.e. logging, mining, structural and/or non-structural range and/or wildlife improvement projects, fire and/or fire suppression activities).

Visitors and managers of the river have both asked questions concerning the affect of Wild and Scenic River designation on river use, including types of use and the experience visitors may expect. There are limited opportunities for rafting on this river, primarily because of the low water flows. At the time flows are sufficient for rafting, river access may be limited to only a few access points because of wet road conditions.

Most visitors to the river indicated a desire to maintain the river in a "natural" condition, and not encourage development. Managers of the river have expressed some concerns about sanitation and fire protection at sites used by campers and picnickers.

ISSUES THAT WERE BROUGHT UP, BUT NOT RESOLVED IN THIS DOCUMENT

Impacts to State Agencies
Oregon Division of Forestry has expressed concern about the amount of productive forest lands that may be included for protection of the outstanding remarkable values.

Effect of designation on private lands within the river corridor
Some owners of private land within the river corridor have expressed a concern that designation of the river could cause increased trespass activity. They have also expressed concern that the designation may affect use restrictions on their land.

There is no evidence that designation of the river will increase trespass activity on private land. The remoteness of the area, combined with the low recreation use in the area makes increased trespass on private land unlikely.

Should the North Fork of the Sprague River be designated as a State Scenic Waterway?

The Oregon State Parks raised the issue if the river should also be considered for State Scenic Waterway designation. While State Scenic Waterway designation could affect local zoning and/or activities on private lands within the river corridor, it is an issue that goes beyond the scope of this planning effort. All the State Scenic Waterways that currently exist within the State were established as a result of voter initiatives. Information contained within this document, or gathered during the planning process, is available to individuals and/or organizations. This includes State agencies that may want to pursue such designation.

RELATIONSHIP TO FOREST PLAN

The North Fork of the Sprague River Environmental Assessment may cause an amendment to the Fremont's Land and Resource Management Plan (L&RMP; referred to as the Forest Plan). The Forest Plan provides direction for all resource management programs, practices, uses, and protection measures on the Fremont National Forest. Since the Forest Plan is already in effect, it would be amended to incorporate the North Fork of the Sprague River Management Plan, as well as any additions to the standards and guidelines.

Planning for National Forests has two levels. The first level is the Forest Plan, and is programatic in nature. This level provides forest-wide and management area-specific standards and guidelines. The River Management Plan, as an amendment to the Forest Plan, is in this category. The second level of planning is site-specific project planning. In this type of planning individual project plans are tiered to the Forest Plan and are designed to achieve the goals and objectives of the Forest Plan. Project plans analyze specific proposals via the NEPA process.

The Forest Supervisor is the responsible official for developing the Environmental Assessment and River Management Plan, and integrating this direction into the Forest Plan. The Environmental Assessment and River Management Plan provide the management goals and objectives, the desired condition, and the standards and guidelines for the North Fork of the Sprague W&SR, including the river corridor. It also establishes the detailed boundaries for the river corridor. Second level, site specific NEPA analysis must be done for specific project plans that implement the River Management Plan. Management activities outside the river corridor must also protect the river's Outstandingly Remarkable Values (i.e scenic and geologic values).

Current management goals and objectives, and standards and guidelines for the North Fork of the Sprague River in the existing Land and Resource Management Plan are as follows:

Fremont National Forest L&RMP

The Fremont National Forest Land and Resource Management Plan addresses the North Fork of the Sprague River in its Standards and Guidelines section for Management Area 11:

> Goal: To preserve The Scenic River characteristics of the rivers and corridors designated as Scenic Rivers...

Discussion: This management area includes the section of the North Fork of the Sprague River corridor included in the National Wild and Scenic Rivers System, under the Oregon Wild and Scenic Rivers Act.

Prescription: The Scenic River area designations will be managed to: (1) maintain or enhance the condition of the high quality scenery and the largely undeveloped character of its shoreline; (2) maintain or improve the quality of the water which enters the river; (3) improve the fish and wildlife habitat; (4) provide opportunities for river-oriented recreation which is consistent with its largely undeveloped nature and dependent on its free-flowing condition; and (5) utilize other resources and permit other activities which maintain or enhance the quality of the wildlife habitat, river fishery, scenic attraction, or recreation values.

RELATIONSHIP TO OTHER GOVERNMENT PLANNING, INCLUDING Klamath Tribes PLANNING

In the process of developing the Management Plan for the North Fork of the Sprague River a number of state, and local plans were considered. These plans include the following:
Oregon Outdoor Recreation Plan
Oregon's Statewide Planning Goals
Lake County Comprehensive Plan
Klamath County Comprehensive Plan

Oregon Outdoor Recreation Plan
The Statewide Comprehensive Outdoor Recreation Plan (1994-1999), prepared by the Parks and Recreation Division, includes a broad overview and analysis of the organization and function of the outdoor recreation system in Oregon. The system represents federal, state and local recreation agencies along with the private, nonprofit and commercial organizations who provide outdoor recreation resources, facilities and services for the public.

The Pacific Northwest Outdoor Recreation Survey (1986-1987), which included the states of Oregon, Washington and Idaho, divided the area into 18 regions. Oregon composed Regions 5-12. The Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP) recognizes these Regions. The North Fork of the Sprague W&SR is located in Region 9 (Klamath County) and Region 11 (Lake County). Many of the comparisons used in determining the significance of resource values in the North Fork of the Sprague River Resource Assessment were made within the boundaries of the SCORP regions.

Oregon's Statewide Planning Goals
Oregon's Statewide Planning Goals constitute the framework for a statewide program of land-use planning. They are state policies on land use, resource management, economic development, and citizen involvement. The statewide goals are achieved through local comprehensive planning. State law requires that each county (and city) have a comprehensive plan, and the zoning and land division ordinances needed to put the plan into effect. These zoning and/or ordinances are the controlling documents for land use within the area covered by the plan. Note: these zoning and/or ordinances only apply to private, State, county, or city owned lands; they do not apply to Federal lands.

Oregon has 19 Statewide Planning Goals. Goal 5, entitled "Open Spaces, Scenic and Historic Areas, and Natural Resources", is intended "to conserve open space and protect natural and scenic resources". Item 3 of the goal is to "promote healthy and visually attractive environments in harmony with the natural landscape character. The location, quality and quantity of the following resources shall be inventoried: (1) Potential and approved federal wild and scenic waterways."

County comprehensive planning reflects the statewide planning goals. Items pertinent to the river management planning process are as follows:

Lake County Comprehensive Plan (1980)
The County will support maintaining minimum stream flows for all beneficial uses.

The County will coordinate planning decisions with local, State, and Federal agencies having water-quality management plans and programs.

Agriculture, grazing, forestry, parks, and recreation uses shall be considered consistent with natural/scenic/open space values dependent on resource carrying capacities.

Klamath County Comprehensive Plan (1981)
The Klamath County Comprehensive Plan addresses special river designations, and indicates the following:

To preserve open space and protect natural and scenic resources in Klamath County, programs will be provided that:

1. Ensure open space.
2. Protect scenic and historic areas and natural resources for future generations.
3. Promote healthy and visually attractive environments in harmony with the natural character of the landscape.

The plan further indicates that the location of the following resources shall be inventoried:

(Item 4) Fish and wildlife areas and habitats.
(Item 5) Outstanding scenic views and sites.
(Item 6) Water areas, wetlands, watersheds, and groundwater resources.
(Item 10). Potential wild and scenic waterways and state scenic waterways.

Where no conflicting uses for such resources have been identified, such resources shall be managed so as to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental, and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal.

The Klamath County Comprehensive Plan does state that the policy of the County is that "at the time that rivers are studied for official designation as state scenic waterways or federal wild and free flowing rivers, the County and other State and Federal agencies shall cooperate in the study of rivers for inclusion in State or Federal designation and in the application of the Goal 5 rule." The rationale for this policy is as follows:

To prevent irresponsible potential designations.

To insure that studies are accurate.

To insure that County policies are followed.

In the implementation of this policy the County will work with appropriate State and Federal study groups to evaluate all potential designations.

SUMMARY OF THE RESOURCE ASSESSMENT

The Wild and Scenic Rivers Act states that "each component of the national wild and scenic rivers system shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values." It further states that management plans should be "based on the special attributes of the area." The resource assessment process provided a method of documenting the determination of which river related features and values are "outstandingly remarkable". To qualify as an outstandingly remarkable river or river-related value, the value must be a unique, rare, or exemplary feature that is significant at a regional or national level. The determination of the significance of values involved professional judgement and interpretation, an interdisciplinary team approach, qualitative criteria, and consideration of unique attributes at a regional level. For the North Fork of the Sprague W&SR the regional area was Klamath and Lake counties; this is within SCORP regions 9 and 11.

In December, 1990 a Resource Assessment of the North Fork of the Sprague River was completed. The "outstandingly remarkable" values are summarized as follows:

SCENIC... The river segment has a diversity of rockform, vegetation, and landform. The southwest part of the designated segment is a narrow, V-shaped basalt canyon with several springs flowing from the canyon walls.

The upper part of the river corridor contains a series of broad, high elevation meadows that are bordered by stands of lodgepole pine. In late summer and early fall the river flowing through these meadows, combined with limited livestock grazing, creates a classic pastoral setting. Seasonal variations in color are seen in the wildflowers and budding of deciduous trees and shrubs in the spring, as well as the changing colors of fall.

GEOLOGIC... The narrow basalt canyon, with undisturbed talus slopes that range from 30 to 80 percent and outcroppings of bedrock, is geologically unique. The springs (estimated to flow at about 1 cfs) that flow out of the canyon walls are also unique features in this geographic region.

A complete copy of the Resource Assessment can be found in Appendix A.

CHAPTER II EXISTING CONDITION

This narrative describes the physical, biological, social and economic conditions that may be affected by proposed management activities within the Wild and Scenic River corridor. The descriptions are those that existed at the time of designation, and form the baseline for comparing alternatives and measuring changes.

OVERVIEW

The North Fork of the Sprague River is located in south central Oregon, about 60 miles northeast of Klamath Falls and about 120 air miles southeast of Bend. The North Fork of the Sprague is a major tributary to the Sprague River system and drains about 185 square miles of watershed, ranging in elevation from a low of 4310 feet in its southwestern corner to a high of 8295 feet on Gearhart Mountain. Both private land and land administered by the Fremont National Forest are encompassed by the watershed boundary -- in approximately equal parts.

The wild and scenic portion of the North Fork of the Sprague River is 15 miles long and begins at the river's source at the Head of the River Spring. From this point, the river flows northwesterly for approximately seven miles to Lee Thomas Crossing. At Lee Thomas Crossing, the river turns to the west/southwest and runs for about four miles before entering the Gearhart Mountain Wilderness. In these first 11 miles, the river crosses through low sagebrush covered hills and a series of high elevation meadows bordered by lodgepole pine forested slopes. At the Wilderness border, the landscape changes and the river enters a narrow V-shaped basalt canyon. The river flows through this canyon for about 4 miles to the designated terminous of the wild and scenic river segment. The first three of the four canyon miles are in the Wilderness.

River Segment

The North Fork of the Sprague Wild and Scenic River extends for 15 miles from its headwaters in the southwest quarter of section 15, township 35 south, range 16 east to its terminous in the southwest quarter of section 11, township 35 south, range 15 east of the Willamette Meridian.

Access

Access to the North Fork of the Sprague River area is by county roads and/or National Forest System roads. Access is provided by twelve low standard roads and two main Forest roads, 3372 and 3411. The two main roads cross the river in four locations via three wooden single lane bridges and one large culvert. Water chances are found at each of these locations. Road 3372 closely parallels the river for approximately 3 1/2 miles from Head of the River Spring to the vicinity of Lee Thomas Meadow. Forest Road 015, a low standard road which accesses the Blue Lake Trailhead on the northeast border of the Gearhart Mountain Wilderness, also parallels the river for approximately one mile.

Two Forest Service campgrounds, Lee Thomas and Sandhill Crossing, are located in close proximity to the river within the corridor. North Fork Sprague Trailhead, which accesses the Gearhart Mountain Wilderness, is also located within the
corridor. With the exception of a short segment of the North Fork Sprague Trail, however, there are no developed trails within the river corridor, and none are planned.

Ownership

The river corridor contains a total of 4,041 acres. About 265 acres of land is privately owned, and the remaining 3,776 acres are managed by the Fremont National Forest. The private land is contained within two separate parcels located in the vicinities of Lee Thomas Meadow (142 acres) and Lee Thomas Crossing (123 acres). Both of these private land parcels are owned by the J-Spear Ranch of Paisley, Oregon. Of the 3,776 acres of public land, 1,167 acres are within the Gearhart Mountain Wilderness.

Climate

The climate of the North Fork of the Sprague River Watershed is characterized by warm, dry summer months and cold winters which can be severe. Precipitation and the factors which control snowmelt are the climatic influences with the greatest effect upon the hydrology of the watershed. Precipitation occurs primarily in the fall, winter, and early spring with the winter precipitation generally occurring as snow. There is very little precipitation during the summer months except for occasional showers associated with thunderstorm activity. The higher peaks in the watershed normally receive 30 to 45 inches of precipitation annually with the Sprague Valley receiving about 18 inches. Average precipitation in the winter is approximately 4 to 5 inches/month; only about 2 to 3 inches of precipitation fall during the entire summer. Frost, or even snow, can occur at any time throughout the year.

Winter temperatures are usually below freezing and can drop to well below 0 degrees Fahrenheit. Summer daytime temperatures range from the mid-70's to the high 80's, with cool evenings and nights. The spring and fall months can vary tremendously in both temperature and precipitation.

Landscape Character

The Congressional Record, when speaking of the North Fork of the Sprague River, states that:

> "The NF Sprague contains outstanding scenic and geologic features. In one section, the river flows through low sagebrush covered hills. Within another section, the river flows into a steep, basalt canyon returning, and in yet another section, to broad, high elevation meadows with stands of Lodgepole pines." (sic) (from the Congressional Record--Senate October 7, 1988)

The North Fork of the Sprague Wild and Scenic River originates as a narrow stream of water flowing from the Head of the River Spring on the southeastern border of the Gearhart Mountain Wilderness. The water exits the spring at a rate of about 1/2 cubic foot per second (cfs). The river channel at this point is shallow and rocky, with a gradient of approximately three percent. For the first three miles the river flows in a northwestward direction across a gently rolling terrain covered with a dense, multiple-age lodgepole pine forest.

Mixed in among the pine is a very thin and scattered fir understory, as well as a large amount of downfall. Along this section two unnamed tributaries enter the river channel, one of which comes in at the North Fork Sprague Trailhead, doubling the volume of water and increasing the flow in the summer by several cfs. Also at the North Fork Sprague Trailhead, the river crosses the first large meadow (about ten acres in size).

The North Fork enters Lee Thomas Meadow about 3 1/2 miles downstream from the Head of the River Spring. Lee Thomas Meadow is about 215 acres in size and is the largest meadow in the watershed. The second largest meadow is Lee Thomas Ford Meadow, approximately 120 acres, and located one mile further downstream. The Lee Thomas Meadow is the beginning of a seven mile section of the river (ending just south of Sandhill Crossing Campground) that is more open in character, having a 200-500 foot wide zone of grass-sedge vegetation stretching out from its banks and running through a broad flood plain. In the meadows, large shrub cover is generally absent, though willow thickets and beaver dams are common along the larger tributaries which enter the river here and along the stream corridor between meadows. Near and distant views are offered of the surrounding volcanic buttes, mountains, and basalt rims. From Lee Thomas Meadow to Sandhill Crossing Campground, the river has a low gradient which averages 0.4%.

Immediately downstream from the Sandhill Crossing Campground, the landscape changes dramatically as the river enters a narrow V-shaped basalt canyon and at the same time crosses into the Gearhart Mountain Wilderness. The canyon deepens rapidly in the first 1 1/2 miles and then maintains a depth of about 300 feet below the surrounding terrain. Rock outcrops and talus accumulations abound within the canyon. The steep canyon walls, with their 30 to 80 percent slopes, are forested with a mixture of mature ponderosa pine, white fir, lodgepole pine, and small groves of quaking aspen. The river flows over and around numerous large boulders and under logs. Small feeder streams and springs enter the river in this region. In one area springs flow out of the talus slopes on the canyon walls. Each of these springs is estimated to flow at about 1 cfs. From its entrance into the canyon, the stream gradient averages 2% until the terminous of the designated wild and scenic river section about four miles downstream.

RESOURCE VALUES

Scenic

The North Fork of the Sprague Wild and Scenic River and the river corridor are noted for their outstandingly remarkable scenic values. This determination was based on the scenic values described in the Resource Assessment, and confirms the Congressional Record which states that "the North Fork Sprague contains outstandingly scenic...features."

The upper part of the river corridor contains a series of broad, high elevation meadows that are bordered by stands of lodgepole pine. These areas are often snowcovered until early summer, but once free of snow a profusion of wildflowers emerges. The green meadows combined with the colors from the wildflowers and the surroundings of darker green forested areas provides additional scenic value to the corridor. Seasonal variations in color come from the wildflowers and the budding of deciduous trees and shrubs in the spring and the changing fall colors.

Several springs which flow from the walls of the basalt canyon in the lower section of the river corridor are a noted scenic attraction, and are particularly unique within this geographic region. In addition, the green colored hues of the riparian vegetation create a pleasing contrast to the brown-gray colors of the basalt canyon walls.

Impacts to scenic values within the river corridor include access into the corridor by several low standard roads and two main Forest roads. Forest road 3372 parallels the river for about 3 1/2 miles and crosses the river twice, via a bridge and a culvert. Forest road 3411 crosses the river twice also: once near Lee Thomas Campground and then again near Sandhill Crossing Campground. Both of these crossings are via bridges. Road access points adjacent to the river are generally visible.

Livestock grazing is a significant and long-standing use along the upper portions of the designated river segment, particularily on the private lands in the vicinity of Lee Thomas Meadow and Lee Thomas Crossing. The corridor includes portions of four different grazing allotments on public lands. Fences related to grazing management are visible along the corridor, but do not detract appreciably from the scenic aspect of the landscape. Bank failure and meander breaching is a severe problem in parts of the river corridor, especially through Lee Thomas Ford Meadow. Within the canyon, in the lower portions of the river segment, grazing is much less intensive or visible due to the lack of available forage and rugged terrain.

Evidence of past timber sales is also visible from the river corridor, but it does not dominate or detract significantly from the scenic quality of the landscape. Two previously harvested timber sale units are located within a quarter mile of the river. These units are about one quarter mile downriver from Lee Thomas Campground; they are adjacent to the river on the north side. Both units are visible from the river.

Recreation

A wide variety of recreational activites occur within the river corridor. These include fishing, hiking, hunting, horseback riding, camping, picnicking, and floating/rafting during periods of high water. Opportunities for solitude are high.

Two campgrounds are adjacent to the river and are accessible from Forest road 3411. Lee Thomas and Sandhill Crossing Campgrounds offer a total of 11 camping sites and have sanitation facilities. Both campgrounds receive minimal use during most of the managed season; however, during holiday periods and hunting season the campgrounds are heavily used. In general, users of these campgrounds are either hunting nearby or fishing the river. The remoteness of the area discourages day-use of the campgrounds.

There are also numerous dispersed sites along the river which are used primarily by hunters and fishermen. Again, use is generally associated with holiday periods and/or hunting season.

Approximately one third of the designated segment flows through a canyon in the Gearhart Mountain Wilderness. Recreational use of this section of the river is very light, consequently opportunities for solitude are high. Projections for use in the Wilderness as a whole indicate that a slight increase is expected to occur during the next several years, but use of the river and corridor specifically is expected to remain very light due to the difficulty of accessing the river in the canyon.

