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Northwest
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Salmon National Wild and Scenic River

Management Plan

Mt. Hood National Forest
USDA - Forest Service

USDI - Bureau of Land Management

Salmon National Wild and Scenic River Management Plan

USDA-FS, Mt. Hood National Forest
USDI-BLM, Salem District

Salmon National Wild and Scenic River

Management Plan

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Decision Notice
and
Finding of No Significant Impact

Salmon Wild and Scenic River Environmental Assessment and Management Plan

Forest Plan Amendment No. 3

Clackamas County, Oregon

USDA Forest Service
Mt. Hood National Forest
Bear Springs Ranger District
Zigzag Ranger District

The Salmon River was designated a Wild and Scenic River in the Omnibus Oregon Wild and Scenic Rivers Act of 1988 (PL 100-557). All 33.5 miles of the river were designated with the upper 25.5 miles to be managed and administered by the U.S. Forest Service and the lower 8.0 miles to be managed and administered by the Bureau of Land Management. This Decision Notice designates the management direction for the 25.5 miles of the river within the Mt. Hood National Forest boundary. The following segments are affected:

Segment 1. The 7-mile segment from its headwaters to the south boundary line of section 6, township 4 south, range 9 east, designated as a recreational river, to be administered by the U.S. Forest Service, (USFS).

Segment 2. The 15-mile segment from the south boundary line of section 6, township 4 south, range 9 east, to the junction with the South Fork of the Salmon River designated as a wild river, to be administered by the USFS.

Segment 3. The 3.5 mile segment from the junction of the South Fork of the Salmon river to the Mt. Hood National Forest boundary designated as a recreational river, to be administered by the USFS.

The Wild and Scenic Rivers Act directs managing agencies to develop a management plan for the protection and/or enhancement of the outstandingly remarkable values for the designated river and associated corridor. The outstandingly remarkable values for the Salmon River include Scenery, Recreation, Fisheries, Wildlife, Hydrology, and Botanical/Ecological.

The Environmental Assessment (EA) for the Salmon River Management Plan documents the results of analyzing alternative management strategies for the river and the effects of those management strategies. Utilizing the information in the EA, this Decision Notice establishes new corridor boundaries for the Salmon National Wild and Scenic River land allocation and adopts a plan for managing the area within those boundaries.

The River Management Plan describes the conditions which need to be achieved and/or maintained in order to protect the river's values, and prescribes standards and guidelines to govern activities within the boundaries that could affect the river's values. It also establishes a program for monitoring activities within the area to help insure that the desired results are achieved.

Although the River Management Plan establishes standards and guidelines, monitoring elements, and potential projects, actual accomplishment will depend on final budget allocations. Insufficient budgets over a period of several years could delay or cause an inability to implement proposed activities, to apply standards and guidelines, and achieve some of the desired conditions.

Decision

This decision affects two areas:

- The Wild and Scenic River Corridor.
- Management Areas directly adjacent to the Wild and Scenic River Corridor as identified in the Mt. Hood National Forest Land and Resource Management Plan, (Forest Plan).

Based on the analysis documented in the Environmental Assessment, it is my decision to select Alternative D with one modification since I feel it provides the best mix of management options to meet the requirement of protecting and/or enhancing the outstandingly remarkable values of the river and corridor and provide continued public use of the river.

It is also my decision to establish a new Management Area, A-1 (Wild and Scenic River - Salmon River) based on the boundary described in the EA for Alternative D. This boundary was changed from the interim boundary to better comply with the Wild and Scenic Rivers Act, to protect outstandingly remarkable values, and to make it more manageable by following identifiable and describable landmarks. This new Management Area replaces the B-1 corridor for the Salmon River in the Forest Plan. The B-2 Scenic Viewshed Management Area allocation boundary adjacent to the upper river corridor will also be changed to coincide with the new A-1 allocation. The A-4 Special Interest Area, A-9 Key Site Riparian, and A-11 Winter Recreation Area allocations will not change and will overlay the new A-1 allocations. Where standards and guidelines for these management areas differ, the standards and guidelines that are most restrictive to vegetation and access management will predominate.

It is also my decision to amend specific parts of the Forest Plan in order to implement alternative D.

Alternative D, the Management Area adjustments, the Forest Plan amendments and the reasons for the decision are described in other sections of this Decision Notice.

The modification to Alternative D mentioned above is to eliminate the Forest Service's share of funding for a Clackamas County river planner. This change was made because Federal budgets in the future are anticipated to become more limited and I feel the money appropriated to the Forest Service will be more effectively used by Forest Service personnel in managing the portion of the river within the National Forest boundaries.

Description of Alternative D

The objectives of this alternative are:

- To maintain the river's free-flowing characteristics.
- To manage for the protection and/or enhancement of the outstandingly remarkable recreational, fishery, wildlife, scenic, and hydrologic values and other resource values in a balanced way.

Recreation

On National Forest lands, additional recreational opportunities would be allowed within the corridor under Alternative D. These include expanding Green Canyon Campground, developing new nordic/mountain bike trails and sno-park in the upper corridor, providing toilet facilities in high use areas, and developing a barrier-free fishing pier along the river. No new campgrounds would be constructed in the corridor on National Forest Lands.

Some dispersed camping sites would be hardened and others eliminated where substantial resource damage or conflicts with other resource values is taking place. This alternative allows the construction of a new old-growth interpretive trail, a trail to overlook Final Falls, and development of a new trail and trailhead for the Bonanza Trail if legal access can be obtained. A much greater emphasis would be placed on interpreting the river and its values on and off the Forest and would be coordinated through the development of a comprehensive interpretive plan with the BLM.

There would be no change in the Recreation Opportunity Spectrum classes for the river corridor. Other recreational related projects could be considered only as long as they fulfill the goals and objectives of the river plan.

Water Quantity

USFS and BLM will develop a flow monitoring program and be working with state agencies to determine instream water needs and if necessary, have them apply for instream water rights.

Water Quality

In conjunction with water quantity monitoring, USFS and BLM will develop a water quality monitoring program to determine baseline water quality and once that has been established, monitor for the protection of that water quality. State water quality standards will be met or exceeded and existing and future activities in the corridor will be evaluated to identify and implement actions that will improve existing quality. Activities outside the corridor may be affected in order to meet this requirement.

Wetlands, Floodplains,and Riparian Areas

These areas will receive a high level of protection in the management plan and impacted areas will be rehabilitated to reduce adverse impacts to river values and water quality, as well as restore their role in providing for stream bank stability and wildlife habitat.

Fisheries Habitat

Fisheries habitat restoration and improvement activities will be implemented as long as they preserve the overall free-flowing character of the river. Habitat restoration/improvement work will be coordinated with ODFW and BLM in order to maximize the effectiveness of this work. Objectives will be to increase habitat diversity and available spawning and rearing habitat, especially for wild fish populations.

Fish Stock Management

The responsibility for management of fish stocks lies with the Oregon Department of Fish and Wildlife (ODFW). The Forest Service will continue to work closely with ODFW and other agencies during the development of the Sandy River Subbasin Management plan which will ultimately determine stock management direction for the entire Sandy River subbasin, including the Salmon River.

Botanical/Ecological Resource Protection

Unique plant communities within the river corridor will be protected and monitored for any changes from other management activities.

Grazing

Grazing will be allowed to continue within the Salmon River Meadows area. Potential impacts from grazing on other river values such as impacts to wildlife species, water quality, and sensitive plant species will be monitored and if adverse impacts take place, mitigation measures will be implemented thru the Wapinitia Grazing Allotment Management Plan.

Wildlife

Management emphasis in the upper river corridor, especially Salmon River and Red Top Meadows areas, will be for the protection and enhancement of big game and Threatened and Endangered Species. A variety of habitat improvement projects may be implemented throughout the corridor to improve calving and fawning areas for big game and other wildlife species. There may also be closures to motorized vehicular access in some areas in order to reduce harassment of wildlife by the public during critical times of the year. Reintroduction of species such as beaver and peregrine falcon may also take place in suitable locations throughout the corridor.

Cultural Resources

Protection of cultural resources will continue as required by Forest Service policy and law as well as expanding cultural resource representation in interpretive programs.

Scenic Resources/Timber Harvest

Protection and enhancement of scenic resources will be emphasized in the river corridor. To further achieve this objective, the regulated timber harvest component is being eliminated within the river corridor. There will be no changes to the visual quality objectives outside the corridor. Timber harvest may still take place in the corridor when it is done to protect or enhance river related values and provide for balanced, healthy forest and aquatic ecosystems.

Coordination with Other Management Agencies and Organizations

There will be a high level of coordination with other agencies which also have management responsibilities within the river corridor. This will include a variety of agencies such as ODFW, Oregon Division of State Lands, Clackamas County Planning Department and local planning organizations.

Reasons for the Decision

Throughout the planning process, almost all of the public told us that they like the Salmon River much the way it is now. They want to see the character of the river corridor and quality of the recreational experiences kept much as they are now. In addition, they realize the importance of protecting the natural resources that make the river corridor special and were the basis for the river being designated. Alternative D best meets the desires of the public and providing for the protection and enhancement of all the resource values of the river. The alternative also provides for monitoring that will provide the Forest Service with sound data and help in identifying future problems. In addition, when projects are implemented, public participation in those planning efforts will allow Forest Service managers to continue their awareness of how the public wants their river managed.

Specific reasons for my choice of Alternative D are listed below:

Recreation Use and Access

Alternative D reflects what we heard from the public that they want recreation use similar to what is already taking place to continue. They also said that where the potential exists, to allow for limited expansion, commensurate with a level of protection for other resource values in the river corridor. Projects are identified in the river plan implementation schedule which will reduce existing resource impacts from recreational activities as well as provide additional opportunities for recreation within the river corridor. I feel Alternative D balances the need to provide for increasing use in the corridor, and at the same time protecting other outstandingly remarkable values and preventing and reducing resource damage.

Fisheries and Water Quality

The Salmon River is renowned for its important anadromous sportfishery. In addition, there is high quality habitat for anadromous fish stocks within the lower river and the potential to improve and restore additional habitat along the river. Planned actions in the implementation schedule will protect, and where possible, improve or restore fish habitat and water quality. The water quality monitoring program that has already been initiated will be able to detect significant increased in turbidity, sedimentation, and fecal coliform counts in the river. The Forest Service will continue to work with other management agencies in order to protect and improve the important fisheries resource of the Salmon River, both for the existing sport-fishery as well as the rare wild stocks found in the river. Alternative D provides for the techniques to protect these important values.

Wildlife

The Salmon River/Red Top meadows complexes, as well as the areas along both the East and West Forks of the Salmon River, provide critical summer range and calving and fawning areas for both east and west side big game species, as well as important habitat for other wildlife species such as the Sandhill Crane, a sensitive species. The riparian and adjacent areas along the river also provide important travel corridors and habitat for a wide variety of species. The actions proposed in alternative D provide for protection and improvement of these areas while allowing for increased recreational opportunities as long as they are designed to minimize adverse impacts to big game at critical times of the year. It is because of the importance of the areas along the main stem of the river for the wildlife species as well as the East and West Forks of the Salmon River that the East and West Forks were also included in the river corridor.

Grazing

Grazing is an activity that is allowed within wild, scenic, and recreational river corridors, especially where that use has taken place in the past. Some members of the public wanted grazing eliminated within the corridor, but impacts from past grazing within the Salmon River Meadows area are minimal since levels of grazing have been low. Since impacts from past grazing activities are minimal at this time, and there is no evidence that big game, and any threatened, endangered, or sensitive plants or animals are being adversely affected, grazing may continue, and may increase as allowed in the Wapanitia Allotment Management Plan, though the impacts of grazing must be monitored for adverse effects on river values. The monitoring, and if necessary, implementation of measures to mitigate adverse impacts from future grazing, will be addressed and implemented through the Allotment Management Plan.

Timber Harvest

Overall feeling was that eliminating the programmed timber harvest component from the river corridor was more compatible with the objective of protecting scenic values in the river corridor. Changing from regulated to non-regulated timber harvest reduces the overall allowable sale quantity (ASQ) for the Forest by less than 0.15%. Because this reduction in the ASQ is very small and the fact that going from regulated to non-regulated timber harvest is more compatible with the protection of the river values that it was included in the selected alternative. Timber harvest may still take place within the corridor using both even and uneven aged management techniques when the management actions are necessary to protect or enhance river related values and provide for balanced, healthy forest and aquatic ecosystems.

River Corridor Boundaries

River corridor boundaries were modified from the interim boundary to better protect identified river values and to make them more easily identifiable on the ground. The river corridor was narrowed in the lower recreational segment and the wild segment to reduce overlap in the wilderness and because the outstandingly remarkable values in those areas are more associated with the river itself. Because the Salmon River Trail #742 is associated with the river corridor, it was included in the final river boundary. In the upper recreational segment, scenic and wildlife values associated with the meadow complexes and East and West Forks of the Salmon River necessitated widening the boundaries at those points beyond the 1/4 mile each side of the river of the interim corridor. The overall intent is to remain within the 320 acres per river mile for the entire river, including the BLM administered portion of the river.

Amendments Made to the Forest Land and Resource Management Plan (Forest Plan)

In addition to implementing Alternative D, this decision also constitutes Amendment No. 3 to the Forest Plan. Those changes are listed below:

- Change the land allocation for the Salmon river from a B-1 allocation to a new A-1 allocation. This change is the result of eliminating regulated timber harvest within the corridor.

- Change the river corridor boundary to better protect river values. This new river corridor will be shown as an A-1 allocation. Other overlaying "A" allocations will not change. The B-2 allocation adjacent to the river upper river corridor will be modified to coincide with the new A-1 allocation boundary.

- Provide replacement management direction for the new A-1 allocation. The replacement direction is contained in the Salmon River Management Plan.

I have determined that these amendments are non-significant amendments to the Mt. Hood Forest Plan for the following reasons:

- These changes affect only the designated river corridor, much of which is already within the interim Wild and Scenic River corridor and is already being managed as a Wild and Scenic River.

- Changing from regulated to non-regulated timber harvest within the corridor reduces the Allowable Sale Quantity for the Forest by 277 thousand board feet (MBF), less than 0.15 % of the Forest Plan's timber output level of 189,000 MBF. There are also no other significant changes to other resource outputs on the Forest.

- The standards and guidelines, management actions, and specific activities identified in the River Management Plan are consistent with the original Forest Plan management goals and desired future condition for the Salmon Wild and Scenic River. Changes are overall refinements based on more detailed analysis than was conducted for the Forest Plan.

- The adjustments of management area boundaries and direction included in the River Management Plan do not make significant changes in the multiple use goals and long-term land and resource management direction for the Forest.

Other Alternatives Considered in Detail

Alternative A (No Action)

Alternative A would provide for the continuation of the existing management direction in the Forest Plan. Under this alternative, no new recreational facilities would be developed. Other resources would be managed under existing management direction and limited resource enhancement and monitoring projects would be initiated. Existing levels of interagency cooperation would continue but no new efforts would be undertaken.

I did not select this alternative since it did not provide the level of protection for some or all of the identified outstandingly remarkable values afforded by the other alternatives as well as the fact that existing management direction is not as site specific and detailed as the other alternatives and overall management intent is not as clearly spelled out as in other alternatives.

Alternative B

Alternative B would emphasize recreation use and facility development along the river. Protection of scenic and recreational values would be emphasized while providing a moderate level of protection of other resources. Access and facilities would be improved substantially in key locations to meet the demands of the public. Law enforcement and interpretation efforts would be higher to accommodate increased river use. There would be a greater emphasis on enhancing the current sport fishery instead of wild stocks.

I did not select this alternative since it emphasized enhancing primarily the recreation resource, while minimizing enhancement efforts and providing a lower level of protection for non-recreation resource values than what was provided in the other alternatives. Since the non-recreational values were also found to be outstandingly remarkable, I feel that they must have a higher level of protection and enhancement than what is provided by this alternative.

Alternative C

Alternative C would emphasize the other outstandingly remarkable values besides recreation. Fish (with emphasis on wild stocks), wildlife, scenic values, botanical, and hydrologic values would receive the most emphasis. Recreational facilities would not be expanded and no new facilities would be developed. Many dispersed sites would be closed along the river. Numerous resource enhancement activities would be initiated to enhance non-recreational resource values.

I did not select this alternative since it primarily emphasizes enhancing non-recreational resource values, minimizing providing recreational opportunities. Recreation was also one of the outstandingly remarkable values on the Salmon River. With the Mt. Hood National Forest being one of the eleven urban forests in the nation, and with projected increases in recreation use in the future, I feel that alternative C is too restrictive as it relates to future recreation use on the Forest and in the river corridor.

Public Involvement

Extensive efforts were taken to involve the public in the development of the alternatives and river management plan and to insure a high level of public participation in the planning effort. Numerous steps were taken during all stages of the river management planning process to ensure the viewpoints of interested individuals and groups were considered. The process is described in greater detail in the Salmon National Wild and Scenic River Environmental Assessment.

During the planning process, a mailing list of key interest groups, individuals, elected officials, community organizations, government agencies, and landowners adjacent to the river was compiled. Information about the planning process, public meetings, workshops, newsletters and planning updates were mailed to keep all interested citizens informed of the planning efforts. In addition, numerous public meetings, open houses, workshops, on-site field reviews, meetings with community planning organizations and other groups and individuals have been held over the past three years. The planning team members also utilized a citizen work group representing various river interests to help guide the formulation of the alternatives.

The Environmental Assessment (EA) was released for public review in August of 1992 to a mailing list of almost 250 people. In response, 12 letters commenting on the EA were received from different individuals and organizations. These letters, along with the other letters received during the planning effort, are contained in the analysis file for the EA.

The River Management Plan, which explains in greater detail the management direction for the river corridor, incorporates many of comments received from the public during the planning effort and further clarifies the intent of Alternative D, the selected alternative. In addition, my rationale for the selection of Alternative D addresses points made by the public and is contained in this Decision Notice. Ways that the River Management Plan and this Decision Notice address points in the letters include:

- Clarifying the respective roles and responsibilities of the BLM, USFS, and Oregon Department of Fish and Wildlife as it relates to habitat and species management for fish and wildlife found within the corridor.

- Clarifying the impacts of designation and inclusion of non-federal lands within the river corridor. You may refer to Appendix C of the River Management Plan for more discussion on this.

- Conducting additional resource surveys along the river corridor so we may better know what resources are actually in the river corridor and where they are located. The reader can reference the implementation schedule in Chapter III of the River Management Plan to see what is actually proposed.

- Increased coordination with other non-federal agencies who have management responsibilities in the river corridor. We as an agency are committed to work closely with others along the river in order to better protect river values. Not only are we looking at developing agreements with other agencies to increase this coordination, but we will continue to involve all segments of the public while implementing this plan and during the specific project planning efforts.

- Describing the rationale for continuing to allow grazing in the river corridor even though some members of the public, including the public working group, requested it be eliminated.

- Highlighting the fact that regulated timber harvest is being eliminated in the river corridor in order to better protect scenic and other river values, but still allowing the harvest to take place in order to better protect and/or enhance river values.

- Providing additional information to local landowners about the values along the river, river conservation and enhancement methods and guidelines, various federal, state, and local regulations and sources of technical assistance.

- Describing the rationale for the location of the river corridor boundary.

The River Management Plan takes into account the desires and concerns of those who expressed their views to us and provides for a balanced way for protecting and enhancing all the outstandingly remarkable values and allowing for continued public use of this special river.

Finding of No Significant Impact and Compliance with Laws

Following a review of the environmental assessment, I have determined that this is not a major federal action that will significantly affect the quality of the human environment, therefore, an Environmental Impact Statement is not necessary and will not be prepared. This determination is based on the following considerations:

- Irreversible and irretrievable commitments of resources and adverse cumulative or secondary effects will not exceed those discussed and evaluated in the Final Environmental Impact Statement for the Mt. Hood Forest Land and Resource Management Plan.

- Direct, indirect, and cumulative environmental impacts were analyzed and discussed in the Salmon River Environmental Assessment and were not found to be significant.

- There will be no significant impacts to wetlands, floodplains, prime farm lands, range lands, minority groups, women, or consumers.

- Activities planned in the wild and scenic river corridor will not adversely affect the environment beyond or downriver from the designated corridor.

- River Management Plan direction is not expected to cause any significant adverse impacts to any threatened, endangered, or sensitive plant or animal species. Site-specific biological evaluations will be done for specific projects planned in the corridor.

- The River Management Plan is in compliance with relevant Federal, State, and local laws, regulations, and requirements designed for the protection of the environment. The River Management Plan meets the State of Oregon water and air quality standards.

Biological evaluations for animals and plants have been completed and are included in the analysis file of the Environmental Assessment. These evaluations asses the impacts of the River Management Plan on all threatened, endangered, and sensitive species ("T, E, and S species") that could potentially be found in the Wild and Scenic River corridor. The evaluations include a conclusion there will be no effect or no impact at this level of decision to T, E, and S species present. Further site-specific surveys and appropriate interagency consultation, if necessary, will be conducted during project planning.

Implementation

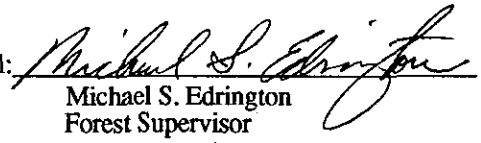
This decision may be implemented 30 calendar days after the Decision Notice is published in The Oregonian.

Each project identified in the River Management Plan will require additional environmental analysis prior to implementation, with the appropriate levels of analysis, in compliance with National Environmental Policy Act requirements.

Right to Appeal

This decision is subject to appeal pursuant to 36 CFR 217. Written Notice of Appeal of this decision must meet the direction contained in 36 CFR 217.9 (Content of a Notice of Appeal) and must include the specific reasons for appeal. Two copies of the written Notice of Appeal must be filed with the Reviewing Officer, John Lowe, Regional Forester, P.O. Box 3623, Portland, Oregon 97208-3623, within 45 days of the date the legal notice of this decision appears in The Oregonian.

For further information, please refer to the Salmon National Wild and Scenic River Environmental Assessment or Salmon National Wild and Scenic River Management Plan, and/or contact Paul Norman, Mt. Hood National Forest Wild and Scenic Rivers Coordinator, (503)-666-0731.

Responsible Official: 

March 10, 1993
Date

Michael S. Edrington
Forest Supervisor
Mt. Hood National Forest
2955 NW Division St
Gresham, OR 97030

Decision Notice
and
Finding of No Significant Impact (FONSI)

Salmon Wild and Scenic River

Environmental Assessment
and Management Plan

Clackamas County, Oregon

Bureau of Land Management
Clackamas Resource Area
Salem District

In October of 1988, the entire Salmon River, from its headwaters on Mt. Hood to its confluence with the Sandy River near Brightwood, was added to the National Wild and Scenic Rivers System by the passage of the Oregon Omnibus National Wild and Scenic Rivers Act.

The Bureau of Land Management (BLM), Salem District, was directed by Congress to develop a management plan for the river in coordination with the USDA Forest Service. The Environmental Analysis for the Salmon Wild and Scenic River Management Plan (August 1992) documents the results of the analysis of alternatives for managing the designated segments of the river, including the effects of each alternative. This Decision Notice establishes the final boundaries for the designated segments of the river and adopts a plan for management of the area within those boundaries. The management plan is designed to protect and enhance the river's values.

Although the Plan establishes standards and guidelines, monitoring elements and potential projects, accomplishment and implementation will depend on budget allocations. If budget allocations are insufficient, activities proposed in the Plan may need to be rescheduled. Insufficient budgets over a period of several years could cause an inability to implement proposed activities, to apply standards and guidelines, and to achieve some of the desired conditions.

This decision notice concerns the lower eight miles of the Salmon River from the Mt. Hood National Forest boundary to its confluence with the Sandy River under BLM jurisdiction. The following segments are affected:

Segment 4. The 3.5-mile segment from the Mt. Hood National Forest boundary (in the area of Cheeney Creek) to Lymp Creek (in the area below Arrah Wanna Bridge) designated as a recreational river, to be administered by the BLM.

Segment 5. The 4.8-mile segment from Lymp Creek to its confluence with the Sandy River designated as a scenic river, to be administered by the BLM.

The BLM in coordination with the USDA Forest Service has analyzed four alternatives, including a no action alternative, for managing the Salmon River as a National Wild and Scenic River under a jointly developed and implemented management plan. The alternatives and associated analyses were described in the Environmental Assessment (EA) completed and made available for public review in August, 1992.

Summary of Management Alternatives

Below is a brief summary of the four alternatives analyzed in the Salmon River EA.

Alternative A: No Action

Intent: This is the "no action" alternative required by National Environmental Policy Act. Alternative A would provide for the continuation of the existing management situation. Under this alternative, county, state and federal agencies, and private land owners would continue to exercise their existing authorities within the corridor. No new visitor facilities or programs would be developed. Recreation would not be regulated and monitored outside the two existing developed recreation sites. Resources would be managed under existing management policies and no additional resource enhancement or monitoring projects would be initiated. No new efforts for interagency cooperation, either within or outside the river corridor boundary, would be made.

Alternative B: Recreation Development Emphasis

Intent: Alternative B would provide for increased recreation use and facility development. Scenic values and recreational opportunities would be emphasized. A more developed recreation experience would be provided focusing on visitor comfort, safety, security, and social opportunities. Access and facilities would be improved substantially in key locations to meet the demands of the public. Evidence of human development and management presence would be readily observable. Interagency cooperation would play a key role in developing recreation facilities, visitor services and enforcing regulations within and outside the river corridor boundary. Law enforcement and interpretation efforts would be higher to accommodate increased river use. Fisheries would be managed to provide a sizable sport fishery on some sections of the river but would emphasize native runs on others. Land acquisition efforts would focus on providing additional recreational opportunities and public access.

Alternative C: Resource Protection Emphasis

Intent: Alternative C emphasizes resource protection and enhancement of natural ecosystems within the river corridor specifically scenic, ecological and other outstanding river values other than recreation. Fish, wildlife, plants, hydrology and scenic values would be protected and enhanced. Fisheries management would emphasize wild stocks. Recreation and other management activities would receive secondary consideration. No new public facilities would be developed and overnight use in the river corridor would be limited to existing developed private recreation facilities. Recreation activities would continue to occur, but would become more day use oriented and be restricted to a greater extent including the closure of some access points, dispersed camping areas and other areas to reduce conflicts with or impacts to wildlife, fisheries or botanical values. No additional law enforcement or interpretive efforts would be made. Resource monitoring and enhancement projects and programs would be of primary importance. Coordinating with neighboring agencies and private landowners would focus on resource protection and enhancement on lands within and outside the river corridor boundary. Land acquisition efforts would focus on improving resource protection and the BLM's ability to manage resources more consistently within the river corridor.

Alternative D: Recreation and Resource Mix - (Proposed Action)

Intent: Alternative D would attempt to balance resource protection with recreational use. Maintaining the natural character, resource values and recreational opportunities the Salmon River provides would be emphasized. Some recreational development would occur to accommodate current and future public needs at key locations. Minimal recreation improvements to help reduce user impacts would be made to protect riparian and other fragile areas. Evidence of human development and management presence would be less than in Alternative B but higher than Alternative C. Resource monitoring programs and enhancement projects would be developed to improve resource protection and understanding of recreation management needs. Coordinating with federal, state and county agencies as well as private landowners on providing recreation services, opportunities, and resource protection would be a key component of this alternative. Fisheries management would emphasize similar (to what currently exists) sport fishing opportunities while providing protection measures to enhance wild stocks. Land acquisition efforts would focus on providing resource protection or conservation and providing limited additional public access from willing sellers.

Public Involvement

Extensive efforts were taken to involve the public in the development of the proposed alternative for the management plan and to insure a high level of public participation in the planning effort. Numerous steps were taken during all stages of the river management planning process to ensure that the viewpoints of interested individuals and groups were considered. This process is fully described in the Salmon River Environmental Assessment and this plan. A mailing list of key interest groups, individuals, elected officials, community organizations, government agencies, and all landowners adjacent to the river was compiled. Information about the planning process, public meetings, workshops, newsletters and planning updates was mailed to keep all interested citizens informed of the planning efforts. In addition numerous public meetings, open houses, workshops, on-site field reviews, meetings with community planning organizations and other groups and individuals have been held over the past three years. The planning team members also utilized a citizens work group representing various river interests to help guide the formulation of the alternatives.

Finding of No Significant Impact and Compliance with Laws

Based upon the information and analysis contained in the environmental assessment and all other information available to me and referenced herein, it is my determination that none of the alternatives constitutes a major federal action significantly affecting the quality of the human environment (a finding of no significant action). Therefore, an environmental impact statement is unnecessary and will not be prepared. In addition, the proposed action is in conformance with the BLM Salem District's Management Framework Plan and does not require a land use plan amendment. The proposed action will also be in conformance with the BLM Salem District's Resource Management Plan which is being prepared for approval in late 1993.

Under the alternatives analyzed, significant impacts on the quality of the human environment would not occur based on the following considerations:

- Analysis indicated that no significant adverse impacts are expected on society as a whole, the affected region, the affected interest, or the locality.
- Public health or safety would not be significantly adversely affected.
- Protection of cultural resources eligible for the National Register of Historic Places would be provided.
- The alternatives would not significantly affect endangered or threatened species, or the habitat determined to be critical to any of those species, as provided for in the Endangered Species Act of 1973.
- The alternatives do not violate federal, state and local law requirements imposed for environmental protection. There are no known inconsistencies with officially approved or adopted federal, state or local natural resource-related plans, policies or programs.
- Adverse impacts identified are minimal or non-existant. Continued resource monitoring would ensure that no significant adverse impacts occur. As needed, appropriate management would be instituted to protect or enhance important natural and cultural resource values.

Decision Notice

It is my recommendation to adopt the Proposed Action (Alternative D) of the environmental assessment as it is fully described in this Salmon River Management Plan, with the following modifications:

Recreation Management

1. Close the river to motorized boating.

   Rationale: After reevaluation by the planning team and input by the public, it was felt that motorized boating is inconsistent with the character of the Salmon River. Currently no motorized boating of any kind takes place and the river does not provide adequate conditions or flows for traditional motorized boating technologies. However, new technological advances have created the opportunity to allow motorized boating to take place in the future (jet skiis, hover craft etc). Therefore, in an effort to keep the condition of the river similar to the way it is currently, it was determined that motorized use should be restricted to maintain the natural character of the river and the quality of existing recreation opportunities. In addition, motorized boating could impact wild fish stocks, the riparian environment, opportunities for solitude and result in conflicts with private land owners. The motorized boating closure recognizes and is consistent with existing state regulations for personal watercraft applicable to the Salmon River.

2. Close the river to commercial river running activities.

   Rationale: Public input indicates the need for controls and restrictions of commercial boating activities on the Salmon River. Currently no commercial float boating of any kind has been documented as to taking place on the river. The river is not suitable or conducive for commercial floating activities. The river does not have boat ramps or other public boating access and its water flows are irregular and generally insufficient for viable commercial floating activities. The potential disturbance to fish populations, the potential for increased conflicts with private land owners, impacts to opportunities for solitude and the fact that commercial boating has not, in the past, been demonstrated to be a viable commercial activity on the Salmon are reasons for this decision. This decision does not effect or restrict boating use of the river for private individuals or non-commercial use.

Land Acquisition and Administrative Boundaries

3. Initiate land exchanges (on a willing seller basis) for private and other public land within the corridor. Using Public Domain lands in the exchange will be emphasized where possible. The administrative boundary in the proposed action would also be modified to include 20 additional acres of BLM lands and 140 acres of private lands to more fully incorporate the watershed, tributaries and water resources; wildlife habitat and winter range; and recreational and scenic values in the lower river corridor.

   Rationale: It is beneficial to include additional BLM lands along the Boulder Ridge Trail as the trail is a river related recreation opportunity.

   Through additional inventory and analysis, the water resources in the Sixes, Lymp and Crystal Creek drainages have been determined to be very important for wild anadromous fish, wildlife habitat, and domestic water source. In addition, viewshed and scenic resources in the lower portion of the designated river segment have had considerable modification to the natural landscape from management activities in the past. As these areas revegetate and mature, scenic, water quality and habitat values will improve. Much of the lower portion of the designated river segment under private or county ownership has been modified by recent and historic timber harvest. Portions of these areas are in critical watersheds and headwaters or important tributaries of the Salmon. These same ar-

eas are in the immediate viewshed and contain resources important to maintaining and enhancing river values such as water quality, fishery habitat and wildlife habitat. These areas were outside the interim administrative boundary in the original proposed action. The final boundary proposed in this plan would more fully incorporate these values within the corridor. Inclusion within the administrative boundaries allows for the potential of federal involvement through technical assistance in management or opportunities for willing seller acquisition or exchange. Boundary adjustments also provide for easier on the ground location, legal description and identification.

Wildlife

4. The Wildwood Recreation Site will be recommended as a Watchable Wildlife Area.

   Rationale: Wildwood Recreation Site provides the excellent opportunities for observing waterfowl, anadromous fish, deer, and beaver in riparian, wetland and other aquatic habitats within the river corridor.

Decision Rationale

It is my decision to implement this plan because it provides the best combination of management options to meet the requirements of protecting and enhancing the Salmon River's Outstandingly Remarkable Values and responding to public interest and need.

The plan maintains the character of the river corridor, protects its free-flowing condition and provides for the maintenance and enhancement of important river values. Under this plan, a wide range of non-motorized recreation opportunities as well as accessible recreation facilities are maintained. In addition, scenic values, riparian vegetation, and water quality are protected. Resource monitoring will insure that river conditions are maintained over time. Interagency coordination will improve the efficiency and continuity of management actions.

Implementation

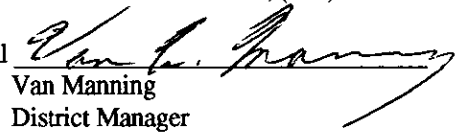
Implementation of this decision may begin 30 calendar days after the Decision Notice appears in the Oregonian newspaper.

Each project which would disturb the ground or would have the potential to affect any of the river's outstandingly remarkable values identified in the Management Plan will require additional environmental analysis prior to implementation with the appropriate levels of analysis in compliance with the National Environmental Policy Act and BLM requirements.