Access to the North Fork Sprague Trailhead and the Head of the River Spring is located within the river corridor. The North Fork Sprague Trailhead receives summer long use by persons visiting the Wilderness.

Hunting within the river corridor is generally incidental to the hunting of the adjacent areas.

Fishing quality in this segment of the river is generally considered to be average, with the exception of that part of the river from Lee Thomas Meadow to Sandhill Campground. Fishing in this part of the river is poor because of summertime high water temperatures and degraded habitat.

Most users of the river and river corridor are local, although some come from areas around Medford/Grants Pass, Roseburg, Coos Bay, and northeastern California. It should be noted that rivers and riverine ecosystems are generally limited within this geographic area. Consequently, river-related recreation opportunities are also limited, making any river recreation significant within this region.

The Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) concept is used as a framework for evaluating the environmental effects of the alternatives in Chapter VI. Forest Service recreation managers use the ROS to help describe the levels of development, social interaction, and management controls that are appropriate for different areas of the Forest. The principle behind the ROS concept is that different visitors participate in different recreational activities in different settings in order to realize certain experiences. For example, some visitors backpack into the wilderness to experience solitude, challenge, and self-reliance. Other visitors camp in campgrounds to have more comfort, security, and social interaction.

Descriptions of various opportunities have been standardized and divided into general categories. Indicators such as remoteness, other management activities present, on-site management modifications, visitor management controls, number of social encounters between groups, and visitor impacts were considered in developing these descriptions.

The North Fork of the Sprague River corridor fits the description for "Semi-Primitive Nonmotorized River" in the Recreation Opportunity Spectrum, with the exception of that portion of the river in and around camping areas and roaded river access points being "Semi-Primitive Motorized", and that portion

of the river that is within the Gearhart Mountain Wilderness fitting the "Primitive River" description. The following description of a Semi-Primitive Nonmotorized river corridor, Semi-Primitive Motorized, and a Primitive River corridor is from the "Recreation Opportunity Spectrum for River Management".

Semi-Primitive Nonmotorized river corridor physical attributes are:

A largely undisturbed natural environment; little evidence of human development; very few trailed access sites developed along the river; and primitive roads to access points on edge of corridor.

Semi-Primitive Nonmotorized river corridor social attributes are:

Fairly high expectation of solitude and experiencing isolation from the sights and sounds of others; few contacts with other users at rapids and access points; little but some evidence of other users; self-reliance through application of outdoor skills in an environment that offers a moderate degree of challenge and risk; a sense of remoteness.

Semi-Primitive Nonmotorized river corridor managerial attributes are:

Small party size (8-20) and limited boats per group; traditional nonmotorized craft consistent - motorized use prohibited; only a few, subtle on-site vistior management controls or regulations are apparent; minimal facility development primarily for resource protection; regulations for human waste disposal and camping practices required; and outfitter and guides are often used but customers experience a high to moderate degree of challenge and risk.

Semi-Primitive Motorized river corridor physical attributes are:

Visually subordinate disturbed natural environment; some evidence of human development; evidence of access sites developed along the river; and primitive roads to access points on the edge of the corridor.

Semi-Pimitive Motorized river corridor social attributes are:

Moderate opportunities for solitude and isolation from the sights and sounds of others; some contact with others at campgrounds and access points; evidence of other users; independence; and practice of outdoor skills.

Semi-Primitive Motorized river corridor managerial attributes are:

Small party size (8-20) and limited boats per group; traditional nonmotorized craft consistent because of water levels; on-site regimentation and controls present but subtle; and, regulations for human waste disposal and camping practices required.

Primitive river corridor physical attributes are:

Unmodified natural environment; no evidence of human development; no impoundments, diversions, or channel modifications; and no developed access sites along the river.

Primitive river corridor social attributes are:

Highest expectations of experiencing isolation from the sights and sounds of humans; strong sense of remoteness; no expected contact with other individuals; and no to little evidence of other users;

Primitive river corridor managerial attributes are:

Very small party size (6-12) and few boats per group; traditional nonmotorized water craft consistent - motorized use prohibited; self-reliance through application of outdoor skills in an environment that offers a high degree of challenge and risk; no on-site visitor management controls or regulations apparent; no facility development for user comfort; regulations for human waste disposal; low impact camping practices required; and on outfitter trips, visitors participate in navigation of the river and perceive a high degree of challenge and risk.

Fisheries

Fish species known to currently inhabit the designated segment of the North Fork of the Sprague River are redband trout (Oncorhynchus mykiss), brook trout (Salvelinus fontinalis), and brown trout (Salmo trutta). In addition, information from undocumented reports indicate that bull trout (Salvelinus confluentus) may also be present in the upper reaches of the river. The redband trout, a subspecies of the rainbow trout, and the bull trout are both sensitive species.

From the Head of the River Spring to Lee Thomas Meadow, the river flows through high elevation forests and meadows. River elevations range from 6300 feet to 6700 feet and gradients range from 1 to 4%. Here the river flows in a north-south orientation. That, along with streamside vegetation, and head-water tributaries contribute to cool water temperatures that consistently range from the mid to high fifties, degrees Fahrenheit. Water moves freely through the sand, gravel, and cobble substrates. Holding and rearing habitat occur in the beaver ponds near the North Fork Sprague Trailhead. Large woody debris frequent the channel creating pools and hiding cover, and trapping spawning gravel. Old growth Lodgepole pine continue to add wood to the river. Historically, redband and bull trout populated this area, but presently redband, brown, and brook trout occupy this segment. Brook trout are abundant, while redband and brown are less frequent.
During the summer and fall months, brook trout can be found in solitary pools, left by the intermittent flow.

Starting at the south end of Lee Thomas Meadow, the river meanders through private cow pastures, a few young Lodgepole pine stands, and sagebrush flats, descending at an average gradient of 1%, until it enters the canyon area near Sandhill Crossing. The river elevation averages about 6200'. The east-west orientation with little or no stream-side shading contribute to summer temperatures that reach into the seventies and low eighties, degrees Fahrenheit. Pools are frequent, but riffles are more common. Sand and gravel dominate the channel bottom, but much of this substrate is covered with silt, a result of eroding banks that frequently line the channel. Large woody debris

(LWD) is rare, typical of meadow systems. Historically, redband and bull trout occupied this segment, but currently redband, brown, and brook trout populate the river. Because of the poor habitat conditions--high temperatures, few pools, little hiding cover, and silted spawning gravel--trout populations are low.

From Sandhill Crossing Campground to the end of the W&SR designation, the river flows through a steep and narrow V-shaped canyon, its slopes ranging from 30% to 80%. The river elevation starts at 6000' and ends at approximately 4600' near the designation terminous. The river gradient reaches 4%. The north-south orientation, stream side vegetation, and abundant spring inputs, contribute to summer water temperatures that range from the low to high fifties, degrees Fahrenheit. Pool habitat varies from high to low, but averages 24% of the river surface area. Riffles, cascades, and waterfalls account for the remaining river habitat. Gravel, cobble, and small boulders are common substrates, while large boulders dot the channel, creating still water holding and hiding areas. Large woody debris, common throughout the segment, create scour pools, hiding cover, and spawning beds. Ponderosa pine, White fir, and Lodgepole pine cover the flood plain and serve as future sources of LWD. Historically, bull trout and redband trout populated this segment throughout the year. The Lost River Sucker (Deltistes luxatus) and shortnose sucker (Chasmistes brevirostris), both federally listed as endangered, may have used this segment for spawning. Presently, redband trout, brown trout, and brook trout populate this segment of the river. Brown trout are common throughout the reach. Redband trout are most common in the upper portions, while brook trout are relatively uncommon.

Wildlife

The river corridor provides habitat for a variety of wildlife species: mule deer, elk, coyotes, raptors, great horned owls, northern goshawks, mountain lions various rodents, etc.. (Some 323 native species of birds, mammals, reptiles, amphibians and fish are known to occur on the Fremont National Forest).

No known threatened or endangered mammal or bird species are known to reside within the river corridor though there is habitat or potential habitat for six TES species which could be found in the river corridor: Northern bald eagle, tricolored blackbird, ferruginous hawk, greater sandhill crane, Pacific western big-eared bat, and Northwestern pond turtle. The greater sandhill crane is the only USDA Forest Service Region 6 sensitive species documented to use the area. Observations have been recorded during nesting season and throughout the summer months. Actual nests have not been recorded.

Wildlife values are similar to other parts of the Forest, with local significance due to proximity to water and riparian habitat. Neither the type of species nor the habitat suggest a value of more than local importance.

Cultural Resources

The upper portion of the river contains sparse, widely dispersed evidence of hunting/gathering activities consisting of small lithic scatters (indications of seasonal hunting camps). These are possibly associated with tool kit maintenance. An occasional projectile point or point fragment has been observed. These are not considered unique and are duplicated in similar areas throughout the geographic region. No ground stone tools or other plant processing artifacts have been located within the corridor in the course of past surveys.

An on-the-ground survey of the lower portion of the river corridor has not been conducted. The probability of significant cultural sites occurring in this portion of the river is low, primarily because of the steep and rugged terrain in the canyon.

At this time there is no evidence of cultural values within the designated segment which suggest more than local importance. There appears to be low potential for sites in the canyon area, and a lack of uniqueness in the identified sites in the upper part of the river.

Historical

Historically, the area has been used by stockmen, prospectors, loggers, and sportsmen. Numerous arborglyphs are found within the corridor dating from the present to the early 1900s. There are no other known historical sites or features within the river corridor.

Traditional Use - Cultural

The entire river corridor is within the lands claimed by the Klamath Indians in the Treaty of 1864, and thus is part of the historic use area of the Tribe. However the area is not within the area of their non-exclusive hunting, fishing and trapping rights that resulted from enactment of the Termination Act of 1954. It should be noted, however, that Treaty rights do have some influence on the rivers upstream water quality and quantity that would have an effect on fish and wildlife within the treaty rights area.
There is no evidence of unique traditional use activities occurring within the designated segment.

Geologic

The North Fork of the Sprague Wild and Scenic River and the river corridor are noted for their outstandingly remarkable geologic values. This determination was based on the geologic values described in the Resource Assessment, and confirms the Congressional Record which states that "the North Fork Sprague contains outstandingly ... geologic features."

The lower part of the designated segment is a narrow, steep, V-shaped basalt canyon with slopes that range from 30 to 80 percent. Undisturbed talus slopes and outcroppings of bedrock are common. The steeply sloping basalt canyon and the amount of undisturbed talus on the canyon walls are unique geologic features. Several springs flow out of the canyon walls, formed as a result of the geologic action of downcutting by the river to expose subsurface water flows. These springs are also unique features.

The upper part of the designated segment has no obvious geologic anomalies unique to the region. An occassional bedrock outcrop, boulder field, or talus slope provides variety in the landscape, but such features are generally common throughout this geographic region.

Vegetation Values

Plant communities along the North Fork of the Sprague Wild and Scenic River reflect a diverse array of ecosystems, including forests, meadows, and wetlands. The first three and one half miles of the river run through a dense lodgepole pine forest community, occasionally crossing small meadows. This stretch of the river borders the Gearhart Mountain Wilderness. Down material is strewn throughout the multi-aged forest.

The river then opens into the Lee Thomas Meadow and one mile farther down river, the Lee Thomas Ford Meadow. Few trees border the river in these meadows. The major vegetation type is grasses and sedges which extend 100 to 250 feet on each side of the river. Willow thickets and beaver dams can be seen along the major tributaries which empty into the North Fork of the Sprague along this section. In some places, big sagebrush has established itself between the lodgepole pine forest and the meadowlands.

Downriver from Sandhill Crossing the river drops into a canyon and the Gearhart Mountain Wilderness. The canyon sides are forested with ponderosa and lodgepole pine. Aspen and other riparian species grow along the riverbank.

Two plants from the R-6 Threatened, Endangered, and Sensitive List were found. Blue-leaved penstemon (Penstemon glaucinous) was encountered in three population patches in the lodgepole pine community types along the first stretch of the river. Green-tinged paintbrush (Castilleja chlorotica) was encountered in fifteen populations varying in size from patchy clumps to several acres. These were located along the meadow areas of the river corridor.

The riparian areas along the river, particularly those in the upper portion of the designated river segment, are potential habitat for the USDA Forest Service Region 6 sensitive plant species, Western oxypolis (Oxypolis occidentalis), though no plants were found during surveys.

The wetland areas within the river corridor were found to be of importance, but not unique to the geographic region (Resource Assessment). Grazing of these wetland areas by cattle has occurred in the past and continues to occur. Because of this grazing, the wetland areas do not meet the criteria of "essentially undisturbed", thus an outstandingly remarkable rating was not given.

Some evidence of streamside/riverbank damage from grazing is present, but not excessive. Elk can also be seen grazing these meadows during the summer months. The interface (ecotone) between the lodgepole pine and the wet areas is being invaded by big sagebrush in some areas.

Soils

The soils of the watershed are developed from volcanic parent materials or from alluvium/lacustrian materials eroded from volcanic materials. The soils profiles typically have pumacious soils over older buried residual soils. The overlying pumacious soils are composed of ashy loamy sands over coarser loamy sands or course sands. The thickness of the pumice is variable, but they average 20 inches deep. A little over 60% of the North Fork of the Sprague Watershed is covered by a layer of pumiceous soils. These soils were deposited 6,500 to 6,900 years ago by the volcanic eruptions of Mount Mazama located 70 to 80 air miles northwest of the North Fork Sprague drainage. The pumiceious surface soils (characterized by ashy loamy sand to coarse sand) overlie buried residual and colluvial soils. Soils are well-drained and permeability is rapid or very rapid in surface soils, and moderate to slow in buried soils. Bedrock consists of hard, gray basalt or andesite or interbedded soft, reddish brown tuff.

The buried soils over most of the area are developed from basalt and are stony loams, clay loams, loams, or silty clay loams. The remaining buried soil type is developed from rhyolite rather than basalt, and consequently is made up of less cohesive gravely sandy loams or loamy sands. The rhyolite buttes containing these soils occupy a 2 1/2 square mile area immediately north of Lee Thomas Meadow. Weathering of these rhyolite buttes between Lee Thomas and Lee Thomas Ford Meadow appear to be responsible for the non-cohesive alluvial soil properties in Lee Thomas Ford Meadow immediately downstream. Most of these deposits are expected to have come down School Creek with Gold Creek contributing smaller amounts beginning in the upper end of Lee Thomas Meadow.

The river banks through Lee Thomas Ford Meadow are friable and subject to failure. The banks of the North Fork through Lee Thomas Meadow have a more cohesive loamy texture. The sediments in this meadow originated from the basalt geology upstream, without the influence of the rhyolite soils except in the extreme north end of the meadow. Aerial photos of Lee Thomas Ford Meadow show a history of meander breaching, channel movement and bank failure much greater than that of Lee Thomas Meadow. Flat striated rhyolite rocks from erosion of the rhyolite buttes are also common in the river through Lee Thomas Ford Meadow.

Within the dedicated river corridor itself, the four predominant landtypes are pumiceious soils, transported soils, canyonlands, and alluvial-colluvial stringers (89A, 13, 2, and 7, respectively). These four landtypes compose over 80% of the acreage within the river corridor. Other landtypes within the corridor include lacustrine, marshes, scabrock flats, and rock outcrops.

Water

Water Quality

Two criterion must be considered when evaluating the water quality of the North Fork of the Sprague River: (1) Oregon state water quality standards must be maintained; and (2) for a Federally designated Wild and Scenic River, the water quality must be maintained in no less than the condition of the time of designation. Oregon law also requires non-degradation of National Wild and Scenic Rivers. In Oregon, state standards are specific for each river basin.

The Klamath River Basin standards apply to the North Fork of the Sprague River. These standards are summarized as follows:

Dissolved oxygen: For streams containing salmonid fish populations, the season low is not to decrease below 90% of saturation for the temperature of the water, or below 95% for the season between spawning and fry stages. Dissolved oxygen must not be less than 6 mg/l for non-trout producing areas.

Temperature: For salmonid fish producing streams, no temperature increase is allowed from a discharge outside of an assigned mixing zone if stream temperatures are 64 degrees F. A maximum of 2 degrees F. of increase is allowed for stream temperatures of 56 degrees F. or less.

Turbidity: No increases of greater than 10% JTU turbidity units compared to a control point immediately upstream is allowed. Emergency and temporary permits may be allowed for short term violations.

pH: Oregon standards are 7.0-9.0.

Toxic wastes: Wastes may not exceed natural background levels. Oregon follows standards set by the EPA. Mine tailings, illegal toxic waste dumping, and wastes from illegal drug manufacturing can be problems.

Natural conditions: Where natural conditions do not meet minimum state standards, the natural conditions become the standard and the non-degradation policy applies.

Water Temperature

Much of the North Fork of the Sprague River occupies moderately sloped topography and has a narrow meandering flood plain which is predominantly vegetated with grasses, sedges, and low shrubs. As a result, the river is slow moving and unshaded, and therefore, subject to high diurnal summer temperatures. Continuous recording temperature devices were installed near the middle of Lee Thomas Meadow and at Lee Thomas Crossing during the summer of 1980. Fifteen days of maximum daily temperatures between 65 and 70 degrees F. were recorded during July and August of 1980. Two visits to Sandhill Crossing in August of 1990 produced 71 and 76 degrees F readings. Temperatures above 65 degrees F. are detrimental to salmonid fish. High stream temperatures are not a problem upstream from Lee Thomas Meadow. Cold springs (46-48 degrees F.) entering the river in the canyon downstream from Sandhill Crossing reduce stream temperatures to below 65 degrees F. (A 1990 stream survey crew recorded no temperatures above 65 degrees F. in the canyon during August.)

Dissolved Oxygen

Only limited dissolved oxygen data has been recorded within the Wild and Scenic River corridor. The North Fork does not have significant diversions, and large amounts of algae, aquatic vascular plants, or organic materials have not been observed in the river. Dissolved oxygen is probably within stated standards for salmonid fish. Early morning dissolved oxygen readings taken during the summer at the warmest and slowest moving areas of the stream would establish the minimum dissolved oxygen levels in the stream.

pH

Two pH readings of 9.5 were recorded on the North Fork of the Sprague River in the summer of 1990 (the readings were taken at Sandhill Crossing). Oregon State standards are set from 7.0 to 9.0. State standards are allowed to be exceeded if it is a result of naturally occuring conditions. Natural influences may be be the cause of the high pH levels in this part of the river. More testing of the pH levels in the river is needed.

Sediment Loads and Turbidity

Other water quality concerns are stream turbidity and suspended sediment caused by soil compaction and disturbance of the soil surface where water runoff is concentrated. Forest roads, timber harvest, and livestock in riparian areas can be primary sources. Turbidity and sediment impacts fish by causing embeddedness and reducing available spawning gravels.

An area of concern in the North Fork watershed are the unstable streambanks between Lee Thomas Meadow and Sandhill Crossing. Natural streambank under-cutting will continue to occur in this part of the river corridor, but unnecessary disturbances of riverbanks or riparian areas should be avoided. The low gradient and high bank instability also makes this section of the river corridor susceptable to stream embeddedness.

Clarity

The clarity of the water within the designated river segment is very good during periods of normal flow. Gravel and rocks on the bed of the stream may be seen to a depth of over two feet, and fish are often visible in pools that are over five feet deep. Clarity can be affected during periods of high water and from the milky color of snowmelt water in the spring. The water is normally colorless except in some of the deeper pools where it has a slight greenish tint.

Sources of Pollution

The potential for pollution of this river comes primarily from three sources. The first source is the excrement of livestock within the stream as they drink from, or cross the stream. This can result in an increased amount of organic nitrates in the water which in turn can cause increased algae formation. The river currently appears to be only slightly affected by livestock excretal materials. The second source is the possibility of people dumping RV sewage holding tanks in or near the stream, or using the stream directly for waste elimination purposes. The placement of a camp in close proximity to the stream could result in this type pollution to the stream. The third potential source is the accidental or intentional dumping of toxic chemicals in or near the stream (ie. fuel spills, herbicide release, or dumping of chemicals used in illegal drug manufacturing).

Recreational Contact

Recreational contact with the North Fork of the Sprague River consists primarily of hunting and fishing in the river corridor. Some minimal use is made of the river by people wading and floating on air mattresses or inner tubes. Rafting or canoeing is difficult except during periods of high water. Outboard motors or other mechanical means of propulsion would be impossible to use on this river due to its shallow depth.

Water Quantity

Water flow data is limited along the designated portion of the North Fork Sprague. The nearest stream flow gaging station is about 20 miles down stream near Beatty. Some flow monitoring has been done by the Forest Service between 1979-1981 and 1990-1995 at the "Elbow", about seven miles below Wild and Scenic River designation (Table 1). However, stream flows probably double through the seven miles, and cannot be equated to flows within the designated corridor. Rough estimates, using limited flow data recorded at the Elbow and at Sandhill Crossing, are that the average yearly flow at the Elbow is 65 cfs and probably between 30 and 40 cfs at the end of the Wild and Scenic River designation upstream. Other limited flow data has been collected at Sandhill Crossing.

Recommended minimum flows have been made in the Fremont National Forest Land and Resource Management Plan for 1/2 mile downstream from the end of Wild and Scenic River designation (Table 2). Several tributaries and springs enter the river between Sandhill Crossing and this recommendation point. The expected increase in summer flow is several cfs. When the 1990 summer flows taken at Sandhill Crossing (Table 3) are compared to the recommended flows downstream it appears that the August flows are adequate, but the July reading of 9.7 cfs may fall below the recommended minimum flow of 20 cfs even with the expected additions. More flow data is needed and flow recommendations need to be established within the Wild and Scenic River corridor. However, low flows which are below those needed for healthy fish habitat are not likely to occur on the river because significant water rights for water diversion do not exist in the watershed.

Several plans have been implemented or planned to maintain or improve water quality and stream channel conditions with the Fremont National Forest.

-A water quality management plan has been approved and implemented since the spring of 1991.
-A riparian mapping program (GIS Riparian Layer, Forest Spatial Database, 1990) has been on the Fremont National Forest. It locates, quantifies, and classifies the riparian areas on the Forest.
-A Riparian Management Action Plan (1990) has been implemented as a guide to good watershed management principles.
-Riparian and watershed restoration work has taken place in the watershed. This work has been directed primarily at gully restoration and streambank stabilizing. The Forest has a long term program to continue that work.

Air

Air quality within this high elevation region is excellent. Its location far from any population or industrial centers contributes to the quality of the air. Some short lived episodes of wood smoke pollution may occur at times due to slash burning or wildfires, but these are exceptions to the norm. Air movement is good throughout this region due to its high elevation and relatively open character. As a rule visibility is unhindered and there is no detectable refraction of light due to foreign particles in the air. The only foreseeable potential for air pollution within this area would be the previously mentioned possibility of wood smoke from a major wildfire or the intentional burning of slash left by logging operations. Both of these sources would be of a temporary nature.

The Land and Resource Management Plan for the Fremont National Forest sets forth guidelines for the maintenance of air quality. These guidelines set limitations on the amount and timing of prescribed burn ignitions within this area.

RESOURCE ACTIVITIES AND USES

Timber harvest

The harvest of timber from the North Fork of the Sprague Watershed has occurred for many years and is expected to continue. Both even-aged and uneven-aged management has been practiced within the watershed. These practices include overstory removal, shelterwood, clearcut, and individual tree selection harvest methods. Some timber has been harvested within the river corridor prior to Wild & Scenic designation.

Between 1985 and 1990, approximately 2,287 acres, or 2% of the 118,300 acres tentatively suitable for harvest in the watershed, have been impacted by timber harvest activities. Of these acres, 700 were clearcut and 1,587 were selectively cut. There has also been clearcut harvesting to the west of the canyon below Sandhill Crossing and a small amount of selective harvesting in the canyon. The 7,700 acres of the corridor inside the Gearhart Mountain Wilderness are not available for timber harvest (this acreage is not included in the 118,300 acres tentatively suitable for harvest).

Timber harvesting and associated road building can affect water quality and quantity. Increased runoff and/or sediment production from the reduction of plant cover, roads, soil compaction, and soil disturbance may cause stream wash out or fill with sediment, resulting in a reduction of riparian or fish habitat.

To reduce impacts on riparian and fish habitat, the Fremont National Forest Land and Resource Management Plan sets a maximum percentage of each watershed or sub-basin greater than 10,000 acres which can be impacted by timber harvest and other activities. The percentage for the North Fork of the Sprague Watershed is 35%. National Forest managers consider the amount of timber harvested on private lands when assessing cumulative effects on each watershed. Areas are no longer considered as contributers to watershed impacts when they are stocked with trees averaging six feet or greater in height and the trees are in sufficient numbers to provide 60% crown cover.

Best Management Practices (BMPs) set on an activity area basis may be more important in maintaining stream qualities and watershed productivity than the maximum total watershed area impacts already described. Forest Service Standards require that no more than 20% of an activity area be adversely affected after timber harvest. Adverse impacts for an area are determined by statistically sampling activity areas for compaction, puddling, soil dispalcement, and severely burned soils. In addition, minimum effective ground cover percentages and organic residues, are required for the protection of soils after timber harvest.

Forest roads can have the greatest detrimental impact on streams compared to other management activities. Roads can concentrate and divert water from its natural runoff path causing erosion of sediments into streams. The closer the roads are to streams, the higher the impact will likely be. The Fremont National Forest Land and Resource Management Plan requires that construction of parallel roads be minimized within streamside management units (SMUs) and existing roads within SMUs should be relocated on an opportunity basis.

About two miles of gravel road (FS Road 3372) run parallel to the river downstream from Head of the River Spring. The road is about 500 feet from the stream and is well maintained. The limited roads and skid trails within the canyon itself have not been used for years and are returning to the natural condition. The most recent road building activity in the watershed has occurred in the area to the north and east of Lee Thomas Meadow.

Insect and Disease

Disease incidence along the North Fork of the Sprague river mirrors disease activity in similar forest types throughout the Fremont National Forest. On the drier sites of the pine types, annosus root rot (Heterobasidion annosum) may be present. In mixed conifer types, dwarf mistletoes (Arceuthobium spp.), stem decays and root disease activities may be scattered throughout. The mortality in the true fir is most likely a combination of annosus root rot and bark beetles brought on by the drought for the past seven years. Mortality will continue with the advancement of annosus root rot though the stands, but the number of trees succumbing to bark beetles may decrease once the trees are no longer stressed by drought. There is also some bark beetle acitivity in the lodgepole pines, and budworm in the white fir. This activity is in moderate amounts at this time.

The aspens along the rivers may have some incidence of root diseases, cankers and stem decays. These are most likely to be most severe in the older trees and in those wounded frequently by deer rubbing or mechanical means. Aspen stands may be dwindling due to the lack of disturbance events which create the necessary conditions for reestablishment of the stands and by being overshadowed by surrounding conifers. Trampling and browsing of new shoot may also be a contributing cause to the decline in numbers.

The potential for any of these diseases to have a significant effect of the proposed Wild and Scenic Rivers is fairly low, since most of these diseases are chronic, not epidemic.

Livestock grazing

Livestock grazing has occured within the North Fork of the Sprague River watershed since the 1860's. Grazing presently occurs throughout the watershed on National Forest lands, on private lands owned by Weyerhauser Company (grazing on these lands is done in cooperation with grazing on adjacent National Forest lands, and is authorized by special private land grazing permits administered by the Forest Service), and on two large privately owned pastures along the river corridor. These two privately owned pastures are located at Lee Thomas Meadow and Lee Thomas Ford Meadow. The J-Spear Ranch owns both pastures.

The designated river segment traverses portions of five Forest Service grazing allotments: Dairy Creek, Lakes, Paradise Creek, South Meryl Creek, and Deming. All of the public lands located within these five grazing allotments

are managed under the guidelines set forth in the Fremont National Forest Land and Resource Management Plan. This plan identifies three levels of range/livestock management intensities: B, C, and D. These are referred to as Forest Range Environmental Study (FRES) Management Levels. The lands within the allotments included in the designated river corridor are managed under a FRES Level C. This level is defined in the Plan as follows:

> "FRES C - Extensive Management of Environment and Livestock - Management systems and techniques, including fencing and water developements, are applied as needed to obtain relatively uniform livestock distribution and plant use, and to maintain plant vigor. Management seeks full utilization of the animal unit months available for livestock grazing. No attempt is made to maximize livestock forage production by silvicultural practices such as seeding. On the Fremont National Forest, Mangement Level C will be the proper classification of allotments where an attempt is made (or planned) to realize benefits from the full productive potential of native vegetation occurring in the area. This would include all structural improvements of the allotments."

Tables 1 and 2 present the maximum allowable use of forage on suitable rangeland, and riparian areas, respectively, under FRES C.

TABLE 1: Suitable Range (Except Riparian) & Allowable Use of Forage

FRES Level	Maximum Annual Utilization (%)					
	Forest		Grassland		Shrubs	
	S	U	S	U	S	U
(B)	40	0-30	50	0-30	40	0-25
(C)	45	0-35	55	0-35	45	0-30

TABLE 2: Riparian Areas, Forage Utilization & Allowable Use of Forage

FRES Level	Maximum Annual Utilization (%)			
	Grass and Grasslike		Shrubs	
	S	U	S	U
(B)	40	0-30	30	0-25
(C)	45	0-35	40	0-30

S=SATISFACTORY CONDITION
U=UNSATISFACTORY CONDITION

The Gearhart Mountain Wilderness, portions of which are within the designated corridor, is a special management area. Livestock management within the Wilderness is geared toward lowering the impact of grazing on the environment and retention of a higher percentage of the available forage (available forage is managed for a 35% utilization).

The Fremont L&RMP indicates its goal is "To maintain or improve vegetative condition of rangelands through the use of available ... livestock management while providing for other resource uses". It is also a goal of the Fremont's L&RMP "to restore and maintain all riparian areas in a condition which enhances riparian dependant resource values."

Protection of riparian areas from the impacts of grazing has been a concern for many years. The condition of the riparian areas within the river corridor is highly variable.

The Fremont L&RMP indicates that on riparian areas in less than satisfactory condition that "a measurable desired future riparian condition will be established based on existing and potential vegetative conditions. When the current riparian condition is less than that desired, objectives will include a schedule for improvement. The allotment management plans will identify management actions needed to meet riparian objectives within the specific time frame. Measurable objectives will be set for key parameters, such as shaded stream surface, streambank stability, and shrub cover".

Agriculture

The only agricultural use within the designated river segment corridor at the present time, or in the foreseeable future, is livestock grazing.

Recreational Uses

The recreational use within the river corridor consists primarily of developed and dispersed camping, hunting, fishing, bird watching, wildlife viewing, and hiking. This use is primarily concentrated in the areas around Lee Thomas Campground, Sandhill Crossing Campground, and the North Fork Sprague Trailhead. Some light to moderate use occurs at the locations of various dispersed sites. The season of use runs from mid-June to late October. The use level of the existing facilities and the river is considered to be from light to moderate during most of the season. The period of heaviest use at the campgrounds occurs during the big game hunting seasons, from the first of August to the end of October, and during summer and fall holidays. Lee Thomas Campground averages approximately 1500 visits per season with 60% of these being from August through October. Sandhill Crossing Campground has an annual average of approximately 1110 visits per season with 50% of these during August through October. North Fork Sprague Trailhead, which accesses the Wilderness, has approximately 390 visitors/users per season with 23% of the use in July and 40% in August. The Trailhead use during these two months is considered heavy by Wilderness standards.

Surveys indicate that most of the users of the corridor come from the surrounding local small towns as well as from Klamath Falls, Roseburg, Medford/Grants Pass, Coos Bay, and Northern California. Projections of future use within the river corridor indicate a slight increase over the next few years.

Minerals

There is no history of mineral exploitation within the designated river corridor. However, historically, there has been some work done on gold and kaolin claims in the Gold Creek drainage which is a tributary of the North Fork of the Sprague River. These claims are located well outside of the 1/4 mile river corridor.

The lands are subject to leasing laws which are under the jurisdiction of the Forest Service. Additionally, because the North Fork of the Sprague River segment is designated as scenic rather than wild, the lands within the corridor are open to entry under the 1872 Mining Law, as amended.

Based upon past exploration in the vicinity of the river, it is unlikely that significant mineral and energy deposits occur within the river corridor.

Energy and Utilization

There has been no development within the W&SR designated portions of the river for energy uses and/or purposes. There is, however, a small power generating station several miles downstream from the terminous of designation located on Forest Service land.

Military

The only military use within and/or above the designated corridor is where a air Military Training Route (MTR) bisects the North Fork of the Sprague River near the point where Wild and Scenic designation ends in the southwest quarter of section 11, township 35 south, range 15 east of the Willamette Meridian. The MTR is four nautical miles wide with flight elevation limits from 200 to 1500 feet above ground level. The route is controlled by Lemoore Naval Air Station, California, and is open to any military aircraft after they have received proper clearance for use of this airspace. The route is to be flown under "Visual Rules" which require a 3000 foot ceiling and 5 miles visibility.

Water Rights

The State of Oregon is in the process of adjudication of the Klamath River Basin. Water rights are a complex and controversial issue in the North Fork of the Sprague watershed. A section of the watershed located west of the line between Range 13 and 14 East was former Indian reservation land established in 1864. Private individuals and/or companies, and the United States Government (U.S. Forest Service) now own the land. The latest litigation from the United States Ninth Circuit Court of Appeals (November 15, 1983) has established that: 1) the Klamath Indians have a water right to protect hunting and fishing on former reservation lands (date of priority is from time immemorial); 2) the present owners retain the water rights for irrigation that the Indians had established by the Klamath Indian Reservation Treaty of 1864 (date of priority is 1864 for the present owners); and 3) the Federal Government cannot convert former Indian water rights on the lands it purchased to National Forest reserved rights.

Instream water rights may be claimed by the Klamath Indian tribe to protect their hunting and fishing rights. Quantification of instream rights by the Tribe would establish minimum flows in the river, with a date of priority preceding all other water rights. The principle claimants in the upcoming adjudication, and their interests are listed below:

-**Individuals and/or ranchers**- A preliminary survey by the Oregon Department of Resources accounted for water rights totaling 552 cfs for the irrigation of 22,250 acres in the Sycan Marsh area. Ranchers will want to retain water for irrigation of the Marsh.

-**Klamath Tribes**- The Tribe may claim water rights for sufficient instream flows to protect their subsistence rights. The Tribe may also claim water rights to protect plant gathering (i.e. wocus), and other cultural and/or religious uses. It currently appears that the date of priority for Tribal water rights will predate all other claims.

-**United States Government**- The Federal Government has reserved water rights on National Forest lands for the purposes of insuring a continuous supply of timber, and for protection of the watershed. Reserved water rights have the date of priority that the land was placed in reserve. The Federal Government may also file for water rights as a land owner for uses such as for cattle watering, impoundments, recreation uses, etc... Other water rights which the Federal Government retains are those that may have been acquired when land was purchased and/or acquired through exchange.

-**Private timber companies**- About one half of the watershed is under private timber management. They may have water rights received from previous land owners or established since they purchased the land.

Fire Management

The Bly and Paisley Ranger Districts of the Fremont National Forest and the Oregon Department of Forestry (private land fires) are responsible for fire management and protection within the North Fork of the Sprague W&SR corridor. There is no history of large wildfires within this area. The area is classified as a Zone 2 Risk Assessment Area, with a .074 rate of fire occurrence per 1000 acres. This wildfire management policy calls for any appropriate suppression measures to be used in the event of a fire. These measures are designed to contain and extinguish a fire by any available means with the minimum amount of resource loss possible. There are no plans for prescribed burning within the corridor for lands outside of the Gearhart Mountain Wilderness at this time.

Within the Gearhart Mountain Wilderness, fires will be managed in accordance with the Wilderness Fire Plan which also calls for appropriate suppression. This suppression must be accomplished with hand tools unless small power tools such as chainsaws or gas driven pumps are authorized by the Forest Supervisor; heavy equipment use must be authorized by the Regional Forester.

SOCIO-ECONOMIC OVERVIEW

The North Fork of the Sprague W&SR is isolated from all major urban centers, as well as being located a significant distance from any small, incorporated communities. The closest incorporated community is Paisley, located approximately 15 to 20 air miles from Sandhill Crossing Campground and Lee Thomas Campground, the closest access points to the designated river. The unincorporated communities of Bly and Sprague River are approximately the same distance from the campgrounds as Paisley. Another small community, Silver Lake, is approximately 40 air miles north from these access points. Larger communities such as Lakeview and Klamath Falls are located about 26 and 50 air miles from the River, respectively.

The traditional, conservative, family-oriented social structure typical of rural areas predominates in the communities, and isolated residences and ranches, that are within the "sphere" of the communities referenced. The primary industries within the area are agriculture (including ranching) and timber. Other commerce is generated by recreation and tourism, manufacturing, retail trade, and government.

For a complete discussion on the socio-economic setting of the area surrounding the North Fork of the Sprague W&SR refer to the FINAL ENVIRONMENTAL IMPACT STATEMENT for the Fremont National Forest Land and Resource Management Plan.

The Social Environment

Aspects of the social environment that relate to the wild and scenic river corridor include the quality of life, the quality of the environment, and the availability of a variety of recreational opportunities.

The quality of life and the quality of the environment are especially important to persons that live in Klamath and Lake counties. It is the attraction of the natural environment that offsets some of the "inconveniences" local residents must learn to live with (i.e. travel distances), and at the same time causes non-residents to visit the area.

A comprehensive study has not been done on recreational use and/or needs of the North Fork of the Sprague River. Most people that use the river and the river corridor have indicated a desire that the character of the river remain as is.

County Comprehensive Plans

Because the North Fork of the Sprague W&SR is located in Klamath County and Lake County, certain policies, use designation, and zoning ordinances from the Comprehensive Plans of both counties pertain to private lands within the river corridor. Both counties have indicated that private lands within the river corridor are designated as "Forestry Use Zone: F-1". The purpose of this zone is "to provide for the orderly management and development of forest land for the sustained production of forest products and the development of compatible uses". Because of the designation of the North Fork of the Sprague River as a W&SR, a difference in interpretation of County Comprehensive Plan policy statements could affect uses within and/or adjacent to the river corridor (note: interpretation and/or enforcement of any County policy statement is up to the county involved).

Policy statements from the Klamath County Comprehensive Plan that could affect activities on private lands within the W&SR corridor are as follows:

POLICY: The County shall encourage protection of wooded areas along major streams and tributaries. If intensive farm or forestry operations are identified as conflicting uses, planning steps shall be taken in the conflict resolution to minimize any negative economic impacts to the farm or forestry operation while maintaining adequate resource protection.

POLICY: The County shall protect riparian areas.

Policy statements from the Lake County Comprehensive Plan that could affect activities on private lands within the W&SR corridor are as follows:

POLICY: That optimum multiple uses, e.g. timber production, harvest, and reforestation, watershed management, grazing, fish and wildlife, recreation, etc., of forest areas will be encouraged.

POLICY: That forest or grazing lands may include parks, natural areas, archaeological, geological, biological, or botanical sites, critical big game habitat or habitat for threatened or endangered species, or other areas of significant nature, providing such land is not generally removed from commercial timber production or grazing unless the consequences of such have been made known to the County.