Right to Protest

This decision is subject to protest pursuant to Bureau policy and in accordance with the regulations of 43 Code of Federal Regulations 4.400. Any written protest of this decision must include the specific reasons and actions being protested. The protest, in duplicate, must be filed with the State Director, U.S. Department of the Interior, Bureau of Land Management, Oregon State Office, P.O. Box 2965, Portland, Oregon 97208 within 30 days of the date the legal notice of this decision appears in the Oregonian newspaper.

For further information contact Bob Ratcliffe, (503) 375-5646.

Responsible Official 

3/2/93
Date

Van Manning
District Manager
Salem District
1717 Fabry Road S.E.
Salem, OR 97306

Chapter 1

Introduction

Introduction

The Salmon River became a Wild and Scenic River through the Omnibus Oregon Wild and Scenic Rivers Act of 1988. This Act added segments of 40 Oregon rivers to the National Wild and Scenic Rivers system. The entire Salmon River was one of the 40 rivers. The Act directed the Bureau of Land Management and the U.S. Forest Service to develop a river management plan for the Salmon River since both agencies have management responsibilities for portions of the river.

This management plan establishes a comprehensive approach for managing the free-flowing natural character of the river and its values. The plan also provides the direction, standards and guidelines, and monitoring efforts that will be applied to protect and enhance river values. This plan is the result of a coordinated effort with many Federal, State, and local agencies as well as concerned publics to identify a plan for protection and use of the river. The plan establishes boundaries and details specific management direction and resource monitoring for the river. Covered under this plan are all 33.5 miles of the river from its headwaters to its confluence with the Sandy River. The Mt. Hood National Forest is responsible for the administration of the upper 25.5 miles of the river from its headwaters to just above Cheeney Creek, with the Salem District of the Bureau of Land Management (BLM) responsible for the remaining 8.0 miles of the river from Cheeney Creek to its confluence with the Sandy River.

Wild and Scenic River Legislation

In 1968, Congress passed the National Wild and Scenic River Act, establishing a nationwide system of outstanding free-flowing rivers. The primary purpose of the Act is to balance river development with river protection and conservation. The Act specifically prohibits rivers from future hydropower development and requires managing agencies to protect and enhance those values for which the river was designated.

As defined by the Act, a National Wild and Scenic River must be undammed and have at least one outstandingly remarkable resource value (ORV) to be included in the system. ORV's are those values which are **river related** (owe their existence or location to the river) and are **rare, unique, or exemplary** in character. Rivers may be added to the system either by an act of Congress or by order of the Secretary of the Interior upon official request by a State.

Some of the underlying principles of the Act are:

- to keep selected rivers or river segments in a free-flowing condition and to recognize their importance to our natural and cultural heritage
- to include all types of free-flowing rivers in the system, whether in very remote areas or flowing through developed areas.
- to designate rivers because of their existing attributes and uses, including a river's natural, recreational, and cultural values.
- to recognize the need to provide for partnerships among landowners; Federal agencies; and local, State, and tribal governments in determining the future of the river area and managing its resources.

Under the Wild and Scenic Rivers Act, designated rivers are classified as wild, scenic or recreational, depending on the level of development and access present along the river at the time of designation. Wild rivers are the most natural appearing and the least accessible. Little or no development is present, such as roads or campgrounds. Scenic rivers have shorelines that are largely undeveloped with few access points. More types of land uses and developments are compatible with management goals on a scenic river than on a wild river. On river segments with the Recreational designation, the shoreline is more developed and the road parallels the river more closely and may even dominate the landscape. There may be some development along the banks, and some existing impoundments or diversions. These terms can be misleading. For example, a Recreational river may have been designated for reasons other than recreation, and the primary values of a Scenic river may not necessarily be scenery.

Due to the different level of existing development, the Salmon River as described in the Omnibus Oregon Wild and Scenic Rivers Act was divided into five segments:

Segment 1 - The 7-mile segment from its headwaters to the south of boundary line of section 6, township 4 south, range 9 east as a **recreational river**, to be administered by the U.S. Forest Service.

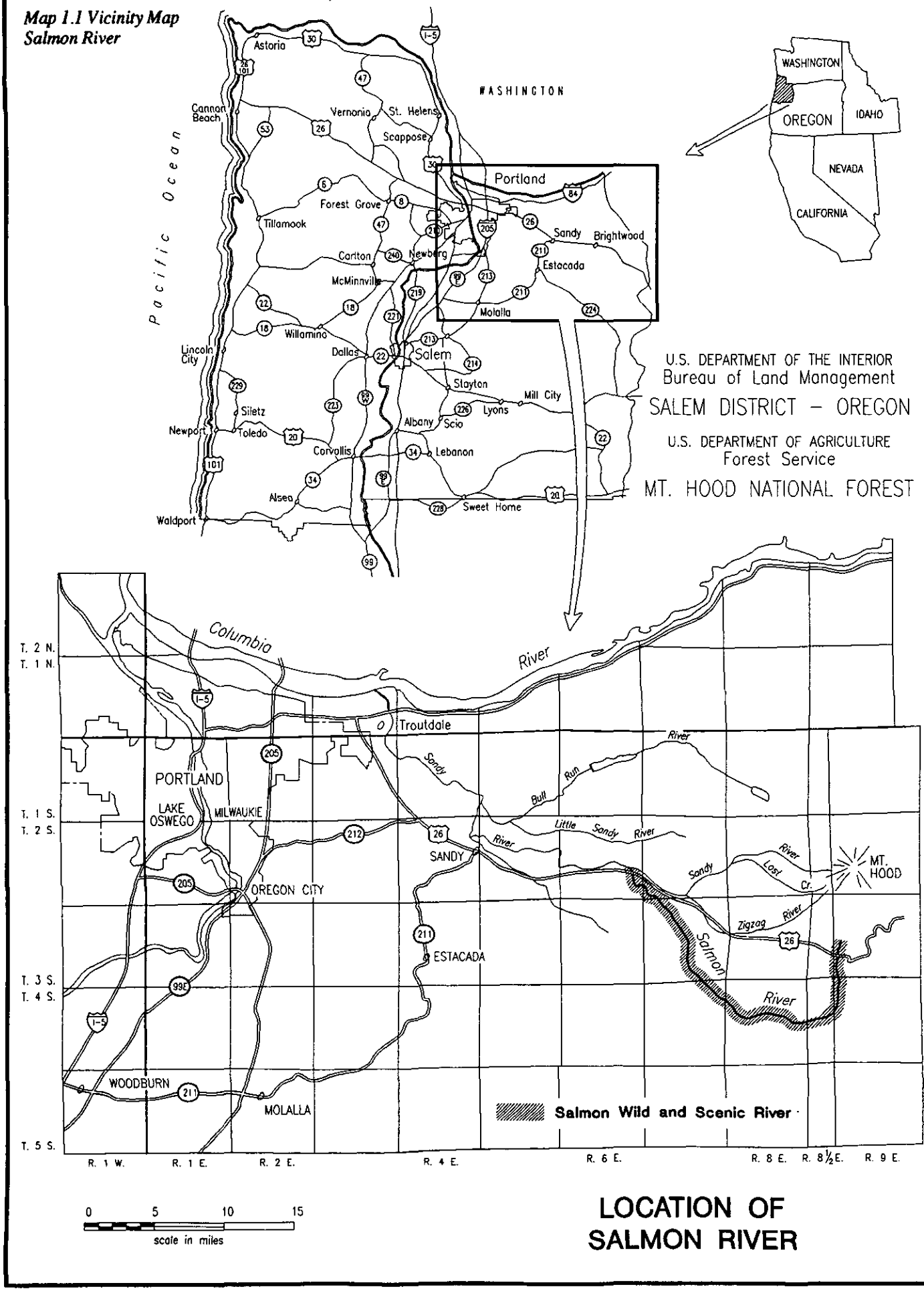
Segment 2 - The 15-mile segment from the south boundary line at section 6, township 4 south, range 9 east to the junction with the South Fork of the Salmon River as a **wild river**, to be administered by the U.S. Forest Service.

Segment 3 - The 3.5-mile segment from the junction with the South Fork of the Salmon River to the Mt. Hood National Forest boundary as a **recreational river**, to be administered by the U.S. Forest Service.

Segment 4 - The 3.2-mile segment from the Mt. Hood National Forest boundary to Lymp Creek as a recreaional river, to be administered by the Bureau of Land Management.

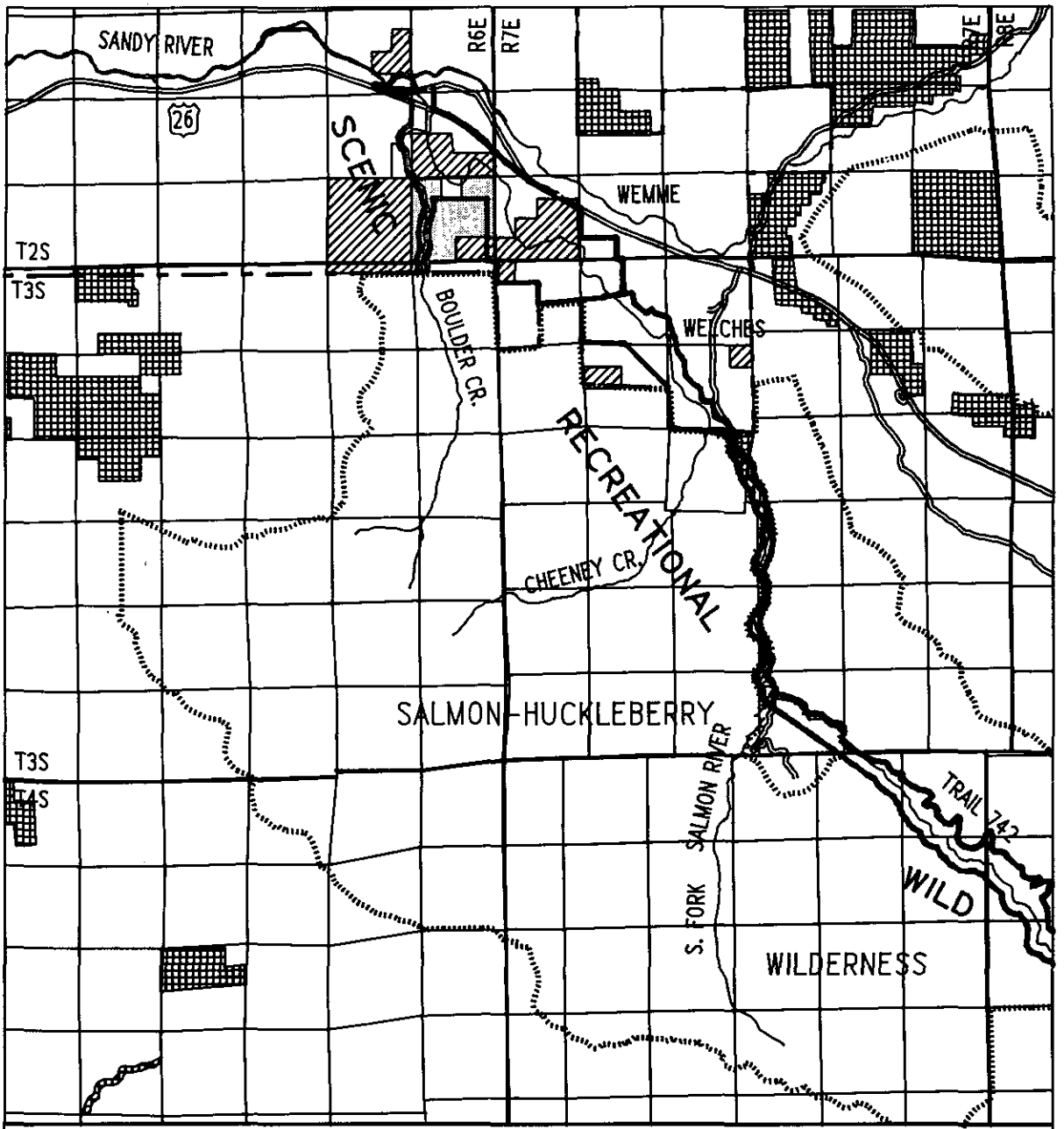
Segment 5 - The 4.8-mile segment from Lymp Creek to its confluence with the Sandy River as a **scenic river**, to be administered by the Bureau of Land Management.

Map 1.1 Vicinity Map
Salmon River



LOCATION OF SALMON RIVER

Map 1.2 Salmon River Corridor Boundary



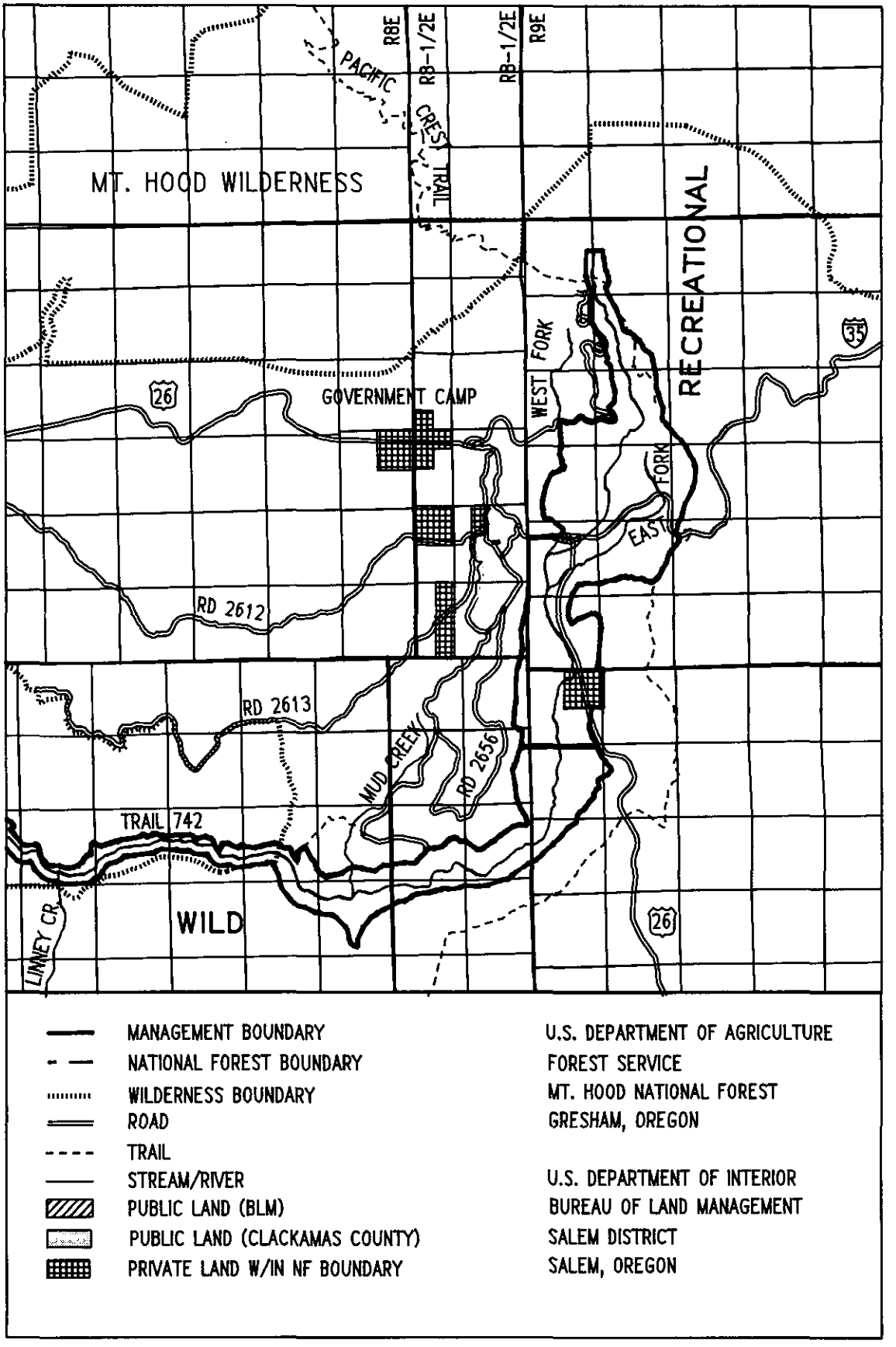
SALMON
WILD AND SCENIC RIVER
MANAGEMENT BOUNDARY

1993

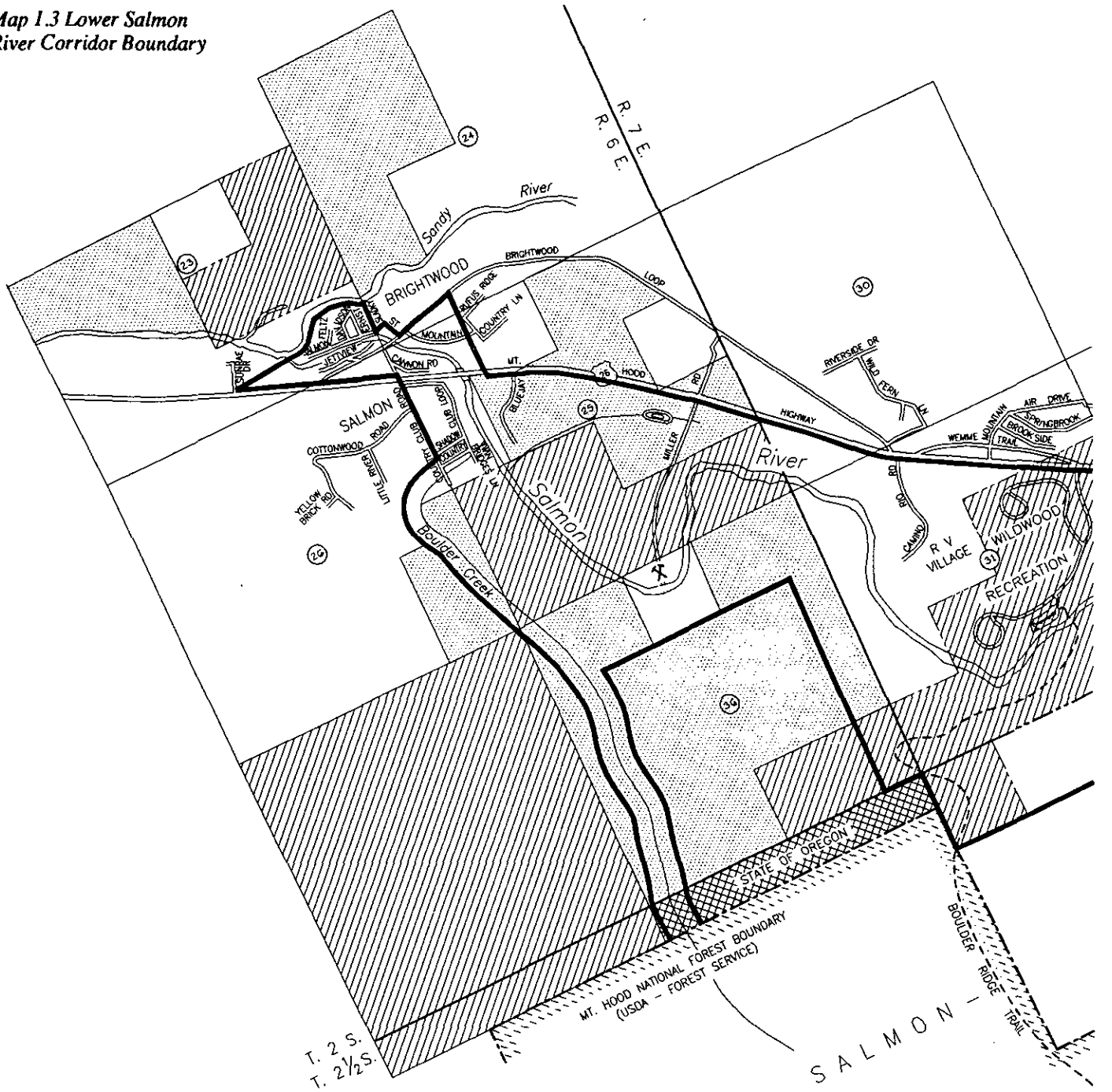
1:126720

1/2" = 1 MILE

Map 1.2 Salmon River Corridor Boundary



Map 1.3 Lower Salmon River Corridor Boundary



Salmon River – Designated Scenic River Segment Within the Wild and Scenic River System

Salmon River – Designated Recreational River Segment Within the Wild and Scenic River System

Wild and Scenic Management Boundary

Public Lands (Administered by BLM)

Public Lands (Administered by USFS)

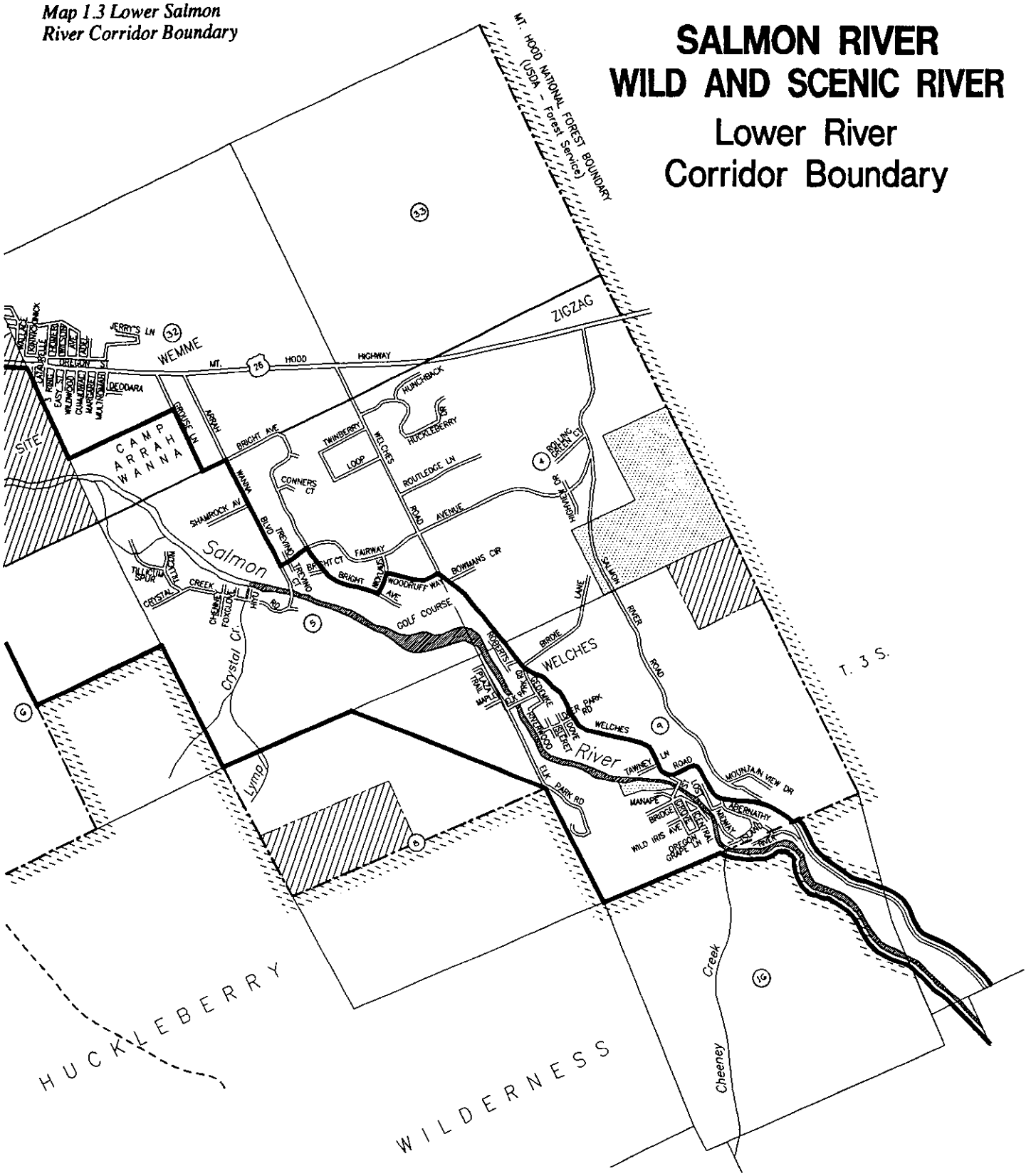
Public Lands (Administered by Clackamas County)

Private Lands

NORTH

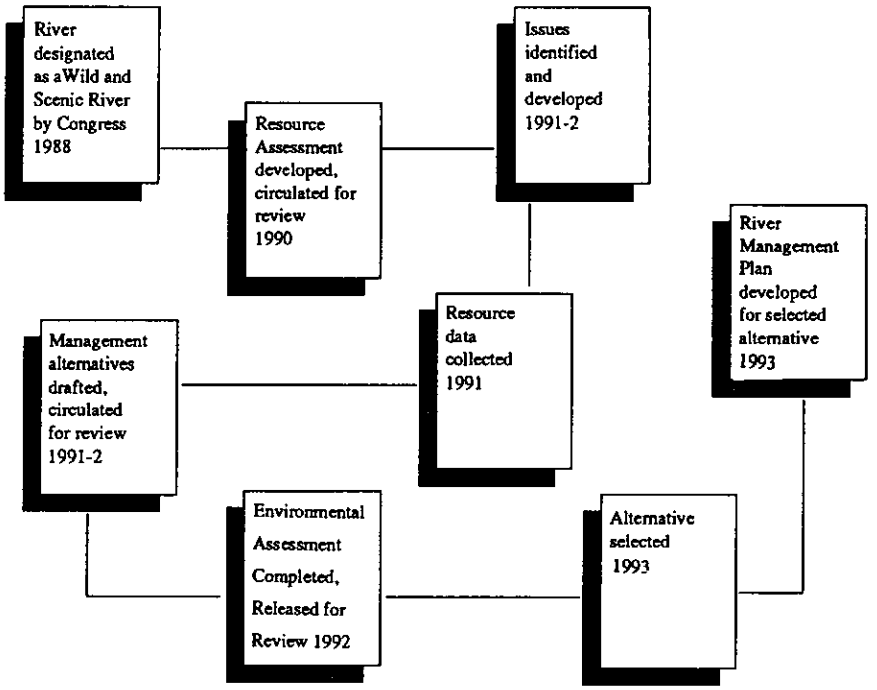
0 1/4 1/2 3/4 1 Mile

Map 1.3 Lower Salmon River Corridor Boundary



Method of Plan Preparation

The Salmon River Management Plan was developed from the Salmon National Wild and Scenic River Environmental Assessment (EA). The EA was released in August 1992 and evaluated a range of four alternative management scenarios for managing the Salmon River as a Wild and Scenic River. Additonally, the EA weighed environmental consequences of each management scenario. Based on input from the public, a variety of agencies, and the Confederated Tribes of the Warm Springs Indian Nation, Alternative D of the EA was identified as the preferred management strategy. The preferred alternative and public input regarding that alternative paved the way for drafting of this Final Management Plan.



While the EA describes the management emphasis and identifies some specific activities that would take place within the river corridor, this final management plan provides a more comprehensive list of actions, with specific target dates and estimated implementation costs, along with the final summary of the management direction and guidelines for the river.

How this Document is Organized

Chapter I provides an introduction to the River Management Plan, Wild and Scenic River legislation, information on how this plan relates to other agencies and jusrisdictions, and general information on the boundary delineation process.

Chapter II summarizes the outstandingly remarkable values found along the river, describes the Desired Future Condition of the river corridor, and identifies the general resource management objectives for the river corridor.

Chapter III contains the specific management direction that applies to U.S. Forest Service and Bureau of Land Management lands within the river corridor.

Chapter IV lists outlines specific management actions to be implemented under the direction of the River Management Plan. These actions are listed by resource area. In addition, the agencies primarily responsible to undertake the action, an estimated schedule for implementation, and estimated cost are included for each action. The actions are then summarized in a table at the end of the chapter. Most of these actions will require additional site specific analysis and as a result of that analysis, costs and scheduling of the actions may change. Implementation of those actions is also dependent upon available funding.

Chapter V identifies a monitoring program to evaluate the effectiveness of management actions undertaken along the river and to insure that river values are being protected and/or enhanced.

The Appendices provide support and additional information to the main document and includes the resource assessment, a summary of potential lands for acquisition, a summary of effects of Wild and Scenic River designation on Private Lands, a copy of Clackamas County Principal River Conservation Area zoning regulations, the procedure to follow for evaluating water resource and other projects that could affect the free-flowing character of the river, a description of the river corridor boundary, a glossary, and a list of preparers.

Relationship of the River Management Plan with Other Jurisdictions

The Wild and Scenic Rivers Act requires that this river management plan be prepared to set final boundaries and protect and enhance the values for which the river was designated. The plan also provides goals, desired future condition and standards and guidelines for the Salmon River. It provides the necessary direction for the river corridor and adjacent areas that affect the corridor.

The river management plan is intended to be compatible with local and statewide planning goals, and will also be coordinated with planning for affected adjacent federal lands.

U.S. Forest Service

This Management Plan amends the 1990 Mt. Hood National Forest Land and Resource Management Plan (also called the Forest Plan) by providing additional direction and identifying additional management actions that will take place within the river corridor. Additionally, the plan identifies some additions and changes to the Designated Wild and Scenic River Standards and Guidelines of the Forest Plan so they apply specifically to the Salmon River corridor. Only those Standards and Guidelines identified by this plan would change, all others would remain as they currently are unless modified by some other plan or analysis.

The plan also identifies the final river corridor which will be shown as an A1 land allocation since there will be no regulated timber harvest within the river corridor. There have been no other changes to overlapping land allocations such as A4 Barlow Road Special Interest Area or A9, Key Site Riparian and the standards and Guidelines that apply to those allocations. Adjoining B2, Scenic Viewshed, allocations have been modified to correspond with the final river boundary. The purpose of the above changes is to provide further guidance for the management of the river and its important related values.

Two levels of planning exist for the Mt. Hood National Forest. The first level of planning is programmatic and is represented by the Forest Plan and its amending documents such as this one. The second level of planning is the project level. Individual project plans, such as a timber sale or construction of a campground, are tiered to programmatic plans and must achieve those goals and objectives. Additional site-specific environmental analysis must be completed prior to implementation of any actions identified in this plan on National Forest Land.

Bureau of Land Management

The Salmon River Management Plan will be considered a modification to the BLM Salem District Management Framework Plan (MFP). The MFP provides direction for all resource management programs, practices, uses and protection measures for the Salem District. This plan is the link between the land allocation planning process of the MFP and the actions necessary to implement such allocations. This Plan provides guidance for the management (administration, development, and protection) of the river and its related values within the river's administrative boundaries. It also identifies specific management actions to be taken to manage these resources and the general sequence of implementing the management actions identified.

Currently the Salem District MFP recognizes and addresses the special river designation and does not conflict with actions proposed in the Salmon River Management Plan. In addition, the Salmon River Management Plan conforms to the preferred alternatives in the new District-wide Draft Resource Management Plan EIS.

Confederated Tribes of Warm Springs

Members of the Confederated Tribes of Warm Springs exercise reserved treaty fishing rights at "usual and accustomed" fishing sites on the Columbia River and its tributaries, which includes the Salmon River. These reserved rights are addressed in the treaty with the Confederated Tribes of the Warm Springs Reservation of Oregon (Treaty with the Tribes of Middle Oregon, June 25, 1855, 12 Stat.963).

These rights were reserved by, not granted to, the treaty tribe. In essence, "the right of taking *fish at all usual and accustomed places" guarantees that members of the treaty tribe shall* have the right of access to, and fishing from, all salmon and steelhead-bearing locations on the Columbia River as well as its tributaries, including the Salmon River.

Other rights reserved in the Treaty of 1855 include the right of erecting temporary buildings for curing fish, together with the privilege of hunting, gathering roots and berries, and pasturing horses and cattle on open and unclaimed land.

Although the Salmon River is not within the ceded area as identified in the Treaty With the Tribes of Middle Oregon of 1855, it is within the "usual and accustomed" area of resource utilization at the time of the treaty. The treaty reserves to the signers of the treaty rights to perform traditional subsistence and sacred activities within these usual and accustomed areas.

Oregon Department of Transportation (ODOT)

ODOT is responsible for planning, designing, constructing and maintaining State Highways for the safety and benefit of the public. ODOT requires authorization to use National Forest Lands for highway rights-of-way, waste areas and material sources for highway construction, reconstruction and maintenance.

The Memorandum of Understanding Title 1500 - External Relations, 1535.13 --1 contains the coordination and responsibilities between the Forest Service and ODOT for survey, design, plan approval, and construction authorization for both new and reconstruction activities. It also includes responsibilities for maintenance, signs, access, and landscape management.

ODOT informs the Forest Service and BLM on planned highway construction, highway relocations, and highway betterment projects that could have an impact on federal lands. ODOT can request an environmental assessment from the agencies regarding resource impacts and current management related to the proposed highway improvement project.

In addition to construction and reconstruction responsibilities, ODOT maintains (in coordination with the Federal Highway Administration) Highway 26 within the existing road prism to preserve and perpetuate the highway. It also has the authority and responsibility for installation and maintenance of all signs within the highway right-of-way and determines access points onto the highway.

Oregon Water Resources Department (WRD)

The WRD is responsible for managing and allocating the State's water resources. The Water Resource Commission typically develops policy through the preparation of basin plans for each of Oregon's 18 river basins.

The WRD issues water rights on all waters in the State and enforces the exclusion of dams, impoundments, and placer mining in scenic waterways and on tributary streams with scenic waterway boundaries. Minimum perennial streamflows are administrative designations established by the Water Resources Commission.

Minimum perennial streamflows are administrative designations established by the Water Resources Commission. A law passed in 1987 by the Legislature allows for the conversion of minimum perennial streamflows to instream water rights. Three State departments may apply for these instream rights: Parks and Recreation, Fish and Wildlife, and Environmental Quality. Once granted, the instream right is held by the WRD in trust for the people of Oregon.

Division of State Lands (DSL)

Under state law, the Division of State Lands (DSL) is responsible for the management of the beds and banks of navigable waterbodies (ORS 274.005-274.590). DSL 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 responsible for managing the assets of the Common School Fund. These assets include the beds and banks of Oregon's navigable waterways and are to be managed for the greatest benefit of the people of this state, consistent with the conservation of this resource under sound techniques of land management. Protection of public trust values of navigation, fisheries, and public recreation are of paramount importance, too.

State ownership to the beds of navigable waterbodies was granted to Oregon in 1859 as an incidence of statehood and is an inherent attribute of state sovereignty protected by the U.S. Constitution. The beds of non-navigable waterbodies remained in the ownership of the United States or its grantees. The navigability of the Salmon River from its confluence with the Sandy River, (Rivermile 0), to Green Canyon Campground, (Rivermile 10), and possibly further upstream, has not been established. Currently, the federal government, Clackamas County, and private property owners claim ownership of the river's bed and bank. This Management Plan does not propose to address the issue of navigability. Rather, this Plan is intended to provide a management philosophy for the above segment of the river, as well as the remainder of the river.

The original federal test for determining navigability was established in The Daniel Ball case over 100 years ago. This U.S. Supreme Court admiralty case clarified that rivers "are navigable in fact when they are used, or susceptible of being used, in their ordinary condition, as highways of commerce . . ." Interpreting this requirement, subsequent court decisions have adopted this test for title purposes and have ruled that a waterbody is navigable if it was capable of use, at the time of statehood, as a public highway for transporting goods or for travel in the customary modes of trade and travel on water.

DSL has determined that there may be sufficient evidence to support a claim of navigability and state ownership for the beds and banks of the Salmon River at least from its confluence with the Sandy River (RM 0) to Green Canyon Campground (RM 10), and possibly further upstream. The position of the Forest Service and Bureau of Land Management (BLM) is that the navigability of the river has not been established.

For purposes of managing the above portion of this river (where navigability has not been established), any non-federal activities or land uses such as new utility or transportation corridors and boat ramps or similar facilities that impose into or cross a waterway below ordinary high water will require an easement from the State Land Board. Existing non-federal facilities will require an easement at such time as they undergo major structural alteration, replacement, or relocation. In addition, removal of sand and gravel requires a royalty lease and any non-federal use that occupies any area of submerged or submersible land requires a waterway lease.

Further, the DSL also administers the State's Removal-Fill Law which protects Oregon's 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 waterways. The permit-review process involves coordination with the natural resource and land use agencies from the local through the federal levels. Within Oregon Scenic Waterways, special authorization is needed from the Board and DSL for "any alteration of the beds and banks" of the Salmon River within the plan area. (ORS 390.835).

As with any jointly managed resource, jurisdiction is not as important as care for the resource. The DSL, Forest Service, and BLM will continue to work together to assure that the public trust interest and the purpose of the Wild and Scenic Rivers Act are met.

Oregon Department of Fish and Wildlife (ODFW)

The ODFW is the responsible agency for managing and protecting Oregon's fish and wildlife resources and for recommending seasons, methods, and bag limits for recreational and commercial take of the resources. The ODFW prepares fish and wildlife management plans which are implemented through administrative rules.

Currently, the fisheries resources of the Salmon River are managed under direction provided by the Comprehensive Plan for Production and Management of Oregon's Anadromous Salmon and Trout (ODFW), and the Sandy River Subbasin Salmon and Steelhead Plan (prepared by the ODFW for the Northwest Power Planning Council in 1990.) Management of all Sandy River fish stocks will be updated by the planned Sandy River Subbasin Fish Management Plan, to be prepared in 1993 by ODFW. Fisheries management is also directed by the goals and policies stated in the ODFW administrative rules (June 1992) regarding the management and conservation of indigenous fish. All actions proposed in this plan are consistent with the letter and intent of these existing plans and rules.

ODFW is authorized to apply for instream water rights for fish and wildlife purposes, and has applied for instream water rights on the Salmon River.

Salmon River Watershed

Oregon Department of Environmental Quality (DEQ)

The DEQ is responsible for the implementation of the Statewide Water Quality Management Plan, which establishes standards of water quality for each of WRD's 18 basins in Oregon. 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 reading and spawning, resident fish and aquatic life, wildlife and hunting, fishing, boating, and aesthetic quality. Dissolved oxygen is to be kept to the highest possible levels. Temperature, bacteria, dissolved chemical substances, and toxic material are to be maintained at the lowest possible levels. The DEQ anti-degradation policy states that high quality waters are to be protected from degradation unless the Environmental Quality commission finds it necessary to make an exception based on economic or social needs.

DEQ has recently revised the State anti-degredation policy. DEQ will be developing a guidance document describing the process to follow in identifying waters it will consider for nomination as outstanding resource waters. The Salmon River has not, at this time, been evaluated for outstanding resource waters designation.

DEQ regulates direct discharges of waste into waters of the State. Industrial and municipal dischargers must obtain a permit and comply with permit provisions for protection of water quality. 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.

Oregon Department of Forestry (DOF)

DOF responsibilities include fire protection of 16 million acres of private, State and Federal forest, detection and control of forest pests and forest tree diseases on State and private lands, and the management and rehabilitation of 785,000 acres of State-owned forest lands. DOF also administers the Oregon Forest Practices Act (OFPA), adopted in 1971 and amended in 1991, which is governed by rules developed by the Board of Forestry. The purpose of the Act and rules is to encourage and enhance the growth and harvesting of trees, while providing for the overall maintenance of air, scenery, water and soil resources, and fish and wildlife habitat. Forest practice rules regulate reforestation, road construction and maintenance, harvesting, application of chemicals, and disposal of slash.

Included within the OFPA are rules designed to protect "riparian management area." Under these rules a proposed commercial forest operation riparian management area of a Class 1 stream must be described in a written plan. These plans are submitted to the DOF for approval. Written plans required for the purposes of the OFPA must describe how the operation will be conducted to meet the minimum standards prescribed by the Act.

Land Conservation and Development and County Comprehensive Planning

The authority to regulate and control land use and development activities on private lands rests with local, county and state governments and not the federal government. The federal government does not have the authority to zone or regulate uses of private lands under the Wild and Scenic Rivers Act. However, Oregon state law does require that individual counties adopt comprehensive plans that are compatible with specially designated natural areas including federally designated Wild and Scenic Rivers and state designated scenic waterways. Statewide planning direction as established under Goal 5 directs counties and cities to resolve conflicting land uses in natural areas including Wild and Scenic Rivers in their comprehensive plans.

Oregon Land Use Planning Act

The statutory basis for Oregon's state wide land use planing program is primarily derived from the Oregon Land Use Planning Act of 1973 (ORS Chapter 197) and other city and county land use authorities (ORS Chapters 92,196, 197, 215, 221 and 227).

The Oregon Land Use Planning Act created a state-level program to set policy for and to coordinate the administration of land use planning by all levels of government in Oregon. The act established the Land Conservation and Development Commission to oversee management of the state planning program. The Commission is a 7-member board, appointed by the Governor, subject to Senate confirmation.

Department of Land Conservation and Development (DLCD)

DLCD is the administrative arm of the Commission and is responsible for implementation of the state planning act through review of over 275 city and county comprehensive plans and land use regulations. DLCD reviews the plans for consistency and compliance with the mandatory statewide planning requirements (called goals). The statewide planning goals, and the process for developing, approving, amending and implementing them, form the foundation for Oregon's land use management program. The goals establish important procedural guidance for all comprehensive plans statewide, require the protection and management of land, water, coastal and ocean resources, and directs cities and counties to addresses a variety of land use concerns appropriate to urban and rural areas. The planning goals are mandatory and have the force of law. They are binding upon local governments, special districts, and state agencies when they make decisions involving land use. ORS 197 declares that all of the goals are of equal importance. The goals provide both prescriptive and instructive guidance for carrying out planning, management, and regulatory responsibilities at both the state and local levels.

Goal 5

Goal 5 requires cities and counties to adopt programs as elements of their comprehensive plans with the following directives:

- ensure open space
- protect scenic and historical areas and natural resources
- promote health and visually attractive environments in harmony with the natural landscape.

The scope of the natural resources encompassed by Goal 5 is broad and includes potential and approved federal wild and scenic rivers and state scenic waterways. To comply with Goal 5, cities and counties must follow three steps: inventory the resource; identify conflicting uses which potentially impact designated river values, and develop and implement land use regulations to resolve conflicting uses identified. This would include a program to coordinate changes in land use along rivers with applicable state and federal agencies (State Parks, BLM and USFS). The resource values identified in the inventory will have to be protected by mandatory plan policies and zoning requirements.

Clackamas County Comprehensive Planning

Clackamas County has an approved comprehensive plan in place. This plan addresses Federal Wild and Scenic Rivers protection in a number of ways. First, all development must meet the general standards for the unincorporated area of Clackamas County described in the General Provisions of the comprehensive plan. The General Provisions set forth restrictions and considerations for natural hazards, slopes, stream corridors, wildlife and fish habitat, cul-

tural and historic resources and natural drainage channels. Secondly, development and land uses are regulated through specific zoning classifications. Specific restrictions and regulations apply for each classification.

Any development within 1/4 mile of the Salmon River must also meet the Principle River Conservation Area (PRCA) requirements. This overlay zoning places restriction on the type of development that an occur near the river and provides specific guidelines to minimize or eliminate impacts to the river's natural and aesthetic resources. The purpose of the PRCA zoning is to maintain the integrity of the river by minimizing erosion, promoting bank stability, maintaining and enhancing water quality and fish and wildlife habitats, and preserving scenic quality and recreation potentials. See Appendix D for a copy of the PRCA regulations.

Boundary Process

The Wild and Scenic Rivers Act (Section 3b) specifies that after a river is designated the agency charged with its administration must establish detailed boundaries delineating the land area within the river corridor that will be managed under the Act and corresponding management plan. The Act specifies that the area within each corridor should not average more than 320 acres per river mile on both sides of the river (an average of 1/4 mile from each bank). The boundaries can vary in width or location as long as the total acreage within the boundaries for the entire length of the river does not exceed the Act's requirements of the 320 acres/mile average. This allows for irregular boundaries on either side of the river. Boundary widths on other Wild and Scenic rivers have varied from a few hundred feet to over a mile and one-half wide.

Boundary delineation decisions are made on the basis of topography, location of important resources (ie. habitat, tributaries, physical features), land ownership and use patterns, roads and access, and other physical features as well as input from the public. The agencies strive to select logical, resource based boundaries that are easily identifiable and legally describable.

Early in the planning process the BLM and Forest Service selected interim boundaries for planning purposes. These boundaries appeared as the Alternative A or no action alternative boundaries contained in the EA. This interim boundary was modified as a result of additional resource information and data, planning issues, management jurisdictions, and public comment identified and collected during the planning process. This boundary was shown in the EA as Alternative D.

The final boundary is a result of some minor modifications to the boundary described under the preferred alternative D in the EA. The boundaries are irregular in shape to include a many of the areas as possible that contain or directly support the identified important river related values associated with the river. This final boundary establishes a total management area of approximately 10,572 acres or approximately 316 acres per river mile. The boundary and management area are shown on maps 1.2 and 1.3. Through ground verification of the river boundary, the actual boundary location may vary slightly from the boundary shown on the maps.

A summary of acreages by ownership in the river corridor is shown below.

Ownership	USFS	BLM	State of Oregon	Clackamas County	Private Ownership
Acres	7967	650	18	358	1579

Chapter 2

Outstandingly Remarkable Values
Desired Future Condition
General Management Objectives

The River Management Plan provides the direction for management of the Salmon River and lands within the river corridor. This chapter describes those values which were found to be outstandingly remarkable for the Salmon River, followed by the Desired Future Condition for all the resources along the river. These sections are then followed by the overall resource management objectives for the Salmon River. Chapter III provides the specific management direction and the standards and guidelines for both Forest Service and BLM managed lands.

Outstandingly Remarkable Values

The intent of the Wild and Scenic Rivers Act is to maintain the free-flowing character of the Salmon River corridor and to protect its values. Those values were termed by Congress as "outstandingly remarkable values." Outstandingly remarkable values are values or opportunities in a river corridor which are directly related to the river and which are rare, unique or exemplary from a regional or national perspective. The final plan for the Salmon River provides for balanced protection and enhancement of all values found to be outstandingly remarkable: scenery, recreation, the anadromous fishery, both in terms of sport fishery as well as the presence of rare wild stocks, wildlife, hydrology, botany/ecology of the Salmon River corridor. A summary of these values is below. A more detailed description of these values can be found in Appendix A, the Resource Assessment for the Salmon River.

Scenery

The upper river corridor includes impressive close-up views of Mt. Hood from the upper river area near Timberline Lodge and the views of Mt. Hood and surrounding area as well as the scenic diversity in the Red Top Meadows and Salmon River Meadows areas. Further downstream, in river segment 2, the river flows through a narrow river canyon with basalt cliffs on both sides of the river as well as a series of six waterfalls in a short 3-mile section of the river. The visual diversity provided by these features qualifies scenery as an outstandingly remarkable value in the upper river corridor.

Recreation

The Salmon River provides a wide variety of recreational opportunities along its length ranging from hiking, sportfishing, nordic and alpine skiing, and camping to the use of highly developed resort facilities along the river. It is this wide variety of high quality recreational opportunities that makes recreation an outstandingly remarkable value for the length of the river.

Fisheries

The lower Salmon River provides extremely important and productive anadromous fish spawning and rearing habitat. The river provides extremely important habitat for rare native anadromous species and is also a nationally renowned summer steelhead fishery, (hatchery stock), that draws anglers from within and outside the state of Oregon. For these reasons, fisheries values were found to be outstandingly remarkable in the lower portion of the river below final falls.

Wildlife

The entire river provides important wildlife habitat in terms of optimal summer and winter range for big game species, and important habitat for federally listed threatened and sensitive species such as the sandhill crane. The uniqueness of the upper meadow complexes and the diversity they provide for wildlife including the presence of big game herds from both the east and west side of the Cascades, as well as the diversity of wildlife species found elsewhere along the river make this value outstandingly remarkable.

Hydrology

The presence of six waterfalls in a 3-mile segment is truly a unique feature of the Salmon River that is not found along many other rivers in the state. These features, as well as the high quality of the water found in the river, make the hydrologic values outstandingly remarkable.

Botany/Ecology

The Red Top/Salmon River meadows complex is an area along the Salmon River of great ecological diversity and productivity. This complex contains a wide variety of rare and unique plant communities, including the largest population of one plant, known as Scheuchzeria, in the state of Oregon, where its presence is rare. Because of these, botanical/ecological values were found to be outstandingly remarkable, especially in the Salmon River Meadows area.

Desired Future Condition

Recreation

A wide variety of high quality recreation experiences will continue to attract a growing number of users to the Salmon River. Use levels will rise as the population of the Portland metropolitan area grows and those living in the metropolitan area continue to look for more recreation experiences in a natural forested setting. Actions will be taken to reduce resource problems at parking and access points along the river and provide facilities to reduce sanitation problems. The river corridor, with the exception of the Salmon River/Red Top Meadows area on the upper river and the private non-recreational lands and Cedar Ridge area along the lower river, will be managed for a variety of non-motorized recreational opportunities. Overall, the types of use along the river will be very similar to what is currently taking place.

Facilities

In order to accommodate the increasing use, existing uses, improvements, and high visitor use areas will have been upgraded and improved to provide better sanitation facilities, improved interpretive opportunities, and improved access to the river. All upgraded facilities will be designed to blend in with the natural setting. Special emphasis will be to provide opportunities for barrier-free access to sites along the river. Restroom facilities will be provided in higher use locations so proper sanitation is maintained. Facilities on public lands will provide a less developed recreation experience while many privately owned facilities and resorts will offer a wide range of amenities to recreationists. Privately owned campgrounds will offer a full range of amenities including facilities to support all types of recreational vehicles.

Trails

Existing trails in the corridor, primarily the Old Salmon River and Salmon River Trails, will receive greater use than at present. Mountain bike use will still be allowed on the Old Salmon River section of the trail in the lower corridor. Trails will be maintained to a high standard to safely accommodate the greater use and to control impacts to other resources. Educational and interpretive media will be used at most trailheads to educate trail users about proper etiquette when hiking, mountain bike riding, and dispersed camping along the trails. There will be more opportunities for persons with disabilities to explore the outdoors as existing trails are improved and new trails are constructed to barrier-free standards, especially interpretive trails at the Wildwood Recreation Site. Additional trails will be developed in the lower and upper sections of the river corridor to provide additional opportunities. All trail use will be non-motorized with motorized vehicle use occurring only on open roads within the river corridor any river or access trails will not cross private lands unless landowners have granted permission, agreements reached or willing seller easements have been acquired.

Overnight Camping

There will be a slight increase in developed camping opportunities on Federal land with the expansion of Green Canyon Campground, assuming that a suitable water source can be developed for the campground. There will be a reduced number of dispersed campsites from current levels and the sites that remain will be located in locations where riparian values are not adversely impacted. It is likely that a campfire closure will be instituted along the Salmon River Trail in order to reduce impacts to vegetation and maintain a more natural appearance. Privately owned campgrounds will offer a full range of amenities including facilities to support recreational vehicle camping.

There will also be increased emphasis on informing visitors of other recreation opportunities outside the corridor and at private recreational facilities to disperse use to areas not as heavily impacted as the river corridor.

Dispersed Camping

Off Highway Vehicles

Motorized vehicle use will be confined only to roads and trails marked open for this use.

Interpretation/Public Information

Increased interpretive and information efforts will reduce the incidents of litter, dumping, trespass and vandalism to below 1992 levels. The coordinated interpretive program throughout the corridor including the interpretive facilities at Wildwood highlighting the importance of the Salmon River's anadromous fisheries, will be providing the information necessary to visitors and residents alike on how to better protect and understand the river and its values, and reduce illegal incidents and activities such as poaching and trespassing.

Recreational Fishing Opportunities

Anglers will continue to enjoy a very high quality fishing experience on the Salmon River. More emphasis will be on a catch and release fishery along the river while still having the opportunity to harvest a somewhat reduced level of summer steelhead. Anglers will be more aware of fishery stock management and protection of the native anadromous species. The fishing season will continue to be limited to enhance rearing and escapement of native anadromous species.

Fisheries and Fish Habitat

Habitat quality for resident and anadromous fish will be maintained or improved; no further degradation will occur as a result of human activities. Habitat quality will gradually improve in the Salmon River and its tributaries as previously disturbed riparian areas revegetate and as new land practices afford better protection for these areas in the future. Fish habitat restoration measures will speed this process. State and Federal fish management agencies will be working cooperatively with each other and many public individuals and groups. Future habitat management in the Salmon River drainage will be guided by the planned Sandy River Subbasin Fish Management Plan following its completion and adoption.

The future condition of the Salmon River and its tributaries will be one in which abundant high quality habitat will be capable of supporting healthy wild anadromous and resident fish populations. Fisheries management activities, (including regulations and improved enforcement) will provide for the protection of wild stocks and for continued high quality fishing experiences. Extensive education efforts will increase awareness and promote stewardship of fisheries resources by the public, resulting in improved conservation of fish stocks.

Water Quality and Quantity

The Salmon River sustains a dependable flow of high quality water. Base line water data will have been determined and standards to maintain the high water quality will have been developed for the river. Monitoring will be taking place throughout the river corridor to insure that water quality is not degraded by management actions in the Salmon river watershed. The water quality and quantity of the Salmon river will be providing an excellent foundation for the outstandingly remarkable values of the river, including its fisheries, recreational activities, and wildlife using the corridor. Several components will continue to combine to provide for the high water quality that makes the river important, including low turbidity (except during peak flow periods), low levels of contaminants and pollutants, suitable cool temperatures for the fish using the river.

Areas where pollutants have been entering the river in the past will be identified and those problems will have been corrected. In addition, riparian areas and wetlands along the river will be improved where they have been degraded in the past and existing high quality areas will continue to be protected, maintained, and where possible, improved. By doing this, these extremely important areas will better be able to function in their roles of improving water quality, reducing erosion and sedimentation, helping to store floodwaters, rebuilding floodplains, and regulating flows.

Botany/Ecology

The different natural ecosystems in the river corridor will be perpetuated and where possible, enhanced. This will include maintaining native plant communities and their habitats, providing protection to federal, state, and Oregon Natural Heritage Program rare, sensitive, threatened and endangered species, and noxious weed species will be eliminated throughout the corridor. Management activities and facility developement will be done to limit any adverse impacts to vegetation, and revegetation activities will be done with native species,

where possible. Livestock grazing activities will be conducted and monitored so there will be no unacceptable damage to soil, water, wildlife, and native plant communities.

Wildlife

Habitat quality for wildlife species will be maintained or improved throughout the river corridor and wildlife species populations will be increasing above current levels. There will be strong management focus on deer and elk as well as threatened, endangered, and sensitive species since these were identified as keyriver related values. Additional forage areas will be developed for big game species and provisions will be made to reduce human disturbance in calving and fawning areas in the upper river corridor and in critical winter range in the lower river corridor. In addition, education efforts will increase the awareness of the importance and presence of wildlife species along the river, reducing adverse impacts from other management activities in the corridor.

Riparian vegetation and associated habitat will be improved by the closure of some heavily used dispersed camping areas. This will not only provide additional habitat for a variety of wildlife species, but will reduce siltation and improve water quality in the river.

Cultural

Prehistoric and historic cultural resources in the corridor will be documented and evaluated as to their significance and eligibility to the National Historic Register. Those resources found to be significant will be protected, maintained or enhanced. Any project or activity that will affect known or have the potential to affect unknown cultural resources will assess their effects on cultural resources and any adverse effects will be mitigated. Usual and accustomed activities of Native Americans (both present and traditional) within the corridor will be identified. Impacts by both management activities and management decisions upon these activities will be considered and mitigations will be developed and implemented. When appropriate to facilitate protection, and public appreciation and understanding, cultural resources within the corridor will be interpreted.

Rhododendron and Bear-grass

Scenery and Vegetation

The desired future condition of the Wild and Scenic River Corridor is one in which the existing natural appearing landscape condition is maintained. The overall existing character and appearance of the corridor will remain basically unchanged from the present condition except on some private lands where there will be some limited development. On these lands, older disturbances will be come less apparent as these areas revegetate and regrowth occurs. Newer disturbances will be less obtrusive as natural screening is left as required by county zoning requirements. Impacts to the visual character as a result of timber harvest in and adjacent to the corridor will be minimized by landscape architect assistance from either the Forest Service or Bureau of Land Management.

With no scheduled harvest from federal lands within the corridor, the current forest types will, barring an unforseen natural event, remain essentially unchanged except for the slow process of natural succession or minor harvest activities to enhance other outstandingly remarkable resources such as wildlife habitat improvements or recreation facilities.

Monitoring

Monitoring of the resources in the corridor will be ongoing and will be identifying any potential problems before they become serious so corrective action can be taken. A special program to monitor recreation use, impacts, and conflicts will be occurring on an ongoing basis. The number of visitors using the river corridor will not be limited unless monitoring suggests that unacceptable impacts to social or physical resources are occurring or are likely to occur soon. Limits or restrictions on use would only be implemented after less restrictive measures, including visitor education, have failed to address the problem.

Private Property

Private property rights will be recogniized and protected. A proactive user education program will create a greater awareness by recreation users of landowner concerns and rights, and will result in a reduction in the number of conflicts between user groups. Information will be provided to landowners to assist them in the management of their lands to better protect the river's values.

Relationships

Cooperation between the Forest Service, The Bureau of Land Management, State agencies and Clackamas County will continue to be good, resulting in efficient, consistent management of the Salmon River Wild and Scenic corridor. The Forest Service and BLM will be providing partial funding for Clackamas County Planning Department to fund a river liaison position to review development activity, and providing technical assistance and information. The publics will be given a meaningful opportunity to participate in decision making that affects the management of the river. Partnership opportunities will be expanded between governmental agencies and different groups that may be using the river.

General Resource Management Objectives For Salmon River

The following management objectives are intended to guide and help focus the management plan to ensure that any recommended actions or set of actions result in the intended outcome of those actions:

- Protect the river's free-flowing character, and protect and enhance its outstandingly remarkable values.

- Provide opportunities for a wide range of recreation opportunities along the river corridor managed to prevent degradation of the outstandingly remarkable values.
- Protect and enhance the quality and quantity of river water. Maintain acceptable levels of water temperature, suspended sediment, chemicals, and bacteria.
- Identify, provide, and protect instream flows which are necessary to maintain and/or enhance the outstandingly remarkable values of the Salmon River.
- Protect and enhance habitat for fish and wildlife species. Protect and enhance the stream channel conditions that provide high quality fish habitat.
- Protect threatened, endangered, and sensitive species of plants, fish and wildlife found in the corridor.
- Maintain and/or enhance the integrated ecological functions of rivers, stream, floodplains, wetlands, and associated riparian areas.
- Seek to restore natural ecological and hydrologic functioning along the river.
- Provide for plant and animal community diversity and maintain and/or enhance healthy functioning ecosystems to sustain long-term productivity.
- Protect integrity of wilderness areas and associated wilderness values.
- Help to reduce conflicts between recreationists and private property owners and reduce trespass on private property.
- Strive for a balance of resource use and permit other activities to the extent that they protect and enhance the quality of the river's outstandingly remarkable values.
- Develop a partnership among landowners, county and state governments, and federal agencies in determining the future of the Salmon River and share in management responsibilities for the river.
- Strive to develop effective, compatible, and consistent land use management through coordination with local land use planing authorities.
- Emphasize user education and information. Establish as few regulations as possible and ensure that any regulations established are enforceable and enforced.
- Foster cooperative interpretation and environmental education efforts.
- Consider the needs of local communities regarding economic development. Recognize the public with its varied needs as partners and participants in managing the river corridor through awareness, interaction, and communication.
- Require all developments to harmonize with the natural environment.
- Develop a management plan that is reasonable, cost-effective, viable and achieves protection of the river's outstandingly remarkable values.

Chapter 3

Management Direction for the Salmon River Corridor

This chapter contains the specific management direction for Forest Service and Bureau of Land Management lands within the river corridor. This direction describes the bounds and/or constraints which all activities on Federally owned lands that are necessary to implement the River Management plan must operate. The first section is the direction that applies specifically to Mt. Hood National Forest administered lands within the river corridor. The Forest Service administered section is the upper 25.5 miles from Salmon River's headwaters to the National Forest boundary.

The second section of this chapter is the direction that applies specifically to lands administered by the Bureau of Land Management. This section is the lower 8 miles of the river from the National Forest boundary to the confluence of Salmon River with the Sandy River.

Section 1, Management Direction - Mt. Hood National Forest

The management direction below is specifically for lands within the Salmon Wild and Scenic River corridor and is to be used in place of the B1 Wild and Scenic River Standards and Guidelines in the Land Management Plan. See below for relationship to other Land Management Plan Standards and Guidelines.

A1 Salmon Wild, Scenic and Recreational River

Goal

The ultimate goal of these following standards and guidelines is to protect and enhance the resource values for which the Salmon River was designated into the Wild and Scenic Rivers System.

Location

This Management Area applies to the designated corridor for that portion of the Salmon River within the Mt. Hood National Forest boundary. (Public Law 90-542, Wild and Scenic Rivers Act 1988)

The A1 Management Area for the Salmon River is the area contained within the final river corridor boundary on the Forest. (See Map 1.2, pages 4 and 5.) The Mt. Hood Land and Resource Management Plan also identifies other Management Areas that are within this river corridor. Other Management Areas with prescriptions more restrictive to vegetation and access management (i.e. A2, A4, A8, A9, and A11) are designated within the Wild and Scenic River corridors on the Alternative Q map or the Wildlife Resources map, a supplement to Alternative Q. Prescriptions for A2, A4, A8, A9, and A11 apply as shown on the Alternative Q maps; the A1 prescription also applies. Where the river final river corridor has expanded beyond the interim river corridor into the B2 Management Areas, the A1 Management Area direction applies. In addition, all applicable Forest Wide Standards and Guidelines apply within the river corridor. If inconsistencies occur between prescriptions, the Standards and Guidelines most restrictive to vegetation and access management predominates.

Other Management Areas representing Management Requirements, e.g. B7 General Riparian Area (unmapped) and B5 Pileated Woodpecker/Pine Marten Habitat Area (see Wildlife Resources map, supplement to Alternative Q), are inclusions within or overlap some A1 Management Area boundaries. B7 and B5 Management Area prescriptions, as well as, the A1 prescription applies to these corresponding inclusions.

A1 Designated Wild, Scenic, and Recreational Rivers - Salmon River

The following Standards and Guidelines apply to National Forest Lands within the Wild and Scenic River corridor for the Salmon River. The intent of these following Standards and Guidelines is to protect and enhance the outstandingly remarkable values for the Salmon River and to protect its free-flowing characteristics.

The following are taken from the B1 Designated Wild and Scenic Rivers Standards and Guidelines in the Mt. Hood National Forest Land and Resource Management Plan, 1990, (Land Management Plan) but they have been edited to apply to the specific characteristics of the Salmon River. An example of this would be that all Standards and Guidelines relating to Scenic segments have been deleted since there are no Scenic segments within the National Forest boundary. *Standards and Guidelines that are new or are modifying the intent of the original Standards and Guidelines are highlighted with a ** before the specific Standard and Guideline.*

General

1. All management activities in the river corridor shall protect and/or enhance the identified outstandingly remarkable values identified in the Resource Assessment for the Salmon River.

2. The free-flowing characteristics of the river shall be protected (PL 90-542, Wild and Scenic Rivers Act, 1989.)

3. River characteristics necessary to support the existing classification of Wild or Recreational shall be protected during all management activities (47 CFR 173, 9/82).

4. Management activities shall be consistent with prescribed Recreation Opportunity Spectrum (ROS) classes (FSM 2311.1).

    a. Wild segments shall provide primitive non-motorized and/or semi-primitive non-motorized ROS settings.

    b. Recreational segments shall provide roaded natural ROS settings.

Specific Resource Values

1. Dispersed Recreation Facility and Site Construction, Administration and Management

    a. Dispersed recreation improvements (e.g. trails) shall be provided to:

        (1) Minimize site degradation in wild segments.

        (2) Provide for comfort and convenience of users in recreational segments.

    b. River recreational use levels should be managed to maintain the prescribed ROS classes.

2. Developed Recreation Facility and Site Construction, Administration and Management

    a. Developed recreation improvements shall be provided to:

        (1) Minimize site degradation in the wild segment.

        (2) Provide for comfort and convenience of users in recreational segments.

b. No new developed recreational sites shall be planned for wild segments. New developed sites may be allowed in the lower recreational segment.

c.** *In the upper recreational river segment, no new summer used developed campgrounds and day use areas should be constructed. Trails, trailheads, and associated facilities may be be permitted.*

3. Wilderness

Where the A1 river corridor extends into A2 Wilderness Management Areas, A2 prescriptions predominate.

4. Visual Resource Management

All management activities shall achieve the following visual quality objectives (VQO):

a. The VQO for wild segments shall be Preservation as seen from the river, river banks, and trails within the A1 river corridor. A VQO of Retention may be allowed for recreation facilities.

b. The VQO for recreational segments shall be Partial Retention as seen from the river, river banks, U.S. and State highways, Forest highways and roads, trails, and recreation facilities within the A1 river corridor. Modification may be allowed for structural facilities.

c. Exceptions to the above VQOs may occur within "designated viewsheds" (see Forestwide Visual Resource Management Standards and Guidelines regarding designated viewshed VQOs).

d. See Forestwide Visual Resource Management Standards and Guidelines for VQOs prescribed for trails.

5. Cultural Resources Management

See Forestwide Cultural Resources Standards and Guidelines.

6. Wildlife and Fisheries

a. Habitat improvement practices should be limited to those which are necessary for the protection, conservation, rehabilitation, or enhancement of river area resources.

b. Habitat improvement projects should not introduce non-native species that could significantly change the natural ecosystem.

c. Habitat improvement structures should mimic regular occurring natural events (as opposed to catastrophic); e.g. trees falling in and across the river, boulders falling in or moving down the river course, minor bank sloughing, erosion or undercutting, island building and opening or closing of existing secondary channels.

d. Habitat improvement structures shall not create unusually hazardous conditions or substantially interfere with existing, or reasonably anticipated, recreational use of the river such as fishing, kayaking, canoeing, rafting, tubing, or swimming.

7. Range Management

   a. Existing commercial livestock grazing may be permitted, provided river banks and riparian vegetation are protected from adverse impacts (see Forestwide Range Standards and Guidelines regarding forage utilization).

   b. Allotment Management Plans shall be consistent with A1 Management Area management direction.

   c. Range improvements may occur in any river classification to protect or enhance river-related values.

   d. Corrals and loading chutes should not be permitted.

8. Timber Management

   a. Within wild river segments, regulated timber harvest shall be prohibited. Unregulated timber harvest and salvage activities may occur only for insect or disease control, fire, natural catastrophe, disasters, public safety or under specified conditions on valid mining claims (FSM 2354.42).

   b.** *Within recreational segments, regulated timber harvest should not occur. Timber harvest activities may occur but they shall be designed to restore, protect, or enhance identified river values or protect forest health and shall achieve the prescribed VQO throughout the river corridor.*

   c. Timber salvage activities to harvest windthrown, insect attacked, fire damaged, diseased trees, or other similar natural tree mortality for protection of the Forest, Forest visitors or river-related resource values shall be permitted in recreational segments. All river banks shall be protected during logging activities.

9. Soil, Water and Air Quality

   a. Water quality shall be maintained or enhanced (See Forestwide Water Standards and Guidelines).

   b. Watershed management and improvement projects may be permitted.

   c. All wild and recreational rivers segments shall be managed to remain in a free-flowing and unpolluted state.

10. Minerals & Energy Management

   a. Mineral development under the mining (1872 Mining Law) and mineral leasing laws shall not be permitted within 1/4 mile of wild segment river banks. Provisions shall be made for valid existing mining and leasing rights.

   b. Locatable minerals shall be recommended for withdrawal from development under the mining law (1872 Mining Law) within the A1 corridor for recreational river segments. Provision shall be made for valid existing mining rights.

   c. All new dams, major water diversions, and hydroelectric power facilities shall be prohibited.

   d. Leaseable mineral (e.g. geothermal) permits shall include a "No Surface Occupancy" stipulation for that portion of the permit potentially affecting river resource values.

e. Common variety mineral (e.g. sand and gravel) development shall not be permitted within any river segments.

f. Plans of Operation for mineral exploration and development shall include reasonable, operationally feasible requirements to minimize conflicts with recreational activities and to protect the character of the landscape within the river corridor.