POLICY: That before productive Forest designated land is classified for, or converted to, other uses, it will be demonstrated that such alternative use is more beneficial to the County.

POLICY: Agriculture, grazing, forestry, parks, and recreation uses shall be considered consistent with natural/scenic/open space values dependent on resource carrying capacities.

POLICY: That fish and wildlife habitat will be protected to the extent practical.

POLICY: That the Oregon Department of Fish and Wildlife Fish and Wildlife Habitat Protection Plan for Lake County will be recognized as a guideline for Plan implementation.

POLICY: That the following concerns will be taken into account in protecting area visual attractiveness:

(a). Maintaining vegetative cover wherever practical.
(b). Using vegetation or other site obscuring methods of screening unsightly uses.
(c). Minimizing the number and size of signs.
(d). Siting developments to be compatible with surrounding area uses and to recognize the natural characteristics of the location.

POLICY: That the county will support maintaining minimum stream flows for all beneficial uses.

POLICY: That the County will consider the merits of proposals, and protect fish and wildlife habitat in Plan implementation decisions.

POLICY: That the County will coordinate planning decisions with local, State, and Federal agencies having water-quality management plans and programs.

POLICY: That planning decisions will recognize immediate and long-range effects on the quality of natural resources, and those uses which may likely have an adverse effect on resource quality may be prohibited.

POLICY: That water quality will be protected by preventing encroachment into or filling of natural drainways or waterways and by prohibiting unneeded development in floodways.

POLICY: That development or land use(s) resulting in channeling, altering, or filling streams will comply with State and Federal regulations.

CHAPTER III DESIRED CONDITION

MANAGEMENT GOALS

Goals

The management goals for the designated river must be consistent with the Wild and Scenic Rivers Act, Forest Service guidelines for the management of federal lands in W&SR corridors, and Forest LMP goals, prescriptions, and standards and guidelines. Once these requirements have been met, goals for the river that reflect the public's desire should be developed. These goals should, in broad terms, reflect the desired condition of the river at the end of the planning period. They should be realistic to achieve, should have at least some quantifiable parameters, and should be based on information gathered during the scoping phase of the planning process. They should provide a "destination" for which alternatives, management objectives, and standards and guidelines can be directed.

The management goals for the North Fork Sprague River are as follows:

Protect and enhance the Wild and Scenic River values (geology and scenery) for which the river was designated.

Achieve and maintain a free-flowing condition.

Maintain a visual quality objective of foreground retention with a middleground and background of partial retention.

Minimize structural improvements and ensure that they blend with the natural setting.

Provide opportunites for livestock grazing when it is consistent with other resource values.

Insure that water quality meets Federal and State non-degradation standards.

Achieve the minimum instream flows needed to preserve the river ecosystem.

Preserve and protect archeological values according to current laws and regulations.

Maintain and/or improve existing fish and wildlife values.

Provide for appropriate user access to meet the objectives of the North Fork Sprague Wild and Scenic River Plan.

Manage the river corridor to preserve the natural character of the area. User restrictions should be minimal and subtle; moderate opportunities for solitude should be present.

MANAGEMENT OBJECTIVES

The Management Objectives take into consideration the following:

Requirements of the Wild and Scenic Rivers Act;
Forest Service guidelines for the management of federal lands in W&SR corridors;
Forest LMP management area goals, prescriptions, and standards and guidelines;
Input received from the public during the public involvement and/or scoping phase of the river management planning process.

The management objectives are intended to provide the general guidance for the development of Alternatives, and the management of the river. They are as follows:

General

A. - Preserve the free-flowing nature of the river.

B. - Insure that applicable laws and regulations, existing uses, private property and other rights receive appropriate consideration.

i.e. Private land
Appropriate existing uses (such as roads)
Existing water uses
Valid mineral and energy uses

Existing range improvements
County Comprehensive Planning
Native American rights

SCENIC Values

A.- Maintain river shoreline as primitive and largely undeveloped with no substantial evidence of human activity.

B.- Manage river corridor for a Visual Quality Objective of foreground retention with a middleground and background of partial retention.

C.- Maintain natural appearance of the river corridor by designing facilities to blend with the natural setting.

Fish and wildlife habitat and watershed improvement projects shall meet the established Visual Quality Objective. Structural habitat improvement projects shall use native or natural appearing materials.

New recreational development shall be out of view from the river by taking advantage of topographic and/or vegetative screening.

New roads and trails shall be located and designed to be visually inconspicuous from the river.

Utility corridors will not cross the river.

Structural and non-structural range improvements shall blend with the natural environment as much as practical and meet the VQO of retention. Construction and/or maintenance of barbed wire fences must consider impacts to scenic values.

RECREATION Values

A.- Consider user safety in the management of river activities.

B.- Minimize development within the river corridor.

C.- River access points shall be limited to areas currently accessible by roads.

FISHERIES and WILDLIFE Values

A.- Maintain or enhance fish and wildlife habitat.

B.- Give emphasis to threatened and endangered species habitat when species is known to occupy the habitat.

C.- Identify minimum instream flows needed to support fish populations, and work to achieve water appropriation consistent with identified needs.

D.- Continue to gather information on fish and wildlife species that utilize the river corridor to insure that habitat is provided for species that occupied the corridor at time of W&SR designation.

GEOLOGIC VALUES

A.- Minimize the impact of mineral activity within the river corridor.

Common variety mineral materials will not be removed from the river corridor.

Surface occupancy for leasable mineral (geothermal, oil and gas) activities will not be allowed.

Enforce provisions of the General Mining Law of 1872, as amended (36 CFR 228a; Surface Mining Regulations) to minimize impacts of locatable mineral activity.

B.- Protect the unique habitat and visual resource that occur in the canyon portion of the river corridor.

WATER QUALITIY

A.- Protect the springs that occur within the river corridor.

B.- Maintain water quality to meet Federal non-degradation standards.

C.- Management pratices shall be aimed at maintaining or improving streambank stability and riparian areas to reduce sediment getting into the river.

CULTURAL, HISTORIC and TRADITIONAL USE VALUES

A.- Protect known and discovered cultural resource sites within the river corridor.

B.- Work with the Klamath Tribes to identify and avoid conflict with traditional uses and/or traditional use areas within the river corridor.

VEGETATION values

A.- Restore and maintain all wetland/riparian areas to a condition which enhances wetland and riparian dependent resource values. Grazing of riparian areas will be according to the Fremont National Forest L&RMP.

B.- Give emphasis to threatened and endangered plant species habitat.

C.- Restore and/or re-establish a healthy native shrub component within the riparian ecosystem where shrubs have historically existed.

THE DESIRED FUTURE CONDITION FOR THE NORTH FORK OF THE SPRAGUE RIVER IS AS FOLLOWS:

The North Fork Sprague River is a free-flowing river with management emphasis on maintaining and enhancing the values of scenery and geology. Visitors to the river have the opportunity to experience the oustanding scenic qualities of the area. Unique natural attractions such as the canyon area and the fish and wildlife habitat values enhance the user's experience. Instream flows provide the sights and sounds of a river setting. Water quality meets Federal non-degredation standards. Management activities and/or improvements do not detract from the natural appearing landscape. A ROS setting of Semi-Primitive Motorized provides adequate access to the river, yet assures opportunities for solitude. Visitor restrictions are minimal and subtle.

The desired condition for specific items (i.e. vegetation, scenery) within the river corridor is as follows:

DESIRED CONDITION FOR VEGETATION WITHIN THE RIVER CORRIDOR

Coniferous species - Lodgepole pine and mixed conifer
The impression a person has when visiting the river corridor is that of being in a late seral or climax forest that shows few effects from management activities. Forested areas have a natural density of snags. Stands range from dense pole-like stands to open stands with larger trees. The lodgepole pine stands may show evidence of some insect and disease activity but not in epidemic proportions.

Deciduous Species
Several age classes of aspen provide scenic diversity within the river corridor. In areas where cottonwoods occur there is a heavy layer of decaying natural material on the ground. Management activities limit fir and/or lodegpole pine encroachment into the deciduous stands. Management of browsing pressure allows regeneration to occur.

Shrub Species
Various shrub species are present in forested and non-forested areas. Dryland shrub species such as bitterbrush, a variety of sagebrush, chokecherry and serviceberry perpetuate naturally. These provide forage and habitat for a variety of wildlife species.

Shrub species associated with moist environments include a variety of willows, along with some red osier dogwood and mountain alder.

Shrubs provide visual diversity within the river corridor. All shrub species show vigorous growth; 70% of annual leaders remain in tact after browsing. Shrub species are also at historical levels and in areas they historically populated.

Riparian Areas
The desired condition for the riparian vegetation along the North Fork Sprague is designed to improve visual quality by increasing the diversity of sizes and types of native vegetation along the river, and by decreasing bare soil along the river bank. The desired condition will also contribute to watershed improvement and is the key to restoration of fisheries habitat. It does this by reducing sediment into the river and by lowering the water temperature because of the increased shading of the stream. The desired condition of the riparian areas is typified by abundant mesic species and root systems that protect and stabilize the stream banks. Vegetation is well distributed within fluvial zones such as streambanks, active channel shelves, active floodplains, and overflow channels. Encroaching riparian vegetation provides stable undercut banks, overhanging vegetative cover, shade along the channel margins, and a narrowing channel. Shading the stream results in lower water temperatures during summer months. The saturated zone is elevated and the subsurface storage of water is increased. There is reduced encroachment of meadow areas by shrub and coniferous species because of higher water tables.

The desired condition of the riparian areas has the following characteristics:
Native grasses, grasslike vegetation, sedges, and forbes are well established. They reproduce and provide overhanging cover on streambanks. Seedheads develop and cast seeds during normal years. Willow 6 feet or more in height occur in areas where willows have historically been established, or can be established.

No increase over natural levels of streambank degradation (existing at the time of designation) is caused by, or perpetuated by ungulates.

Where streambanks or channels are highly erodible, grazing would occur only where it would not have a destabilizing effect on the streambank.

The distinctive plants within the area create a visual diversity that helps to identify the riparian area. Additionally, deciduous plants such as willows provide fine litter in the form of falling leaves which serve as a source of nutrients for the algae and the small invertebrates at the bottom of the food chain. Large debris, such as fallen trees, creates habitat for fish and other species, provides for hydrologic function and instream structure, stabilizes the floodplain, and provides nutrients as the debris decomposes. Shade from trees and shrubs helps to keep the stream temperatures lower, slows algae growth, and influences the composition of the vegetation in the riparian zone.

DESIRED CONDITION FOR SCENERY WITHIN THE RIVER CORRIDOR

Scenery within the river corridor is natural appearing with little evidence of management activity. This is satisfied when a visual quality objective of Retention is met.

Scenic qualities include diversity of natural landscape elements such as rock form, landform, and vegetation. Vegetation is primarily coniferous with scattered flats intermingled with water related riparian vegetation such as aspen, willows and other deciduous shrubs. Dry meadows consisting of sagebrush, bitterbrush and juniper lend diversity. Rocks and boulders line the river especially in the canyon area south of Sandhill Campground. Several springs flow from the reaches of the canyon walls into the river. All of these things add variety to the scenery within the river corridor.

DESIRED CONDITION FOR RECREATION ACTIVITES WITHIN THE RIVER CORRIDOR

Recreation activities within the river corridor are primarily related to viewing the scenery, camping and/or picnicking, hunting, fishing, bird watching, hiking, nature study, and non-motorized boating. The river provides a pleasant viewing experience for visitors to the area. Riparian and/or water dependent vegetation provide scenic diverstiy and seasonal variations in vegetative color to enhance the visitor's experience. Water flows in the river year around and give visitors to the area the feeling of being in a river environment. Roads and/or trails remain visually inconspicuous from the river. About two miles of the river, starting at the Head of the River Spring flowing north, is a portion of the northeastern Gearhart Mountain Wilderness boundary. On the northwest portion of this wilderness area, the river corridor flows for about two and one half miles through the designated wilderness.

Recreation Opportunity Spectrum settings of Semi-Primitive Motorized and Non-Motorized (as defined in the North Fork of the Sprague W&S River Environmental Assessment, and in its Glossary), are met. Visitors experience a semi-primitive motorized setting, in and around camping areas and roaded river access points. Opportunities for solitude, in a non-motorized, natural environment are moderate to high, because of the inaccessible canyon portion of the river. Because of the isolation of the area there may be periods of time when visitors to the area face a moderate degree of challenge and risk.

Trail and road access to the river remain limited. Campers and picnickers enjoy moderate opportunities for solitude. People who hunt and fish find a natural appearing environment that enhances their pursuits. Fishermen/boaters/floaters of the river find relatively few conflicts between users. The float season continues to be associated with peak flows and remains relatively short (two to four weeks).

Use Levels:

Use will be generally highest during holiday periods, and lowest during mid-week. The remoteness of the area, mosquitos, ticks, limited road and trail access to the river, low flows, late season snow during some years, and fire restrictions during other years all will continue to affect actual use levels in any given year.

Use levels within the corridor are within capacity for the river corridor and do not negatively impact the Wild and Scenic River values. A Limits of Acceptable Change (LAC) program is initiated if use levels increase above the river corridor's recreational use capacity.

Visitor Health and Safety:

Visitors to the river corridor are able to enjoy a safe recreational experience and are provided adequate information regarding safe behaviors.

Sanitary facilities exist at river campgrounds, and human waste does not enter the river.

Hazard trees are monitored and if possible, removed from areas immediately adjacent to river access points where visitors tend to concentrate.

Bridges and fences that cross the river could pose a hazard to boaters and/or floaters of the river, and shall be managed so that users are aware of these improvements.

DESIRED CONDITION FOR WATER QUALITY AND FLOW IN THE RIVER

Flow:

The river has a continuous year around free-flow. Water flows enhance the scenic value of the river by providing a "river experience" for visitors to the corridor. In the short term, annual spring peak flows continue to "flush" the system. This moves sediment through the system, cleans the pools, and maintains a healthy channel morphology. Changes caused by peak flows are significantly reduced because of the improved conditions of riparian areas. The desired condition for the long-term includes an aquatic system that has a good distribution of woody debris and/or log complexes that create a variety of aquatic habitats (see desired condition for fisheries).

Water Quality:

Water temperatures typify near natural conditions. Fish mortality from high water temperature is minimal.

Turbidity and/or sediment loads is also near natural levels. Low standard roads within the river corridor that have contributed to increased sediment loads in the past are stabilized and/or revegetated, and all new projects within the watershed meet or exceed Oregon's Best Management Practices.

Human waste and/or "gray-water" does not enter the river or contribute to reduced water quality.

DESIRED CONDITION FOR WILDLIFE WITHIN THE RIVER CORRIDOR

Vegetative conditions detailed in the desired conditions for vegetation in the river corridor provide adequate cover for big game wildlife species. Opportunities exist for viewing game and non-game species.

The rock outcrops, cliffs and crevices, rimrock, and talus slopes to the riparian areas and water provide habitat for small mammals, including such species as bobcats, marmots, and bats.

Bird watching opportunities remain abundant throughout the length of the river corridor.

The greater sandhill cranes that have been seen within the river corridor find adquate habitat to meet their needs. High quality waterfowl habitat includes nesting and breeding areas.

DESIRED CONDITION FOR FISHERIES WITHIN THE RIVER CORRIDOR

Riparian areas provide fish with suitable water quality, adequate food, and the necessary habitats for all stages of their life cycle including spawning, rearing and migration. Populations of bull and redband trout are healthy and stable, and well distributed. Emphasis is given to the maintenance and/or enhancement of habitat for these threatened, endangered, proposed, and sensitive species, including large woody debris and high habitat complexity.

DESIRED CONDITION FOR TRAVEL AND ACCESS

River crossings are limited to existing crossings. There is no off-road vehicle use within the river corridor.

All existing water chances (water draw sites) are rehabilitated as necessary.

The major access points into the river corridor are passenger car accessible. The river fords may not be suitable for passenger car crossing.

CHAPTER IV ALTERNATIVES

The alternatives described in this Chapter reflect the requirements of the Wild and Scenic Rivers Act and Forest Service guidelines for the management of federal lands in Wild and Scenic River corridors. They are also responsive to the significant issues that have been identified, and the goals and objectives that have been established for management of the river. The significant issues, and the management goals and objectives were both developed with input from the public.

Four alternatives are identified and were evaluated by the Interdisciplinary Team. Then, because of repetition and lack of distinction, the four alternatives were combined into two separate alternatives including the "no-action" alternative. The no-action alternative represents a continuation of the direction contained in the existing Land and Resource Management Plan (L&RMP) for the Fremont National Forest. Table__ displays a summary of the Alternatives.

Water flow, and items related to the water adjudication process that is underway for the Klamath Basin are not addressed in this document.

References to grazing in the alternatives is aimed primarily at National Forest lands within the river corridor.

Owners of private lands within the river corridor will be encouraged to consider the management goals and objectives identified in this document and adopt them or similar goals and objectives for their lands.

ACTIONS COMMON TO ALL ALTERNATIVES

Some of the actions identified in the summary of the alternatives are common to more than one alternative. This is because they were favored by the public and/or the interdisciplinary team, were non-controversial, and represented a common sense approach to management of the river and/or river corridor. These actions are as follows:

Scenic Values

Scenic values would be managed to meet a Visual Quality Objective (VQO) of foreground retention in all alternatives, and for any management activity.

This includes fish and wildlife habitat improvement projects, recreation improvements and/or structural facilities. Additionally, middleground and background areas that are visible from the river and/or roads or trails adjacent to the river would be managed for a VQO of partial retention.

A VQO of retention means that resource management activities are not visually evident to the viewer. Selective thinning, small group selection and/or partial cuts, and some shelterwood cuts are examples of timber harvest methods that could be used to meet a VQO of retention. Partial retention means that resource management activities must be visually subordinate to the landscape. Selective thinning, group selection and/or partial cuts, shelterwoods, and some overstory removals are examples of timber harvest methods that could be used to meet a VQO of partial retention.

Cultural, Historic, and/or Traditional Use-Cultural Values

These values will continue to be protected under existing laws and regulations. If sites are found within the river corridor, the Tribe will be consulted in the management and/or protection of these sites. All valid treaty rights and/or agreements with the Tribe will continue.

Geologic and Minerals Values

Common variety (salable; i.e. sand, gravel, etc.) mineral materials will not be permitted to be developed or removed from the river corridor in the alternatives. Surface occupancy for leasable minerals (oil, gas, geothermal) will not be permitted in the alternatives. National Forest lands that have acquired land status are not open to mineral entry under the 1872 mining law, as amended. These lands will not be leased, or otherwise made available for mineral entry. On lands open to mineral entry, the provisions of the 1872 mining law, as amended, will be strictly enforced.

Fish and Wildlife Values

Fish and wildlife habitat improvement projects may be done, however any improvements will be required to use natural-appearing materials, and designed to blend into the natural landscape. Where potential endangered, threatened, or sensitive fish or wildlife species are known to exist, emphasis will be given to maintaining and/or enhancing that habitat.

Vegetation Values

The alternatives call for the restoration and/or maintenance of wetland riparian areas to a condition which enhances wetland and riparian dependant resource values. Additionally, emphasis is to be given to potential endangered, threatened, or sensitive plant species habitat when species is known to occupy the habitat. Two sensitive plant species are known to inhabit the corridor - Green tinged paintbrush (Castilleja chlorotica) and Blue leaved penstemon (Penstemon glaucinus).

Grazing

Domestic livestock grazing will be permitted if consistent with resource values and achieving the desired condition for vegetation. However, some changes in use (reductions or non-use) may be required until the desired condition is reached. Any changes in season of use and/or AUM's available would be implemented via the appropriate Allotment Mangement Plan and in the term grazing permit.