(1) Surface occupancy, if allowed, shall be designed to have the least possible effect on river related values.

(2) Site disturbance from mineral activities shall be rehabilitated within 3 years following project completion.

(3) During project operation, disturbed soils shall be stabilized prior to the autumn high rainfall season.

g. All mineral exploration and development shall be done in a manner to protect river resource values.

11. Geology

See Forestwide Geology Standards and Guidelines.

12. Lands and Special Uses

a. National Forest System lands within river corridors shall be retained. See Forestwide Lands Program Standards and Guidelines.

b. Existing special uses, including recreation and non-recreation uses, may be allowed to continue where consistent with Management Area management direction. Special uses that do not meet Management Area direction shall be terminated or phased out.

c. New special use permits may be issued within all segments when consistent with the Management Area management direction.

d. Construction of new utility and/or transmission lines (e.g. gas lines, geothermal and water pipelines, and electrical transmission lines) should not be allowed within any river segment.

e. Applications for licenses from the Federal Energy Regulatory Commission to construct any impoundment, water conduit, reservoir, powerhouse, transmission line, or other associated hydroelectric facility within any designated river segment shall be recommended for denial.

f. All non-hydroelectric dams not presently authorized by the Forest Service shall be prohibited.

13. Transportation Systems/Facilities; Travel and Access Management

a. Within wild river corridors, new roads shall not be constructed and existing roads may be phased out and rehabilitated.

b. Within recreational segments, new roads may be constructed.

c. Within wild river corridors, motorized recreational use shall not be allowed.

d. Within recreational river corridors, motorized use shall be limited.

(1) Motorized vehicles shall be permitted only on open roads.

(2)** *Off-road vehicles (ORV) use should not be permitted.*

(3)** *Motorized water craft use shall be prohibited in accordance with State of Oregon Marine Board regulations for the Salmon River.*

e. Areas, roads and segments of rivers closed to vehicle use shall be posted. Administrative use of motorized vehicles shall be allowed in all river segments.

f.** *Within the upper recreational segment, motorized access within the corridor on designated Forest Roads may be restricted from April 1 through July 30.*

g.** *Mountain bicycle use should occur only on trails designated for mountain bike use and off trail travel should be discouraged.*

h. Pedestrian and equestrian use should be encouraged.

14. Fire Prevention and Suppression

a. Off-road vehicle travel within the designated river corridors shall not be permitted except for emergency fire suppression purposes.

b. Use of tractors to construct firelines may be permitted only in emergency fire suppression situations. Fireline locations shall consider protection of river related resource values.

c. Fire retardant "drops" should be directed to minimize entry of chemicals into water courses and to protect river values.

d. See Forestwide Forest Protection Standards and Guidelines.

15. Wood Residue Management

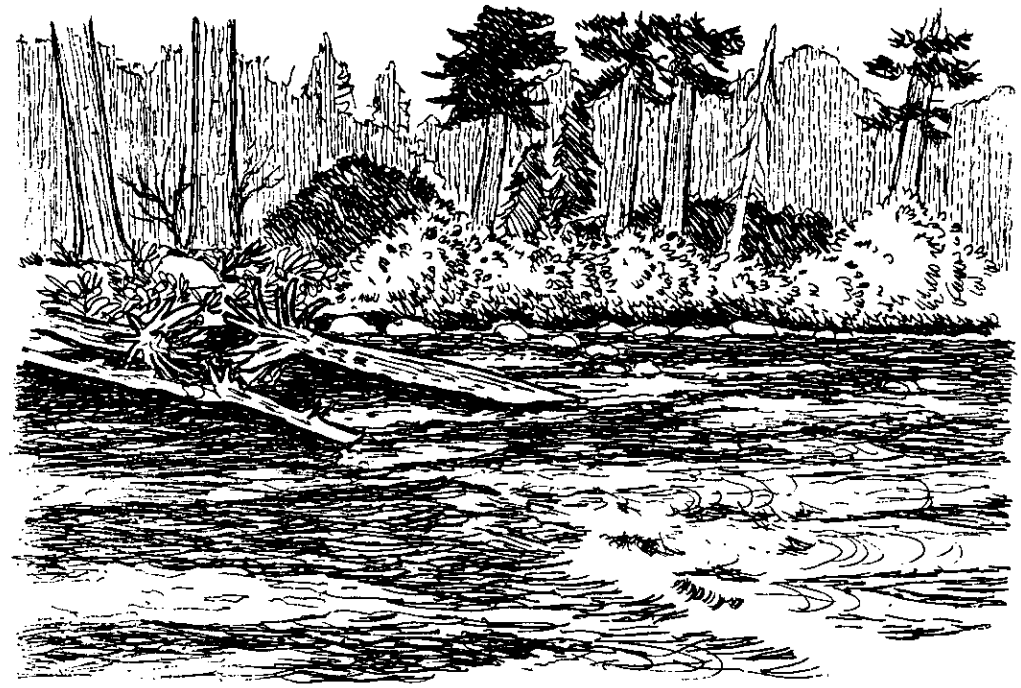
a. See Forestwide Soils Productivity, Wildlife, and Forest Diversity Standards and Guidelines regarding coarse woody debris.

b. Prescribed burning may occur to protect or enhance river-related values.

16. Integrated Pest Management

See Forestwide Timber Management Standards and Guidelines regarding Integrated Pest Management.

Fish Habitat Logs



Section 2, Management Direction - Bureau of Land Management (BLM) Administered Lands

The management direction below is specifically for lands administered by the BLM within the Salmon River Corridor. The direction listed starts with overall management direction that applies to all Wild and Scenic Rivers under the administration of the BLM and is then followed by more specific direction that applies specifically to the Salmon River. The overall management direction has been edited to remove reference to "wild" segments since there are no wild segments administered by the BLM on the Salmon River. Where reference to "wild" segements is retained, it is done so to further clarify the direction related to "scenic" or "recreational" segments.

General Management Direction for BLM Administered Lands

The Wild and Scenic Rivers Act established a method for providing Federal protection for remaining free-flowing rivers, and preserves them and their immediate environments for the use and enjoyment of present and future generations. Rivers are included in the National Wild and Scenic Rivers System (NWSRS) so that they may benefit from the protective management for which the Act provides. The following requirements supplement the September 7, 1982 (47 FR 39454), joint U.S. Department of Interior/U.S. Department of Agriculture guidelines. They apply to designated rivers by their incorporation in management plans which are normally developed within three years of Congressional designation. These requirements also apply to designated rivers prior to management plan approval, study rivers, and to rivers or river segments which have been found to be eligible for consideration as components of the NWSRS through the river management planning process. For the sake of clarity, management requirements and objectives are presented for separate river classification (scenic and recreational river areas). This section is interpreted by the Secretaries of the Interior and Agriculture as the nondegradation and enhancement policy for all designated river areas, regardless of classification, Section 10(a) of the 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. In such administration, primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may development, based on the special attributes of the area."

Scenic River Areas

Scenic river areas are defined by the Wild and Scenic Rivers Act to include:

> "Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads."

Management Objective for Scenic River Areas

Management of scenic river areas should maintain and provide outdoor recreation opportunities in a near-natural setting. In general, a wide range of agricultural, water management, silvicultural, and other practices or structures could be compatible with scenic river values, providing such practices or structures are carried out in such a way that there is no substantial adverse effect on the river and its immediate environment.

Management Standards for Scenic River Areas

Allowable management practices in wild river areas might include construction of minor structures for such purposes as: improvement of fish and game habitat; grazing; protection from fire, insects, or disease; and rehabilitation or stabilization of damaged resources, provided the area will remain natural appearing and the practices or structures are compatible and in harmony with the environment. Developments such as trail bridges, occasional fencing, natural appearing water diversions, ditches, flow measurement or other water management devices , and similar facilities may be permitted if they are unobtrusive and do not have a significant direct and adverse effect on the natural character of the river area.

The same considerations set forth above for wild river areas should be considered, except that motorized vehicle may, in some cases, be appropriate and that development of larger scale public-use facilities within the river area, such as moderate-sized campgrounds, interpretive centers, or administrative headquarters would be compatible if such facilities were screened from the river. The following program management standards apply:

Forest Practices

Silvicultural practices including timber harvesting could be allowed provided that such practices are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment. The river area should be maintained in its near-natural condition. Timber outside the boundary, but within the visual seen area, should be managed and harvested in a manner which provides special emphasis on visual quality. Preferably, reestablishment of tree cover would be through natural revegetation. Cutting of dead and down materials for fuelwood should be limited. Where necessary, restrictions on use of wood for fuel may be prescribed.

Water Quality

Water quality shall be maintained or improved to meet Federal criteria or Federally approved State standards. (River management plans shall prescribe a process for monitoring water quality on continuing basis.)

Hydroelectric Power and Water Resource Development

No development of hydroelectric power facilities would be permitted. Flood control dams and levees would be prohibited. All water supply dams and major diversions are prohibited. Maintenance of existing facilities and construction of some new structures would be permitted provided that the area remains natural in appearance and the practices of structures harmonize with the surrounding environment.

Mining

Subject to existing regulations (e.g., 43 CFR 3809) and any future regulations that the Secretary of the Interior may prescribe to protect the values of rivers included in the National System, new mining claims, and mineral leases can be allowed. All mineral activity on federally administered land must be conducted in a manner that minimizes surface disturbance, water sedimentation and pollution, and visual impairment. Reasonable mining claim and mineral lease access shall be permitted. Mining claims, subject to valid existing rights, within the scenic river area boundary can be patented only as to the mineral estate and not the surface estate (subject to proof of discovery prior to the effective date of designation).

Road and Trail Construction

Roads or trails may occasionally bridge the river area and short stretches of conspicuous or long stretches of inconspicuous and well-screened roads could be allowed. Maintenance of existing roads and trails, and any new roads or trails, shall be based on the type of use for which the roads/trails are constructed and the type of use that will occur in the river area.

Agricultural Practices and Livestock Grazing

Agricultural use in wild river areas is restricted to a limited amount of domestic livestock grazing and hay production to the extent practiced prior to designation. In comparison to wild river areas a wider range of agricultural and livestock grazing uses is permitted to the extent currently practiced. Row crops are not considered as an intrusion of the "largely primitive" nature of scenic corridors as long as there is not a substantial adverse effect on the natural-like appearance of the river area.

Recreation Facilities

Larger-scale public use facilities, such as moderate-sized campgrounds, interpretive centers, or administrative headquarters are allowed if such facilities are screened from the river.

Public Use and Access

Recreation use including, but not limited to, hiking, fishing, hunting, and boating, is encouraged in scenic river areas to the extent consistent with the protection of the river environment. Public use and access may be regulated and distributed where necessary to protect and enhance scenic river values.

Rights-of-Way

New transmission lines, natural gas lines, etc., are discouraged unless specifically authorized by other plans, orders, or laws. Where no reasonable alternate location exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are unavoidable, locations and construction techniques shall be selected to minimize adverse effects on scenic river area related values and fully evaluated during the site selection process.

Motorized Travel

Motorized travel on land or water may be permitted, prohibited, or restricted to protect river values. Prescriptions for management of motorized use may allow for search and rescue and other emergency situations.

Instream Flow Assessment

To the extent practical, consistent with resource management objectives, quantify instream flow and protection requirements related to outstandingly remarkable and other resource values identified through river management planning process. Where possible, conduct a comprehensive, interdisciplinary, resource value-based assessment in order to delineate resource values, relate flows to resource conditions, and formulate flow protection strategies which incorporate legal, technical, and administrative aspects in order to secure instream flows which address values associated with the scenic river segment.

Recreational River Areas

Recreational river areas are defined by the Wild and Scenic Rivers Act to include:

> "Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."

Management Objective for Recreational River Areas

Management of recreational river areas should give primary emphasis to protecting the values which make it outstandingly remarkable while providing river-related outdoor recreation opportunities in a recreational setting. Recreational classification is a determination of the level of development and does not prescribe or assume recreation development or enhancement. Management of recreational river areas can and should maintain and provide outdoor recreation opportunities. The basic distinctions between a "scenic" and a "recreational" river area are the degree of access, extent of shoreline development, historical impoundment or diversion, and types of land use. In general, a variety of agricultural, water management, silvicultural, recreational, and other practices or structures are compatible with recreational river values, providing such practices or structures are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment.

Management Standards for Recreational River Areas

Recreation facilities may be established in proximity to the river, although recreational river classification does not require extensive recreational development. Recreational facilities may still be kept to a minimum, with visitor services provided outside the river area. Future construction of impoundments, diversions, straightening, riprapping, and other modification of the waterway or adjacent lands would not be permitted except in instances where such developments would not have a direct and adverse effect on the river and its immediate environment. The following program management standards apply:

Forestry Practices

Forestry practices including timber harvesting would be allowed under standard restrictions to avoid adverse effects on the river environment and its associated values.

Water Quality

Water quality shall be maintained or improved to meet Federal criteria or Federally approved State standards. (River management plans shall prescribe a process for monitoring water quality on a continuing basis.)

Hydroelectric Power and Water Resource Development

No development by hydroelectric power facilities would be permitted. Existing low dams, diversion works, rip rap, and other minor structures may be maintained provided the waterway remains generally natural in appearance. New structures may be allowed provided that the area remains generally natural in appearance and the structures harmonize with the surrounding environment.

Mining

Subject to existing regulations (e.g., 43 CFR 3809) and any future regulations that the Secretary of the Interior may prescribe to protect values of rivers included in the National System, new mining claims are allowed and existing operations are allowed to continue. All mineral activity on federally administered land must be conducted in a manner that minimizes surface disturbance, water sedimentation and pollution, and visual impairment. Reasonable mining claim and mineral lease access shall be permitted. Mining claims, subject to valid existing rights, within the recreational river area boundary can be patented only as to the mineral estate and not the surface estate (subject to proof of discovery prior to the effective date of designation.)

Road and Trail Construction

Existing parallel roads can be maintained on one or both river banks. There can be several bridge crossings and numerous river access points. Roads, trails, and visitor areas must conform to construction and maintenance standards and be free of recognized hazards.

Agricultural Practices and Livestock Grazing

In comparison to scenic river areas, lands may be managed for a full range of agriculture and livestock grazing uses, consistent with current practices.

Recreation Facilities

Interpretive Centers, administrative headquarters, campgrounds, and picnic areas may be established in proximity to the river. However, recreational classification does not require extensive recreation development.

Public Use and Access

Recreation use including, but not limited to hiking, fishing, hunting, and boating, is encouraged in recreational river areas to the extent consistent with the protection of the river environment. Public use and access may be regulated and distributed where necessary to protect and enhance recreational river values. Any new structures must meet established safety and health standards or in their absence be free of any recognized hazard.

Rights-of-Way

New transmission lines, natural gas lines, water lines, etc., are discouraged unless specifically authorized by other plans, orders, or laws. Where no reasonable alternate location exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are unavoidable, locations and construction techniques shall be selected to minimize adverse effects on recreational river area related values and fully evaluated during the site selection process.

Motorized Travel

Motorized travel on land shall generally be permitted on existing roads. Controls shall usually be similar to that of surrounding lands. Motorized travel on water shall be in accordance with existing regulations or restrictions.

Instream Flow Assessment

To the extent practical, consistent with resource management objectives, quantify instream flow and protection requirements related to outstandingly remarkable and other resource values identified through the river management planning process. Where possible, conduct a comprehensive, interdisciplinary, resource value-based assessment in order to delineate resource values, relate flows to resource conditions, and formulate flow protection strategies which incorporate legal, technical, and administrative aspects in order to secure instream flows which address values associated with the recreational river segment.

Management Objectives Common to Scenic and Recreational River Areas

Fire Protection and Suppression

Management and suppression of fires within a designated Wild and Scenic River area will be carried out in a manner compatible with contiguous Federal lands. On Wildfires, suppression methods will be used that minimize long-term impacts on the river and river area. Presuppression and prevention activities will be conducted in a manner which reflects management objectives for the specific river segment. Prescribed fire may be used to maintain or restore ecological condition or meet objectives of the river management plan.

Insects, Diseases, and Noxious Weeds

The control of forest and rangeland pests, diseases, and noxious weed infestations shall be carried out in a manner compatible with the intent of the Wild and Scenic Rivers Act and management objectives of contiguous Federal lands.

Cultural Resources

Historic prehistoric resource sites shall be identified, evaluated and protected in a manner compatible with the management objectives of the river and in accordance with applicable regulations and policies. Where appropriate, historic or prehistoric sites shall be stabilized, enhanced, and interpreted.

Fish and Wildlife Habitat Improvement

The construction and maintenance of minor structures for the protection, conservation, rehabilitation or enhancement of fish and wildlife habitat are acceptable provided they do not affect the free-flowing characteristics of the Wild and Scenic river, are compatible with the river's classification, that the area remains natural in appearance, and the practices or structures harmonize with the surrounding environment.

Water Rights

In the process of evaluating river segments, authorizing officials are held to established principles of law with respect to water rights

Under provisions of Section 13 of the Wild and Scenic Rivers Act, as well as other statutes, river studies shall not interfere (except for licenses under Section 7(b) of the Wild and Scenic Rivers Act, pertaining to Section 5(a) Wild and Scenic River studies) with existing rights, including the right of access, with respect to the beds of navigable streams, tributaries, or river segments. In addition, under the Federal land Policy and Management Act and the Federal Power Act, the BLM has conditioning authority to control any proposed projects which would be incompatible or potentially degrading to river and/or other identified resource values.

See Appendix E for process to use for evaluating water resource and other projects that have the potential to affect the free-flowing character of the river.

Specific Salmon River Corridor Management Direction for BLM Administered Lands

Recreation

Allow a wide range of non-motorized recreational activities that are managed in a fashion to prevent degradation of the outstandingly remarkable values (ORV's).

Recreation management efforts would emphasize information and education efforts as well as other indirect methods of visitor management. Agency presence and patrols can also be used to improve management of high use areas and along the river.

Current and future emphasis should be placed on identifying opportunities for barrier-free recreation facilities. All new recreation facilities must provide for barrier-free access when feasible.

Commercial guiding and outfitting activities on the river and any other commercial uses of federal lands shall be required to obtain a special use permit.

The Limits of Acceptable Change planning process will be used to determine carrying capacities of the river. If and when use limits are reached or needed, BLM shall consider implementing a "freedom of choice" use allocation system.

Additional information, signing, and services will be provided to visitors. Memorandums of understanding or other interagency agreements will be developed between management agencies and organizations to coordinate recreation management within the corridor.

All interpretive and information signs should be placed at existing recreation sites and printed information should have limited distribution and not be intended to promote or advertise the area.

Allow reconstruction and realignment of existing trails when necessary.

Provide primitive sanitation facilities at key public use access areas if water quality testing or area monitoring documents the need for such facilities.

Wildlife and Fisheries

All site specific project planning within the corridor and tributary watersheds (BLM lands) will identify the existing habitat conditions, determine habitat objectives, develop a range of alternatives, and discuss the potential consequences, (including cumulative effects), of the alternatives to wildlife and fisheries resources.

The fishery and critical wildlife habitat areas in the designated corridor would continue to be protected. Any activity or project in the Wild and Scenic River corridor or tributary watershed that may cause adverse consequences to fish or wildlife populations or habitat, and thus have the potential to degrade these ORV's, shall identify existing habitat conditions, the risk and magnitude of the consequences, and measures to be taken to eliminate or satisfactorily mitigate any impacts to fish and wildlife resources.

Management authority for fish and wildlife populations rests with the State and is administered through Oregon Department of Fish and Wildlife (ODFW). All fisheries and wildlife management activities will be coordinated with ODFW. Any stock or population management recommendations must be approved by the ODFW commission before implementation.

All wildlife and fisheries habitat projects, inventories, and population management recommendations will be coordinated with the State's and Northwest Power Planning Council's respective sub-basin plans. The BLM will be an active participant in these planning efforts.

Habitat enhancement and restoration efforts, including protection of water quality and quantity, will emphasize populations of native wildlife and wild fish stocks.

Threatened and endangered species will be managed in accordance with the Endangered Species Act. Cooperate with State and Federal fish and wildlife agencies in developing recovery plans or resolving conflicts for threatened and endangered species. Recovery plans will take precedence over other management activities.

Wildlife habitat enhancement or restoration projects would be allowed only if they do not detract from the river's values or affect the natural characteristics of the river corridor.

Fish passage structures would be allowed only if they do not detract from the river values or affect free-flow characteristics of the river, large woody debris may be removed or modified if it is found to be a hazard to navigation or human safety.

Water Quality and Quantity

At a minimum, water quality must meet the Clean Water Act and Oregon Water Quality Standards for the Salmon River. This water quality will be maintained, and where possible, enhanced.

Legal beneficial uses and existing legal water rights or permits will not be impaired or affected by designation. This includes the development of legal existing rights that have not yet been exercised as long as the free-flowing condition of the river is unimpaired or the ORV's not adversely affected. See Appendix E for process to use in assessing effects to free-flowing character of the river by specific projects.

Water rights and minimum instream flows will be established, pursued and protected under the umbrella of state laws.

New major water structures are prohibited. New minor structures, existing low dams, diversion works, erosion/flood control efforts and other structures may be allowed and maintained provided the waterway remains natural in appearance and its free-flowing condition unimpaired. See Appendix E for process to use in assessing effects to free-flowing character of the river by specific projects.

No development of hydroelectric facilities will be permitted.

Any proposed activity should assess impacts to and strive to maintain and/or enhance the integrated ecological functions of rivers, streams, floodplains, wetlands, and associated riparian areas.

Any proposed activity allowed under the Wild and Scenic Rivers Act within or along the floodplain, wetlands, the bed, and banks of the river would still require a formal declaration and public notification on public lands (executive orders 11988 and 11990) and required (Section 404 of Clean Water Act) to obtain all necessary permits and approvals from the State Department of Environmental Quality, Division of State Lands, and Army Corps of Engineers.

All management actions should seek to restore the natural ecological and hydrological functioning along the river, and protect and enhance water quality. Strive to maintain acceptable levels of water temperatures, suspended sediment, turbidities, chemicals, and bacteria.

Establish and protect minimum instream flows for recreation and fisheries under the umbrella of state law.

All water conservation promotional efforts within the basin shall be done in cooperation with water agencies and providers.

Geological

Encourage scientific research in identification and interpretation of unique geologic features at developed public access sites along the river as identified in the comprehensive interpretive plan.

No new use, occupancy, surface mining or gravel operations or any other surface disturbing mineral or energy development activity shall be allowed on Federal lands within the river corridor.

Vegetation and Botanical/Ecological

Maintain and/or enhance the integrated ecological functions of rivers, streams, floodplains, wetlands, lakes and associated riparian areas through a combination of vegetation management tools. Chemical management would be allowed in upland areas only when no other vegetation management tools are appropriate.

Provide for plant and animal community diversity and maintain and/or enhance healthy functioning ecosystems as the foundation to sustained long-term productivity. Introduction of non-native species of plants can occur if it is determined that there would be no adverse affect to any river values.

All vegetative management actions shall emphasize cooperative interpretation and environmental education efforts.

Grazing would not be allowed on BLM lands within the corridor.

On the BLM administered portion of the river, fire management responsibility rests with the state and will continue to be predicated on a policy of aggressive suppression of wildfire while minimizing suppression practices that could cause long-term impacts on the river. BLM will work with state agencies to mitigate any impacts caused by fire suppression activities on lands within the corridor.

Prescribed fire may be used to reduce the threat of wildfire or restore/enhance the ecological condition of the river corridor.

Cultural

Protect cultural resource sites within the river corridor to the extent required by law, regulation and policy.

All proposed development or enhancement activities on BLM lands will require cultural inventory, assessment, or clearance.

Known significant sites will be stabilized if threatened by natural or human-caused disturbance.

Cultural resource management efforts shall emphasize protection, interpretation, and education.

All inventory, location, management, and protection of pre-historic sites shall be coordinated with appropriate tribal governments and federal, state, and local authorities.

Protect and preserve, for Native Americans, access to and use of traditional sites, the possession of sacred objects and the freedom to worship through ceremonials and traditional rites found within the river corridor.

Visual Resources and Land Uses

Acquire easements or lands for protection of ORV's from willing sellers through exchange or fee title where possible both within and adjacent to the corridor boundaries.

Views from the river will determine the critical viewshed, areas of high visual sensitivity, or seen area.

Visual Resource Management Class I, (retention), will apply to all BLM lands within the corridor.

Human-made shoreline improvements, including erosion control structures or efforts, recreation facilities, road construction, and so forth shall use natural appearing materials and colors (muted earth tones), native vegetation, and emphasize techniques (bioengineering) that minimize or screen visual impacts.

Emphasize landowner and developer education efforts to inform landowners and developers of incentives, existing regulations, and conservation/screening practices.

Formalized and increased coordination between county, state, and federal agencies will focus on improving the effectiveness and enforcement of existing country and state regulations concerning private property development.

Fire suppression will minimize physical disturbance by confining, containing, or controlling fires utilizing conditional use fire suppression and/or confinement or containment strategies whenever possible.

Replacement of existing facilities would be allowed at the current level of development within existing utility or pipeline corridors as long as ORV's are not adversely impacted. Upgrading of existing facilities or corridors could only be done after the necessary environmental analysis demonstrated that no adverse impacts to these resources would occur. No additional river crossing sites will be allowed other than existing locations.

All BLM lands within the corridor will have no scheduled timber harvest. Forestry practices on private lands and other public lands will be governed by the Oregon State Forest Practices Act under all appropriate administrative rules, agreements and state land use and development laws.

All county and state transportation projects including realignment, stabilization, erosion control, vegetative management, etc., shall coordinate with BLM and USFS for design review, construction/mitigation techniques, and river value considerations.

Chapter 4

Implementation Schedule

This chapter outlines specific management actions to be implemented within each resource area. The chapter first lists the proposed actions in detail by resource area. These detailed implementation actions are then summarized in a table at the end of this chapter. For each of the actions, the agency responsible for the actions, estimated implementation dates, and estimated costs for each item are listed.

Goal of the Plan

The plan with its objectives (Chapter 2), management standards and guidelines (Chapter 3), and the following actions make up the River Management Plan and are designed to provide for the balanced protection and enhancement of all the river's outstandingly remarkable values. This plan is intended to provide the framework to accomplish the above goal.

Management Actions

The specific actions listed below are to be taken to resolve current resource management issues, concerns, or problems.

Primary Responsibility: Identifies the specific agency or agencies responsible for initiating the particular action. It does not necessarily mean that the agency identified will carry out all aspects of the action, only that it will insure that necessary steps are taken to coordinate and facilitate the completion of the action.

Schedule: Identifies when the action will be initiated or the time period over which it will be conducted.

Estimated Costs: Estimates the costs associated with implementing the specific action. Costs identified include staffing or personnel needed, as well as material, contract or construction costs. Costs listed are one-time costs unless as identified as ongoing or annual management costs. Dependent upon final analysis of specific actions and what may be necessary to implement those actions, costs may vary substantially from what is listed here.

Budget Note: *Although the plan establishes standards and guidelines, monitoring elements and potential projects; accomplishment and implementation will depend upon final budget allocations. If budget allocations are insufficient, activities proposed in the plan may need to be rescheduled. Insufficient budgets over a period of several years could cause an inability implement proposed activities, to apply standards and guidelines and achieve some of the desired conditions.*

Recreation Management Actions

Recreation Facilities

Evaluate and expand Green Canyon Campground by 7-8 sites.

- Implement project only if it can meet the guidelines in Spotted Owl Recovery plan.
- Assuming a water supply can be developed that meets current water quality standards, campground would be expanded by 7-8 sites to provide additional developed camping opportunities on Federal lands within the corridor.

  Primary Responsibility: USFS

  Schedule: Water system feasibility, FY 1993; Completion by 1997

  Estimated Cost: Planning $20,000; Construction $110,000

Acquire (through willing seller purchase or exchange) the Miller Road quarry site on the lower river. Reclaim the area and develop recreation and sanitation facilities, barrier-free fishing access,and appropriate signing.

Primary responsibility: BLM

Schedule: 1995-1997

Estimated Cost: $185,000

Develop barrier-free fishing facilities along Salmon River Road.

Primary responsibility: USFS

Schedule: 1996-1997

Estimated cost: $35,000

Salmon River Trail

Trails and Public Access

Bonanza Trail #786 Trailhead Development

- Cooperate with private landowners and interested publics to evaluate, and if feasible, develop trailhead for Bonanza Trail #786. Alternatives would include acquisition of private property or a trail easement across private lands and development of alternate trail route with entire trail and trailhead located totally on National Forest Land. Any property or easement acquisition must be on a willing seller basis.

  Primary Responsibility: USFS

  Schedule: Start Feasibility analysis in 1994

  Estimated Cost: $50,000 - 150,000 depending upon cost of alternative selected, cost of easement acquisition, and trail construction costs.

Inventory, rehabilitate, and close if necessary, dispersed recreation sites and evaluate need for campfire closure along lower river.

- Evaluate dispersed camping sites along Old Salmon River Trail and Salmon River Trail, closing and rehabilitating those sites where unacceptable impacts are taking place to riparian vegetation and hardening and marking remaining acceptable sites.

- Evaluate smaller pullouts along Salmon River Road, closing and rehabilitating those where resource impacts are unacceptable and hardening and better defining those pull-outs that remain to reduce the potential for further adverse impacts.

- Evaluate need to prohibit campfires in heavier use areas along Salmon River Trail. Implement campfire closure if it is determined that unacceptable damage is taking place as a result of allowing campfires in the heavier use areas.

  Primary Responsibility: USFS

  Schedule: 1995

  Estimated Cost: $10,000 initially, $4,000-5,000 annually

Feasibility study for river trail along lower river corridor between Wildwood Park and Miller Rd. quarry area.

- Evaluate the feasibility of a trail and greenway between Wildwood park and Miller Rd. quarry site, including potential route location, easement/land acquisition needs/costs and construction costs.

  Primary Responsibility: BLM

  Schedule: Start 1995-1996

  Estimated Cost: $15,000 for planning

Develop a sno-park/snow play area and associated nordic/mountain bike trail in the upper river area above Highways 26 and 35 junction.

- Evaluate potential nordic/mountain bike trail development and submit for capital investment or challenge cost share funding for construction. Facilities to be evaluated would include additional sno-park and snowplay area, sanitation facilities, and trails to compliment existing and future nordic/mountain bike trails in and adjacent to the river corridor.

- Construct trails and sno-park/snowplay area as funding becomes available.

  Primary Responsibility: USFS

  Schedule: 1996-1998

  Estimated cost: $400,000 (includes trails outside corridor)

Salmon River Road trailhead/parking areas improvements

- Improve parking areas at 3-4 locations along Salmon River Road with improved trail head signing.

- Install toilets at 1-2 trailheads along Salmon River Road to reduce sanitation problems at high use trailheads and dispersed camping sites.

- Undertake minor realignment of the Salmon River Road #2618 to allow safe passage of hikers on Old Salmon River Trail past location where trail currently uses the road as the trail.

Primary Responsibility: USFS

Schedule: 1996-1998

Estimated Cost: $25,000 for parking areas signing/improvements.
$50,000 for two toilets.
$80,000 for minor road realignment.

Develop a safe spur trail and improved signing to Final Falls overlook

Primary Responsibility: USFS

Schedule: 1996-1998

Estimated Cost: $25,000

Extend Salmon River Trail #742 to Timberline via Mud Creek Ridge

- Evaluate feasibility of extending Salmon River Trail #742 to extend to Timberline Lodge using route on or adjacent to Mud Creek Ridge.

- If feasible, construct trail or portions of trail when funding becomes available.

Primary Responsibility: USFS

Schedule: 1997-1999

Estimated cost: $175,000

Interpretive Facilities, Services, and Public Information

Develop interpretive and environmental education facilities at Wildwood Recreation Facility including a wetlands interpretive trail.

- Pursue development of an environmental education and interpretive center on public lands along the lower river focusing on fisheries and wetlands. Center will include a barrier-free wetlands interpretive trail, and information signing to share information about Salmon River.

Primary Responsibility: BLM and USFS

Schedule: 1993-1997

Estimated Cost: $2,500,000

Develop a comprehensive interagency interpretation/public information and education plan for the entire river corridor. The plan will address the following:

- Looking at an integrated approach utilizing a wide variety of interpretive techniques to share information about all river resources and best medium to share that information with the different publics that use the river.

- Development of interpretive and educational facilities/materials along Salmon River to raise awareness of the rivers important values and promote wise stewardship of the river's resources.

- Evaluate placement of interpretive panel and overlook at the east end of the Timberline Lodge Parking lot overlooking the headwaters and upper river. The content and type of the panel would be identified in the comprehensive plan.

- Evaluate other potential locations throughout the river corridor for interpretive signing. Signing should be limited to existing trailheads and recreation sites.

- Evaluate use of signing to direct recreationists to public access and recreation sites and to inform visitors about private lands, resource protection, fishing etiquette and regulations, and to encourage protection of habitat and conservation of wild fish stocks found in the river.

- Evaluate the use of local businesses to provide additional information on recreation opportunities and the protection of resources along the river private landowners rights.

- Strive to not increase the use of the area but to provide information on river values and its use and protection.

- Identify best locations, interpretive themes, for the old-growth and wetlands interpretive trails identified in the trails section above.

- Identify a schedule and costs for implementation of all actions adopted in the interpretation/public information/education plan for the corridor.

  Primary Responsibility: BLM and USFS

  Schedule: 1994-1995

  Estimated Cost: $45,000

Development of an Old-Growth Interpretive Trail.

- Develop an Old Growth Interpretive trail at either a site off the Salmon River Trail upstream from the Fly Fishing Bridge or utilizing the Old Salmon River Trail downstream from Green Canyon Campground.

  Primary Responsibility: USFS

  Schedule: 1995-1997

  Estimated cost: $30,000 for site above Fly Fishing Bridge; $15,000 for site below Green Canyon Campground

Recreation Management and Monitoring

Increase agency management presence within the river corridor, initiate agreements for increased law enforcement patrols.