Fire management

Fire supression activities must consider long term scenic values in all alternatives. Use of heavy equipment must take into consideration immediate, short term, and long term impacts to river values, including scenic values; use of heavy equipment will not be permitted within the Gearhart Mountain Wilderness Area, and should be minimal in other areas.

Prescribed fire, using low to moderate intensities, may be used to reduce hazardous fuel accumulations, or to meet other resource management objectives.

Travel and Access

Road management activities, such as dust abatement, would be permitted to use water from existing water draw sites along the river in the alternatives.

Vehicle use, including four-wheel drives and all-terrain vehicles will not be permitted off of signed roads.

The Alternatives are described as follows:

ALTERNATIVE 1

This alternative is the "no-action" alternative.

Regulations of the Council on Environmental Quality (CEQ) require that a no-action alternative be considered as part of the environmental analysis for any proposed action. Contrary to this, the Wild and Scenic Rivers Act requires the Federal agency charged with the administration of a designated Wild and Scenic River to prepare a comprehensive management plan that preserves and protects river values. For purposes of this analysis the no-action alternative would continue existing management of the river according to L&RMP goals and prescriptions, and standards and guidelines. It should be noted that the L&RMP's for the Fremont National Forest calls for the development of a river management plan (in the form of a river study and/or a river management guide).

In the Fremont's L&RMP, Wild and Scenic Rivers are classed as Management Area 11.

In this alternative the river corridor boundary would extend 1/4 mile from the average high water mark on the Fremont.

The river corridor would be managed for a Recreation Opportunity Setting (ROS) of Semi-Primitive Motorized (which would allow only designated road access into the river corridor). Within the Wilderness area, the river corridor would be managed as Primitive. Recreation development could occur in that section classed as Semiprimitive, to enhance the visitors' experience, to facilitate use, to protect resource values, and for the administration of the area. The area is available for trail and river related activities that are consistent with Scenic River designation. Any new development will be out of view of the river.

Management practices shall meet a VQO of foreground retention.

Fish and wildlife habitat would be managed in such a way as to maintain the habitat as it was at time of designation.

Timber harvest would not occur within the corridor. No commercial or home-use firewood gathering would be allowed within the river corridor.

Grazing would continue to occur on National Forest lands within the river corridor as long as L&RMP objectives are met, particularily in riparian areas. This means that utilization must be consistent with Tables 17 and 18 in the L&RMP. Emphasis would be placed on the enhancement of riparian areas throughout the river corridor.

The river corridor will be closed to off-road motorized vehicle use. No new roads would be built within the river corridor; existing roads would remain open. Commercial traffic could be restricted on weekends from mid-April thru September.

ALTERNATIVE 2

This alternative emphasizes maintaining and/or enhancement of the outstandingly remarkable values. These values include scenery and geology in the lower segment; and scenic values in the upper segment.

The river corridor would be managed for a ROS of Semiprimitive Non-Motorized and Semi-Primitive Motorized except for that portion in the Wilderness Area which is Primitive. Recreation development within the river corridor would be limited to trails and minor improvements of developed and dispersed campsites. Popular developed sites such as Sandhill Crossing and Lee Thomas Campground, and dispersed sites along the upper reaches of the river would continue to see increased use.

Fish and wildlife habitat will be maintained or enhanced. The Forest will work with State Agencies to identify minimum instream flows needed to support fish populations.

Timber harvest would not occur for commercial or salvage reasons. Some vegetation manipulation may be done on an irregular basis to preserve and/or enhance stand characteristics when necessary to accomplish management objectives. Any timber harvest operation must meet the VQO of foreground retention. Incidental firewood gathering for use by campers in the corridor would be permitted.

Grazing would continue to occur on National Forest lands within the river corridor as long as L&RMP standards and guidelines are met, particularily in riparian areas. This means that utilization must be consistent with Tables 17 and 18 in the L&RMP. Emphasis would be placed on the enhancement of riparian areas throughout the river corridor, meeting identified desired conditions.

Access would be limited to existing roads within the river corridor.

CHAPTER V ENVIRONMENTAL CONSEQUENCES

This chapter discusses the environmental consequences and the potential effects of implementation of each of the alternatives presented in Chapter IV. For purposes of evaluation, the chapter is divided into five sections: the consequences and effects as related to the issues; the consequences and effects as related to the resource values and uses; the consequences and effects as related to social and/or political values and agenda's; cumulative effects of implementation; and the required disclosures on compliance with applicable national laws and executive orders.

The consequences and effects discussed in this chapter can be direct, indirect, or cumulative; and they can be immediate, short term, or long term. Immediate consequences and effects are those that occur between now and 5 years; short term are those between 5 years and 20 years; and long term are those more than 20 years.

A separate discussion on the consequences and effects as related to the outstandingly remarkable values is not given. The oustandingly remarkable values are protected in the alternatives under Managment Area 11 and the Wild and Scenic Rivers Act.

Many of the consequences and effects of the no action alternative are discussed in Chapter 4 of the Final Environmental Impact Statement for the Fremont National Forest Land and Resource Management Plan.

ENVIRONMENTAL CONSEQUENCES AND EFFECTS OF IMPLEMENTATION AS RELATED TO THE ISSUES...

BOUNDARIES

Establishing a boundary that fits the local geography, and if responsive to the oustandingly remarkable values is the issue. Outstandingly remarkable values include scenic and geologic values.

Consequences & Effects of the No-Action Alternative

This action would result in a river corridor boundary of 1/4 mile on each side of the river, for a total of 4041 acres within the river corridor. The boundary would consist of a series of point to point straight lines, with a series of bearings and distances between points. It is not based on natural features, or on semi-permanent man made features. This alternative would protect the outstandingly remarkable values, however the boundary is not reponsive to local geography. If/when this boundary were surveyed and established on the ground, it would be a chance occurrence for the boundary to be anchored to identifiable features on the ground.

Consequences & Effects of Alternative 2

This boundary protects the oustandingly remarkable values and is responsive to local geography. The boundary includes 3377 acres within the river corridor (an average of approximately 225 acres per river mile). The boundary would be anchored to identifiable features on the ground.

See attached maps

GRAZING/LIVESTOCK MANAGEMENT

Livestock grazing has occured along the river, and within the river corridor since about 1860. Some portions of the river have been heavily impacted by livestock grazing, and riparian vegetation is in a deteriorated condition. One of the issues relating to grazing is the negative effect that grazing has had on fish and wildlife values.

The other issue has to do with the fact that owners of the livestock that graze within the general vicinity of the river have come to depend on the forage and water the river provides. Loss of this forage and water could cause an economic hardship on those that depend on it.

The consequences and effects of grazing are identified only for the National Forest portions of the river corridor.

Consequences & Effects of the No-Action Alternative

In the approved L&RMP, grazing would continue in the river corridor, however utilization must be consistent with Tables 17 and 18 in the L&RMP. Emphasis would be on the enhancement of the riparian dependent resources (goal stated on page 50 of the L&RMP).

There are about 3776 acres of Fremont land within the proposed river corridor. Estimates indicate that about 70% of the river corridor is suitable grazing land. Assuming an average of 9.2 acres per AUM, there would be an estimated 287 AUM's available annually. With the current FRES Level C management intensity, full utilization of all the animal unit months of forage available is allowed.

This alternative would result in a slow improvement of range lands within the river corridor, including riparian areas. It is estimated that vegetaion, including the riparian areas, would begin to approach the desired condition in about 20 to 40 years, assuming control of livestock and utilization is consistent with what is established in the L&RMP.

Consequences & Effects of Alternative 2

This alternative would result in the river reaching desired condition in as short a time period as possible. Grazing would not be permanently removed from the river corridor, however temporary restrictions on grazing may occur until the desired condition is reached. Emphasis would be on achieving desired condition in 10 years or less.

TIMBER

The issues concerning timber within the river corridor are: Timber harvest within the river corridor could have a negative effect on scenic values as well as change the appearance of the river corridor from a natural appearing environment to a managed environment. Additionally, firewood gathering within the river corridor could reduce the habitat available for snag dependent species.

Consequences & Effects of the No-Action Alternative
The no-action alternative would not allow timber harvest within the river corridor. Commercial and/or Personal use firewood cutting would not be allowed.

Consequences & Effects of Alternative 2
Scheduled timber harvest would not occur in this alternative. Vegetation manipulation from activities to preserve and/or enhance stand characteristics could result in incidental timber harvest volumes. Because these types of activities are currently unplanned, and would occur on an irregular basis, timber harvest volumes are not estimated. For all practical purposes, this alternative would result in insignificant amounts of timber harvest volume. Firewood for commercial or personal use would not be gathered within the river corridor. Firewood for recreational use (i.e. campfires) would be gathered within the corridor. It is estimated that only minor amounts of firewood would be gathered for recreation use and that there would be no visible effects from such gathering.

RECREATION
The effects of any management activity on scenic values within the river corridor; the affect of the W&SR designation on river use and the visitor's experience; and, the desire to maintain the river in a natural condition while meeting the needs for basic sanitation were the issues related to recreation.

Scenic values would be protected in both of the alternatives. A visual quality objective of foreground retention would be met in both Alternatives.

The affect of Wild and Scenic River designation on river use and the visitor's experience is difficult to predict. The opinion of some members of the Interdisciplinary Team is that river use and the visitor's experience is probably more influenced by factors such as weather, water flows, grazing, and fishing/hunting opportunities than W&SR designation. Other members believe it is more influenced by people trying to escape heavily used recreation sites than any other factor. Some managers believe having a label on the river will draw people to the river, thus affecting use. Since designation of the river in 1988 there has been no significant increase in use. Since the notable effects of the drought during 1991, use seems to have actually declined, thus giving some validity to the opinion that use may be influenced more by other items than W&SR designation.

Consequences & Effects of the No-Action Alternative
This alternative would allow new recreation facilities to be developed on the Forest on an as needed basis. Locations for such facilities have not been determined.

Consequences & Effects of Alternative 2
With this alternative, the natural characteristics of the area would be maintained and recreation development would occur only where necessary to meet basic sanitation needs.

TRAVEL & ACCESS MANAGEMENT
Adequate access for visitors to the river and the continued use of the water "chances" that occur along the river were the issues for access and road management.

Use of the water chances that occur throughout the river corridor would be permitted in both of the alterantives.

Consequences & Effects of the No-Action Alternative & Alternative 2
These alternatives would limit access to existing roads.

Some visitors may have a difficult time in reaching the more isolated parts of the river, however, access is determined to be adequate.

CULTURAL, HISTORICAL, & TRADITIONAL USE CULTURAL VALUES
Hunting and gathering sites exist within the river corridor. The issue is site protection and the Klamath Tribes desire to make site information available only on a "need to know" basis versus the public's desire to know and 6nderstand about previous occupation of these lands.

Consequences & Effects of the No-Action Alternative & Alternative 2
Cultural and historic values would be protected under existing laws and regulations. Continued cooperation with the Klamath Tribes would be sought. Interpretation of cultural sites would not occur.

FISH AND WILDLIFE
Proposed, endangered, threatened, or sensitive fish and/or wildlife species are afforded special protection under the law and may have special protection and/or habitat needs. Other unique wildlife habitat needs may also require special consideration. This special protection, and the unique habitat needs are the issues for fish and wildlife.

Fish and habitat would be improved in both alternatives over time, but alternative 2 would speed recovery. Emphasis is given to maintaining and enhancing habitat of proposed, endangered, threatened, or sensitive fish species when species are known to occupy that habitat. Habitat needs will be determined on a site and/or species specific basis. The total river system will be evaluated when developing project proposals.

BOTANICAL
One issue concerns the management of the large meadows in the upper reaches of the river as well as riparian habitats along the river. Additionally, there is concern for potential, endangered, threatened, and sensitive plant species that occupy or may occupy habitats within the river corridor.

Restoration and/or maintenance of wetlands and riparian habitats will occur under both alternatives. The rate of recovery will vary, depending on how long it takes to achieve the desired condition (refer to the discussion on grazing). Potential, endangered, threatened, and sensitive plant species will receive special emphasis or protection.

ENVIRONMENTAL CONSEQUENCES AND EFFECTS OF IMPLEMENTATION AS RELATED TO RESOURCE VALUES AND USES

SCENIC VALUES

Discussed in the Issues Section

RECREATION VALUES

Recreation consequences and effects were partially discussed in the issues section. The consequences and effects discussed here have to do primarily with the Recreation Opportunity Spectrum (ROS).

Consequences & Effects of the No-Action Alternative

This alternative would result in a Recreation Opportunity Spectrum (ROS) setting of Semi-Primitive Motorized for the river corridor up to the Wilderness Area and Primitive for the corridor within the Gearhart Mountain Wilderness Area. The ROS setting of Semi-Primitive would result in existing roads to remain open.

Consequences & Effects of Alternative 2

Recreation activities currently taking place within the river corridor would continue, however, new recreation development would be limited to improvements for basic sanitation, fire protection, and trail maintenance and construction.

GEOLOGICAL VALUES

Geological values would be protected in both alternatives.

Common variety (salable) minerals material would not be developed or removed from the river corridor. Surface occupancy for leasable material would not be permitted. Acquired lands would not be made available for mineral entry. On lands open to mineral entry, the provisions of the 1872 mining law, as amended, would be strictly enforced.

FISHERIES VALUES

Discussed in the Issues Section.

WILDLIFE VALUES

Discussed in the Issues Section.

CULTURAL, HISTORIC, & TRADITIONAL USE CULTURE

Discussed in the Issues Section.

VEGETATION VALUES

Discussed in the Issues Section.

SOILS

It is unlikely that the alternatives would result in significant negative, long-term effects on the soil resource, mainly because of the low percentage of the area that would be affected at any one time, or cumulatively over time. Soil disturbances would be isolated, localized, and concentrated. Some disturbance would be acceptable in order to meet other management objectives (i.e. severe soil compaction in a campground or boat launch parking area). Current L&RMP Standards and Guidelines, combined with the application of Best Management Practices, would ensure that soil disturbances are minimal.

Timber harvest and road construction have the greatest potential for producing negative soil effects. The alternatives do not plan for any scheduled timber harvesting or road building.

WATER

Water quality and flow was not identified as an issue. However, it should be noted that having a minimum flow in the river is key to the protection of fisheries values and keeping the river in designation status.

The alternatives would not result in a negative effect on existing water quantity or water quality. The key point is which alternative will provide for the quickest and best recovery of those items that are essential to the health of the river ecosystem. Riparian values, which is the key item in recovery of the river ecosystem, were discussed in the Issues Section. Alternative 2 is aimed at restoring the riparian ecosystem in 10 years. The No-Action Alternative would restore the riparian ecosystem in 20 to 40 years.

ENVIRONMENTAL CONSEQUENCES AND EFFECTS OF IMPLEMENTATION AS RELATED TO SOCIAL, POLITICAL, AND/OR ECONOMIC VALUES

The effects of the alternatives on local communities and economies were evaluated by five criteria. These criteria, with a brief description, are as follows:

The effect on timber supplies available to local mills. Because current issues having to do with timber harvest have reduced the supply of logs available to local mills, and stumpage has had a reciprocal increase in value, any management actions that reduce opportunities for timber harvest cause concern.

The effect on livestock and ranching operations. Any proposed changes in grazing practices within the river corridor could result in increased cost to ranchers and/or livestock operators. These costs could be in the form of additional range administration (i.e.riding), feed, and increased fence construction or maintenance.

The effect on tourism related travel. Increased recreational opportunities within the local area would enhance the visitors' stay. This could result in visitors spending an extra day in the area, creating a positive effect on the local economy.

The effect on the quality of life and the quality of the environment. Natural scenic beauty, water and air that appear to be clean, opportunities to just "get away from it all", and similar features add to the quality of life and the quality of the environment.

The effect on providing a variety of recreation opportunities. In the "drier" ecotypes east of the Cascade range, water based recreation has a unique value because of its limited availability. River environments provide pleasant settings and generally result in a better experience for visitors to the area.

CUMULATIVE EFFECTS OF IMPLEMENTATION

REQUIRED DISCLOSURE ON COMPLIANCE WITH APPLICABLE NATIONAL LAWS AND EXECUTIVE ORDERS

The alternatives meet all applicable national laws and executive orders, with specific attention focused on the W&SR Act. Items specifically evaluated included cultural resources, water quality, visual quality objectives, air quality, and threatened, endangered, and sensitive plant and animal species. It is determined that neither alternative will have any significant adverse effects on these items.

EFFECTS ON CONSUMERS, CIVIL RIGHTS, MINORITY GROUPS, & WOMEN
None of the alternatives single out or discriminate against any consumer group, minority group, women, or has any effect on civil rights. Some minor differences do exist between alternatives in regards to the affect upon the local economy. These have been discussed in the Social, Political, and/or Economic Values section.

EFFECTS ON PRIME FARMLAND
Prime farmland does not occur within the river corridor.

EFFECTS ON RANGELAND & FOREST LAND
Rangeland and forest land exist within the river corridor. Timber harvest and livestock grazing could have an affect on National Forest lands within the river corridor. These effects are discussed in Chapter IV of the FEIS for the Fremont L&RMP.

EFFECTS ON WETLANDS & FLOODPLAINS
Wetlands and floodplains exist within the river corridor, however, the actions in either of the alternatives, either individually or cumulatively will not have any significant or measureable negative effect on wetlands or floodplains. Changes in grazing practices aimed at achieving the desired condition for riparian areas should result in an improvement of wetlands within the river corridor.

EFFECTS ON THREATENED & ENDANGERED SPECIES
The alternatives emphasize the improvement of threatened and endangered species habitat.

EFFECTS ON CULTURAL RESOURCES
Both alternatives protect cultural resources under existing laws and regulations.

EFFECTS ON AMERICAN INDIAN RIGHTS
American Indian rights, including those covered by the American Indian Religious Freedom Act, would not be affected by the alternatives. Existing treaty rights and/or agreements with the Klamath Tribes will continue in both alternatives.

EFFECTS ON GLOBAL WARMING
The actions contained in either of the alternatives, either individually or cumulatively, would not have any significant or measurable effect on global warming.

EFFECTS ON AIR QUALITY
The use of prescribed fire could result in short term and/or long term effects of the type described in Chapter IV, pages 164-168 in the Fremont FEIS.

EFFECTS ON IRREVERSIBLE & IRRETRIEVABLE COMMITMENTS OF RESOURCES
For both alternatives, irreversible and irretrievable commitments of resources would not exceed those discussed in the FEIS for the Fremont L&RMP.

SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY
None of the short term uses identified in any of the alternatives will have any adverse effect on the long term productivity of the lands within the river corridor or the river and/or the river ecosystem.

FOREST PLAN COMPLIANCE
Alternative 1, the no-action alternative, is in compliance with the FEIS for the Fremont L&RMP. Implementation of Alternative 2 will require an amendment to the L&RMP.

CHAPTER VI PUBLIC INVOLVEMENT

SUMMARY OF PUBLIC INVOLVEMENT

Public involvement was an integral part of the planning process for the North Fork of the Sprague River. Interested groups and individuals, and other federal, state, and local agencies were involved in public meetings, mailings, through newspaper articles, and by direct discussions.

Public involvement began in June, 1989 with the mailing of approximately 250 letters to announce the beginning of the planning process, and to determine the level of interest in the project. On September 27, 1989 a letter went out to all those persons and/or groups expressing any interest, and groups expected to have an interest. Issues were identified, additional responses solicited, and a field review of the river scheduled.