- Provide one USFS and one BLM seasonal ranger to patrol river corridor on public lands from mid-May to mid-September to provide an increase in agency presence/patrols above current levels, to share information about the river with river users, and monitor impacts of use along the river.

- Pursue options for Oregon State Police cadets to help enforce state and county regulations, primarily relating to fishing, litter, dumping and fire regulations, if funding is available.

Primary Responsibility: BLM and USFS

Schedule: 1994 and beyond

Estimated Cost: $20,000/yr

Channel and direct recreation use to appropriate locations and encourage resource protection practices through additional signing and information.

- Place signs at Highway 26 intersections and other areas identifying public river access locations in coordination with county and state departments of transportation.

- Assist landowners in providing and placing signs identifying private property at problem locations at the request of landowners.

- Develop, publish, and distribute a river map and brochure clearly showing public access locations and identifying private lands.

- Work with angler groups to promote user ethics and private land rights awareness.

Primary Responsibility: BLM and USFS

Schedule: 1994-1998

Estimated Costs: $25,000

Close road into Salmon River Meadows to vehicle access except for administrative use

Primary Responsibility: USFS

Schedule: 1994

Estimated cost: $1,000

Continue annual river clean-up efforts in coordination with county and others.

Primary Responsibility: BLM and USFS

Schedule: 1994 and ongoing

Estimated cost: $2,500/yr

Develop and implement a comprehensive recreation monitoring program and visitor use survey utilizing the Limits of Acceptable Change (LAC) planning process to establish carrying capacities and management needs.

Primary Responsibility: BLM and USFS

Schedule: 1995-1996

Estimated cost: 50,000

Hydrology Management Actions

Water Quality

Implement a monitoring program for water quality.

- Agencies will conduct monitoring and testing at 5 locations on the river, two on the upper river and three on the lower river.
- The locations will be tested for a range of chemical biological, physical indicators, and stream discharge on a monthly basis for 5 years, and bi-monthly or quarterly thereafter.
- Develop MOU between the BLM and USFS outlining monitoring roles, responsibilities, and cost sharing.

Primary Responsibility: BLM and USFS

Schedule: 1993-1998

Estimated Costs: $8,000/yr (Includes Water Quantity Monitoring)

Pursue Outstanding Water Body of the State designation for the river.

- Develop rationale and provide baseline information to ODEQ and then petition for designation.

Primary Responsibility: BLM

Schedule: 1993

Estimated Costs: $5,000

Work with County and State on enforcement of existing water quality laws, zoning codes, and development regulations.

- Notify the County or State of any observed violations on private or public land.
- Develop an agreement with the agencies which will allow BLM and/or USFS to review and advise on zoning and development proposals and variances, and submit recommendations and/or mitigation measures.
- Review effects of actions taking place within corridor and notify appropriate agencies of problems, as as review development proposals and submit recommended measures for mitigation.

Primary Responsibility: BLM and USFS

Schedule: 1993 and beyond

Estimated Costs: $1,000/yr

Pursue and conduct watershed enhancement opportunities through cooperative efforts by federal, state, county agencies and private individuals and organizations to reduce non-point source pollution.

- Review grounds and surface water practices at major recreation sites and make recommendations.
- Rehabilitate trails, campgrounds, and roads to reduce runnoff and sediment, if necessary.
- Work with ODOT, and county to install sediment traps to collect road/highway sediment, stabilize road fill and sand/gravel storage, and improve drainage under state and county highways and roads.
- Work cooperatively with organizations and agencies to identify and conduct educational and other watershed enhancement activities.
- Provide input into the River Landowners Stewardship Handbook (See Land Use and Activities Section).

Primary Responsibility: BLM and USFS

Schedule: 1994-1997

Estimated Costs: $12,000

Develop parameters and Limits of Acceptable Change thresholds for water quality.

- After 3 years of baseline data have been collected, interim guidelines will be established using the LAC process.
- Interim guidelines will be tested for applicability and effectiveness for 2 years, then finalized.
- ODEQ will be notified of the parameters.

Primary Responsibility: BLM and USFS

Schedule: 1995-1997

Estimated Costs: $5,000

Establish an action plan outlining notification procedures and mitigation measures if pollution levels are exceeded.

- Agencies will develop notification procedures to follow if pollution is detected.
- Agencies will develop recommended mitigation measures in cooperation with ODEQ and Clackamas County for specific human activities such as residential construction, water resource projects, and recreational facility development.

Primary Responsibility: BLM and USFS

Schedule: 1995-1996

Estimated costs: $4,000

Water Quantity

Implement a flow monitoring program in conjunction with the water quality monitoring plan.

- Flows would be monitored at the same time as water quality samples are being collected.

Primary Responsibility: BLM and USFS

Schedule: 1993-1998

Estimated Costs: Included in the water quality monitoring estimate.

BLM and USFS would work with state agencies to conduct a comprehensive instream flow study for fish and recreation values.

- Cooperate with ODFW, and ODEQ in conducting an instream flow study to determine flows necessary to protect the outstanding river values.

- Work with OWRD, ODFW, OPRD, ODEQ, PWB, and counties, by supplying data and study results to assist in determining or reassessing instream flow needs for outstanding river values.

- Encourage ODEQ, ODFW, and OPRD to apply for minimum instream water rights to protect fish and recreation values.

Primary Responsibility: BLM, USFS, ODFW, OPRD.

Schedule: 1994-1998

Estimated costs: $40,000 for staff and inventory work.

Wetlands, Riparian, and Floodplains

Seek watershed enhancement opportunities and provide technical assistance and funding for projects.

- Identify enhancement opportunities while baseline mapping is being conducted.

- Provide technical assistance and funding for wetland and riparian enhancement projects on federal and private lands.

- Pursue cooperative and voluntary opportunities for rehabilitation with other agencies and private landowner.

Primary Responsibility: BLM and USFS

Schedule: Start 1993

Estimated Costs: $3,000 per year for staffing and supplies

Develop a program to establish baseline information of wetlands and riparian areas and monitor impacts and changes at least every five years.

- A program will be developed to monitor the condition and trend of wetlands and riparian areas. A baseline survey will be conducted, and redone at least every 5 years to monitor changes.

  Primary Responsibility: BLM and USFS

  Schedule: 1994, 1999

  Estimated costs: $5,000 for planning and mapping each year.

Work with Clackamas County and State agencies on enforcement of existing regulations by alerting agencies of problems identified through monitoring or inventory and provide input on proposals to change current regulations.

- Review and comment on proposals for development adjacent to the river submitted to the county.
- Provide technical assistance to private landowners.
- Provide input to county and state agencies on proposed changes to those agencies regulations to insure regulations will protect and/or enhance river values.

  Primary Responsibility: BLM and USFS

  Schedule: 1993 and ongoing .

  Estimated Costs: $500 a year for staffing.

Fisheries Management Actions

Work with ODFW in development of Sandy River Subbasin Fish Management Plan.

- The ODFW is charged with management and protection of Oregon's fish and wildlife resources and for developing recommendations on regulations to allow the orderly harvest of these resources. The ODFW prepares fish and wildlife management plans which are implemented through administrative rules. The federal land management agencies are responsible for the protection and management of habitat for fish and wildlife on federal lands. These two functions must be closely coordinated to achieve the protection of fish and wildlife populations called for in state and federal laws and regulations.
- Recommendations for fish stock management will be considered by ODFW in the Development of the Sandy River Subbasin Fish Management Plan, to be initiated in 1993. The overall objectives of the recommendations would be to improve the production of native/wild salmonids while continuing to provide the same level of consumptive fishing. Discussion of the feasibility and effectiveness of the recommendations, as well as alternative measures to achieve similar objectives, would occur within the Technical Advisory Committee (TAC) for the Subbasin Plan, of which the Forest Service and BLM will both be a part. The Oregon Fish and Wildlife Commission is the decision-making authority for the Subbasin Plan. Similarly, proposals for angling regulation changes are submitted to ODFW every two years and forwarded to the Commission for final decisions.

Primary Responsibility: BLM and USFS

Schedule: Start 1993

Estimated Costs: $3,000 per agency ($6,000 total) for involvement in TAC group.

Develop an intensive habitat monitoring program to provide feedback on habitat protection/improvement measures on both public and private lands.

- Conduct a basin-wide habitat inventory to be repeated every five years starting 1996 (last survey was 1991). Survey will be of instream habitat and will also include an evaluation of riparian vegetation and conditions, and an estimation of stream shading, bank and stream surface cover provided by riparian vegetation.

  Primary Responsibility: BLM and USFS

  Schedule: Basin-wide inventory 1996. Implementation monitoring annually starting 1993.

  Estimated Costs: Habitat surveys estimate $27,000 per survey. Project monitoring average $4,500/yr for each agency.

Fishing along the Salmon River

Work cooperatively (ODFW, BLM, USFS, PGE, Clackamas County, private landowners and organizations) to improve anadromous habitat on the mainstem and tributaries, to enhance natural production of anadromous fish.

- Habitat improvement projects include creating additional pools, hiding cover, etc. to increase habitat diversity; restoring and enhancing side channel habitat and restoring habitat and fish passage in meanders, oxbows, and flood channels; creating alcove and off-channel rearing areas; restoring impacted riparian areas; and promoting retention of large trees (especially conifers) along the streambanks.

- FS and BLM continue existing habitat improvements scheduled on federal lands. One project area per year would be planned by each agency beginning FY 1994, then implemented the following year.

- BLM will plan and implement rehabilitation of the large side channel in the Wildwood picnic area in 1993.

- Maintenance surveys on existing habitat improvements will be conducted annually; work will be scheduled on an as needed basis.

- ODFW to oversee (with BLM and FS support) habitat improvements on non-federal lands, when requested by landowner as opportunities arise with applicable landowners.

- Individual project areas will surveyed pre and post project (repeated again in three years), to evaluate actual habitat changes as a result of project implementation.

- Identify additional high priority areas for habitat improvement using the Sandy River Subbasin Fish Management Plan.

- Agencies to coordinate a drainage-wide habitat protection/improvement plan, including an outreach effort for all landowners in the management area, starting in 1994.

  Primary Responsibility: BLM and USFS with support from ODFW

  Schedule: See dates in specific items above.

  Estimated costs: One time costs of approximately $5,000 per agency for planning, coordinating and presenting the coordinated plan and public outreach effort for drainage-wide habitat protection/improvement (1994). Project planning and implementation for BLM and USFS will average approximately $58,000/agency/yr starting 1995. $5000 for maintenance surveys/work on structures annually.

Acquire lands for protection and enhancement of the mainstem Salmon, Boulder Creek and other important unnamed tributaries.

- Refer to land acquisition summary. Parcels (or easements) considered high priority for acquisition for protection/improvement of fisheries values include the following:

  * Parcel at the confluence of Cheeney Creek and the Salmon River. Needed for riparian protection, fishing access and for riparian/stream restoration activities.

  * Parcel in Miller Road Quarry along the Salmon River, needed for riparian restoration, protection of holding anadromous fish and installation of fully accessible fishing facilities.

* Protective easements along the Salmon River and tributaries where needed to maintain/improve riparian conditions (lands in sections 5,6,8, T3S, R7E for example.)

Primary Responsibility: BLM and Forest Service

Schedule: As available/needed.

Estimated Costs: Unknown.

Botany/Ecology Management Actions

Develop a comprehensive monitoring plan for plant communities within the river corridor.

- Design a 10 year plan to monitor plant communities in alpine/subalpine zone of the river and around high use recreation areas and sites to determine species composition and plant community trends.

- Design methodology and location of partial grazing exclosure in Salmon River Meadows to monitor grazing impacts on Scheuchzeria (Scheuchzeria palustris var. americana) populations in the meadows complex. If adverse impacts to Scheuchzeria are resulting from grazing activities, grazing activities will be modified as per direction in grazing allotment management plan.

- Design a 10 year "ecological" habitat monitoring system for Salmon River Meadows and Red Top Meadows including the establishment of permanent study plots.

- Design a monitoring system for populations and habitats of coldwater corydalis (Corydalis aquae-gelidae).

Primary Responsibility: USFS

Schedule: Develop monitoring plans 1993, start implementation 1994

Estimated Costs: Grazing exclosure, estimate cost $25,000; $5,000/yr for monitoring.

Develop botanical inventory program for river corridor

- Develop a comprehensive botanical inventory program for the river corridor. High priority areas include Red Top/Salmon River Meadows complexes, and along Linney and Draw Creeks.

- Seek assistance from universities, colleges and other organizations to implement a systematic botanical survey of the Salmon River. Will seek to use cost sharing, challenge grant, and similar opportunities if possible.

Responsibility: BLM and USFS

Schedule: Start 1993

Estimated Costs: $15,000

Protect and enhance populations of coldwater corydalis or other important listed species/communities through landowner conservation agreements, willing seller easements or purchase.

- Seek to find willing landowners who will allow the inventory, protection and enhancement of plants and habitats on private lands.

- Enlist the help of organizations such as the Nature Conservancy to establish landowner conservation agreements, willing seller easements, or purchase of private lands on the river, especially where important species or habitats need to be protected.

- Actively seek federal assistance programs and opportunities that will provide purchase monies for important river land parcels.

  Primary Responsibility: BLM

  Schedule: Start 1993 and ongoing

  Estimated costs: $3,000 for enhancement, purchase costs variable and may be substantial.

Provide educational material to landowners concerning the identification and conservation of listed (TES) species, wetland and riparian species and their habitats.

- Coordinate with county and state agencies to develop and implement a procedure to allow review of proposed projects within the river corridor.

- Provide input into the "River Landowners Stewardship Handbook" to help inform landowners, (see Land Use and Activities section).

- Provide educational "conservation" meetings or workshops in nearby public centers for landowners on the river.

- Hire an SCA (Student Conservation Association) volunteer to visit and provide suitable ecological and botanical information to landowners on the river.

  Primary Responsibility: BLM and USFS

  Schedule: 1994-1996

  Estimated Costs: $6,000/yr.

Evaluate the potential of Botanical Special Interest Area designation for the Salmon River Meadows area.

  Primary Responsibility: USFS

  Schedule: 1996

  Estimated Costs: $4,000

Wildlife Management Actions

Restrict motorized vehicle access to upper river corridor during critical calving/fawning seasons.

- Annually close and maintain gates on existing roads. Estimate repair or replacement of one gate every 5 yrs.

  Primary responsibility: USFS

Schedule: 1993 and beyond

Estimated costs: $500/yr. Gate replacement, $2000 every five years.

Maintain or improve winter range for big game along the lower river corridor.

- Agencies work with ODFW and private landowners to improve conditions for big game. Activities could include forage and thermal cover improvement, and/or reduction of harassment/mortality from free-ranging domestic dogs, off-road vehicle use and poaching. *On-going program, with information* distributed through agencies coupled with regular outreach efforts.

  Primary responsiblity: BLM and USFS with support from ODFW

  Schedule: 1994 and beyond

  Estimated cost: $2,000/yr

Develop and implement comprehensive meadow and forage habitat enhancement plan in upper meadow areas.

- Plan would identify actions, implementation schedule, and estimated costs to enhance meadow habitat and forage areas in upper meadow areas (East and West Forks, Salmon River and Red Top Meadows), potentially using flooding, burning, planting native berries, hardwoods and conifers, and other management techniques.

- Plan would incorporate and balance habitat needs/preferences for big game, furbearer, sandhill cranes, migratory bird and aquatic species.

- Plan would identify inventory needs and limiting factors for emphasis species and enhancement measures.

- Plan would identify opportunities for managing/enhancing habitat for increased populations of beavers in Salmon River/Red Top meadows.

- Plan would identify opportunities for maintaining/increasing habitat diversity in upper river wetlands/meadows by planting native berries, hardwoods and conifers.

- Plan would identify methods to minimize public use of Salmon River Meadows area to protect wildlife using the area, including nesting Sandhill cranes. This would include closure of road into meadows area.

  Primary Responsibility: USFS with support by ODFW

  Schedule: Comprehensive inventory/planning. 1994-1995 Project implementation start 1996, one meadow per year.

  Estimated costs: Comprehensive inventory/planning $10,000. Implementation and monitoring $8,000/yr. Salmon River Meadows road closure $4,000.

Evaluate how to improve quality and distribution of forage for deer and elk along river.

- Planning should include inventory and verification of migration routes and key habitat jointly with ODFW.

- Project planning would start in upper river meadows plan (see above) and also identified in Salmon Huckleberry Wilderness Implementation Schedule.

Primary responsibility: USFS with assistance from ODFW

Schedule: Comprehensive inventory/planning, 1994-1996. Project implementation start 1996.

Estimated cost: $9,000 (USFS 1995) partnership with ODFW. Project planning and implementation $7,500 every 4 yrs. Monitoring $1,000/yr.

Inventory travel corridors for wildlife (principally big game) in riparian areas and evaluate need to limit recreational use during critical seasons in key areas.

Primary Responsibility: BLM and USFS

Schedule: 1994-1996. Specific project measures unknown at this time.

Estimated Cost: $3,000/yr

Pursue establishment of hacking site for peregrine falcon in the corridor.

- Project would consist of potential site inventory and evaluation; interagency planning and coordination; and annual hacking program.

Primary Responsibility: USFS with support from ODFW

Schedule: Inventory/planning in 1994. Hacking program start 1995.

Estimated Cost: Inventory/planning $2500. Hacking program $3000/yr.

Pursue acquisition of Cedar Ridge area and Miller Road quarry to protect and improve winter range for big game. Control off-road vehicle access in areas acquired to decrease disturbance/harassment.

Primary responsibility: BLM.

Schedule: Refer to land acquisition summary. Access control and habitat management would be planned in the year following acquisition and implemented the next year.

Estimated cost: Acquisition costs: unknown. Access closure: $4000.

Cultural Management Actions

Complete cultural resource inventories and assess effects of any proposed action or project that may potentially affect cultural resources and implement mitigation measures as per Forest Plan and other legal direction.

Primary responsibility: BLM and USFS

Schedule: In response to specific proposed actions or projects

Estimated Costs: $500 - $5,000 each depending on scope of project

Evaluate found cultural resources and determine their eligibility to National Register of Historic Places.

Primary responsibility: BLM and USFS

Schedule: As discovered during inventories

Estimated Costs: $2,500-$5,000 each

Protect cultural resources considered eligible for the Nationai Register of Historic Places or conserve values. Monitor eligible or unevaluated properties as directed under the Forest, BLM and County plans.

Primary responsibility: BLM and USFS

Schedule: 1993 and beyond

Estimated Costs: $5,000/yr

Pursue opportunities to manage for huckleberry resources in traditional Native American areas.

Primary responsibility: USFS

Schedule: 1994 and beyond

Estimated Costs: $2,000/yr

Scenic Resources and Forest Practices

Prepare Memorandum of Understanding with Oregon Department of Forestry to establish a federal/state notification and review procedure for proposed timber harvest on private lands.

Primary Responsibility: BLM and USFS

Schedule: 1993-1994

Estimated Costs: $2,000

Complete scenic rehabilitation plan to modify the existing Salmon Timber Sale harvest units on Bear Springs Ranger District to reduce their visual impact.

Primary Responsibility: USFS

Schedule: 1994-1995

Estimated Cost: $10,500

Prepare plan for acquiring scenic easements on private lands from willing sellers within the river corridor. Include criteria for selection, and priorities for acquisition.

Primary Responsibility: BLM

Schedule: 1994

Estimated Cost: $1,000

Provide technical assistance to private landowners within the corridor to reduce visual impacts of proposed timber harvests.

Primary Responsibility: BLM and USFS

Schedule: FY 1994 and beyond

Estimated Cost: $3,000/year

Upper Meadows with Bassalt Cliffs

Land Use And Activities

Work with county in review of current zoning regulations for compliance with Wild and Scenic River plan and effectiveness in implementation, including developing proposed changes to zoning ordinances and enforcement.

- Review and develop any recommended changes to Principle River Conservation Area ordinance, if necessary, to protect important river values.
- Review and develop any recommended changes to the enforcement of zoning ordinances, if necessary, to protect important river values.
- Develop a MOU between county and federal agencies to formalize the review procedures to allow BLM and USFS comments on zoning changes and variance/conditional use permits.

Primary Responsibility: BLM and USFS

Schedule: 1993-1994

Estimated Cost: $3,000

Prioritize willing seller easement, exchange and acquisition parcels, and initiate Land and Water Conservation Fund requests.

Primary Responsibility: BLM and USFS

Schedule: 1993-1994

Estimated Cost: $3,000

Prepare a River Landowner's Stewardship Handbook containing resource conservation and enhancement methods and guidelines, Wild and Scenic River information, local county and state regulations, and sources of technical assistance.

Primary responsibility: BLM and USFS

Schedule: 1994-1995

Estimated Cost: $18,000

Work with State and local agencies and utilities to improve appearance of roads, road cuts, and fills, and rights-of-ways as viewed from the river through screening and design considerations and recommendations.

Primary Responsibility: BLM and USFS

Schedule: 1994-1996

Estimated Cost: $2,000/yr

Provide cooperative funding for a river planner position within Clackamas County planning department.

Primary Responsibility: BLM

Schedule: 1995-1997

Estimated Cost: $15,000/year

Work with county to adopt ordinance requiring sellers (and realtors) to notify buyers of private lands within the corridor of federal/state or special county river zoning designations, regulations and restrictions.

Primary Responsibility: BLM and USFS

Schedule: 1995

Estimated Cost: $1,500

Implementation Summary Table

SALMON RIVER IMPLEMENTATION SCHEDULE SUMMARY TABLE
SCHEDULE OF PLANNED ACTIVITIES AND COST ESTIMATES

RESOURCE	DESCRIPTION OF ACTIONS AND ACTIVITIES	RESPONSIBLE AGENCY	FISCAL YEAR	ESTIMATED COSTS
RECREATION Facilities	* Evaluate and expand Green Canyon Campground by 7-8 sites.	USFS	93-97	130,000
	* Acquire Miller Road Quarry area, develop site plan and recreation improvements including sanitation facilities, barrier-free fishing access and signing.	BLM	95-97	185,000
	* Develop barrier-free fishing access along Salmon River Road.	USFS	96-97	35,000
RECREATION Trails and Public Access	* Cooperate with landowners and interested publics to evaluate, and if feasible, develop a trailhead for Bonanza Trail #786.	USFS	94 and beyond	50,000+
	* Inventory, rehabilitate and close, if necessary, dispersed recreation sites including camping areas and user trails along Salmon River Trail and evaluate need for campfire closure.	USFS	95 and beyond	10,000+
	* Feasibility study for developing a river trail in lower river corridor between Wildwood and Miller Road quarry area.	BLM	95-96	15,000
	* Develop a sno-park /snow play area and associated nordic/mountain bike trail in the upper river area above Highway 26 and 35 junction.	USFS	96-98	400,000
	* Salmon River Road trailhead and parking area improvements.	USFS	96-98	See schedule
	* Develop spur trail and improved signing to Final Falls overlook.	USFS	96-98	25,000
	* Extend Salmon river Trail #742 to Timberline via Mud Creek Ridge.	USFS	97-99	175,000
RECREATION Interpretive Facilities, Services, and Public Information	* Develop interpretive and environmental education facilities at Wildwood including a wetlands interpretive trail.	BLM and USFS	93-97	2,500,000
	* Develop a comprehensive interagency interpretation/public information and education plan for the entire river corridor.	BLM and USFS	94-95	45,000
	* Develop an old-growth interpretive trail in the Salmon River Road/Flyfishing Bridge area.	USFS	95-97	15,000 to 30,000

RESOURCE	DESCRIPTION OF ACTIONS AND ACTIVITIES	RESPONSIBLE AGENCY	FISCAL YEAR	ESTIMATED COSTS
RECREATION Management and Monitoring	* Increase agency management presence within the river corridor, initiate agreements for increased law enforcement patrols	BLM and USFS	94 and beyond	20,000/yr
	* Channel and direct recreation use to appropriate locations and encourage resource protection practices through additional signing and information, including development of river map/brochure.	BLM and USFS	94-98	25,000
	* Close Salmon River Meadows roads to vehicle access except for administrative use.	USFS	94	1,000
	* Continue annual river clean-up efforts in coordination with county and others.	BLM and USFS	94 and beyond	2,500/yr
	* Develop and implement a comprehensive recreation monitoring survey and program utilizing Limits of Acceptable Change (LAC) planning process to establish carrying capacities and management needs.	BLM and USFS	95-96	50,000
HYDROLOGY Water Quality	* Implement a monitoring program for water quality, including chemical, biological, physical properties and aquatic life indicators.	BLM and USFS	93-98	8,000/yr
	* Pursue "Outstanding water body of the State" designation for the river.	BLM	93	5,000
	* Work with county and state agencies on enforcement of existing water quality laws, zoning codes and development regulations.	BLM and USFS	93 and beyond	1,000/yr
	* Pursue and conduct watershed enhancement opportunities to reduce non-point source pollution	BLM and USFS	94-97	12,000
	* Develop parameters and Limits of Acceptable Change thresholds for water quality.	BLM and USFS	95-97	5,000
	* Establish an action plan outlining notification procedures and mitigation measures if pollution levels are exceeded.	BLM and USFS	95-96	4,000
HYDROLOGY Water Quantity	* Implement a flow monitoring program in conjunction with water quality monitoring plan.	BLM and USFS	93-98	included above
	* BLM and USFS work with State agencies to conduct a comprehensive instream flow study for fish and recreation values.	BLM and USFS	94-98	40,000
HYDROLOGY Wetlands, Riparian and Floodplain	* Seek watershed enhancement opportunities and grants. Provide technical assistance and funding for projects.	BLM and USFS	93 and beyond	3,000/yr
	* Develop a program to establish baseline information of wetlands and riparian areas and monitor impacts and changes periodically, and at least every five years.	BLM and USFS	94 and 99	5,000 ea yr
	* Work with Clackamas County and state agencies on enforcement of existing regulations by alerting agencies of problems identified through monitoring or inventory.	BLM and USFS	93 and beyond	500/yr

RESOURCE	DESCRIPTION OF ACTIONS AND ACTIVITIES	RESPONSIBLE AGENCY	FISCAL YEAR	ESTIMATED COSTS
FISHERIES MANAGEMENT	* Work with ODFW in the development of the Sandy River Subbasin Fish Management Plan.	BLM and USFS	93	6,000
	* Develop intensive habitat monitoring program to provide feedback on habitat protection/improvement measures on both public and private lands.	BLM and USFS	93 and beyond	See schedule
	* Work cooperatively with other agencies, organizations, and individuals to improve anadromous habitat on the mainstem and tributaries, to enhance natural production of anadromous fish.	BLM and USFS	93 and beyond	See schedule
	* Acquire lands for protection and enhancement of the mainstem Salmon River, Boulder Creek, and other important unnamed tributaries.	BLM and USFS	As available	Unknown
BOTANY AND ECOLOGY	* Develop a comprehensive monitoring plan for plant communities within the river corridor.	USFS	93-95	See schedule
	* Develop botanical inventory program for the river corridor.	BLM and USFS	93-94	15,000
	* Protect and enhance populations of Coldwater Corydalis or other imprtant listed species/communties throught landowner conservation agreements, willing seller easements, or purchase.	BLM	93 and beyond	3,000+
	* Provide educational material to landowners concernining the identification and conservation of listed species, wetland and riparian species and their habitats.	BLM and USFS	94-96	6,000/yr
	* Evaluate the potential of a Botanical Special Interest Area designation for the Salmon River/Red Top meadows area.	USFS	96	4,000
WILDLIFE	* Restrict motorized vehicle access to upper river corridor during critical calving/fawning seasons.	USFS	93 and beyond	See schedule
	* Maintain/improve winter range for big game along lower river corridor.	BLM and USFS	94 and beyond	2,000/yr
	* Develop and implement comprehensive meadow and forage habitat enhancement plan in upper meadows area.	USFS	94 and beyond	See schedule
	* Evaluation of how to improve quality and distribution of forage for deer and elk along river.	USFS	94-96	See schedule
	* Inventory travel corridors for wildlife (principally big game) in riparian areas and evaluate need to limit recreational use during critical seasons in key areas.	BLM and USFS	94-96	3,000/yr
	* Pursue establishment of hacking site for peregrine falcon in corridor.	USFS	94-95	See schedule
	* Pursue acquisition of Cedar Ridge and Miller Road quarry to protect and improve winter range for big game. Control off-highway vehicle access in these areas to decrease disturbance/harassment.	BLM	As available	See schedule

RESOURCE	DESCRIPTION OF ACTIONS AND ACTIVITIES	RESPONSIBLE AGENCY	FISCAL YEAR	ESTIMATED COSTS
CULTURAL RESOURCES	* Complete cultural resource inventories and assess effects of any proposed action or project that may potentially affect cultural resources and implement mitigation measures as necessary.	BLM and USFS	93 and beyond	See schedule
	* Evaluate found cultural resources and determine their eligibility to the National Register of Historic Places.	BLM and USFS	93 and beyond	See schedule
	* Protect cultural resources considered eligible for the National Register of Historic Places or conserve values. Monitor eligible or unevaluated properties as directed under Forest, BLM and County plans.	BLM and USFS	93 and beyond	5,000/yr
	* Pursue opportunities to manage for huckleberry resources in traditional Native American areas.	USFS	94 and beyond	2,000/yr
VISUAL RESOURCES and FOREST PRACTICES	* Work with Oregon Department of Forestry to establish a federal/state notification and review procedure for proposed harvests on private land.	BLM and USFS	93-94	2,000
	* Complete scenic rehabilitation plan to modify the existing Salmon River Timber Sale harvest units to reduce their visual impact.	USFS	94-95	10,500
	*Prepare plan for acquiring scenic easements on private lands from willing sellers within the river corridor. Include criteria for selection, and priorities for acquisition.	BLM	94	1,000
	* Provide technical assistance to private landowners within the corridor to reduce visual impacts of proposed timber harvests.	BLM and USFS	94 and beyond	3,000/yr
LAND USE AND ACTIVITIES	* Work with county in review of current zoning regulations for compliance with Wild and Scenic River plan and effectiveness in implementation, including developing proposed changes to zoning ordinances and enforcement.	BLM and USFS	93-94	3,000
	* Prioritize willing seller easement, exchange and acquisition parcels, and initiate LWCF requests.	BLM and USFS	93-94	3,000
	* Prepare a river landowner's stewardship handbook containing resource conservation and enhancement methods and guidelines, Wild and Scenic River information, local, county and state regulations, and sources of technical assistance.	BLM and USFS	94-95	18,000
	* Work with State and local agencies and utilities to improve appearance of roads, road cuts and fills, and rights-or-ways as viewed from the river through screening and design considerations and recommendations.	BLM and USFS	94-96	2,000/yr
	* Provide cooperative funding for a river planner position within Clackamas County planning department.	BLM	95-97	15,000/yr
	* Work with county to adopt ordinance requiring sellers (and realtors) to notify buyers of private lands within the corridor of federal/state or special county river zoning designations, regulations, and restrictions.	BLM and USFS	95	1,500

Chapter 5

Monitoring

The monitoring program is the management control system governing the implementation of the River Management Plan. The specific objectives of the Monitoring and Evaluation Program are to determine whether:

- Planned Goals and Objectives are achieved;
- Management Standards and Guidelines are being followed;
- Management Standards and Guidelines are effective;
- Research beyond that identified, is needed;
- Intensity of monitoring is commensurate with the risks, costs, and values involved in meeting plan objectives.

Limits of Acceptable Change Planning and Monitoring Process

The monitoring and evaluation of this plan will be based, whenever possible, upon the Limits of Acceptable Change concept (LAC). LAC is based on the premise that change to the ecological and social conditions of an area will occur as a result of natural and human factors. The goal of management is to keep the character and rate of change due to human factors within acceptable levels that are consistent with plan objectives and protection of the river's outstandingly remarkable values. Separate LAC monitoring will be conducted for recreation, water quality, vegetation, wildlife, fisheries and other critical values.

The primary emphasis of the LAC system is on the desired resource condition, rather than on how much use or abuse an area can tolerate. The management challenge is not one of how to prevent any human-induced change along the river, but rather one of deciding what changes should occur, how much change will be allowed, what management actions are needed to guide and control it, and how managers will know when the established limits are being or have been reached.

Once in place, the mechanics of the LAC system can alert the managing agencies to unacceptable change in the river corridor before it is too late to react. For each river value to be monitored, one or more key indicators are selected which allow managers to keep attuned to changes in the ecosystem or social setting. For each key indicator, a standard is set. This is the threshold value which determines the amount of change that is either desired or will be accepted. The purpose of the indicators and standards is to provide managers with a tool to determine if the resource values and recreation opportunities they are managing for are actually being provided. The standards serve as "triggers" which cause predetermined management actions to be implemented when the limit is being approached.

The LAC process is designed to be the foundation for the long-term protection and enhancement of the primary river-related values in the river corridor. The process must, however, be flexible enough to allow for unique site-specific situations, and to provide ample opportunity for public involvement and adjustment as our resource and social knowledge base increases.

Salmon River Monitoring Program

Implementation of the following monitoring elements will be based on the availability of funding. If adequate funding is not available some monitoring activities may not take place. Both the Forest Service and Bureau of Land Management involved will make every effort to identify opportunitites that would reduce the actual cost to the government. The following table outlines the key indicators, management standards and monitoring that will be conducted on the Salmon Wild and Scenic River by resource area.

TABLE 5-1
MONITORING PROGRAM
SALMON WILD AND SCENIC RIVER

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
WATER QUALITY	Fecal coliform	A log mean of 200 fecal coliform per 100 milliliters based on a minimum of one sample per month with no more than 10 percent of the samples per annum exceeding 400 per 100 ml.	Identify possible sources of effluent. Increase and intensify sampling. Work with counties and DEQ to prepare corrective actions or plans.	Grab samples taken at least five locations along river on a monthly basis for six years (92-96) to establish baseline, then on a quarterly (seasonally) basis thereafter.
	Temperature	Temperature equal to or cooler than baseline established by 1992-1996 water years.	Correct management practices or land use activities that may be contributing to temperature rise, turbidity, pH, reduced oxygen levels, change in gas saturation, indications of gas/oil or chemicals.	Other samples taken during significant "events" when possible.
	Turbidity	Turbidity levels equal to or clearer than baseline established by 1992-1996 water years.		Responsibility: BLM Resource area hydrologist and USFS District Hydrologist.
	pH	Maintain pH between 6.5 and 8.5		Cost: $ 8,000 annually
	Dissolved oxygen	Maintain dissolved oxygen equal to or greater than 95% of saturation.		
	Gas Supersaturation	Not to exceed gas saturation of 100 percent.		
	Chemical (oil and gas?)	No detectable oil and gas and no increase in detectable heavy metals or chemicals		
	Aquatic life	No negative change in macroinvertebrate indices of species and community composition as established in the 1993-96 baseline.		
WATER QUANTITY	Instream Flows Peak flows			As contained under water quality.

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
FISH HABITAT	Quality and quantity of spawning gavels	Locate spawning areas. Map and measure total area, substrate embededness, and particle size distribution. Maintain or increase quality and quantity of spawning gravel established in baseline inventory.	Identify cause of degradation to quality and quantity of habitat and mitigate or eliminate impact.	Conduct habitat inventories every five years, include area of spawning gavels. Do a stratified random sample for substrate analysis, annually for 3 years, then at 2 year intervals thereafter. Select key sites, do substrate analysis annually for three years then every other year thereafter. Pre and post project habitat surveys and snorkel counts of juvenile fish. Responsibility: BLM and USFS fish biologists. Cost: $ 6,000 annually; $27,000 every 5 years for fish habitat inventory.
	Rearing habitat and Pool *quality*	Maintain habitat quality and quantity at baseline levels, except that pool and/or side channel may increase.	Create additional habitat when possible through habitat improvement opportunities.	
	Large Woody Material	No decrease in the amount of large woody debris meeting minimum standard specified in the Mt. Hood Forest Plan.		
	Effectiveness of Habitat work	Progress towards desired condition for mix of habitats and cover.	Additional habitat work or change in method.	
FISH POPULATIONS	Fish species composition	Maintain fish population composition using inventory data and ODFW baseline data. Wild *fish populations should be maintained or increase.*	Coordinate with ODFW to identify actions that may degrade wild fish species populations and assist in implementing mitigation or corrective measures. Since natural variability in smolt production is high, discuss with ODFW to determine if variability is due to non-habitat factors (poor escapement, drought, or others.)	Annual creel census, Marmot Dam Counts, spawning and redd counts on selected reaches, random shocking, snorkel counts, and inventory, report analysis of data every five years. Responsibility: BLM and USFS fisheries biologists in coordination with ODFW regional *biologists.* Cost: $ 6,000 annually
	Smolt production	Any decrease in wild smolt numbers compared to stream specific baseline information in excess of 10% basin wide mean for each year.		
	Creel census as indication of quality of sportfishing	No decrease in five year average take of selected species.		
WILDLIFE HABITAT	Populations of major species	Negative change in river corridor use by selected species ie. neotropical birds, waterfowl, beaver, herptofauna, big game and listed species.	Identify cause of change, if human-caused correct practices or activities.	Conduct wildlife surveys on five year basis to correspond with habitat surveys. Count and record all nests, raptors, and waterfowl sightings on regularly scheduled surveys. GIS mapping of habitat type and extent (acres) using aerial photography interpretation, establish baseline year (1993) and replicate survey every five years. Responsibility: BLM and USFS natural resource specialist/wildlife biologists. Cost: $ 2,000 annually; $7,500 every 5 yrs.
	Amount and combination of habitat type	No net loss of acreage or significant human-*caused change (5%) in mix of habitat types within* the corridor.		

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
RIPARIAN VEGETATION and WETLANDS	Amount of riparian habitat and wetlands Proper functioning ecological condition as indicated by vegetative cover, streambank condition., and stream shading/structure (LWD).	Riparian vegetation would be managed to maintain or enhance vegetative diversity, biomass, and percent cover at desired level determined during baseline monitoring. Obtain 95 percent shade potential and maintain cutbanks, wetlands and side streams at natural levels (no net loss as measured by length, area/acres, square meters etc.) as established during baseline monitoring.	Remove or eliminate source of impact (ie. close campsite, roads, trails etc) if inventory assesses extent of impact as unacceptable.	Conduct baseline riparian/wetland resource inventory and photo inventory. Continue to reassess at 5 year intervals. Incorporate stream shading and Large Woody Debris amounts from fish habitat inventories. Establish study plots, stratified by amount of recreation use, grazing, development etc. Transects will identify plant species and percent ground cover. Each plot should have two controls, with species composition and geomorphic surfaces matching monitoring plot. Transects monitored annually. Document channel stability rating using Pfanchuck stability form at monitoring sites established for vegetation plots (above). Stability rating performed every five years in conjunction with vegetation monitoring. Responsibility: BLM and USFS botanists and hydrologists Cost: $5,000 each monitoring effort

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
BOTANICAL DIVERSITY	Ecological condition and trend as indicated by the area amount and composition of species. Population and extent of listed species.	Vegetation within the river corridor would be managed to maintain existing ecological conditions as determined by baseline inventories and monitoring plots. No reduction or loss of listed species populations or habitat.	Control, restrict or mitigate human caused activities as necessary. Implement short-term prescriptive activities to restore natural condition or biodiversity.	Develop monitoring plans/plots for: - alpine/subalpine areas, years 1,3,5,10 and every 10th year therefter. - meadow complexes (grazing exclosures including scheuchzeria), annually and years 1,3,5,10 and every 10th year after for meadows in general. - populations/habitat of coldwater corydalis every five years Conduct baseline vegetation habitat resource inventory and photo inventory. Develop GIS database. Continue to reassess at 5 year intervals. Responsibility: USFS and BLM botanists Cost: $ 15,000 to 20,000 initial inventory and data base; $5,000 to 8,000 annually
CULTURAL RESOURCES	Cultural site integrity	A cultural resource inventory and/or assessment will be completed for each proposed undertaking within the river corridor. Cultural resources that may be affected by undertakings within the river corridor will be evaluated to determine their significance and eligibility for inclusion on the National Register of Historic Places (NRHP). Cultural resources within the river corridor that are listed on the NRHP, or not yet evaluated will be protected by avoiding adverse impacts to the site or by conserving their values. Cultural resources need to be protected from both human depredation and natural destruction. Cultural resources within the river corridor should be developed and interpreted for educational and recreational purposed when adequate provisions are available to protect the cultural resource.	Proposed undertakings will not be approved. Unevaluated cultural resources will be managed as if they were listed on the NRHP. If cultural resources are not being adequately protected, a management plan will be prepared that will establish mitigation measures to protect the values of the site or will identify appropriate actions to avoid further adverse effects.	Review annually all undertakings that have occurred within the river corridor to see if adequate cultural resource inventories and/or assessment had been completed. Annual cost: $250 Review annually all undertakings that have occurred within the river corridor to see if adequate cultural resource inventories and/or assessment had been completed. If an undertaking occurred that may have affected a cultural resource, determine if that cultural resource was evaluated. Annual cost: $250 All listed, eligible, and unevaluated cultural resources within the river corridor will be visited annually to ascertain and record current condition of the site. Annual cost $2,000

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
VISUAL RESOURCES	Projects, activities or modifications which alter landform, vegetation, water, color or character of the viewshed as seen from the river and high use areas Extent and amount of developments as indicated by buildings and other structures	Numbers of houses viewed from the river (within area of greatest visual effect) during summer Number and extent of visual contrasts and intrusions seen from public use areas such as Wildwood and Green Canyon C.G. would not attract the attention of casual observers within the characteristic landscape. Numbers of houses and structures will not exceed number of currently developable lots	Management actions or developments (or proposed developments) not consistent with Wild and Scenic River classifications, visual resource management objectives (including ROS standards) or county PRCA zoning requirements will be modified (i.e. screened) or proposals rejected.	Conduct a VRM inventory and study every five years to ensure projects and other human caused modifications are consistent with management standards. Including aerial photograph interpretation, key site inventory (photo points) and field (river view) assessments. Individual projects will be analyzed on a case-by-case basis to ensure protection of the viewshed and compliance to standards including county zoning/ development reviews for private land development; NEPA analysis of federal projects to insure compliance with VQO standards. Responsibility: BLM and USFS River Planner, county planning/ river management liaison Cost: $ 2,000 annually

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
RECREATION	Key indicators and standards to be established with implementation of Limits of Acceptable Change (LAC) inventory, survey and analysis. (The following represents items most likely to be included). Quality of Experience as indicated by conditions of congestion or crowding, use levels, safety, reported incidents of conflict such as site competition, vandalism and trespass Non-motorized recreation opportunities foreclosed or curtailed	Established by user/visitor expectation survey and landowner survey to establish "carrying capacity" or acceptable levels of use. (Physical site condition and environmental impacts and monitoring contained in recreation site day/camp use site and road/trail sections as well as under botany, ecology and wildlife sections) Numbers of encounters with other recreationists (groups) per day. Numbers of reported conflicts, trespass/vandalism reports or safety incidents recorded annually. Recreation visitor counts, trail user counts, vehicle counts (parked and road). Number of days campground and parking lot capacity(s) exceeded. *Number and type of non-motorized recreation* opportunities/activities	A combination of in-direct (information, education, signing, site design, etc.) and direct (enforcement patrols, site closures, seasonal restrictions, permits, etc.) management actions and controls would be utilized emphasizing in-direct methods first.	Conduct LAC survey and develop monitoring program, repeat every ten years. *Include:* Annual use level monitoring, random site surveys/counts, trail registration numbers, vehicle parking and road counts. Conduct landowner survey, include questions about recreation use conflicts. Responsibility: BLM and USFS River Planner, *county planning/ river management liaison* Cost: $2,000 annually
ROADS AND TRAILS	Road erosion and damage related to roadside vegetation and facilities Trail erosion and damage related to trailside vegetation and bare ground	Confine motorized use to designated roads. Maintain roads to established federal or state standards. Maintain trails to established federal standards. Prevent multiple trail or trail networking using indirect methods. Trail use and design will be in keeping with Recreation Opportunity Spectrum (ROS) experience level and visual management standards.	Increase road maintenance frequency. Reconstruct/relocate roads, parking lots, trails and related facilities (ie. signs, vehicle barriers, etc.) to resolve unlawful access, resource damage, and road safety problems. Develop, maintain and replace signing as needed. Increase trail maintenance frequency. Reconstruct/relocate trails to reduce trail networking and encourage appropriate use. Keep trail maps and information current.	Monitor routine road maintenance needs annually. Utilized feedback from visitor contact. Monitor routine trail maintenance needs annually. Establish monitoring points along high use trails to measure trail depth, width and drainage. Remeasure points and map/inventory trails every five years. Responsibility: BLM and USFS River Planner or outdoor recreation planner Cost: $1,000 annually

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
DISPERSED CAMP AND DAY USE SITES	Soil stability Vegetative loss Tree Damage Fire rings Human Waste Litter Accumulation Facility Damage	Impacts to campgrounds and dispersed use areas will range between light and extreme to be based on subjective judgement and objective measurement regarding erosion, vegetative change, facility damage, and accumulation of litter as follows: **Light:** Previous ground vegetation intact allowing no abnormal erosion to occur. Facility damage and litter is not evident. The site has experienced only minimal physical changes. **Moderate:** Vegetative growth is somewhat retarded allowing minor abnormal erosion to occur. Traces of litter can be found within and adjacent to the site. Minor vandalism, repairable by maintenance, is occurring on facilities such as tables, signs etc. Physical changes to the site could include: minor tree limbing or damage, movement of rocks or semi-stationary objects, establishment of fire rings, etc. **Heavy:** Use area vegetation is gone but adjacent vegetation still intact. Abnormal erosion within the site is correctable through maintenance. Major littering is evident within and adjacent to the site and can be corrected through maintenance. Major vandalism, though repairable, is occurring on facilities and physical features such as tables, rocks, trees, and other site characteristics. Physical changes to the site could include: moderate tree limbing/damage, beginning tree root exposure, trails radiating from the site, human caused changes to the layout of the use area (trenching, movement of earth or facilities), evidence of human waste etc). All impacts to camp and dispersed use areas could be resolved through routine maintenance.	Use basic site protection measures, harden sites to maintain important sites if necessary between moderate and heavy standards. Campsites or day use areas which have received extreme impacts will be rehabilitated and closed until levels of impacts have been mitigated to at least moderate levels. Other actions could include: increased user education efforts, seasonal closures, site or access restrictions, etc. Management actions and controls would be utilized emphasizing in-direct methods first, for example: 1. Increased user education efforts in "minimum impact" camping techniques (signs, brochures, increased management patrol presence etc.). 2. Establishing camping setback from roads, river, trails and other water sources. 3. Campsite rehbilitation. 4. Campfire ban. 5. Designated campsites and registration. 6. Close areas to overnight camping.	Conduct an inventory and assessment of all existing and proposed sites within the river corridor upon approval of the plan. Remeasure and assess all sites once every three years, or when conditions indicate need. Select key or indicator sites to monitor on annual basis. Feedback from routine patrols, biological/wildlife monitoring programs, and maintenance demand. Responsibility: BLM and USFS River Planner or outdoor recreation planner Cost: $3,000 annually

RESOURCE VALUE TO BE MAINTAINED AND ENHANCED	KEY INDICATOR	MANAGEMENT STANDARD TO BE USED	MANAGEMENT ACTIONS TRIGGERED IF STANDARD IS NOT MET	MONITORING METHODS, SAMPLING PROCEDURE AND FREQUENCY
CAMP AND DAY USE SITES (continued)		**Extreme:** Use area vegetation is gone and adjacent vegetative growth is retarded allowing abnormal erosion to occur within and adjacent to the site. Maintenance can no longer correct soil and vegetative impacts without allowing for temporary closure of the site. The site experiences perpetual littering or dumping. Major vandalism can be corrected through maintenance of facilities but not for vandalism to physical features such as rocks, trees, and other features. Physical changes to the site could include: dead or cut trees, extensive tree root exposure, heavy erosion, compacted soil restricting reestablishment of indigenous vegetation within and adjacent to the site, changes in species composition, major trails and satellite areas radiate from site. Maintenance can no longer sustain long term use without temporary closure to allow natural rehabilitation to occur.		

Appendices

Appendix A

Final Resource Assessment

Executive Summary

The mainstem of the Salmon River from its headwaters to its confluence with the Sandy River was designated by Congress as a wild and scenic river in 1988. The Mt. Hood National Forest is responsible for the administration of the upper 25.5 miles of the river with the Salem District of the Bureau of Land Management (BLM) responsible for administration of the remaining 8.0 miles of the river.

The Wild and Scenic Rivers Act of 1968 (P.L. 90-542) requires that the agencies responsible for management of designated rivers develop a management plan to provide protection of the river's free-flowing condition and its "outstandingly remarkable" values "for the benefit and enjoyment of present and future generations." As a part of that joint planning effort, this resource assessment has been prepared by the Forest Service and BLM to determine the significance of river-related values on the Salmon River and whether some of those values are truly outstandingly remarkable. The findings of this assessment are that scenic, recreation, fisheries, wildlife, hydrologic, and ecological/botanical values are all outstandingly remarkable on this river. River-related cultural resource values, while not meeting the criteria for outstandingly remarkable, were found to be very important and will be addressed in the river management plan.

Introduction

The Omnibus Oregon Wild and Scenic Rivers Act of 1988 (P.L. 100-557) added segments of 40 Oregon rivers to the National Wild and Scenic Rivers System. One of those rivers was the Salmon River. All 33.5 miles of the river from its headwaters on the upper slopes of Mt. Hood to its confluence with the Sandy River were designated as a Wild and Scenic River.

This resource assessment represents the initial phase of the development of the management plan for the Salmon River. It will serve as the foundation for the management plan which will be developed within the next two years. The purpose of this assessment is to document and substantiate which of the river-related values or features can be considered "outstandingly remarkable" and which values contribute substantially to the river setting or to the function of the river ecosystem.

River Description

The Salmon River flows from the southern flanks of Mt. Hood nearly 34 miles to its confluence with the Sandy River. It moves through a wide variety of settings ranging from alpine glaciers, to alpine meadows, to forested canyons where it flows over a series of waterfalls, to rural residential areas and the communities of Welches and Brightwood. Due to the different levels of existing development, the river as described in the Omnibus Bill was divided into five segments:

Segment 1. The 7-mile segment from its headwaters to the south boundary line at section 6, township 4 south, range 9 east as a **recreational river**; to be administered by the U.S. Forest Service.

Segment 2. The 15-mile segment from the south boundary line at section 6, township 4 south, range 9 east to the junction with the South Fork of the Salmon River as a **wild river**; to be administered by the U.S. Forest Service.

Segment 3. The 3.5-mile segment from the junction with the South Fork of the Salmon River to the Mt. Hood National Forest boundary as a **recreational river**, to be administered by the U.S. Forest Service.

Segment 4. The 3.2-mile segment from the Mt. Hood National Forest boundary to Lymp Creek as a **recreational river**; to be administered by the Bureau of Land Management.

Segment 5. The 4.8-mile segment from Lymp Creek to its confluence with the Sandy River as a **scenic river**; to be administered by the Bureau of Land Management.

Segments 1 through 3 are all within the Mt. Hood National Forest boundary and are almost exclusively National Forest land. There is a parcel of private land within segment 1 of approximately 90 acres in size that contains private homes and a service station. The only other parcel of private land is at the lower end of segment 3, consisting of approximately 60 acres with a few private homes along the river.

Approximately 60 percent of the 1,595 acres of land within the preliminary boundaries of the lower river (segments 4 and 5) is in private ownership. The remaining 40 percent is in public ownership under BLM or Clackamas County administration. There are numerous homes, a rock quarry, as well as two resorts and a BLM-administered recreation site within these segments.

There are currently no valid permit applications for hydroelectric projects on the Salmon River. There are 47 water rights, concentrated along the lower river, which permit the diversion of 33.35 cfs of water. Of that, 25 cfs may be diverted by the City of Sandy for municipal uses. Most of the remainder is for domestic purposes. One acre-foot of water may be stored under two rights for livestock and fish purposes. These water rights specify the legal maximum limits on water use within the corridor and cannot necessarily be interpreted to reflect actual water use (*The Wild and Scenic Salmon River: A Water Resources Summary,* Oregon Water Resources Department, November 1989).

Resource Assessment Process

For additional discussion of the resource assessment process, see Appendix A.

The first step in developing a river management plan is to evaluate the resources and values associated with the river and river corridor, and to determine the level of significance of these **river-related values.** This process is called the resource assessment. The findings in this process are based on existing scientific data and informed professional judgment. The resource assessment methodology uses specific guidelines that provide an objective determination of the importance of river values, as well as a degree of standardization and consistency between different rivers and river segments.

The purpose of this resource assessment is to document those river-related values or features that are truly "outstandingly remarkable" values and those that, while not outstandingly remarkable, are significant and contribute substantially to the river setting or to the function of the river ecosystem. To qualify as an outstandingly remarkable value, the river-related value must be a unique, rare, or exemplary feature that is significant at a regional or national level. Specific criteria for individual values are described in the opening paragraph of the discussion section for each of the values.

As a basis for regional comparison, geographic regions defined in the State of Oregon Comprehensive Outdoor Recreation Plan (SCORP) are used. The Salmon River is within SCORP Region 7. (See Appendix A-2 for a SCORP Regional Map.) SCORP Region 7 contains the most heavily populated area of the state and incorporates Columbia, Clackamas, Multnomah, and Washington counties. It is located in the northern Willamette Valley and is bordered on the east by the Cascade Range. This region also contains the Clackamas, Roaring, and Sandy Wild and Scenic Rivers. The Columbia River forms its northern boundary.

Discussion of Values

A narrative description for each resource value considered is provided in the assessment. The narrative begins with a definition of the criteria for outstandingly remarkable for each resource. The criteria are followed by the preliminary findings and a rationale for the determination of significance. In the case where a determination could not be made because of insufficient information, an explanation is given including requirements necessary to complete the determination. The description includes information on the existing condition of the resource values, the potential of the resource values, any possible threats to the resource values, and information needed to complete resource management direction. The resource assessment also identifies the specific location of resource values if it does not occur throughout the reach.

Scenic

Outstandingly Remarkable Criteria

The landscape elements of landform, vegetation, water, color and related factors result in notable or exemplary visual features and/or attractions. When analyzing scenic values, additional factors such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions (such as power lines) are viewed may be considered. Scenery and visual attractions may be highly diverse over the majority of the river or river segment.

Preliminary Finding

For the purposes of scenic analysis, the Salmon River was evaluated by segment. Visual quality was evaluated using Forest Service and Bureau of Land Management Visual Resource Management Standards. Using these standards, segments 1 and 2 were found to meet the scenic criteria for outstandingly remarkable and segments 3, 4, and 5 were found to have substantial scenic resource values. The outstandingly remarkable values include the very impressive close-up views of Mt. Hood from the upper river area near Timberline Lodge and the views of Mt. Hood and surrounding area as well as the scenic diversity in the Red Top Meadows and Salmon River Meadows areas. In the lower part of segment 2, they also include the narrow river canyon containing basalt cliffs and a series of waterfalls. The presence of timber harvest units that can be seen from the upper river area near Timberline Lodge and Salmon River Meadows is not considered significant enough to reduce the finding of outstandingly remarkable for the upper two segments.

In the lower three segments, scenic values are not considered to be as diverse and remarkable as the upper portion of the river, yet they still provide important opportunities for viewing of the river and isolated areas of old-growth trees in a typical west-side Cascade forest type. Roads, homes, other structures, and restricted or confined views of surrounding landscapes along the river in these lower segments tend to detract from the scenic quality of the river for many viewers.

Discussion of Existing Situation

Several striking scenic features are found along the Salmon River. Visitors to Timberline Lodge are treated to spectacular views of the stark, rugged beauty of Mt. Hood. Based on figures from the Oregon Department of Tourism, the lodge itself is the second most visited attraction in the state of Oregon. Views to the south from Timberline include forested landscapes, Mt. Jefferson, and the Three Sisters. There are some timber harvest units visible from the lodge which somewhat detract from the naturalness of the views from this area. Plans are being made to reduce the visual impact of these units in the future.

In Red Top Meadows and Salmon River Meadows, outstanding views of Mt. Hood and the surrounding area are complemented by the open meadows and varied vegetation. The variety of landforms and vegetation contribute to the area's scenic diversity. The timber harvest units visible from Salmon River Meadow somewhat detract from the naturalness of the views from the meadows.

There are spectacular views looking up the Salmon River corridor to Mt. Hood from the Pacific Crest National Scenic Trail where it runs to the south of Salmon River Meadows. The open meadow areas along the river, surrounded by heavily forested areas with Mt. Hood in the background, are considered to be very scenic.

In the lower two-thirds of segment 2, the river flows into a narrow river canyon containing impressive basalt cliffs and a series of waterfalls ranging in height from approximately 15 to 75 feet. Hikers along the Salmon River Trail #742 often make their way to the cliffs to view the waterfalls which are not visible from the main trail. This portion of the river segment is within the Salmon-Huckleberry Wilderness and retains a primitive untouched character for the visitor.

In segments 3, 4, and 5, vegetation along the river is relatively typical of that found in a west-side Cascade forest type, though its scenic qualities are enhanced by the presence of old-growth Douglas fir in various locations along the river. The river in these segments provides enjoyable close-in views for hikers, campers, anglers, residents and others using the river. The Salmon River Trail parallels the river in segment 3, providing access to the public for enjoying the scenic qualities of the river. Similar trails are found along the river within the Wildwood Recreation Site in segment 5. Future plans call for the development of a nature trail in this area.

The lower river tends to flatten out in gradient, and meanders somewhat in segment 4. In the lower segments, roads, homes, resorts, and other facilities detract somewhat from the scenic qualities of the river at several locations. Overall, however, the views from the river of the natural-appearing shoreline and foreground are enjoyed by those using and living along the river.

Recreation

Outstandingly Remarkable Criteria

Recreational opportunities are, or have the potential to be, unique enough to attract visitors from outside of the geographic region. Visitors would be willing to travel long distances to recreate on the Salmon River. River recreation includes such activities as sightseeing, wildlife observation, photography, hiking, fishing, hunting and boating.

Interpretive opportunities may be exceptional and may attract, or have the potential to attract, visitors from outside the geographic region.

The river may provide or have the potential to provide settings for national or regional recreation events.

Preliminary Finding

The wide variety of recreational activities that take place on the Salmon River; the river's importance as an important anadromous sport fishery; the pristine nature of the corridor in segment 2; the variety of recreational facilities—such as Timberline Lodge, recreation resorts, Wildwood Recreation Site, Green Canyon Campground, and a number of planned and existing trails—all contribute to a finding of outstandingly remarkable for the recreational values along the river. Visitors to the river and river area come from throughout the Pacific Northwest to enjoy its natural beauty and resources. The river's proximity to a major urban center provides an important component to the region's recreation opportunities. The river and river corridor provide a full spectrum of recreational opportunities, from designated wilderness to fully developed recreation resorts, a relatively rare attribute for a single river within the region.

Discussion of Existing Situation

A wide variety of recreational activities take place within the river corridor. The river is very well known by anglers as a prime anadromous fishery in the lower portion of the river. Fishing use is high on this portion of the river. In order to improve the quality of the fishing experience, as well as add diversity to fishing in the area, fishing is restricted to fly fishing only above the bridge on the Salmon River Road #2618 to Final Falls. This restriction also improves survival of juvenile anadromous fish and resident trout that are caught and released and adds protection to adult spring chinook that spawn in that area since few adult chinook are caught with fly fishing gear. The upper portion of the river above the series of waterfalls also receives moderate to low fishing use for resident species.

Recreation facilities found along the river are highly varied. Timberline Lodge and Rippling River Resort are two major resorts in the river corridor. Both resorts draw recreationists from around the Pacific Northwest and throughout North America. Timberline Lodge annually attracts over 1,000,000 non-skiing visitors in addition to an estimated 200,000 alpine and nordic skiers (based on Forest Service use estimates). This site is the second most visited recreation site in the state of Oregon according to the Oregon Department of Tourism. There is also a recently developed recreational vehicle resort on the river in segment 5. The BLM manages the Wildwood Recreation Site with trails and group and individual picnic sites adjacent to the river in that segment. Green Canyon campground is the only publicly owned developed campground located on the river. There are other potential campground sites along the river if the need for such facilities is identified.

Salmon River trail #742 parallels the river for most of segment 2 and all of segment 3. Much of the 17.5 miles of this trail is in the river corridor. This trail receives moderate to heavy use, especially on its lower end. There are a number of other trails that enter the corridor and tie into the Salmon River trail. In addition, Boulder Ridge Trail #783, Bonanza Trail #786, and Salmon Butte Trail # 791 all provide linkages between Salmon River and the Roaring River drainage, Roaring River being another designated Wild and Scenic River on the Forest. Opportunities exist for re-opening abandoned trails or developing additional new trails along the south and east sides of the river in segments 2 and 3 which can provide many new recreational opportunities, including new loop opportunities.

The Pacific Crest National Scenic Trail crosses the river near its headwaters and receives very heavy use. Jackpot Meadows Trail #492, which is part of the historic Skyline Trail, crosses the corridor in segment 2.

The river flows through the Salmon-Huckleberry Wilderness providing hikers and campers with the opportunity for a primitive recreation experience. The pristine character of this section of river provides a contrast to higher development levels above and below the wild segment of the river.

The variety of scenery along the river provides many different photo opportunities including open vistas with spectacular views of Mt. Hood, old-growth trees along the river, and impressive basalt cliffs and waterfalls.

There is some alpine skiing from Timberline Lodge Ski area that takes place in the river corridor as well as the potential to expand ski runs in the future to provide new advanced skiing opportunities. There is also a limited amount of nordic skiing taking place in the lower end of segment 1 and the upper end of segment 2. There is a high potential for new nordic ski trails and sno-parks to be developed in this portion of the corridor in the future depending on demand and direction for the river developed in the river management plan.

Hunting is also another activity that takes place along the river, primarily in the upper one-third of the river. Hunting use is estimated to be light.

The river receives light use by kayakers and drift boaters. There is some drift boat use by anglers on the lower reaches of the river. From Green Canyon Campground to the mouth, there is also light use of the river by kayakers, estimated to be approximately 50 person/days per year. This use is primarily by expert kayakers during high water flows when the river offers a challenging experience (personal communication with Alder Creek Kayak Supply).

There are many private homes along the lower two segments of the river. About one-third of these are owned by year-round residents but the majority are second homes used for recreational purposes by residents from Portland and other areas who enjoy the special attributes of the Salmon River.

The lower three segments of the river as well as a portion of the upper segment are within a one- to two-hour drive of the Portland metropolitan area, the most heavily populated portion of Oregon. State Highway 26, part of the Mt. Hood Loop, and a major route between the Portland area and eastern Oregon, crosses the river in segments 1 and 5 and provides easy access to the river. Because of this easy access and the fact that the river provides such a wide spectrum of recreational opportunities, ranging from primitive experiences to highly developed recreational facilities, the river provides an important component to the region's recreational opportunities.

Because of easy access to the river, especially in the lower three segments, demand is high for public access. In segments 4 and 5, there is much private land along the river and conflicts currently exist in terms of trespass on these private lands by recreationists wanting access to the river for fishing and other recreational pursuits. Along with trespass problems, litter is common at many public access points, especially where facilities for litter control do not exist.

Geologic

Outstandingly Remarkable Criteria

The river or the area within the river corridor contains an example(s) of a geologic feature, process, or phenomenon that is rare, unusual, one-of-a-kind or unique to the geographic region. The feature(s) may be in an unusually active stage of development, represent a textbook example, and/or represent a unique or rare combination of geologic features (erosional, volcanic, glacial and other geologic structures).

Preliminary Finding

Geologic values in a three mile portion of segment 2 were found to be outstandingly remarkable. This finding is due to the presence of six waterfalls ranging in height from 15 to 75 feet in a three-mile stretch. While the waterfalls themselves are hydrologic features, it is because of the geology of the area that the waterfalls exist. The high number of waterfalls in this relatively short distance is considered unique for similar rivers in the region. Geologic features throughout the remainder of the river were not considered to be rare, unique, or exemplary and were therefore not found outstandingly remarkable.

Discussion of Existing Situation

The headwaters of the Salmon River are located high on the south slopes of Mt. Hood below Palmer Snowfield. The dominant feature in the upper reaches is the volcano, formed Mt. Hood. In this area, the river flows through a series of unconsolidated pyroclastic deposits that were formed during the three most recent eruptive periods of Mt. Hood. Because of the relatively steep channel gradients, the river channel is very narrow and deeply incised into the mountain side.

Below the upper reaches is the Red Top Meadows/Salmon River Meadows area which is a broad meadow area of low stream gradient. These broad, glacially-formed basins have been filled with volcanic, alluvial, and outwash material from farther upstream. The relatively flat meadow complexes have been maintained because resistant andesite bedrock at the southwestern edge of Salmon River Meadow resists erosion. The river in this area tends to be slow flowing and meandering in character.

Farther downstream there is a series of six waterfalls ranging in height from 15 to 75 feet within a three-mile stretch of river segment 2. These falls developed on hard, erosionally resistant basalt lava flows of the Columbia River Basalt Group after the river eroded through the overlying volcanic units. There are other streams throughout the region with waterfalls similar in character to those found on the Salmon River (and whose waterfalls may be more spectacular for height of waterfall, etc.), but it is regionally unique to find such a high number of waterfalls in such a short distance on a river of this size and volume.

In segments 4 and 5, the river flows into a broader valley with lower stream gradients. The area around the river is primarily made up of alluvial and debris flow deposits from Mt. Hood, although the hill around which the river flows before joining the Sandy River has been mapped as a glacial moraine. Due to low stream gradients and relatively unconsolidated bed and bank material, the river has a meandering nature in this reach, and even contains oxbows.

Fish

Fish values may be judged on the relative merits of either fish populations or habitat, Native American cultural use, or a combination of these river-related conditions. Consideration is given for potential as well as existing values.

Outstandingly Remarkable Criteria

Populations

The river is internationally, nationally or regionally an important producer of resident and/or anadromous fish species. Of particular significance is the presence of wild stocks and/or federal or state listed threatened, endangered, and sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

Habitat

The river provides or has the potential to provide exceptionally high-quality habitat for fish species indigenous to the region. Of particular significance is habitat for wild stocks and/or for federal or state listed or candidate threatened, endangered, and sensitive species. Diversity of habitats is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

Preliminary Finding

The fishery resource in the Salmon River from its mouth to river mile 14 (RM 14) at Final Falls qualifies as an outstandingly remarkable value because it provides extremely important and productive anadromous fish spawning and rearing habitat. Several state of Oregon listed anadromous and resident fish species are either present or have been reported in the Salmon River. The river is also a nationally renowned summer steelhead fishery and draws anglers from outside the state of Oregon.

Above RM 14, the river, while not containing outstandingly remarkable values, is significant because it provides important habitat for resident trout. It also supports the downstream fishery by providing high-quality water, nutrients for fish, and large woody debris important for meeting habitat needs.

Discussion of Existing Situation

The Salmon River from its mouth to RM 14 is very important for its anadromous fishery values. The river is nationally renowned for its summer steelhead fishery and anglers come from outside Oregon to fish the river. In addition to summer steelhead, this section of the river also contains winter steelhead, coho salmon, spring chinook salmon, native cutthroat trout, and native and hatchery rainbow trout. Above RM 14, the river contains brook trout and native cutthroat trout.

There are historic reports of bull trout in the drainage but their presence has not been confirmed. Bull trout is a state of Oregon listed sensitive species and a candidate for federal threatened or endangered species status. Suitable habitat and isolation exists to support this species in Salmon River tributaries such as Mack Hall Creek, South Fork Salmon River, and Cheeney, Copper, and Wolf Creeks.

Three other state of Oregon listed sensitive species are, or were, present in the Salmon River. Columbia River coho salmon (late-run) are likely still present in the Salmon River drainage in very low numbers. Historically, lower Columbia fall chinook salmon and coastal cutthroat trout (Columbia River sea-run) were present, although both are now found only in downstream areas, below Marmot Dam on the Sandy River. Excellent habitat conditions are present for all three species in the lower reaches of the drainage.