On October 28, 1989 twenty-nine people participated in the field review. The review included local residents, ranch owners, and ranch managers. Federal officials included Forest Service public information officers, the Bly District Ranger, the Forest fisheries biologist, and the Forest Wild and Scenic Rivers coordinator. State government was represented by forestry personel, a fisheries biologist, chairman of the Governors' Watershed Enhancement Board, chairman of the Oregon State Soil and Water Commission, and one member of the State Board of Agriculture. County government officials present included Klamath and Lake County Commissioners and a Klamath County Planning Commission member. The field review also included members of the Klamath Country Flycasters Club.

Input from the field review was combined with previously expressed public and interdisciplinary team concerns to form the basis for the issues identified in this plan.

On October 10, 1989 the development of river management plans was discussed representatives from the Klamath County Planning Department.

The Klamath Tribe was also involved. A meeting between tribal representatives Gordon Bettles, Don Gentry, and Craig Bienz (Tribe biologist), and Forest Service representatives Ben Kizer (Wild and Scenic River Coordinator FNF) and John Kaiser (Forest Archaeologist FNF) was held on January 12, 1990 in Chiloquin, Oregon. Craig Bienz met again with Ben Kizer and Forest Supervisor Chuck Graham on August 6, 1992.

A program was presented to the Klamath Country Flycasters (34 persons attended this meeting), and to a Society of American Foresters chapter meeting (20 persons attended this meeting; most were from the Klamath Falls area). Offers were extended to several Lakeview and Klamath Falls service organizations to do programs on the river planning efforts that were underway, however only the Lakeview Lions Club responded.

The Nature Conservancy has been involved throughout the planning process. The Oregon Rivers Council has also been involved throughout the planning process.

Oregon Department of Fish and Wildlife was consulted, and provided input throughout the planning process. Input was recieved from the Klamath District office, as well as the Region 3 - Central Oregon office.

Newsletters were sent out to about 200 interested groups and/or individuals on February 1, 1990, June 1, 1990, and again on June 17, 1991. The purpose of the newsletters was to help keep people informed as the planning process continued.

Overall, interest in the North Fork of the Sprague River management planning process could be described as light.

Groups and/or Individuals that were involved, or recieved notification of the planning process included the following:

<u>Organizations</u>
American Rivers - Thomas J. Cassidy, Jr.
Oregon Rivers Council - Bob Doppelt; David Bales
Northwest Rafters Association - Al Ainsworth
Oregon Natural Resources Council - Andy Kerr; Wendell Wood
Oregon Trout
Sierra Club, Oregon Chapter
Izaac Walton League
Native Plant Society
The Nature Conservancy - Kathy McDonald
Klamath Audubon Society - Katy Ardt
Federation of Flyfishers, Oregon Council - Keith Burkhart
Trout Unlimited, Oregon Council - Dave Nolte
Klamath Country Fly Casters - Tom Neal
Trout Magazine - Tom Pero
Northwest Forestry Association - Wayne Ludeman
National Wildlife Federation - Rick Brown
Center for Urban Affairs and Policy Research - H. Paul Friesema

High Country River Rafters - Larry Stuhl
Wilderness Society - Baynard Smith
National Organization for River Sports - John Garren
Klamath River Compact Commission - Nell Kuonon
Sprague River Water Users Association - Edwin Vieira

Other Agencies and/or Governments
Bureau of Land Management, Lakeview District - Judy Nelson
Oregon Department of Fish and Wildlife - John Fortune; Steve Lewis; Ralph Opp
Lake County Board of Commissioners - Jeremiah O'Leary
Lake County Planning Department - Ray Simms
Klamath County Board of Commissioners
Klamath County Planning Office - Steve Oulman
Oregon State Parks
Oregon Department of Forestry - Bob Brown
Oregon Department of Energy
Intertribal Fish Commission - Larry Everson
Klamath Indian Tribe - Craig Bienz; Don Gentry; Gordon Bettles

Industrial
Weyerhaeuser Company - Kurt Muller; John Monfore;
ZX Ranch - Bob Debraga
J Spear Ranch Co. - Tom Shaw
Harvey Ranch, Inc.
Whiskey Creek Ranch - Bill and Nadine Gallagher
Yamsay Ranch - Dayton and Gerda Hyde
Lakeview Lumber - Mike Rice
Fremont Sawmill - Paul Harlan
Goose Lake Lumber Company - Jim Simpson
Klamath County Farm Bureau - Steve Kandra

Individuals
Alan Withers
John Withers
Bob Elder
Orval Layton
John O'Leary
John Merwin
Sam Baldwin
Bill Ganong
Sarah Bunten
J.R. Cogar
Ron Cunningham
Vic Creed
Gino Zalunardo
Erwin Hafenstein
Dom Wright
Jerry Boucock
Marc Valens
George Burrell
Gary Anderson
Dan Applebaker
Art Lapsley
Paul Brattain

Tommy Dell Brattain
Ruth Brattain
Brenda and Gary Isham
Ed Murphy
Kelly Colahan
Ralph McAllister
Ora Temple
William and Jeremiah Barry
Marilyn Bacon
Frank Obenchain
Donald and Lillian Manning
George Burrell
Jerald Steward
Sally Bourgeois
Jeff Howard
Chuck Kelly
Ira Pridmore
Virginia Vernon
Con Fitzgerald
Carvil R. Maple
Bill Marlett
Jane Dixon
Don Zupan
Roger Enell
Charles P. VanEpps
William Pearcy
Ron Hicks
Kate Joost
Joseph A. DiBartolomeo
Donald L. Hummel
Lisa Garrett
Melvin R. Adams

This Environmental Assessment was conducted using an interdisciplinary team process. The Interdisciplinary Team was made up of the following persons:

Ben Kizer, Heather Todd; Project Leaders, FNF
Marty Morrison; Range Conservationist, FNF
Dave Wenzel; Soil Scientist, FNF
Mike Miller; Landscape Architect, FNF
Richard Woodward; Recreation and Lands, FNF
Cleon Puetz; Forester & Forest Interdiscipinary Team Leader, FNF
John Kaiser; Archeologist, FNF
Anne Archie; Wildlife Biologist; FNF
Lee Hillwig; Fisheries Biologist, FNF
Scott Woltering; Fiseries Biologist, FNF
Dave Vogler; Hydrologist, FNF
Stan Jones; Hydrologist, FNF

**FNF - Fremont National Forest

In addition to the Interdisciplinary Team, the following persons provided input to the planning process:

Districts...

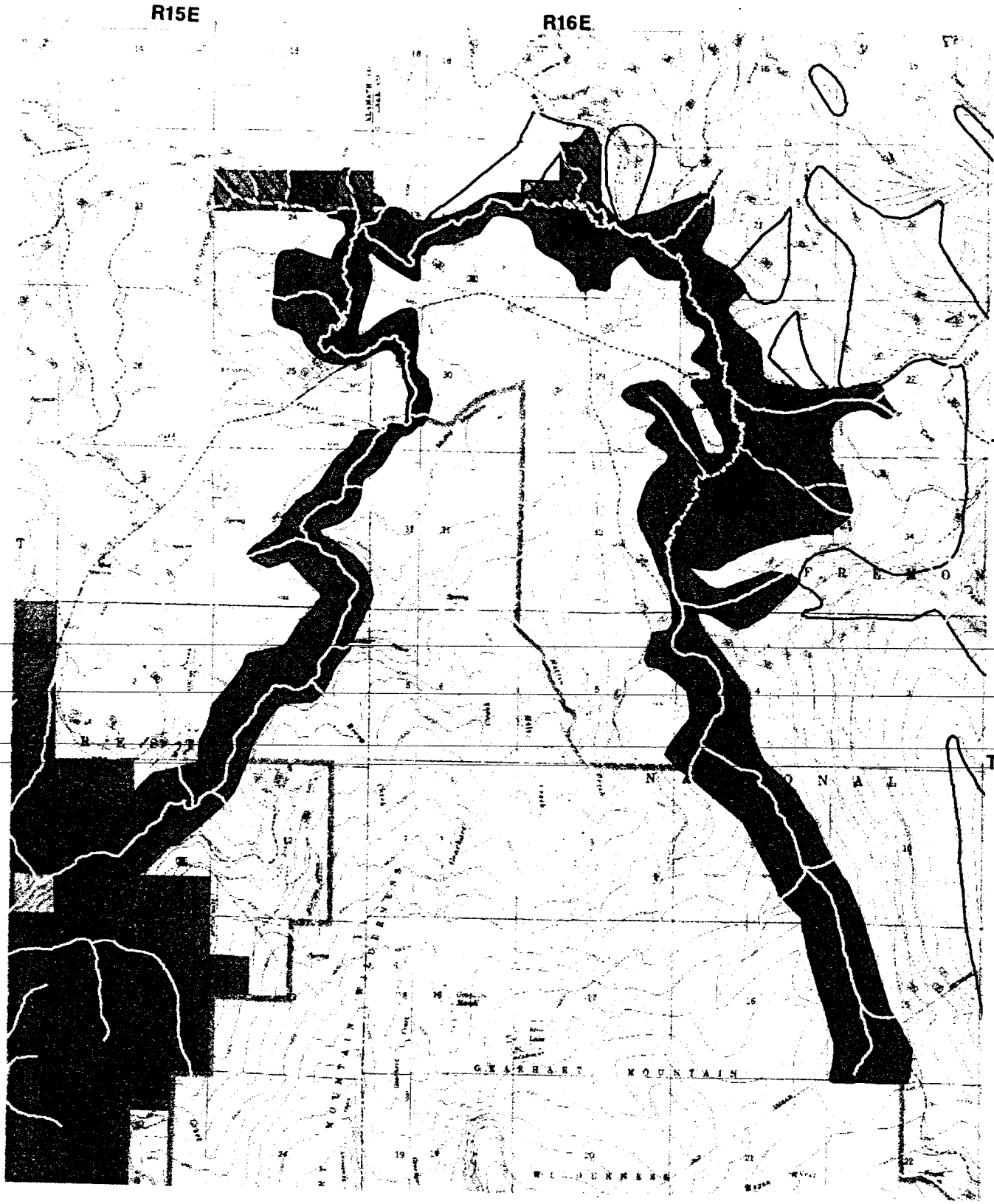
Bly Ranger District, FNF
- Nancy Rose, District Ranger
- Bob Brackett, District Ranger (retired)
- Nancy Feakes, Resource Assistant
- Linda Barker, Resource Assistant
- Don Carpenter, Forester
- Michael Gebben, Wildlife Biologist
- Donna Gress, Forestry Technician
- Bruce Nichols, Fire Management Officer
- Fred Von Bonin, Silviculturist

Paisley Ranger District, FNF
- Roger King, District Ranger
- Mike Balboni, Resource Assistant
- Randy Ghormley, Wildlife Biologist
- Cindy Grover, Range Conservationist
- Larry Hills, Cultural Resource Technician
- Patricia Hudspeth, Botanist/Recreation Technician
- Jerry Maley, Engineer
- Mike Nevill, Range Conservationist
- Sandra Overton, Forestry Technician
- Scott Peets, Fisheries Biologist
- Dennis Shippee, Soils Technician
- Dan Shoun, Supervisory Forestery Technician (fire and fuels)
- Rod Stewart, Resource Assistant
- Dan Wilson, Botanist

Headquarters Office - Fremont National Forest

- Ralph Roberts, Resource Staff Officer (retired)
- Steve Egeline, Resource Staff Officer
- Mike Schafer, Forest Silviculturist
- Sherman Radtke, Planning, Lands, and Recreation Staff Officer (retired)
- Stevie Ruda, Visual Information Specialist
- Ron Thompson, Forest Engineer (retired)
- Curt Allen, Supervisory Civil Engineer Technician (retired)
- John Thompson, Supervisory Land Surveyer (deceased)

North Fork Sprague River
Alternative 2



MANAGEMENT DIRECTION

NORTH FORK OF THE SPRAGUE WILD AND SCENIC RIVER

Background

Under the 1988 Omnibus Oregon Wild and Scenic Rivers Act, fifteen miles of the North Fork of the Sprague River was designated as Wild and Scenic (W&S). The North Fork of the Sprague River was one of forty rivers added to the Wild and Scenic Rivers System within the State of Oregon. The Act requires Federal agencies to prepare a comprehensive management plan for each river under their administration.

The river management plan provides for protection and enhancement of resource values in the river corridor, and allows for public use and enjoyment of those resource values. The plan further provides the necessary direction for the river corridor and adjacent areas that affect the corridor. Management activities outside the wild and scenic river boundaries must protect the values for which the river was designated.

Included in the North Fork of the Sprague W&S River Management Plan is a description of the desired condition for the river corridor, as well as standards and guidelines and possible management actions designed to achieve the desired condition for the river corridor. Additionally, a monitoring plan is provided to ensure resource qualities of the river are retained.

Outstandingly Remarkable River Values

Outstandingly Remarkable Values (ORVs) are those values which cause a river to be designated by Congress as Wild and Scenic under the Wild and Scenic Rivers Act. These values are determined by comparing the resources of the river under study with the resources of other rivers in the region. Those values which are found to be unique, rare, or exemplary and are significant at a regional or national level are considered "outstandingly remarkable". For the North Fork of the Sprague W&S River, the regional area was Lake County; this area is within SCORP (State Comprehensive Outdoor Recreation Plan) region 11.

The Outstandingly Remarkable Values for which the North Fork of the Sprague River was designated are:

> Scenic: The river canyon offers views of a variety of vegetative patterns within a steep, narrow basaltic canyon. Vegetation color ranges from the generally green riparian areas, to the grey/green of the sagebrush covered slopes to the darker green of the forested areas. The green colored hues of the riparian vegetation creates a pleasing contrast to the brown/grey colors of the basaltic outcroppings.

ORVs Continued

Seasonal variations in color come from wildflowers and the budding of deciduous trees and shrubs in the spring, to the changing fall colors. The upper part of the designated segment contains a series of broad, high elevation meadows that are bordered by stands of lodgepole pine. These areas are often snowcovered until early summer, and once free of snow a profusion of wildflowers emerge. The green meadows combined with the colors from the wildflowers and the surrounding darker green forested areas provides spectacular scenery. Later in the year the river flowing through these meadows, combined with limited livestock grazing, creates a classic pastoral setting.

The most notable human alterations visible within the river corridor are the roads. Forest Road 3372 parallels the river for about 3.5 miles and crosses the river twice. One by bridge, and one by culvert. Forest Road 3411 also crosses the river twice; once near Lee Thomas campground, and then again near Sandhill Crossing campground. Both of these crossings are by bridge. Some fences associated with private land also occur within the river corridor. Evidence of past timber sale activity is also present within the river corridor. While all of these landscape alterations are an impact to visual quality, they do not dominate the visual character of the area and the overall scenic quality is not significantly reduced.

Geologic: The lower part of the designated segment is a narrow, steep, V-shaped basaltic canyon with slopes that range from 30 to 80 percent. Undisturbed talus slopes and outcroppings of bedrock are common. Several springs and tributaries burst from the canyon walls. Each of the springs is estimated to flow at about 1 cubic foot per second. These types of springs are the result of the geologic action of down cutting by the river to expose subsurface water flows.

Relationship of this Plan to the Forest Land and Resource Management Plan

National Forest planning is accomplished at the programmatic level and through individual project plans. Forest Land and Resource Management Plans (Forest L&RMPs), provide forest-wide and area-specific standards and guidelines, and are developed at the programmatic level of planning. Forest L&RMPs are the result of extensive analysis of the outputs and effects of a range of alternatives which are documented in an accompanying Environmental Impact Statement (EIS). Public input is considered at several points throughout the analysis. The final Forest L&RMPs are based on the alternative selected as the Preferred Alternative by the decision maker (generally, the Forest Supervisor).

River management plans are also developed at the programmatic level and are tiered to the Forest L&RMP.

Relationship of this Plan to the Forest L&RMP Continued

Individual project plans are designed to achieve the goals and objectives of the programmatic level plans and are often tiered to a programmatic level plan. Site-specific NEPA analysis must be done for each individual project plan. For example, the management actions listed in the North Fork of the Sprague Wild and Scenic River Management Plan will be carried out through individual project plans which are tiered in a NEPA analysis to the River Management Plan.

Management Roles of Other Agencies

Successful implementation of the North Fork of the Sprague Wild and Scenic River Management Plan will require close coordination and cooperation between numerous federal, state and local government agencies. The primary roles and responsibilities of these management partners are outlined below. Specific plans and policies that may affect the designated corridor are described under the agency responsible for that plan or policy.

Federal Agencies

Forest Service:

The Fremont National Forest is responsible for administration of the National Forest System lands within the North Fork of the Sprague W&S River corridor.

Two Ranger Districts on the Fremont Forest, Bly and Paisley, will be the primary public contact for issues relating to the wild and scenic river management, including: safety, public information and education, special use permit compliance, resource protection, project planning and implementation, and monitoring of social and physical conditions on and along the river.

The Federal government does not have authority to regulate what happens on private land within, or outside, of the wild and scenic river. Land use controls on private lands are solely a matter of state and local county zoning.

The Wild and Scenic Rivers Act specifically prohibits the use of condemnation in the fee title purchase of lands if 50 percent or more of the land within the boundary is already in public ownership, as is the case with the North Fork of the Sprague Wild and Scenic River. The W&SR's Act does provide the Federal government with authority to purchase land from willing sellers, or enter into land exchanges or scenic easement agreements if deemed necessary to maintain the outstandingly remarkable values that resulted in the river's designation.

U.S. Fish and Wildlife Service:

The U.S. Fish and Wildlife Service administers the Federal Endangered Species Act of 1973 (as amended). The Forest Service consults with that agency to obtain a biological opinion on appropriate courses of action when it is determined that a threatened or endangered species, or its critical habitat, may be affected by a proposed management action. Resulting biological opinions rendered by the USF&W could mean that proposed action is modified or abandoned.

Army Corps of Engineers (COE):

A permit must be obtained from COE prior to initiating any activity which involves dredging, excavation and/or depositing of fill and dredged material into a Federal Wild and Scenic River. COE and the Oregon Division of State Lands have a joint application for this permit. Specifically, COE is responsible for authorizing dredge and fill activities of less than 50 cubic yards.

State Agencies

Oregon Department of Fish and Wildlife (ODFW):

The Oregon Department of Fish and Wildlife is responsible for developing State programs and policies for management and protection of fish and wildlife resources, including habitat, and for regulating recreational and commercial harvesting of fish and game. ODFW is authorized to request instream water rights to protect fish and wildlife resources. Agency technicians and biologists provide technical assistance for riparian habitat production and maintenance, riverbed or riverbank alteration, water withdrawal, or any use of the water's surface.

Oregon Water Resources Department (WRD):

The WRD carries out the programs and policies of the Water Resources Commission (WRC). The Commission develops coordinated, integrated state water resources policy aimed at developing and preserving Oregon's water resources. The WRC is most directly involved in the protection of State Scenic Waterways. However, the WRC can also protect fish, wildlife, and recreation values on designated state and federal rivers through: a) establishment and maintenance of instream water rights and minimum perennial streamflows; b) water use policies in basin programs to guide evaluation of proposed developments; c) water use classifications; d) water right application review and permit conditioning; and e) water use regulation.

Oregon Department of Environmental Quality (DEQ):

The DEQ is responsible for protecting water quality in all "waters of the state", including those of Wild and Scenic Rivers and their tributaries. DEQ implements the Statewide Water Quality Management Plan, which establishes standards of water quality for each of WRD's eighteen river basins. Beneficial uses of rivers and streams that are to be protected by DEQ are public, private, and industrial water supplies; irrigation; livestock watering; anadromous fish passage; salmonid rearing and spawning; resident fish and aquatic life; wildlife; hunting and fishing; boating; water contact recreation; and aesthetic quality. Dissolved oxygen is to be kept to the highest possible levels. Temperature, bacteria, dissolved chemical substances, and toxic materials are to be maintained at the lowest possible levels. DEQ also has standards and procedures for on-site sewage systems, issues permits for dredge and fill of wetlands, and maintains water quality monitoring stations throughout Oregon. DEQ has the ability to apply for in-stream water rights to protect and maintain water quality standards.