Based on visual observation, water quality in the Salmon River is excellent throughout most of the year. The river, in contrast to some of the other major tributaries in the Sandy River system (of which the Salmon is one) tends to run clear, even during the summer months when other tributaries contain glacial flour resulting from glacial melt on Mt. Hood. Red Top Meadows and Salmon River Meadows filter out some of the glacial flour and keep water quality high.

Habitat surveys for the river corridor are currently being conducted within the National Forest boundary. There is a diversity of aquatic habitats represented within the drainage ranging from low gradient anadromous spawning and rearing areas to small, high gradient, alpine glacier-fed creeks. Generally, the habitat quality is thought to be high from the Salmon River Meadows area to the Green Canyon Campground area. Below the confluence of the river

with the South Fork Salmon there is a lack of large woody debris (LWD) important for habitat needs in the river.

There are large areas of old growth and associated instream LWD in many of the tributaries. These areas are important sources of LWD for the entire system.

Fish habitat improvement projects. including placement of large rocks and logs to develop additional spawning areas and provide hiding cover, have been implemented in the South Fork of the Salmon to improve the quality of the spawning and rearing habitat in the rivers. The river and its tributaries below Final Falls at river mile 14 provide very important spawning and rearing habitat for coho, spring chinook, winter steelhead and resident trout. Because of the importance of this habitat, angling for salmon and steelhead is prohibited between January 1 and the fourth Saturday in May to maximize escapement and allow increased opportunities for spawning and rearing.

Only one impoundment, at Marmot Dam, is located between the Salmon River and the Pacific Ocean. This dam is equipped with a fish ladder for returning adults and with screens to aid the downstream migration of smolts.

Estimates of annual adult fish returns into the Upper Sandy/Salmon system are: 9,600 winter steelhead, between 5,000 and 6,000 summer steelhead, 1,700 spring chinook, approximately 2,900 fall chinook (1987 estimate), and 12,840 early- and late-run coho, with almost all of these being the early-run coho.

The Oregon Department of Fish and Wildlife released a draft *Sandy River Subbasin Salmon and Steelhead Production Plan* in January, 1990. This document provides substantial additional information about the salmon and steelhead resource in the Sandy system and identifies objectives and recommended strategies for future enhancement of the resource. The excellent habitat provided by the Salmon River and its tributaries will be instrumental in the future maintenance or improvement of anadromous fish runs in the Sandy River system. The future objectives for total returning adult fish for this river system are summarized below:

Coho	3,800 fish	This number applies to both early- and late-run coho. This figure is only for escapement and hatchery return needed for production in the Sandy Subbasin and does not include additional hatchery adults needed for full production (i.e., eggs needed for transfer to other hatcheries). Increasing production of the late-run coho, which is a rare stock of coho, is a major goal of this subbasin plan.
Winter Steelhead	11,500 fish	
Summer Steelhead		The objective for summer steelhead is to maximize sport harvest and minimize spawning escapement. Summer steelhead is an introduced run and natural reproduction is undesirable in the management plan. Angling for salmon and steelhead is prohibited between January 1 and the fourth Saturday in May to increase escapement and spawning success.
Fall Chinook	1,800 fish	The draft plan lists 4,500 fall chinook as the objective for total returning adult fish. Personal communication with Jay Massey, Fisheries Biologist for ODFW, corrects this number to 1,800 fall chinook.
Spring Chinook	4,500 fish	

Wildlife values are judged on the relative merits of either wildlife populations or habitat, Native American cultural use, or a combination of these conditions.

Outstandingly Remarkable Criteria

Populations

The river or area within the river corridor contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species considered to be unique or populations of federal or state listed or candidate threatened, endangered, and sensitive species. Diversity of species is an important consideration and could in itself lead to a determination of outstandingly remarkable.

Habitat

The river or area within the river corridor provides exceptionally high-quality habitat for wildlife of national or regional significance, or may provide unique habitat or a critical link in habitat conditions for federal or state listed or candidate threatened, endangered and sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitats is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

Preliminary Finding

In the Salmon River/Red Top Meadows area, wildlife values were found to be outstandingly remarkable. The meadow complexes provide relatively unique, optimal quality habitat for elk and other big game species as well as many other vertebrate and invertebrate species. The mosaic of vegetative types meets the needs of many types of wildlife. The combination of different vegetative types and the number and larger size of the meadows in this meadow complex is unique in comparison to other meadow areas throughout the region.

Other locations along the river corridor also provide important wildlife habitat. While important, this habitat is not of a quality to be considered outstandingly remarkable.

Discussion of Existing Situation

The Salmon River Meadows/Red Top Meadows area provides very important high-quality wildlife habitat along the river. The meadows themselves are a mosaic of vegetative types including open meadows, mixed hardwoods such as alder and willow, and islands of coniferous trees that provide optimal summer range for big game species because of the excellent forage and hiding cover. The meadow complexes are large in comparison to other meadows in the region, and at their elevation, are considered quite unique.

The meadows are also thought to function, at least to some degree, as a waterflow "sink." They store water during wetter times of the year, later releasing it, providing a more even-flow regimen that better meets the needs of the many wildlife species present. Specific wildlife values in these meadow complexes include:

- Two key species found within the area include Roosevelt Elk and Sandhill Cranes. The Sandhill Crane is on the R-6 sensitive species list. This small population of cranes is the northernmost population and represents somewhat of an anomaly for the species, being separated from other crane populations.

- The Roosevelt Elk are an important big game species in the area. They are known to migrate from both the east and west side of the Cascades to the meadows. Because of

this, the area may also be important for providing a larger gene pool for the species. The Forest has been working cooperatively with the Rocky Mountain Elk Foundation to improve the quality and amount of forage in the Salmon River Meadows area.

The river provides potential high-quality habitat for sensitive aquatic species such as the Cascade frog, Olympic salamander, and tailed frog. No surveys have been done at this time and their presence is not verified. Additional survey work needs to be done in the area to confirm or deny the presence of these species. The red-legged frog is listed as a sensitive species with the state of Oregon and has been found in wetlands in the Wildwood recreation site.

Many wildlife species, including large carnivores such as black bear, cougar, and bobcat can be found along the river corridor. Black-tailed deer and possibly Roosevelt elk use the lower portions of the river for traditional winter range. This area may be very important in severe winters. Ruffed grouse, bandtail pigeon, and kingfisher are all common bird species present. Golden eagles, bald eagles, and osprey have been observed in casual sightings along the river but no nest sites have been found at this time. Pileated woodpeckers have also been spotted in Wildwood Recreation Site in segment 5.

Along the river in segments 2 and 3, there are remnant old-growth stands that provide important habitat to species such as the northern spotted owl and pine marten that require the habitat conditions found in these forest types. The lower half of segment 2 and all of segment 3 are also contained in a category 1 Habitat Conservation Area as proposed by the Interagency Scientific Committee to Address the Conservation of the Northern Spotted Owl.

The steep cliffs and rocky faces along the middle and lower portions of the river offer the potential for future habitat for the peregrine falcon, although no current use is known.

In segments 4 and 5 (BLM-administered portion), there are several small wetlands along the river. There is even one small oxbow that provides important habitat for species such as wood ducks, mergansers, and herons. Because of the high level of development in these two segments in the past, the habitat has been disturbed, reducing its value for many wildlife species throughout the two segments. However, this area still is important to the overall health of the river's ecosystem and water quality, and protection of the existing values will need to be considered in the river management plan.

Cultural Resources

Prehistoric:

Outstandingly Remarkable Criteria

The river or area within the river corridor contains a site(s) where there is evidence of occupation or use by native peoples. Sites must have unusual characteristics or exceptional human interest value(s). Sites may have national or regional importance for interpreting prehistory; may be rare and represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare or sacred purposes. Of particular significance are sites or features listed in, or eligible for inclusion in, the National Register of Historic Places.

Historic:

Outstandingly Remarkable Criteria

The river or area within the river corridor contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare, unusual or one-of-a-kind in the region. A historic site(s) and/or feature(s) in most cases is 50 years old or older. Of particular significance are sites or features listed in, or eligible for inclusion in, the National Register of Historic Places.

Traditional:

Outstandingly Remarkable Criteria

The river or area within the river corridor contains regionally unique location(s) of importance to Indian tribes (religious activities, fishing, hunting, and gathering). Locations may have unusual characteristics or exceptional cultural value being integral to continued pursuit of such activities. Locations may have been associated with treaty rights on ceded lands or activities unprotected by treaty on ceded lands or in traditional territories outside ceded lands.

Preliminary Finding

The preliminary finding is that the prehistoric, historic, and traditional cultural resources of the Salmon River do not meet the criteria for outstandingly remarkable when compared with other areas within the region. There are, however, several important sites and values within the corridor that will be protected, and where the potential exists, interpreted in the future. Some of these are already on the National Register of Historic Places. Management of these areas will be addressed in the river management plan.

The high-quality segment and secondary segments of the Barlow Road and the section of the Skyline Trail do not follow the river itself but just cross over the river. Because of this, it is considered that they do not owe their location to the presence of the river itself and are therefore not river-related. Timberline Lodge's location is also not considered to be river-related, even though it is within the river corridor. The lodge's location is more closely tied to being on Mt. Hood than being adjacent to the river itself. Since Wild and Scenic river values must be river related, the presence of the above in the river corridor were not used in determining the level of significance of cultural values for this assessment. These sites will however, continue to receive the protection worthy of their important cultural significance and protection and enhancement of their values will be addressed in the river management plan.

Discussion of Existing Situation

There are currently no known prehistoric sites within the river corridor. This may be due to the lack of archaeological surveys in the area rather than an actual absence of sites. Forest site files have identified known vision quest sites which were used by local tribes in the Linney Butte area just south of the river corridor. It is likely that there was a semi-permanent camp along the river occupied by Native Americans using these vision quest sites, but such a camp has not been identified at this time.

The Salmon River Meadows area is known to have been used regularly for camping by local bands of Native Americans heading to Mt. Hood for berries and other high elevation subsistence and trade activities. Limited survey work has occurred in the area at this time and prehistoric cultural sites have not been identified in the Meadows. Dense vegetation reduces site visibility and may be a contributing factor to having not located sites in the Meadows as well.

The Barlow Road, a portion of the Oregon Trail, crosses the river near the junction of U.S. Highways 26 and 35. Some segments of the Road in this area are in excellent condition and are easily interpretable. There are also two places where secondary routes of the Barlow Road are within one-quarter mile of the river in segment 5 near the river's mouth. While U.S. Highway 26 overlays these segments in this lower section, people can still "travel" the Barlow Road and have the Oregon Trail Experience. In those locations where the Barlow Road is actually within the Wild and Scenic river corridor, the Road is really crossing through the river corridor. In these locations, it is not paralleling the river or river canyon and therefore its location is not considered to be river related. The Barlow Road is on the National Register of Historic Places.

The Oak Grove Wagon Road, which joins the Barlow Road at Summit Meadows just south of Government Camp, crosses the river near Salmon River Meadows. This road was blazed for the early settlers of the Juniper Flat-Wapinitia area as an alternate route to the Barlow Road east of Summit Meadows.

Jackpot Meadows Trail #492 passes through the river corridor in the upper one-third of segment 2. This is a section of the historic Skyline Trail.

Salmon River Trail #742 parallels the river. It was first built in 1908 from the Forest boundary to Kinzel Mine which is north of the river corridor. This trail has not been evaluated but may be eligible for the National Register of Historic Places.

There is evidence of historic use of cedar tree bark for basket weaving in the Salmon River Meadows area. No prehistoric camps were found in the area and core samples from the trees indicate that the trees were cut and the bark peeled about 1913.

The Timberline Trail which traverses around Mt. Hood was built in the 1930's and crosses the river corridor just above Timberline Lodge. It is also the Pacific Crest National Scenic Trail in this location.

The Salmon River Meadows Guard Station was located in the river corridor and was constructed for use by Forest Service crews. The exact date of construction is not known. Most guard stations on the Forest were built in the 1930's but there is evidence of a 1916 trail leading to the site of the station so it is possible that a formal structure was constructed there as early as 1920.

Timberline Lodge is located on the edge of the river corridor. It was constructed in the 1930's as a Works Progress Administration project to help those unemployed as a result of the Depression. The lodge itself was dedicated by President Franklin D. Roosevelt in September of 1937 and is on the National Register of Historic Places. The Lodge is very well known throughout the Northwest and is the second most visited public attraction in the state of Oregon.

The East Leg of Timberline Road is located within the river corridor. This road, coupled with the West Leg Road and a tie road between the two, provided access to Timberline Lodge. The road started at the current site of Snowbunny Lodge. Traffic flow on the East Leg Road was basically up to the Lodge with traffic from the Lodge traveling down the West Leg Road. Following World War II until completion of the current two-way road in 1950, the East Leg road was used for winter access to Timberline since it was difficult to plow around the sharp switchbacks and other tight turns on the West Leg road. The upper section of the current highway to Timberline Lodge follows the location of East Leg. Portions of the lower sections of East Leg road are still used for timber harvest and recreational access as well as a nordic ski trail during the winter.

There are also a number of areas within the river corridor that are important for current tribal use such as gathering of huckleberries.

Outstandingly Remarkable Criteria

The river or area within the river corridor provides prime quality habitat for federally listed and candidate threatened and endangered species, with species present in that habitat. The area may also include nationally or regionally unique combinations of plant communities or a rare or displaced plant community, as in a bog, swamp or meadow. The presence of a nationally or regionally unique natural or undisturbed riparian community may also merit an outstandingly remarkable determination. The importance of these plant communities to existing or past cultures, including Native American cultures, is also an important criterion.

Preliminary Finding

The ecological/botanical resource on Salmon River qualifies as an outstandingly remarkable value because of the diversity of vegetation and presence of the unique and rare plant communities. Salmon River Meadows/Red Top Meadows complex is an area of special consideration, because of the diversity of habitat and plant and animal species.

Discussion of Existing Situation

The Salmon River flows through a wide variety of life zones from its headwaters to its mouth, ranging from high alpine life zones at its headwaters to lower elevation westside Douglas-fir forest types at its mouth. Along the way, the river flows through a variety of life zones and plant communities, including a large subalpine meadow complex, important riparian areas, areas along the river containing cliffs and their unique ecological communities, and old-growth Douglas-fir communities. The wide variety of communities that are known to be within the relatively short length of the river is unique in comparison with several other rivers in the four county region.

Very little survey work has been done along the river corridor to determine all of the plant and animal communities present. There is a need to do additional survey work to determine exactly what unique plant and animal communities are present along the river.

Salmon River Meadows/Red Top Meadows area is unique ecologically. There are few, if any, other meadow complexes of the size and diversity of plant communities found in that elevation zone throughout the central Cascades. This area is very important in meeting the habitat needs of a wide variety of fish and wildlife. (See Fish and Wildlife sections.)

A population of *Scheuchzeria palustris* var. *americana*, common name scheuchzeria, is found in Salmon River Meadows. This population consists of thousands of plants and is the largest known population in the state of Oregon. This plant is on the R-6 Regional Forester's list of sensitive plants and is also listed as threatened by the Oregon Natural Heritage Data Base. While the plant does have a wide range from Alaska to California, across North America, and in the eastern hemisphere, it is very rare in Oregon.

Another sensitive species, *Corydalis aquae-gelidae* (coldwater corydalis), occurs along and adjacent to portions of the Salmon River, primarily near the confluence of Linney Creek and Salmon River. This plant is on the Regional Forester's list of sensitive plants, is a federal candidate category 2 species, and is listed as threatened by the Oregon Natural Heritage Data Base. The plant may be at other locations along the river but extensive surveys have not been done to confirm its presence.

The lower portions of the river provide excellent opportunities to easily observe old-growth Douglas-fir communities that are along the river, especially in segment 3 along the Old Salmon River Trail #742.

The area along the river in the lower one-half of segment 2 and adjacent to segment 3 provides important habitat to meet the needs of the Northern Spotted Owl, a federally listed threatened species, as well as other old-growth dependent wildlife species. This area of the river is also contained in a category 1 Habitat Conservation Area proposed by the Interagency Scientific Committee to Address the Conservation of the Northern Spotted Owl.

There are important small wetland areas along the river in segments 4 and 5, as well as one oxbow that provides important habitat for wildlife species. One of the wetlands is in the Wildwood Recreation Site administered by the BLM (segment 5). The BLM is in the process of developing an interpretive trail near this wetland area to better educate the public on the importance of the ecological values of wetlands.

In the lower two segments, plant communities and riparian areas have been heavily impacted by the high level of development of residences and resorts along the river, reducing the value of the riparian area to wildlife and fish species.

Due to limited survey work on the river, especially on the lower two segments, a conclusive determination of ecological values cannot be made in these segments. Further information will be collected as part of the planning process.

Hydrological

Outstandingly Remarkable Criteria

The waterway offers nationally or regionally unique examples of free flowing nature. Examples include flooding, bank or bed erosion, natural flow regimens, island building, downcutting, and other stream flow characteristics, etc., or water-created features such as falls, sinks, caverns, springs, etc.

The river water itself is one of the best examples of clarity, purity, glacial "milk", etc., or the combination of water chemistry and temperature supports life forms nationally or regionally unique.

Preliminary Finding

The presence of six waterfalls in a short three-mile stretch in segment 2 of the river is unique enough regionally that hydrologic values would qualify as outstandingly remarkable.

Discussion of Existing Situation

The Salmon River evolves from a high gradient, high energy stream at its headwaters, to a low gradient meandering river in its lower reaches. The varying geology and topography of the Salmon River drainage system have produced hydraulic features such as waterfalls, wetland meadows, and oxbow river channels in places along the stream course. The overall average stream gradient for the Salmon's 35-mile length is 3 percent or 154 feet per river mile. The Salmon River has no water impoundments and is considered free-flowing throughout its length.

There is a series of six waterfalls ranging in height from 15 to 75 feet within a 3-mile stretch of segment 2 of the river. (See Geology section for more information on these waterfalls.) The high number of waterfalls in a relatively short distance is considered unique for similar rivers in the region.

Average daily discharges as measured near Government Camp in segment 1 for the years 1910 to 1987 range from a low of 24 cfs in September to a high of 75 cfs in May. Average daily discharges as measured at a station in segment 4 above Boulder Creek near Brightwood, for the period of 1936 to 1952, range from a low of 103 cfs in September to a high of 738 cfs in April. The data illustrate that average discharges are influenced substantially by

rates of snow accumulation and snowmelt within the watershed. In the upper watershed, as measured near Government Camp, average discharges are seen to gradually increase during the months of October through December. Average daily discharges level out or decrease slightly during the colder months of January and February, reflecting periods of snow accumulation. Average discharges increase to maximum levels from March through June, peaking towards the end of May or beginning of June, as a result of spring snowmelt.

A similar pattern of stream discharge is observed in the data measured at Brightwood. However, there is much more variability in the flows, reflecting the dominance of rainfall rather than snowfall in much of the lower elevation portions of the watershed. The peak spring runoff also occurs about one month earlier, due to earlier snowmelt in the lower elevations.

Average or mean discharge figures, by themselves, may be misleading. Major peak discharges associated with rain on snow events are dramatically illustrated in the streamflow records for both the Government Camp and Brightwood stations. Peak flows of 728 cfs and 8,680 cfs have been recorded during the month of December at the Government Camp and Brightwood stations, respectively. Similar peaks have occurred with regularity over the periods of record, primarily during the months of November through February. It is these peak flows which have the potential to dramatically affect stream channel characteristics, aquatic habitat, and riparian features. Overall, the Salmon River appears to have coped well with these peak flows. Channel stability characteristics, aquatic habitat, and riparian conditions are judged to be among the best on the Forest based on observation by Forest hydrologists.

The Salmon River/Red Top Meadows area appears to contribute substantially to the generally high water quality observed in the Salmon River. The stream and several tributaries meander slowly through these meadows, allowing sediments to settle out of the water, improving downstream water quality. The meadows may also act as a "sink" where water is detained and slowly released to the stream as base flow. The overall contribution to the drainage as a whole is not known and is believed to be relatively small. However, on-site, the meadows are valuable in maintaining favorable conditions of flow.

It is thought that the tributaries to the river within the Salmon-Huckleberry wilderness also help in regulating water quality since most originate in and flow through undisturbed areas. Water quality in these tributaries appears to be very good based on the limited information available.

There is a lack of water quality information about the Salmon River at this time, and work needs to be done to develop baseline data for the river segments. Some potential hydrologic problems that have been observed on the river include high turbidities during parts of the year and some sedimentation and erosion, especially in the more developed areas along the lower third of the river.

Appendix A-1

Resource Assessment Process

Purpose and Need

The importance of a thorough resource assessment cannot be overstated. The resource assessment serves as the foundation of the river management planning process. It determines which river-related features are truly outstandingly remarkable or contribute substantially to the river setting and the functioning of its ecosystem. It is not intended to serve as an eligibility evaluation.

Usually the initial step in the river management planning process, the resource assessment must take into consideration all features which are directly river-related. This early identification and evaluation will help ensure that significant features are not overlooked and that a holistic approach to investigating the inter-relationship among various features is achieved.

The identification and documentation of outstandingly remarkable and other significant values is a first step in developing management prescriptions that protect and enhance river values. A thorough resource assessment provides the basis upon which management decisions affecting resources within the planning area can be made during the interim period pending plan completion and approval. Additionally, the findings and conclusions reached at the end of the assessment effort will be used in management plan scoping, including specific issue identification and establishment of final administrative boundaries.

The process is done using an interdisciplinary team knowledgeable of the Wild and Scenic Rivers program and of the values being considered. Information from other experts is obtained through consultation and/or direct involvement as needed.

It is important to remember that the term "outstandingly remarkable" as used in the Wild and Scenic Rivers Act has never been precisely defined. Consequently, any determination of outstandingly remarkable values is a matter of informed professional judgment and interpretation. The only firm expectation is that the basis for the judgment be adequately documented in the resource assessment.

Value Assessment

All values assessed should be directly river-related, or owe their location or existence to the river ecosystem. The rationale for a direct river relationship is that the program involves the Wild and Scenic Rivers System rather than a generalized land and resource conservation program. It is therefore appropriate to focus attention on the river and resources directly related to it.

The resources to be assessed are specifically identified in the Wild and Scenic Rivers Act (P.L. 90-542) and include scenic, recreation, geologic, fish and wildlife, historic, cultural, and other similar values. Other similar values include, but are not limited to, hydrologic, botanic and ecological resources.

Significance Thresholds

In order to be assessed as "outstandingly remarkable," a river-related value must be a unique, rare, or exemplary feature that is significant at a regional or national level. Those river related values that are not assessed as outstandingly remarkable but contribute substantially to the functioning of the river system and river setting should be described and their level of significance indicated.

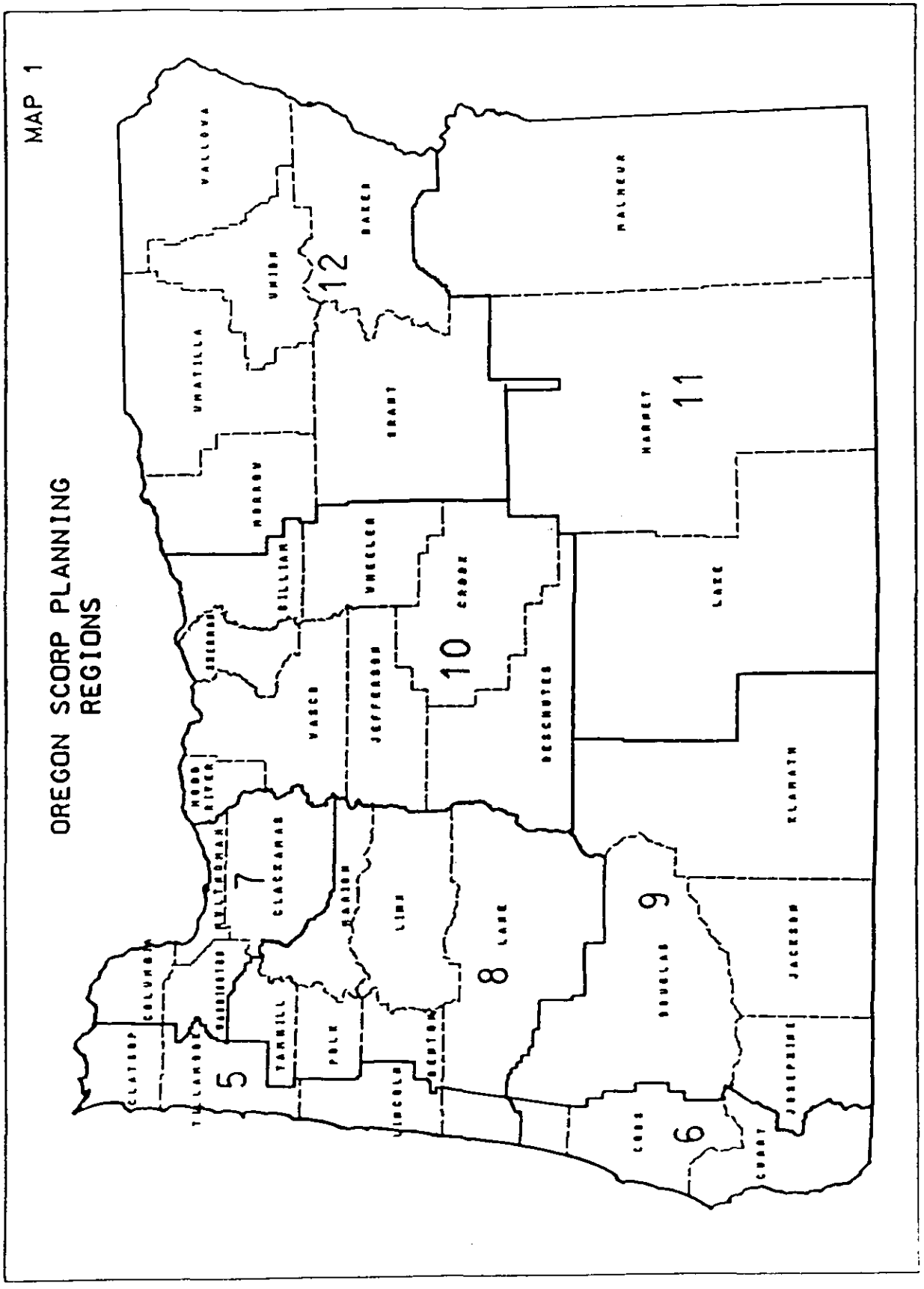
The geographic regions (8) described in the *1989 Statewide Comprehensive Outdoor Recreation Plan* (SCORP) for Oregon are used for comparing certain river-related values among the rivers in a "region."

The guidelines for assessing values are set forth under the discussion of each of the values in the main part of the assessment.

Appendix A-2

Oregon SCORP Regions

Map A-2.1 Oregon
SCORP Regions



Appendix A-3

References

References

Bela; Hull. 1982. *Geologic Compilation Map of The Dalles 1o x 2o Quadrangle, Oregon.*

Beeson; Moran; Anderson; Timm; Vogt. *Stratigraphy and Structure of the Columbia River Basalt Group in the Cascade Range.*

Keith; Causey. *Geologic Map of the Mt. Hood Wilderness.*

Hammond, P.E.; Geyer, K.M.; Anderson, J.L. 1982. *Preliminary Geologic Map and Cross Sections of the Upper Clackamas and North Santiam River Area, Northern Oregon Cascade Range.*

Oregon Department of Fish and Wildlife. 1990. *Sandy River Subbasin - Salmon and Steelhead Production Plan (Public Review Draft).*

Oregon State Parks and Recreation Division. 1988. *Statewide Comprehensive Outdoor Recreation Plan, 1988-1993.*

Oregon Water Resources Department. 1989. *The Wild and Scenic Salmon River: A Water Resources Summary.*

Ruby, R.H., Brown, J.A. 1972. *The Cayuse Indians, Imperial Tribesmen of Old Oregon.*

Appendix B

Acquisition Program Summary

Approximately 1100 acres of non-federal lands, all of which are within or immediately adjacent to the lower portions of the river, have been tentatively identified for easement or fee title acquisition due to their river related recreation, scenic or natural resource (fish, wildlife and botanical habitat) values. Each acquisition or exchange will be pursued on a willing seller basis as landowner interest and funding allows. Fee title acquisition costs are based on current appraised values of between $300,000 to $1,145,000 for approximately 400 acres. The balance of forest lands identified below would probably involve exchanges. Parcels are not listed in priority order.

Description	Location	Acres
Miller Quarry area	T2S R6E Sec. 36	40
Sixes Creek area	T3S R7E Sec. 6	120
Cedar Ridge area	T2S R6E Sec. 25	120
Boulder Creek and Ridge area	T2S R6E Sec. 36	240-520
Assorted wetland and wildlife habitat	T3S R7E Sec. 5,6,8	300
Bonanza Trail area	T3S R7E Sec. 16	easement

Appendix C

Effects on Non-Federal Lands

Effects of Designation on Private Lands within Salmon Wild and Scenic River Corridor Boundaries

Zoning and Land Use

The authority to regulate and control land use and development activities on non-federal lands rests with local, county and state governments and not the federal government. ***The federal government does not have the authority to zone or regulate uses of private lands under the Wild and Scenic Rivers Act.*** However, Oregon state law does require that individual counties adopt comprehensive plans that are compatible with specially designated natural areas including federally designated Wild and Scenic Rivers and state designated scenic waterways. Goal 5 directs counties and cities to resolve conflicting land uses in natural areas such as State and Federal wild and scenic rivers. State land use laws and applicable county zoning regulations are discussed in other sections of this plan. The special river corridor management planning zone, (PRCA for Clackamas county), addresses specific restrictions and regulations for development and land use along the rivers. These regulations establish setbacks, house color, slope, height, screening, septic, access and other restrictions and requirements (see appendix D for a copy of the PRCA regulations). The federal agencies have reviewed these requirements and found them to be compatible with designation and adequate to protect river resources if effectively enforced.

In the case of the Salmon River, the BLM and Forest Service will work with local and county planning departments in reviewing proposed land use or development permit applications. This usually occurs when the landowner requests a variance or conditional use for a development proposal or zoning change. After the county planning department receives the permit application, the BLM and Forest Service as well as other interested parties are contacted for their input on the proposed project. The agencies provide the county with information about potential conflicts with Wild and Scenic designation or the river management plan and outline concerns about potential river impacts of the proposal. Based on this information and existing regulations, the county then makes a determination as to whether or not to approve the permit application or request. As with all land use requests if the land owner is not satisfied with the decision they have the right to appeal it.

Land Acquisition and Condemnation

In the case of the Salmon River, ***the Wild and Scenic Rivers Act specifically prohibits the use of condemnation of land in fee title*** because more than 50 percent of the river corridor is already in public ownership (county, state or federal). However, the Federal government can assure compliance with the act through a variety of fair market value compensation options including scenic or access easements, land trades or exchanges and willing seller acquisition if funding or exchange lands are available. The primary source of funding for Wild and Scenic River land acquisition comes from the Land and Water Conservation Fund. Either the landowner or the federal government may initiate the acquisition or exchange process.

High priority lands identified for potential acquisition, easement or exchange are listed in the river plan implementation summary. These lands were identified for their high scenic, wildlife, fisheries or recreation access values. Other lands within the corridor could also be acquired or exchanged based on owner interest and relative resource values. If a landowner is interested in selling, exchanging or donating their land they should contact the Forest Service or BLM river planner or district office.

What does it mean for private landowners to be within the boundary of the Salmon Wild and Scenic River corridor?

There are a few differences and opportunities for landowners within the Wild and Scenic River's boundaries as opposed to landowners outside of the boundaries. ***However, the designation of a river into the Wild and Scenic Rivers System does not change landowner rights unless all or a portion of these use rights are acquired from the landowner.*** Non-federal landowners with all or part of their lands within the boundaries are:

- eligible to have their land acquired by the federal government in fee title through sale or exchange on a willing seller basis if land resources warrant public ownership and funding is available.

- eligible to have interests in lands acquired by the federal government in the form of scenic, conservation or public access easements to insure protection and conservation of outstandingly remarkable river resources.

- provided incentives for good river stewardship and land management practices such as:

  - offers of technical assistance from BLM and USFS resource specialists such as hydrologists, fisheries and wildlife biologists and foresters

  - opportunities to partner with federal and state agencies to receive financial assistance and grants for resource enhancement projects

  - options of getting assistance from federal agency recreation personnel to address recreation management problems such as trespass, litter and vandalism

  - landowners within the boundaries also have available riparian tax incentives, habitat enhancement project opportunities and access to other state and federal voluntary resource enhancement or restoration programs.

  - each landowner will receive a river stewardship handbook outlining assistance opportunities and management options as well as offering guidelines and recommendations for sound river management techniques

Owning land within the boundaries does not mean:

- That the public has the right to trespass on private lands.

- That federal land management agency personnel have the right to enter private lands without permission.

- That there is any change in the State's claim to the bed and banks of navigable waterways.

- That there is any change to existing county zoning or state land use laws.

- That there is any change to valid existing water rights.

- That there is any change to the application of other state or federal water quality laws, wetland protection laws, waterway removal or fill requirements or other existing river related laws, ordinances, regulations or acts.

- That there will be any direct change in property values or taxes.

Owning land within the boundaries <u>does</u> mean:

- That landowners can not develop or construct hydropower project dams or reservoirs requiring Federal Energy Regulatory Commission licensing.

- That landowners can not construct or develop water resource projects such as diversions, dikes, dams, or other instream structures which would have a direct and adverse effect on important river resources. Each proposed water resources project will be evaluated on its potential effects or impacts on attributes for which the river was designated (ie. fisheries).

- That landowners are allowed to maintain existing roads, bridges, instream structures (dams, diversion structures etc.), and erosion or flood control structures.

Zoning and Residential Development

Land uses and residential development will continue to be regulated according to existing county zoning and land use planning regulations. The county will be less likely to approve zoning changes and variance or conditional use requests within the Wild and Scenic River corridor if the proposal is not compatible with management guidelines or if the activity would directly and adversely effect river values.