Oregon Division of State Lands:

The Division of State Lands is the administrative arm of the State Land Board (the Board), composed of the Governor, Secretary of State, and State Treasurer. Under constitutional and statutory guidelines, the Board is, among other things, responsible for administering the Oregon Removal-Fill Law which protects State waterways from uncontrolled alteration. The law requires a permit for fill or removal of more than 50 cubic yards of material within the State's waterway. The permit-review process involves coordination with the natural resource and land use agencies from the local level through the federal levels. As mentioned previously, the COE is responsible for authorizing a permit for fill or removal of less than 50 cubic yards of material within the State's waterway.

Local Governments

County Comprehensive Plans:

The North Fork of the Sprague Wild and Scenic River flows through Lake and Klamath Counties. Private land within the river corridor is regulated and managed according to the policies set forth in either the Lake County Comprehensive Plan (1990) or the Klamath County Comprehensive Plan (1981), depending on which county the private land is in.

The Lake County Comprehensive Plan will support maintaining minimum stream flows for all beneficial uses. Additionally, agriculture, grazing, forestry, parks and recreation uses shall be considered consistent with natural/scenic/open space values dependent on resource carrying capacitities.

County Comprehensive Plans Continued

The Klamath County Comprehensive Plan contains policies to preserve open space and protect natural and scenic resources in Klamath County. The plan further calls for inventories of the location of fish and wildlife areas and habitats; outstanding scenic views and sites; water areas, wetlands, watersheds, and groundwater sources; and potential wild and scenic waterways and state scenic waterways.

Other Groups and Organizations

The Klamath Tribes:

The entire river corridor is within lands claimed by the Klamath Indians in the Treaty of 1864, and thus is part of the historic use area of the Tribes. With the Termination Act of 1954, the Klamath Tribes retained non-exclusive hunting, fishing and trapping rights to an area that includes most of the river corridor. The Klamath Tribes have also indicated that sacred sites exist within the North Fork of the Sprague River corridor.

The Forest Service recognizes the Klamath Tribes as a sovereign government with rights similar to that of a state. This government to government relationship creates a unique partnership with the Tribes. The Forest Service has an obligation to consult, cooperate, and coordinate with the Klamath Tribes in making resource management decisions, including decisions concerning management of the North Fork of the Sprague Wild and Scenic River.

The Forest Service does not, however, relinquish or share responsibility for administrative or resource management decision-making with the Tribes. There is no authority through treaty, statute, or inherent sovereignty granted to the Tribes for co-management of resources on the Forests. Given this, the Forest Service does not recognize a co-management right either retained by, or granted to, the Klamath Tribes.

MANAGEMENT DIRECTION FOR THE NORTH FORK OF THE SPRAGUE WILD AND SCENIC RIVER

I. Introduction

This section provides the overall direction for management of the North Fork of the Sprague Wild and Scenic River. Management direction is given in the form of goals, desired conditions (both general and specific to the resource values), standards and guidelines, and management actions necessary to achieve the desired condition.

Note: Management goals, desired conditions, standards and guidelines, and management actions apply to the river and river corridor (henceforth, referred to as the river corridor), unless otherwise specifically noted. Standards and guidelines described in the Fremont L&RMP, which incorporate State Best Management Practices, will be followed for management activities outside the river corridor, allowing for high quality water to enter the North Fork of the Sprague River System.

II. Management Goals

The management goals for the North Fork of the Sprague Wild and Scenic River must be consistent with the Wild and Scenic Rivers Act, and Forest Service guidelines for the management of federal lands in W&S River corridors. These goals lead to the desired condition for the river corridor. They are realistic to achieve, have at least some quantifiable parameters, and are based on information gathered during the scoping phase of the planning process.

The management goals for the North Fork of the Sprague River are as follows:

Protect and enhance the Wild and Scenic River values (scenery and geology) for which the river was designated.

Achieve and maintain a free-flowing condition.

Maintain a visual quality objective of foreground retention.

Minimize structural improvements and ensure that they blend with the natural setting.

Provide opportunities for livestock grazing when it is consistent with other resource values.

Insure that water quality meets Federal non-degradation standards.

Achieve the minimum instream flows needed to preserve the river ecosystem, and to maintain and/or enhance the fisheries value.

Management Goals Continued

Preserve and protect archeological values according to current laws and regulations, and meet to the extent possible, Klamath Tribes' desires for management of these values.

Maintain, and/or, improve existing fish and wildlife values.

Provide for appropriate user access to meet the objectives of the North Fork of the Sprague Wild and Scenic River Plan.

Manage the river corridor to preserve the natural character of the area. User restrictions, if needed, should be minimal and subtle; moderate opportunities for solitude should be present.

III. Desired Conditions and Standards and Guidelines

Desired Conditions describe the desired state of the resources within the river corridor. Management of the resources within the river corridor is intended to maintain, or create, the desired condition for the corridor in general, as well as for each of the resource values within the corridor.

The desired condition for the North Fork of the Sprague W&SR is consistent with the Forest Service guidelines for management of Federal lands within W&SR corridors, is responsive to the management goals and objectives established for the River, and reflects the public's desire for management of the River and River corridor. The desired condition for the river corridor in general and for the specific resource values (e.g., vegetation) is described below.

The statements that describe the desired condition are written in the present tense as though the river and river values already meet the condition(s) desired.

Standards and Guidelines (S&Gs) state the bounds or constraints within which all practices will be carried out in achieving the planned goals and objectives of the North Fork of the Sprague Wild and Scenic River Management Plan. The intent of the S&Gs is to help the manager stay within the constraints prescribed by law, as well as provide environmental safeguards for management activities.

Specific terminology used in the S&Gs identifies the type of direction and degree of compliance required. Correct interpretation of the terms is critical to understanding the intent of the direction. A Standard is signified by the use of the word "shall" or "should". The definitions for these words are as follows:

Shall: the action is mandatory in all cases.

Desired Conditions and Standards and Guidelines Continued

Should: the action is required, unless justifiable reason exists for not taking action. This direction is intended to require a practice unless it entails unacceptable hardship or expense. Exceptions to "should" restrictions are expected to occur infrequently.

A Guideline is signified by the use of the word "may". The definition of this word is as follows:

May: the action is considered to be optional.

While the Forest Service has responsibility for protecting and enhancing the Wild and Scenic River values within the river corridor, it does not have authority to regulate management of private lands within or adjacent to the corridor. The North Fork of the Sprague W&S River corridor includes about 265 acres of private land. Because of the existence of this private land within the North Fork of the Sprague W&S River corridor, the Forest Service policy will be to cooperate and coordinate with private landowners in order to encourage them to meet the Standards and Guidelines outlined in the North Fork of the Sprague W&S River Management Plan. The Wild and Scenic Rivers Act also gives the Forest Service the option to purchase land from willing sellers, or enter into land exchanges or scenic easement agreements if necessary to protect and enhance the outstandingly remarkable river values.

Management Area-wide Desired Condition and Standards and Guidelines

Desired Condition

The North Fork of the Sprague River is a free-flowing river with management emphasis on protecting and enhancing the values of scenery and geology, in the segments where they are determined to be outstandingly remarkable. Visitors to the river have the opportunity to experience the outstanding natural scenery of the area, including attractions such as the late seral and climax stage ponderosa pine scattered throughout the river canyon. Instream flows enhance the scenic value of the river by providing the sights and sounds of a free-flowing river to visitors to the river corridor. Water quality will meet Federal non-degradation standards. Management activities and/or improvements do not detract from the natural appearing landscape. The Recreation Opportunity Spectrum (ROS) settings of Semi-Primitive Motorized and Non-Motorized provide adequate motor vehicle access to the river, yet assures opportunities for solitude within the non-motorized sections of the river corridor. Visitor management is minimal and subtle.

Standards and Guidelines

Representatives from the Bly and Paisley Ranger Districts shall meet as needed to coordinate management activities. Such meetings shall occur no less frequently than once per year.

An analysis shall be conducted prior to implementation of any project within the river corridor in order to determine if the project will cause direct and adverse effects on the values for which the river was designated (as per Section 7 of the Wild and Scenic Rivers Act).

SCENIC RESOURCE MANAGEMENT

Desired Condition

Scenery within the river corridor is natural appearing with little evidence of management activity. This desired condition is satisfied through management for a visual quality objective of Foreground Retention. Additionally, middleground and background areas that are visible from the river and/or roads or trails adjacent to the river are managed for a visual quality objective (VQO) of Partial Retention.

Scenic qualities include diversity of natural landscape elements such as rockform, landform, and vegetation. Vegetation is primarily coniferous with late seral and climax stage ponderosa pine scattered and in clumps, and lodgepole pine flats intermingled with water related riparian vegetation such as willows and other deciduous shrubs. Expanses of sagebrush, bitterbrush, and juniper in the drier areas lend diversity. Rocks and boulders continue to line the river, increasing in size and quantity south of the Sandhill Crossing campground in the canyon area. Several springs and creeks seep from the lower reaches of the canyon walls to flow into the river. All of these natural elements add visual diversity to the scenery within the river corridor.

Wildflowers in the spring and early summer months provide a mosaic of color. Aspen and other deciduous vegetation provides opportunities for viewing fall colors.

Snags, in the density described in the North Fork of the Sprague W&S River Management Plan Standards and Guidelines, add unique characteristics to the landscape by providing a contrast in color, form, and texture.

Standards and Guidelines

General:

The following specific S&Gs from the Fremont L&RMP shall continue to be implemented:

Scenic Resource Management Continued

Natural qualities of the river corridor shall be retained by meeting a Visual Quality Objective (VQO) of Foreground Retention as viewed from the river and/or a riverside road or trail. **Fremont L&RMP Standards and Guidelines for Management Area 11.**

These additional S&Gs shall be implemented for management of the scenic resources:

A middleground and background VQO of Partial Retention as viewed from the river and/or a riverside road or trail shall be met.

Natural scenic diversity shall be maintained by minimizing management actions that reduce diversity of landform, rockform and vegetation.

Best Management Practices implemented for other management projects shall be developed to meet or exceed the designated Visual Quality Objectives (VQOs). These VQOs shall meet the standards described in USDA Handbook #462 ("National Forest Landscape Management", Volume 2, Chapter 1, Visual Management System).

When a catastrophic pest outbreak occurs, an assessment shall be done prior to taking action to suppress the outbreak. The assessment shall be done: 1) to determine which Wild and Scenic River values within the river corridor, as well as which values outside the river corridor, might be affected by the outbreak; and 2) to select the most appropriate method to suppress the outbreak considering these values.

Integrated Pest Management (IPM) strategies should be utilized to prevent unacceptable insect and disease damage in the river corridors. For operational consideration, manual, mechanical and silvicultural methods should also be emphasized.

Temporary departures from VQO shall be allowed when necessary in areas highly susceptible to insect and disease epidemics in order to protect forest health and longterm scenic values.

Beaver dams shall be allowed to remain a part of scenic and ecological conditions unless they become a threat to facilities or private property.

Foreground Retention Area:

These additional S&Gs shall be implemented for management of scenic resources within the viewshed of the North Fork of the Sprague W&S River managed as Foreground Retention:

Scenic Resource Management Continued

All new stumps shall be cut to a 4" maximum stump height. Visible new ground disturbances should be reshaped and vegetation reestablished with a native ground cover.

Existing late seral and climax stage trees shall be maintained as per the Fisheries' S&Gs.

Maintenance of all native tree, shrub, grass, and riparian vegetation communities shall be emphasized.

All new developments and facilities such as roads, trails, bridges, revetments, weirs, fences, utilities, buildings, etc. shall meet the Retention VQO in design and appearance.

Standing dead trees or snags of all sizes and species shall be left for visual, wildlife, and ecological reasons in the density described under S&Gs for Riparian Area Management and for Wildlife Management. Standing dead trees or snags may be removed if considered a hazard (as described under Recreation Management S&Gs).

Prescribed burning in natural mosaic patterns shall be allowed within the river corridor as a tool for landscape management as per Riparian Area Management S&Gs. Visual evidence of prescribed burns or wildfire burns shall be accepted as part of the natural character of the river corridor.

Middleground and Background Partial Retention Area:

These additional S&Gs shall be implemented for management of scenic resources within the viewshed of the North Fork of the Sprague W&S River managed as middleground and background Partial Retention:

Timber harvest shall be allowed in middleground and background visual zones that are not within the river corridor itself. Uneven-aged management practices are preferred in these zones, however.

All developments and facilities shall meet the VQO of Partial Retention in their design and appearance as viewed from the river and adjacent roads and trails within the river corridor.

The middleground viewing zone shall be managed to provide for the longterm maintenance of trees approximately 30 inches, or larger, in diameter. A supply of smaller diameter trees shall also be maintained in order to perpetuate the existence of the large diameter trees in these zones.

GEOLOGY AND SOILS MANAGEMENT

Desired Condition

The desired condition is to maintain the river corridor's unique geologic topography. The North Fork of the Sprague River drains a watershed composed of randomly distributed basalt eruptive centers, not believed to be alligned with dominant faults. The soils of the watershed have developed from volcanic parent materials or from alluvium/lacustrian materials eroded from volcanic materials. The soil profiles typically have pumacious soils over older buried residual soils. The buried soils over most of the area have developed from basalt and are stony loams, clay loams, loams, or silty clay loams. The remaining buried soil type is developed from rhyolite rather than basalt, and consequently is made up of less cohesive gravelly sandy loams or loamy sands.

Standards and Guidelines

The Soils Management S&Gs from the Fremont L&RMP (pages 80-85) will continue to be implemented.

VEGETATION MANAGEMENT

Desired Condition

Coniferous Species

Ponderosa pine and mixed-conifer forest types: The impression a person has when visiting the river corridor is that of being in a late seral or climax stage forest that shows few effects from management activities. Forested areas have a natural density of snags. Large ponderosa pine trees have an open and park-like appearance. Saplings and pole-size trees often are evident and occur in clumps.

Lodgepole pine: Lodgepole pine stands within the river corridor range from dense pole-sized stands to open stands with trees up to 24 inches in diameter. The lodgepole pine stands may show evidence of insect and disease activity. Stands generally appear to be even-aged, with limited reproduction.

Deciduous Species

Aspen: Several age classes of aspen provide scenic diversity within the river corridor. Management activities limit fir, and/or other conifer species, from encroaching into stands of aspen. Management of browsing pressure allows regeneration to occur.

Vegetation Management Continued

(Note: currently some of the aspen is decadent, with little regeneration. In 15 to 20 years the larger size classes of aspen will have suffered some decline. In 40 years the current regeneration will be moving into the larger size classes.)

Cottonwood: Cottonwood stands show signs of vigor and appear to follow natural cycles of reproduction and mortality. In areas where cottonwoods occur there is a heavy layer of decaying natural material on the ground. There are areas with cottonwoods that attract visitors because of the desirable recreation setting they provide.

Shrub Species

Shrub species are present in forested and non-forested areas.

Dryland shrub species such as mountain mahogany, bitterbrush, several varieties of sagebrush, chokecherry and serviceberry perpetuate naturally. They provide forage and habitat for a variety of wildlife species.

Shrub species associated with moist environments include several varieties of willow species, red osier dogwood, and mountain alder.

Plant Species

Two plant species from the Region 6 "Threatened, Endangered, and Sensitive List" grow in the river corridor. Penstemon glaucinus (blue-leaved penstemon) and Castilleja chlorotica (green-tinged paintbrush) are the listed plant species.

Standards and Guidelines

The following specific S&Gs from the Fremont L&RMPs shall continue to be implemented:

No scheduled timber harvest shall occur within the river corridor. Fremont L&RMP Standards and Guidelines for Management Area 11.

These additional S&Gs shall be implemented for vegetation management within the river corridor:

Some vegetative manipulation, including incidental timber harvest, may be done on an irregular basis to preserve and/or enhance stand characteristics when necessary to accomplish management objectives. Examples of acceptable reasons for incidental timber harvest include: meeting desirable stand conditions and/or providing clearings for scenic vistas.

Vegetation Management Continued

Any vegetative manipulation, including incidental timber harvest, shall protect and enhance the Outstandingly Remarkable Values (ORVs).

Firewood gathering for commercial or home-use shall not be allowed within the river corridor. Only that firewood gathered in incidental amounts for use by visitors for campfires shall be allowed within the river corridor.

Vegetation seedlings may be planted if necessary to meet Wild and Scenic River objectives.

Stocking level control of conifer and deciduous species shall be consistent with Wild and Scenic River objectives.

Vegetation management should be utilized to provide a variety of successional stages within the river corridor.

Vegetation management shall allow for the perpetuation of aspen and cottonwood in its seral stage.

Shrub species shall show vigorous growth, with 60% of annual leaders remaining intact after browsing.

Conservation strategies for the two sensitive plant species are:

Wooley, Robert L., Penstemon glaucinus Conservation Strategy, Fremont National Forest; April 19, 1993.

Phillips, Sara J. and Wooley, Robert L., Species Conservation Strategy, Green-tinged Paintbrush Castilleja chlorotica, Fremont National Forest; April, 1994.

Management of these species within the river corridor shall tier to the above named management plans.

RIPARIAN AREA MANAGEMENT

Desired Condition

There is a diversity of sizes and types of natural riparian vegetation along the North Fork of the Sprague W&S River, and a minimum of bare soil along the river bank. A healthy riparian area contributes to watershed improvement by reducing sediment in the river, and by lowering the water temperature through increased stream shading.

Riparian Area Management Continued

The riparian area is further characterized by abundant vegetation and root systems that protect and stabilize stream banks. Vegetation is well-distributed within fluvial zones such as streambanks, active channel shelves, active floodplains, and overflow channels. Encroaching riparian vegetation provides stable undercut banks, overhanging vegetative cover, shade along the channel margins, and a narrowing channel. The vegetation that shades the stream causes lower water temperature extremes during summer months. The saturated zone is elevated and the subsurface storage of water is increased. There is reduced encroachment of meadow areas by shrub and coniferous species because of higher water tables.

The desired condition of the riparian areas is:

> Native grasses, grasslike vegetation, sedges, and forbs are well established. They reproduce and provide overhanging cover on streambanks. Seedheads develop and cast seeds during normal years. Willow 6 feet or more in height occur in areas where willows have historically been established, or can be established.

The distinctive plants within the zone create a visual diversity that helps to identify the zone. Additionally, deciduous plants such as willows provide fine litter, such as falling leaves, which serve as a source of nutrients for the algae and the small invertebrates at the bottom of the food chain. Large debris, such as fallen trees, create habitat for fish and other species, stabilize the floodplain and provide nutrients as the debris decomposes. Shade from trees and shrubs helps to keep the stream temperatures lower, slow stream algae growth and influence the composition of the vegetation in the riparian zone.

Standards and Guidelines

Management Area-wide Standards and Guidelines (from the Fremont L&RMP Standards and Guidelines for Management Area 15):

> Site-specific prescriptions shall be required for all project activities that affect aquatic/riparian systems (Forest Service Manual 2526, R6 Supplement #42).
>
> In cases of unresolvable conflict, soil, fish, water, and wildlife shall receive preferential consideration.
>
> Watershed, wildlife, and fisheries habitat rehabilitation and improvements shall be required to meet goals for aquatic/riparian systems.
>
> Nonforested riparian zones shall be managed to increase the presence of late seral or climax vegetative community types.

Riparian Area Management Continued

Fencing of aquatic/riparian systems may be required when other means cannot meet management area goals.

Perennial Streams and Water Bodies (from the Fremont L&RMP Standards and Guidelines for Management Area 15):

Vegetation management activities within the river corridor riparian area shall be directed toward providing or meeting the following conditions or characteristics:

diversity in conifer and deciduous tree species;
diversity in age classes;
an abundance of deciduous shrubs and trees;
high (composite) canopy closure - shade to stream;

Fire management of the riparian area calls for the following:

Machine constructed fire lines should not be constructed in riparian areas during fire suppression activites. Perpendicular crossings, with subsequent rehabilitation are permitted, but discouraged, if alternatives exist.

Use of prescribed fire shall be limited to:

Burning of activity fuels located in the upland portion of the river corridor riparian area.

Burning of natural fuels for the purpose of enhancing riparian dependent values.

Fish and wildlife management requires that, as a minimum, instream fisheries habitat improvement shall be coordinated with range, watershed, recreation, and the Oregon Department of Fish and Wildlife (ODF&W).

Specific riparian objectives designed to meet a variety of resource needs shall be developed by an interdisciplinary team.

Seeps and Springs:

Management shall be directed toward providing or meeting the following conditions or characteristics in the riparian portion:

deciduous trees or shrubs;
standing dead trees;
conifer trees greater than 10 inches dbh; and
good water flow and quality.

Riparian Area Management Continued

These additional S&Gs shall be implemented for vegetation management within the river corridor:

Vegetation management within the river corridor riparian area shall be directed toward providing or meeting the following conditions or characteristics:

Strive to retain at least 1.5 snags of 10 to 20 inches dbh and 1 snag greater than 20 inches per acre and at least 2 down logs per acre of 12 inch diameter on the small end and 25 feet in length with the bark and sapwood intact. However, in cases of conflict between snag requirements and stream shade requirements, the decision shall be biased toward stream shade requirements.

A high amount (as per Fisheries Management S&Gs) of large woody debris in the stream channel and upper and lower banks, for stream channel and bank stability and structural fish habitat.

Livestock grazing in the river corridor shall be managed so that it does not exceed the following use level for the forage componant:

Where streambanks or channels are highly erodable, grazing would occur only where it would not have destabilizing effect on the streambank.

All other riparian areas will be managed under the Forest Range Environmental Study (FRES) Management Level C as described in the Fremont L&RMP Standards and Guidelines for Management Area 15.

No more than 5% increase over natural levels of streambank degradation shall be caused by, or perpetuated by, livestock.

RECREATION MANAGEMENT

Desired Condition

Recreation activities within the river corridor are primarily related to viewing the scenery, camping and/or picnicking, hunting, fishing, bird watching, hiking, and nature study. The river provides a pleasant viewing experience for visitors to the area. Riparian and/or water dependent vegetation provide scenic diversity and seasonal variations in vegetative color to enhance the visitor's experience. Water flows in the river year around (except in drought years when some sections may naturally dry up) and give visitors to the area the feeling of being in a river environment. The river shoreline is largely undisturbed and has a natural appearance. Roads and/or trails remain visually inconspicuous from the river.

Recreation Management Continued

About two miles of the river, from the Head of the River Spring north, is a portion of the northeastern Gearhart Mountain Wilderness boundary. On the northwestern portion of the Wilderness, the river corridor is contained within the designated wilderness, for about 2 1/2 miles.

Recreation Opportunity Spectrum settings of Semi-Primitive Motorized and Non-Motorized (as defined in the North Fork of the Sprague W&S River Environmental Assessment, and in its Glossary), are met. Visitors experience a semi-primitive motorized setting, in and around camping areas and roaded river access points (access point is defined as the intersection of a trail or road with the river.) Opportunities for solitude, in a non-motorized, natural environment are moderate to high, because of the inaccessible canyon portion of the river. Because of the isolation of the area there may be periods of time when visitors to the area face a moderate degree of challenge and risk.

Trail and road access to the river remain limited. Campers and picnickers enjoy moderate opportunities for solitude. People who hunt and fish find a natural appearing environment that enhances their pursuits.

Use Levels:

Use will be generally highest during holiday periods, and lowest during mid-week. The remoteness of the area, mosquitos, ticks, limited road and trail access to the river, low flows, late season snow during some years, and fire restrictions during other years all will continue to affect actual use levels in any given year.

Use levels within the corridor have not negatively impacted the Wild and Scenic River values. A Limits of Acceptable Change (LAC) program will be initiated if use levels start to negatively impact the river values.

Visitor Health and Safety:

Visitors to the river corridor are able to enjoy a safe recreational experience and are provided adequate information regarding safe behaviors.

Sanitary facilities exist at Lee Thomas, Sandhill Crossing Recreation Sites, and North Fork Sprague River Trailhead.

Hazard trees are removed from Lee Thomas, Sandhill Crossing Recreation Sites, and North Fork Sprague River Trailhead.

Recreation Management Continued

These additional S&Gs shall be implemented for recreation management within the river corridor:

Except in campgrounds and road access points, the river corridor shall be managed to provide a Semi-Primitive Non-Motorized recreation setting.

Recreation development within the river corridor shall be limited to trails and dispersed recreation sites, with structures only for basic sanitation and protection related items.

Buildings constructed by visitors (not including structures associated with dispersed camping, ie: lean-tos, meat racks) shall be removed, unless under special use permit, or if the structures are in disrepair and unsafe.

Visitor health and safety shall be considered in all administrative and management activities that take place within the river corridor.

Existing river crossings, including bridges, shall be appropriately maintained and, if necessary, reconstructed to meet the intended use. Reconstruction shall not impede the free-flowing nature of the river, (refer to General Standards and Guidelines).

River fords should be signed to discourage crossings by low clearance vehicles.

Any toilet facilities placed within the river corridor shall be at least 200 feet from the high water mark of the river and/or any tributaries entering the river.

HERITAGE RESOURCE MANAGEMENT

Desired Condition

Culturally, the corridor contains sparse, widely dispersed evidence of hunting and gathering activities consisting of small scatters of lithic reduction flakes, possibly associated with tool kit maintenance and an occasional projectile point or point fragment. No ground stone tools or other plant processing artifacts have been located within the corridor in the course of past surveys. Historically, the area has been used by stockmen, prospectors, loggers, and sportsmen. Numerous arborglyphs (tree carvings) are found within the corridor dating from the present to the early 1900's. Heritage resources will be managed using a combination of inventory, evaluation, protection, and enhancement activities.

Heritage Resource Management Continued

The specific S&Gs from the Cultural Resource Management section from the Fremont L&RMP (pages 92-93) shall continue to be implemented.

WATER QUALITY AND FLOW MANAGEMENT

Desired Condition

Flow:

The river has a continuous year around free-flow. Water flows enhance the scenic value of the river by providing a "river experience" for visitors to the corridor. In the short term, annual spring peak flows continue to "flush" the system. This moves sediment through the system, cleans the pools, and maintains a healthy channel morphology. Changes caused by peak flows are significantly reduced because of the improved conditions of riparian areas. The desired condition for the long-term includes an aquatic system that has a good distribution of woody debris and/or log complexes that create a variety of aquatic habitats (see desired condition for fisheries).

Water Quality:

Water temperatures typify near natural conditions as riparian vegetation has recovered. Fish mortality from high water temperature is minimal.

Turbidity and/or sediment loads are also near natural levels. Low standard roads within the river corridor that have contributed to increased sediment loads in the past are stabilized and/or revegetated, and all new projects within the watershed meet or exceed Oregon's Best Management Practices.

Human waste and/or "gray-water" does not enter the river or contribute to reduced water quality.

Standards and Guidelines

The Fremont L&RMP Forest-wide Standards and Guidelines for Watershed Management shall continue to be implemented.

These additional S&Gs shall be implemented:

BMPs shall insure that Federal non-degradation standards are met within the river corridor.

Water Quality and Flow Management Continued

The impact of project activities immediately adjacent to the river corridor on Wild and Scenic River values should be considered prior to implementation of these projects, and an assessment should be done as to the effects of these projects on protection and enhancement of these values.

WILDLIFE MANAGEMENT

Desired Condition

Vegetative conditions detailed in the desired conditions for vegetation in the river corridor provide adequate cover for big game wildlife species. Opportunities exist for viewing game and non-game species.

The rock outcrops, cliffs and crevices, rimrock, and talus slopes adjacent to the riparian areas and water provide habitat for small mammals, including such species as bobcats, marmots, and bats. Bird watching opportunities remain abundant throughout the length of the river corridor.

The greater sandhill cranes that nest within the river corridor find adquate habitat to meet their needs. High quality waterfowl habitat includes nesting and breeding areas.

Standards and Guidelines

There shall be continued implementation of the S&Gs found in the following section of the Fremont L&RMPs's Forest-Wide Standards and Guidelines for Fish and Wildlife Management:

Aspen Stands (p. FP 103)

Additionally, the following specific S&Gs from the Fremont L&RMP shall continue to be implemented:

Dead and defective trees shall be maintained to carry at least 100% of the potential population of cavity-dependent species except where safety concerns (hazard trees in developed and dispersed campsites) dictate a lower level of habitat. Fremont L&RMP Forest-Wide Standards for Fish and Wildlife Management.

Snags and leave trees should be retained in the same species composition of the stand impacted by management activities. Fremont L&RMP Forest-Wide Standards for Fish and Wildlife Management.

Wildlife Management Continued

The number of dead trees needed for habitat, as well as green replacement trees for wildlife habitat through the rotation, shall be retained as shown in the supplements to the Tables 24-26 referenced on pages FP 104-105 of the Fremont L&RMP. The number of dead and live trees are those present at the completion of the project and retained through a full rotation. **Fremont L&RMP Forest-Wide Standards for Fish and Wildlife Management.**

Special deer habitats such as mineral licks or fawning cover should be protected. **Fremont L&RMP Forest-Wide Standards for Fish and Wildlife Management.**

Special elk habitats such as mineral licks, calving areas and elk wallows should be protected. **Fremont L&RMP Forest-Wide Standards for Fish and Wildlife Management.**

Beaver dams should be protected and encouraged where their construction would benefit riparian area objectives. **Fremont L&RMP Forest-Wide Standards for Fish and Wildlife Management.**

These additional S&Gs shall be implemented for wildlife management within the river corridor.:

The primary emphasis for mule deer habitat management within the river corridor shall be on fawning and fawn rearing.

Cliffs, caves and/or talus habitats in forested stands should be protected by management of the shade provided by nearby trees. At least 80% of the potential natural shade should be retained through use of buffer strips, leave trees, or other methods.

FISHERIES MANAGEMENT

Desired Condition

Riparian areas provide fish with suitable water quality, adequate food, and the necessary habitats for all stages of their life cycle including spawning, rearing and migration. Populations of bull and redband trout are healthy and stable, and well distributed. Emphasis is given to the maintenance and/or enhancement of habitat for threatened, endangered, proposed, and sensitive species. This includes habitat for the redband trout (Oncorhynchus mykiss).

Standards and Guidelines

Standards and Guidelines in this section are designed to meet the longterm desired condition for fisheries. (Longterm is defined as more than 20 years)

Fisheries Management Continued

Note: The desired conditions and Standards and Guidelines are meant to describe important ecosystem conditions and factors that can lead to good fish habitat. However, it should be recognized that although the desired condition and Standards and Guidelines described for fisheries relate specifically to the channel and floodplain, watersheds are systems in which upslope/channel and upstream/downstream linkages are important in the protection and restoration of these ecosystems.

These additional S&Gs shall be implemented for fisheries management within the river corridor:

A late seral/climax stage conifer tree density of 15 trees per 100 feet of stream reach should be equally distributed within 100 feet on either side of the stream channel.

There should be a large log density within the stream channel of 20 pieces per mile of channel. A large log is defined as one which is at least 50 feet long and 20 inches in diameter.

There should be a 40% surface area of pool habitat type.

There should be a stream channel bankfull width to depth ratio of 10:1 or less for unconstrained valley floors and a ratio of 7:1, or less for constrained valley floors.

Water temperatures:

Third order streams or lower should have temperatures of 55 degrees F or less.

Fourth order streams or higher should have temperatures of 58 degrees F or less.

Stream canopy closure:

Perennial streams (class I, II, and III) should have 80% shade cover of the stream surface area, or 100% of site potential.

Late seral/climax stage conifer trees within 100 feet of stream channel:

Class I, II, and III streams should have 15 trees per 100 feet of stream reach that are equally distributed.

Class IV streams should have 10 trees per 100 feet of stream reach that are equally distributed.

Fisheries Management Continued

Woody debris in stream channel:

Lodgepole pine and aspen stands should have 20 pieces per 1000 feet of stream channel, with the pieces having a minimum diameter of 12 inches, and at least 35 feet in length.

Pine and pine associated stands should have: (1) 10 pieces per 1000 feet of stream channel, with the pieces having a minimum diameter of 20 inches, and at least 35 feet in length; and (2) 10 pieces per 1000 feet of stream channel, with the pieces having a minimum diameter of 12 inches, and at least 35 feet in length.

Pool Habitat:

If the stream gradient is 1 1/2% or less, then 50% or more of the stream should be pool habitat.

If the stream gradient is 1 1/2% to 3%, then 40% or more of the stream surface area should be pool habitat.

If the stream gradient is greater than 3%, then 30% or more of the stream surface area should be pool habitat.

Bankfull width-to-depth ratio:

Unconstrained valley floors should have a ratio of 10 to 1, or less.

Constrained valley floors should have a ratio of 7 to 1, or less.

TRANSPORTATION SYSTEM MANAGEMENT

Desired Condition

River crossings are limited to existing crossings. There is no off-road vehicle use within the river corridor.

All existing water chances (water draw sites) are rehabilitated as necessary.

The major access points into the river corridor are passenger car accessible. River fords may not be suitable for passenger car crossing.

Transportation Management Continued

These S&Gs shall be implemented for management of the transportation system within the river corridor:

A travel and access management plan shall be developed in cooperation with other resources and interested publics.

No new permanent roads shall be built within the river corridor. Existing roads shall be managed as per the travel and access management plan.

Road and bridge maintenance/management projects shall be done according to the travel and access management plan.

Temporary, low standard roads may be constructed for the purpose of furthering wildlife, fisheries, vegetative health or recreation objectives.

Road access to the river should continue to average about one access point per 5 miles of river.

Road management activities, such as dust abatement, shall use water from the river at existing water draw sites.

FIRE MANAGEMENT

Desired Condition

Unnatural fuel loading does not exist within the river corridor.

Standards and Guidelines

The following S&Gs shall be implemented for fire management within the river corridor:

Prescribed fire, using low to moderate fire intensities, should be used to maintain preferred vegetative communities, to reduce hazardous fuel accumulations, and/or to meet other management area objectives when such activities and objectives protect and/or enhance the outstandingly remarkable river values. Burning prescriptions shall also allow for protection and/or enhancement of the outstandingly remarkable values.

During wildfires, preference shall be given to those suppression methods and strategies that are both cost-effective and limit the area burned, and that have the least effect on, or can enhance, the outstandingly remarkable river values.

Fire Management Continued

During high or extreme wildfire danger, aggressive attack using all appropriate methods to minimize resource damage should be carried out so long as the methods protect the outstandingly remarkable river values, or the affected area can be rehabilitated to achieve the desired condition.

A prescribed fire plan that covers the river corridor shall be approved before using prescribed fire in the Wild and Scenic River corridor.

Naturally caused ignitions may be allowed to burn if they meet conditions in an approved prescribed burn plan, if funds and necessary staffing are available, and if approved as required by direction in Forest Service Manual 5140.

No management activity shall be allowed to increase fuel loadings above that level which occurs naturally in the river corridor. Pre-existing unnatural fuel loadings should be scheduled for either prescribed fire or other acceptable treatment methods.

RANGE MANAGEMENT

Desired Condition

Livestock grazing will remain an important use on the Forest, and will be permitted in the river corridor. Numbers of domestic animals grazing within the allotments where the river corridor flows through, will remain close to existing levels (refer to specific District's individual Annual Operating Plans for the Range Allotments within the river corridor).

Standards and Guidelines

Allotment Management Plans incorporating site specific objectives should be updated and managed to maintain a natural land base.

Grazing allotment areas will be monitored and managed to promote establishment and maintenance of a healthy vegetative cover.

Coordination of management practices for grazing use and other Forest resources is emphasized. Coordinated management of all resources will result in the achievement of Forest resource objectives.

IV. Management Actions

Management actions are distinct actions designed to resolve major issues and help attain the desired condition for the North Fork of the Sprague Wild and Scenic River. The management intent is that these actions be implemented as soon as the necessary funding can be secured through the agency's budgeting process and resources can be allocated to complete required planning and implementation steps.

Vegetation Management

Manipulation of older aspen stands shall stimulate regeneration.

Riparian Area Management

Develop Range Allotment Management Plans for riparian areas.

Reintroduce woody riparian vegetation at suitable locations.

Reduce General Road Density:

> Identify roads which will not be used in the succeeding 10 years for harvest activities, obliterate or effectively close these roads, and revegetate obliterated roads using native species.

Water Quality and Flow

Actively defend any adjudicated Federal reserved water rights.

Establish Best Management Practices for grazing within the river corridor, and include these BMPs in the permittee's Allotment Management Plan. BMPs for all other project activities should be included within the implementation and/or project plans.

Treat all existing and new gully erosion within the river corridor that is adding accelerated levels of sediment to the river.

Recreation Management

Any unauthorized constructed structures discovered within the river corridor shall be removed.

Wildlife Management

Examine timber stands for opportunities for cultural treatments to move stands more rapidly toward the desired condition.

Management Actions Continued

Fisheries Management

Reduce Sediment Delivery:

Provide "watershed", "stream", and "reach" Best Management Practices (BMPs). Monitor and document implementation and effectiveness of BMPs.

Fish Habitat and Riparian Area Management Restoration:

Develop a fish habitat and riparian vegetation restoration plan that uses stream survey data to establish areas where fish habitat, stream shading and bank stability are deficient. Use the plan to map and prioritize future plantings and fish habitat improvements. Develop management strategies that insure the establishment, growth, and succession of riparian vegetation.

Fishery Management and Trout Stocking:

Encourage the re-establishment of native game and nongame fish throughout their historic range.

Encourage the ODFW to prepare a fishery management plan for the watersheds within and tributary to the river corridor.

Water Quantity:

Water rights should be allocated for threatened, endangered and sensitive fish species and stream channel maintenance flows.

Transportation System

Develop a road and bridge management plan in cooperation with other resources and interested publics.

Rehabilitate existing water chances, where necessary.

To reduce the negative impact of sediment on water quality within the river corridor:

Identify and reduce road-caused sediment sources within the river corridor. Upgrade all unimproved roads in riparian areas that must be retained for management purposes. Identify specific existing problem areas and implement measures to prevent further erosion. This will be an ongoing process wherein each year at least 10% of the roads in the basin will be treated.

Transportation Continued

To relocate or upgrade existing roads in the river corridor and prohibit establishment of new permanent roads in the river corridor:

Establish a road relocation priority list for fish habitat and riparian restoration. Revegetate roads that were obliterated for relocation purposes with native plant species. Prohibit establishment of new parallel roads in streamside areas, and minimize stream and riparian area crossings.

Range Management

Livestock Management in Riparian Areas:

Review Annual Operating Plans or Allotment Management Plans for compliance with the Desired Conditions, goals, and S&Gs of the North Fork of the Sprague W&S River Management Plan.

Perform stream surveys to determine existing level of streambank degradation. Livestock access to streams could be restricted, or prohibited, in order to protect trees and shrubs. Partial or full exclosure shall be provided in identified grazing/browsing problem areas. Exclosures shall be used to monitor the progress of vegetation establishment and recovery.