Forest Practices and Timber Harvest

Forest practices and timber harvest on private lands continue to be regulated under conditions and regulations set forth in the Oregon Forest Practices Act. Forest management activities are allowed within the river corridor on Scenic and Recreational classified rivers as long as those activities do not have long term, direct and adverse effects on important river values such as fisheries or water quality. ***The Federal government can not regulate timber harvest on non-federal lands except through acquisition.*** Also, it is important to note that boundaries are not the same as vegetative buffers and should not be construed as such.

Under the river management plan, the Federal agencies will develop agreements with Oregon Department of Forestry (ODF) that would provide the opportunity for the Federal agencies to review harvest plans submitted to ODF and provide input about proposed harvest activities. This will also allow Federal agencies to be aware of proposed activities so the agencies can offer the landowner technical assistance or compensation options such as easement or exchange if the activity is determined to have long term, direct and adverse effects on the river.

Timber harvest on County lands are also managed under guidelines set in the Oregon Forest Practices Act. However, it is the policy of Clackamas County to solicit public input in the management of these public lands. The Oregon Forest Practices Act is currently being updated for stream and riparian management guidelines. Therefore guidelines may be modified and, in all likelihood, become more protective of river resources in the near future addressing vegetative buffers and stream shading requirements. In addition, the county, as a non-federal landowner, is eligible to receive the same technical assistance or acquisition options available to private landowners as listed previously.

Additional information concerning questions and answers about wild and scenic river designation is available from the agency offices whose addresses are in the beginning of this document.

Appendix D

Clackamas County Zoning Regulations

704 Principal River Conservation Area (PRCA)

704.01 Purpose

A. To maintain the integrity of the rivers in Clackamas County by minimizing erosion, promoting bank stability, maintaining and enhancing water quality and fish and wildlife habitats, and preserving scenic quality and recreational potentials;

B. To maintain rivers in their natural state to the maximum extent practicable, thereby recognizing their natural, scenic, historic, economic, cultural and recreational qualities; and

C. To implement the Rivers Area Design Plan stated in the Comprehensive Plan.

704.02 Area of Application

A. The standards of Section 704 apply to land within a quarter mile of the mean low water line of the Clackamas, Sandy/Salmon, Molalla/Pudding, and Tualatin River corridors as identified in Chapter 3 of the Clackamas County Comprehensive Plan.

B. The provisions of Section 704 are in addition to those requirements of the State Scenic Waterways Act, Omnibus Oregon Wild and Scenic Rivers Act of 1988, and the Federal Wild and Scenic Rivers Acto of 1968. In those areas so designated, the requirements of the County shall be administered subject to the application requrements of 704.06 and prevail when they are more restrictive than State and Federal standards.

704.03 Standards for Development

A. All primary structures shall be located at least 100 feet from the mean low water line of the river. This minimum setback may be increased up to 150 feet from the mean low water line, to lessen the impact of development. In determining the minimum setback, the following shall be considered:

1. The size and design of any proposed structures;
2. The width of the river;
3. The topography of the land between the site and the river;
4. The type and stability of the soils;
5. The type and density of existing vegetation between the site and the river;
6. Established recreation areas or areas of public access; and
7. Visual impact of any structures.

B. Residential structures and structures accessory to residential structures which can be seen from the river shall be thirty-five (35) feet or less in height, and shall be muted earth tones.

C. Subsurface sewage disposal drainfields are prohibited within 100 feet of the mean low water line.

D. Commercial or industrial structures, parking and storage areas and signs shall be screened from view of the river by an appropriate vegetation buffer and shall meet the siting requirements of subsection 704.03A.

E. Residential minor land partitions shall be designed, where possible, to allow compliance with the provisions of Section 704.

704.04 Exceptions to the Standards of Subsection 704.03

A. Residential lots of record where lot depth precludes compliance with the setback standards of subsection 704.03A, shall be exempt from these standards. Structures shall be sited the maximum practicable distance from the mean low water line. All other provisions of Section 704 shall apply.

B. Water dependent uses, such as private boat docks, marinas, or boat ramps, shall be exempt from the provisions of subsection 704.03, except that structures shall be muted earth tones. All other provisions of Section 704 shall apply to water-dependent uses, and any structure shall be the minimum size necessary to accommodate the use.

C. Additions to existing structures which are located closer than the setback requirements of subsection 704.03A are permitted, provided that the addition complies with the other provisions of Section 704.

D. Public uses, such as bridges for public roads, shall be allowed within the setbacks stated in subsection 704.03A, provided that adverse impacts are mitigated.

E. Water impoundments, diversions, detention and retention facilities and hydroelectric facilities shall be exempt from the setback provisions under subsection 704.03A. All such facilities shall comply with all other applicable provisions of the Section and Ordinance, and are subject to review and approval pursuant to applicable State and Federal statutes and administrative rules. (7-26-82)

704.04 Vegetation Preservation Requirements

A. A buffer or filter strip of existing vegetation shall be preserved along all river banks. The depth of this buffer strip need not exceed 150 feet, and shall be determined by evaluation of the following:

1. The character and size of the proposed development and its potential for adverse impact on the river;

2. The width of the river;

3. The topography of the area;

4. The type and stability of the soils; and

5. The type and density of the existing vegetation.

B. Tree cutting and grading shall be prohibited within the buffer or filter strip, with the following exceptions:

1. Diseased trees or trees in danger of falling may be removed; and

2. Tree cutting or grading may be permitted in conjunction with those uses listed in subsection 704.04, to the extent necessary to accommodate those uses.

C. Commercial forest activities and harvesting practices outside the urban growth boundary shall be subject to the Oregon Forest Paractices Act. Commercial forest harvesting activities inside the urban growth boundary shall be reviewed pursuant to the Forest Policies of the Comprehensive Plan. (12-13-89)

704.06 Application Requirements

A. All development and tree-cutting activities controlled by the provisions of Section 704 within a principal river conservation area shall be reviewed by the Planning Division staff to insure consistency with Section 704. For the purpose of this section, development shall include buildings or other structures, mining, dredging, filling, grading, paving, excavation or any other activity which results in the removal of substantial amounts of vegetation or in the alteration of natural site characteristics.

B. Development or tree-cutting activity shall be reviewed pursuant to a building or grading permit submitted to the Planning Division. The permit application shall be accompanied by such materials as are reasonably necessary for adequate review. Examples of such materials include: (7-1-83)

1. A site plan showing existing vegetation and development, and locations of proposed development or tree-cutting activity;

2. Elevations of any proposed structures;

3. Exterior materials list for any proposed structures, including type and colors of siding and roofing; and

4. Cross-section of any area within the vegetative fringe where grading, filling or excavating will occur.

D. The applicant may appeal to the Hearings Officer a decision of the Planning Division staff as provided under subsection 1305.01K. (7-1-83)

Goal 5 Open Spaces, Scenic and Historic Areas and Natural Resource

Goal: To conserve open space and protect natural and scenic resources.

Programs shall be provided that will:

- insure open space,
- protect scenic and historic areas and natural resources for future generations, and
- promote healthy and visually attractive environments in harmony with the natural landscape character.

The location, quality and quanitity of the following resources shall be inventoried:

- Land needed or desirable for open space;
- Mineral and aggregate resources;
- Energy sources;
- Fish and wildlife areas and habitats;
- Ecologically and scientifically significant natural areas, including desert areas;
- Outstanding scenic views and sites;
- Water areas, wetlands, watersheds and groundwater resources;
- Wilderness areas;
- Historic areas, sites, structures and objects;
- Cultural areas;
- Potential and approved Oregon recreation trails;
- Potential and approved federal wild and scenic waterways and state scenic waterways.

Where there is 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.

Cultural Area

Refers to an area characterized by evidence of an ethnic, religious or social group with distinctive traits, beliefs and social forms.

Historic Areas

Are lands with sites, structures and objects that have local, regional, statewide or national historical significance.

Natural Area

Includes land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitats for plant, animal or marine life, for the study of its natural historical, scientific or paleontological features, or for the appreciation of its natural features.

Open Space

Consists of lands used for agricultural or forest uses, and any land areas that would, if preserved and continued in its present use.

Appendix E

Water Resource Project Evaluation

Procedure To Evaluate Water Resources Projects

Introduction

This paper documents a procedure which can be uniformly and consistently applied by the Forest Service to determine whether proposed water resources projects present a direct and adverse affect to designated wild and scenic river values, and thus would be prohibited under Section 7 of the Wild and Scenic Rivers Act (the "Act"), or whether the projects should be allowed to proceed because they do not meet that threshold.

The procedure also applies to congressionally identified study rivers (Section "5a" rivers), which are afforded interim protection from projects which would affect "free-flow" characteristics in Section 7(b) of the Act. Although not protected from such projects in the Act, rivers identified for study through the land management planning process (Section "5d rivers") are also afforded protection via agency policy (Forest Service Planning Handbook 1909.12, Chapter 8.12 and BLM Manual 8351 Section .52).

The procedure may also be applied to evaluate activities proposed outside a designated or study river corridor to determine if they result in indirect effects that "invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of designation," as referenced in Section 7(a).

This procedure paper presumes a strict interpretation of what activities would qualify as water resources projects. Water resources projects have been defined in 36 CFR Part 297 as:

> "... any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, or other construction of developments which would affect the free-flowing characteristic of a Wild and Scenic River or study river."

Section 16(b) of the Act provides a definition of "free-flow" that assists in identification of water resources projects. It states:

> "Free-flowing, as applied to any river or section of a river, means existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway."

Therefore, if a proposed activity would affect a river's free-flow, or meet other criteria outlined in 36 CFR 297, it qualifies as a water resources project and the Section 7 procedure defined in this paper can be applied.

Issue

The key issue, assuming that the proposed activity is identified as a water resources project, is whether the project presents a direct and adverse affect on the values for which the river was designated or is being studied (or if a proposed activity is above or below the area, does it unreasonably diminish the scenic, recreational, or fish and wildlife values)?

Lack of a standardized procedure to analyze effects has contributed to the difficulty of making an adequate analysis of water resource projects as required by Section 7, manual direction (FSM 2354 and BLM Manual 8351), and the Forest Service Handbook (FSH 1909.12, chapter 8). The balance of this paper describes a standardized analysis procedure that incorporates the following principles:

- Effects will be judged in the context of the legislation designating the affected wild and scenic river and the management objectives for the river as defined in the comprehensive river management plan. (In the case of study rivers, effects are judged in the context of relevant Forest Plan standards and guidelines or BLM Resource Management Plan direction and the potential affect of the activity on the river's eligibility.)

- Water resource projects are permissible if the net effect protects or enhances values for which the river was designated or is being studied. Water resource projects are not permitted if they have a direct and adverse effect on such river values. (In the case of study rivers management activities may be carried out provided they would not result in a reduced classification recommendation, and are consistent with other relevant Forest Plan standards and guidelines or BLM Resource Management Plan.)

- Permissible water resources projects will, to the extent practicable, maintain or enhance the free flowing characteristics of the river.

- Water resources projects may be permitted even though they may have an effect on free flowing characteristic if:

  - the specific purpose of the project is to protect or enhance the values for which the river was designated, restore the natural characteristics of the river, and/or improve the water quality of the river;

  - associated impacts on free flowing characteristics of the river are minimized to the extent practicable; and,

  - the proponent and manager of the project is a federal, state, or local governmental entity.

Procedure

Background

In developing this procedure we recognize that:

- It is necessary to provide a temporal and spatial context for evaluating river related proposals. The wild and scenic river management planning process should result in a clear statement of long term management goals and objectives for free-flow, water quality, riparian areas and floodplains, and the outstandingly remarkable and other significant resource values designated by statute.

- Section 7 and promulgating rules (36 CFR 297 Forest Service, 43 CFR 8351.2 BLM) require an analysis of effects associated with a proposed water resources project. The analysis of activities deemed acceptable must clearly demonstrate consistency with management goals and objectives.

- Management of river ecosystems should be designed to achieve management goals and objectives through natural processes and use of techniques that mimic those processes. To insure that long term goals and objectives are met, careful analysis and evaluation of these processes, time scales, and public perceptions is necessary.

- State fish and wildlife agencies share responsibility with the Forest Service and BLM for fish and wildlife resources on wild and scenic rivers. Identification and evaluation of water resource projects should be coordinated with the States, recognizing and supporting attainment of state fish and wildlife management objectives to the extent they are consistent with the outstanding values for which the river was designated or is being studied.

Step-by-Step Procedure

The following procedure is designed to evaluate proposed activities within a wild and scenic river ecosystem. This procedure is not simply one of disclosure. Rather, it is a framework to identify changes in free-flow conditions and evaluate the effects associated with project proposals.

1) Establish Need and Evaluate Consistency with Management Goals and Objectives

The first step is to define the need for the proposed activity is consistent with the management goals and objectives for the river. Management goals provide the standard for evaluation of effects. If the activity does not evidence a compelling need or is inconsistent with the management goals and objectives or other applicable laws (e.g. Wilderness Act, Endangered Species Act, etc.), the project may not be considered further.

For projects that appear needed to help attain the management goals and objectives, proceed with the following steps. The scope of analysis should be commensurate with the magnitude and complexity of the project proposal. The procedure should be accomplished via an interdisciplinary team with adequate skills for the analysis. Note that each step requires some professional judgment.

2) Define the Proposed Activity

Provide an objective description of the proposed activity. The level of detail should be proportional to the scope of the proposed project and should indicate whether the project is isolated or part of a more complex or comprehensive proposal.

- Project proponent(s)
- Purpose (clearly describe the need for the project)
- Location
- Duration of proposed activities
- Magnitude/extent of proposed activities
- Relationship to past and future management

3) Describe How the Proposed Activity Will Directly Alter Within-Channel Conditions

Address the magnitude and spatial extent of the effects the proposed activity will have on in-channel attributes. Special attention should be given to changes tin features which would affect the outstandingly remarkable and other significant resource values.

- What is the position of the proposed activity relative to the stream bed and banks?
- Does the proposed activity result in changes in:
  - Active channel location?
  - Channel geometry (i.e. cross-sectional shape or width/depth characteristics)?
  - Channel slope (rate or nature of vertical drop)?

- Channel form (e.g. straight, meandering, or braided)?

- Relevant water quality parameters (e.g. turbidity, temperature, nutrient availability)?

4) *Describe How the Proposed Activity Will Directly Alter Riparian and/or Floodplain Conditions*

Address the magnitude and spatial extent of the effects the proposed activity will have on riparian/floodplain attributes. Special attention should be given to changes in features that would affect the outstandingly remarkable and other significant resource values.

- What is the position of the proposed activity relative to the riparian area and floodplain?

- Does the proposed activity result in changes in:

  - Vegetation composition, age structure, quantity, vigor, etc.?

  - Relevant soil properties such as compaction percent bare ground, etc.?

  - Relevant floodplain properties such as width, roughness, bank stability or susceptibility to erosion, etc.?

5) *Describe How the Proposed Activity Will Directly Alter Upland Conditions*

Address the magnitude and spatial extent of the effects the proposed activity will have on associated upland attributes. Special attention should be given to changes in features that would affect the outstandingly remarkable and other significant resource values.

- What is the position of the proposed activity relative to the uplands?

- Does the proposed activity result in changes in:

  - Vegetation composition, age structure, quantity, vigor, etc.?

  - Relevant soil properties such as compaction, percent bare ground, etc.?

  - Relevant hydrologic properties such as drainage patterns, the character of surface and subsurface flows, etc.?

- Will changes in upland conditions influence archaeological, cultural, or other identified significant resource values.

6) *Evaluate and Describe How Changes in On-Site Conditions Can/Will Alter Existing Hydrologic or Biologic Processes*

Evaluate potential changes in river and biological processes by quantifying, qualifying and modeling as appropriate.

- Does the proposed activity affect:

  - Ability of the channel to change course, re-occupy former segments, or inundate its floodplain?

- Streambank erosion potential, sediment routing and deposition, or debris loading?
- The amount or timing of flow in the channel?
- Existing flow patterns?
- Surface and subsurface flows?
- Flood storage (detention storage)?
- Aggradation/degradation of the channel?

- Does the proposed activity affect biological processes such as:
  - Reproduction, vigor, growth and/or secession of streamside vegetation?
  - Nutrient cycling?
  - Fish spawning and/or rearing success?
  - Riparian dependent avian species needs?
  - Amphibian/mollusk needs?

7) *Estimate the Magnitude and Spatial Extent of Potential Off-Site Changes*

Address potential off-site, or indirect effects of the proposed activity, acknowledging any uncertainties (i.e., a risk analysis).

- Consider and document:
  - Changes that influence other parts of the river system.
  - The range of circumstances under which off-site changes might occur (e.g., as may be related to flow frequency).
  - The probability or likelihood that predicted changes will be realized.
- Specify processes involved, such as water, sediment, movement of nutrients, etc.

8) *Define the Time Scale Over Which Steps 3 - 7 are Likely to Occur*

- Review steps 3 - 7 looking independently at the element of time.
- Consider whether conditions, processes and effects are temporary or persistent. That is, attempt to define and document the time scale over which effects will occur.

9) *Compare Project Analyses to Management Goals and Objectives*

Based on the analysis of steps 3-8, identify project effects on achievement, of management goals and objectives relative to free-flow, water quality, riparian area and floodplain conditions, and the outstandingly remarkable and other significant resource values.

Section 7 Determination

Based on the analysis of steps 3-9 document:

- Effects of the proposed activity on conditions of free-flow, including identification of the measures taken to minimize those effects.

- Any direct and adverse effects on the outstandingly remarkable and other significant resource values for which the river was designated or is being studied.

- Any unreasonable diminishing of scenic, recreational, or fish and wildlife values associated with projects above or below the area.

The determination should permit those water resource projects that are consistent with the legislation designating the affected wild and scenic river and the management objectives for the river as defined in the comprehensive river management plan, or in the case of study rivers, the proposed activities would not result in a reduced classification recommendation and is consistent with Forest Plan standards and guidelines or BLM Resource Management Plan direction. Permissible water resources projects will, to the extent practicable, maintain or enhance the free flowing characteristics of the river. Water resource projects that have a direct and adverse affect on designated river values or management objectives are not to be permitted.

It is important to note that water resources projects may be permitted even though they may have an effect on free flowing characteristics if:

- The specific purpose of the project is to protect or enhance the values for which the river was designated, restore the natural characteristics of the river, and/or improve the water quality of the river;

- the associated impacts on free flowing characteristics of the river are minimized to the extent practicable; and,

- the proponent and manager of the project is a federal, state, or local governmental entity.

Include the Section 7 determination as part of the broader NEPA analysis of the proposed activity. See the following section for additional information on the relationship of Section 7 determinations and the NEPA process.

Incorporation of Section 7 Determinations in the NEPA Process

The Code of Federal Regulation states:

> "The determination of the effects of a proposed water resources project shall be made in compliance with NEPA."

The following discussion offers more specific information regarding incorporation of the Section 7 procedure into the NEPA process. It also includes information relating to the decision document and the responsible official.

A proposed water resources project may be an independent project such as watershed or fish habitat restoration or construction of a boat ramp or fishing pier, or part of a larger program that serves a variety of purposes. In either situation, the Section 7 procedure is to be completed as a separate analysis by an interdisciplinary team. For designated rivers (Section 3a) and congressionally identified studied rivers (Section 5a), the Section 7 procedure would be explicitly documented in, or appended to the NEPA document with appropriate reference in the NEPA analysis. Similarly, for rivers identified for study via the land management planning process (Section 5d), an analysis as to the potential effect of a proposed project on free-flow and the outstandingly remarkable values should be incorporated, appended, or available in the analysis file.

The decision document will describe the Section 7 determination for the preferred alternative for a designated or congressionally identified study river. This determination should state whether the proposed project will affect free-flow characteristics, whether it will or will not have a "direct and adverse effect on the values for which the river was designated" (or might be added to the System), or whether proposed projects above or below the area will "unreasonably diminish" those resource values. The Section 7 evaluation may result in identification of water-resources projects which protect, restore or enhance the values for which the river was designated or identified for study. In approval of such project, the decision notice should clearly indicate that determination.

For study rivers identified via the land management planning process (i.e. Section 5d rivers), utilize the Section 7 procedure with the decision document referencing that an analysis was conducted to evaluate the potential effect of the proposed project on free-flow and the outstandingly remarkable values. Note, that Section 7 is not required for 5d rivers, but agency policy (FSH 1909.12 8.12, BLM Manual 8351) provides direction to protect the free-flowing condition and outstandingly remarkable values.

The responsible official changes with the status of the river and whether or not another federal agency is involved. For proposed water resources projects on a 3a or 5a river, in which there is another federal agency "assisting by loan, grant, license or otherwise...," the Regional Forester or the BLM District Manager is the responsible official (reference FSM 2354.04e, BLM Manual 8351 .04d). If there is no other federal agency "assistance" for a project on a 3a or 5a river, the appropriate line officer signs the decision document. Decision documents for water resources projects on a 5d river are signed by the appropriate line officer.

Oversight and Review

The Regional Offices (Forest Service) and State Offices (BLM) are to provide for review of the Section 7 analysis completed for proposed water resources projects. This review process should be coordinated by the Recreation staff group and involve other appropriate staff areas such as fisheries, watershed, engineering, etc. The intent of this oversight is to ensure a consistent approach to the evaluation of proposed water resources projects in wild and scenic rivers. The review in not intended to make the final decision.

Summary

These procedures were developed to analyze projects that have the potential to affect the free-flowing condition and/or outstandingly remarkable values of designated and study wild and scenic rivers and determine which projects are consistent with the Act by protecting, restoring, and enhancing those river values. The scope of the analysis will vary with the magnitude and complexity of the proposed activity. The procedure requires interdisciplinary analysis and application of professional judgment within the requirements of the Act.

Examples of projects that would likely be subject to Section 7 analysis include, but are not limited to:

- Log removal for recreation user safety;
- Fisheries habitat and watershed restoration and enhancement projects;
- Bridge and other roadway construction/reconstruction projects;
- Bank stabilization projects;
- Recreation facilities such as boat ramps and fishing piers;
- Activities that require 404 permits from the Corps of Engineers.

Appendix F

Boundary Description

Listed below is the legal description of the proposed Salmon National Wild and Scenic River Boundary, commencing at the headwaters of the Salmon River on Mount Hood, in the SW1/4NW1/4 of Section 5, Township 3 South, Range 9 East, W.M., Mt.Hood National Forest, Clackamas County, Oregon; and extending downstream to its confluence with the Sandy River, in the SW1/4SE1/4 of Section 23, Township 2 South, Range 6 East, W.M., Clackamas County, Oregon. More particularly described as:

T.3 S., R.9 E., W.M.

Section 5:

Beginning at the headwaters of Salmon River, Latitude 45° 20' 20.741" North and Longitude 121° 42' 22.844" West, on the south slope of Mount Hood; thence easterly and perpendicular to the thread of the Salmon River to the intersection with the Clackamas & Hood River County Lines; thence southeasterly along the County line to the intersection with a point which is 10 feet easterly of and perpendicular to the centerline of the Pacific Crest Trail # 2000, Latitude 45° 19' 53.109" North and Longitude 121° 42' 10.855" West; thence southeasterly and paralleling the Pacific Crest Trail 10 feet easterly of the centerline to the intersection with the section line between Sections 5 and 8.

Section 8:

Thence continuing southeasterly and paralleling the Pacific Crest Trail, 10 feet easterly of the centerline, to the intersection of the Clackamas & Hood River County Line, (This county line follows a ridge line between the Salmon River and White River drainages), Latitude 45° 19' 22.517" North, Longitude 121° 41' 53.010" West; thence southeasterly along the county line to the intersection with the section line between Sections 8 and 17.

Section 17:

Thence continuing southeasterly along the Clackamas & Hood River County Line to the intersection with a point which is 10 feet easterly of and perpendicular to the centerline of the Pacific Crest Trail # 2000, Latitude 45° 18' 16.399" North, Longitude 121° 41' 13.419" West; thence continuing southeasterly and paralleling the Pacific Crest Trail, 10 feet easterly of the centerline, to the intersection with the section line between Sections 17 and 16.

Section 16:

Thence continuing southeasterly and paralleling the Pacific Crest Trail, 10 feet easterly of the centerline, to the intersection with the section line between Sections 16 and 21.

Section 21:

Thence continuing southeasterly and paralleling the Pacific Crest Trail, 10 feet easterly of the centerline, to the intersection with the section line between Sections 21 and 28.

Section 28:

Thence continuing southeasterly and paralleling the Pacific Crest Trail, 10 feet easterly of the centerline, to the intersection with the Clackamas and Hood River County Line, Latitude 45° 17' 05.742" North, Longitude 121° 41' 05.055" West; thence southerly along the county line to a point which is 10 feet easterly of and perpendicular to the centerline of the Pacific Crest Trail #2000, Latitude 45° 16' 51.136" North, Longitude 121° 41' 09.516" West; thence southwesterly paralleling the Pacific Crest Trail, 10 feet easterly of the center line, to the intersection with the section line between Sections 28 and 29.

Section 29:

Thence continuing southwesterly paralleling the Pacific Crest Trail, 10 feet easterly of the centerline to a point, Latitude 45° 16' 25.084" North, Longitude 121° 41' 30.148" West; thence northwesterly to a point on a ridge, Latitude 45° 16' 33.571" North, Longitude 121° 41' 52.732" West; thence southwesterly descending a ridge to the intersection with the section line between Sections 29 and 30.

Section 30:

Thence continuing to descend along a ridge southwesterly to a point on the ridge Latitude 45° 16' 28.452" North, Longitude 121° 42' 21.729" West; thence southerly descending along the ridge to the intersection with the section line between Sections 30 and 31.

Section 31:

Thence continuing to descend along a ridge southerly to a point 25 feet easterly of and perpendicular to a spur road off USFS Road # 2600-011; thence southerly paralleling this spur road, 25 feet easterly of the centerline, to the intersection with USFS Road # 2600-011; thence south approximately 600 feet to a point on the breaks of the bottom of the slope into the Salmon River Meadows, Latitude 45° 15' 54.294" North, Longitude 121° 42' 52.121" West; thence easterly and southerly along the breaks of the bottom of the slope into the Salmon River Meadows to the intersection with the section line between Section 31, T.3 S., R.9 E., and Sectin 6, T.4 S., R.9 E., W.M.

T.4 S., R.9 E., W.M.

Section 6:

Thence easterly along the Township Line between T.3 & 4 S., R.9 E., to the section corner common to Sections 31 and 32, T.3 S., R.9 E.; thence continuing easterly along the Township line to the section corner common to Sections 5 and 6 T.4 S., R.9 E., W.M.; thence southerly along the section line between Sections 5 & 6 to the 1/4 section corner of Sections 5 and 6; thence westerly along the east-west centerline of Section 6 to a point 100 feet westerly of the centerline of U.S. Highway #26; thence southeasterly paralleling U.S. Highway #26 and 100 feet westerly of the centerline to the intersection with a point 100 feet easterly and perpendicular to the centerline of USFS Road #2600-022; thence southerly paralleling USFS Road #2600-022 and 100 feet easterly of the centerline to the intersection with the section line between Sections 6 and 7.

Section 7:

Thence continuing southerly paralleling USFS Road #2600-022 and 100 feet easterly of the centerline to a point at the end of the road Latitude 45° 14' 24.294" North, Latitude 121° 42' 28.700" West; thence South approximately 100 feet to the intersection of the thread of Ghost Creek, Latitude 45° 14' 12.847" North, Longitude 121° 42' 27.863" West; thence southwesterly along the thread of Ghost Creek to the intersection with the section line between Sections 7 and 18.

Section 18:

Thence continuing southwesterly along the thread of Ghost Creek to a point 200 feet northerly of and perpendicular to the centerline of USFS Road #5800-242; thence southwesterly paralleling USFS Road #5800-242 and 200 feet northerly of the centerline to the intersection with the Range Line between Section 18, T.4 S., R.9 E., and Section 13, T.4 S., R.8 1/2 E., W.M.

T.4 S., R.8 1/2 E., W.M.

Section 13:

Thence continuing southwesterly paralleling USFS Road #5800-242 and 200 feet northerly of the centerline to the intersection with the section line between Sections 13 and 24.

Section 24:

Thence continuing southwesterly paralleling USFS Road #5800-242 and 200 feet northerly of the centerline to the intersection with the section line between Sections 24 and 23.

Section 23:

Thence continuing southwesterly paralleling USFS Road #5800-242 and 200 feet northerly of the centerline to the intersection with the Range line between Section 23, T.4 S., R.8 1/2 E., and Section 24, T.4 S., R.8 E., W.M.

T.4 S., R.8 E., W.M.

Section 24:

Thence continuing southwesterly paralleling USFS Road #5800-242 and 200 feet northerly of the centerline to the intersection with a point 200 feet northerly of and perpendicular to the centerline of USFS Road #5800-240; thence northwesterly paralleling USFS Road #5800-240 and 200 feet northerly of the centerline to a point on a ridge, Latitude 45° 12' 35.347" North, Longitude 121° 46' 54.16.568" West; thence northwesterly descending the ridge to a point on the ridge, Latitude 45° 12' 44.427" North, Longitude 121° 47' 05.281" West; thence northwesterly on a straight line to the intersection with the section line between Sections 24 and 23.

Section 23:

Thence continuing northwesterly on a straight line to a point on an unnamed creek, Latitude 45° 12' 22.057" North, Longitude 121° 47' 11.700" West; thence northwesterly along the breaks into the Salmon River to the intersection with the section line between Sections 23 and 14.

Section 14:

Thence continuing northwesterly along the breaks into the Salmon River to a point on the Salmon-Huckleberry Wilderness Boundary which is 500 feet southerly of the ordinary high water line on the left bank of the Salmon River; thence southwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 14 and 15.

Section 15:

Thence continuing southwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 15 and 16.

Section 16:

Thence continuing southwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 16 and 17.

Section 17:

Thence continuing southwesterly and northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 17 and 18.

Section 18:

Thence continuing northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 18 and 7.

Section 7:

Thence continuing northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the Range line between Sections 7, T.4 S., R.8 E., and Section 12, T.4 S., R.7 E., W.M.

T.4 S., R.7 E., W.M.

Section 12:

Thence continuing northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 12 and 1.

Section 1:

Thence continuing northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 1 and 2.

Section 2:

Thence continuing northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the Township line between Section 2, T.4 S., R.7 E., and Section 34, T.3 S., R.7 E., W.M.

T.3 S., R.7 E., W.M.

Section 34:

Thence continuing northwesterly through the Salmon-Huckleberry Wilderness paralleling 500 feet southerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the Salmon-Huckleberry Wilderness Boundary; thence northwesterly on a straight line to Angle Point 206 of the Salmon-Huckleberry Wilderness Boundary which is a point 100 feet southwesterly of and perpendicular to the centerline of USFS Road #2618 on the ordinary high water line on the left bank of the South Fork of the Salmon River; thence northwesterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling USFS Road #2618 and 100 feet westerly of the centerline, to the intersection with the section line between Sections 34 and 33.

Section 33:

Thence continuing northerly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling USFS Road #2618 and 100 feet westerly of the centerline, to the intersection with the section line between Sections 33 and 28.

Section 28:

Thence continuing northeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling USFS Road #2618 and 100 feet westerly of the centerline, to the intersection with the section line between Sections 28 and 27.

Section 27:

Thence continuing northeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling USFS Road #2618 and 100 feet westerly of the centerline, to the intersection of a point 100 feet westerly of and perpendicular to the ordinary high water line on the left bank of the Salmon River; thence northwesterly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 27 and 28.

Section 28 (2nd time):

Thence continuing northwesterly and northeasterly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 27 and 28.

Section 27 (2nd time):

Thence continuing northerly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 27 and 22.

Section 22:

Thence continuing northerly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 22 and 21.

Section 21:

Thence continuing northerly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 21 and 22.

Section 22 (2nd time):

Thence continuing northerly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 22 and 21.

Section 21 (2nd time):

Thence continuing northwesterly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 21 and 15.

Section 15:

Thence continuing northwesterly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to the intersection with the section line between Sections 15 and 16.

Section 16:

Thence continuing northwesterly paralleling 100 feet westerly of the ordinary high water line on the left bank of the Salmon River to a point, Latitude 45° 18' 59.428" North, Longitude 121° 57' 11.978" West; thence southwesterly on a straight line to Angle Point 104 of the Salmon-Huckleberry Wilderness Boundary, which is described as a point 50 feet south of the southern most edge of the parking area at the end of Grove Road; thence northwesterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 50 feet westerly of the western edge of the parking area at the end of Grove Road, to a point on the section line between Sections 9 and 16, 200 feet westerly of and perpendicular to the centerline of Grove Road; thence westerly along the section line between Sections 9 and 16 to the section corner common to Sections 8,9,16 and 17.

Section 8:

Thence northerly along the section line between Sections 8 and 9 to the 1/4 corner of Sections 8 and 9; thence northwesterly to the 1/4 corner of Sections 5 and 8; thence westerly along the section line between Sections 5 and 8 to the section corner common to Sections 5,6,7, and 8.

Section 6:

Thence northerly along the section line between Sections 5 and 6 to the 1/4 corner of Sections 5 and 6; thence westerly along the east-west centerline of Section 6 to the center 1/4 corner of Section 6; thence northerly along the north-south centerline of Section 6 to the center N 1/16 corner of Section 6; thence westerly along the east-west centerline of the northwest quarter of Section 6 to the N 1/16 corner of Section 6 only on the west boundary of the township; thence northerly along the west boundary of the township to the corner of T.3 and 2 1/2 S., R. 6 E., W.M.; thence continuing northerly along the west boundary of the township to the corner of T.2 and 2 1/2 S., R.7 E., W.M.

T.2 S., R.6 E., W.M.

Section 36:

Thence westerly along the south boundary of the township to the E-E 1/64 corner of Section 36 only; thence northerly along the north-south center line of the southeast quarter and northeast quarter of the southeast quarter and the southeast quarter of the northeast quarter of Section 36 to the center E-NE 1/64 corner of Section 36; thence westerly along the east-west center line of the northeast quarter and northwest quarter of Section 36 to a point perpendicular and 300 feet east of the ordinary high water line on the right bank of Boulder Creek; thence southerly and paralleling 300 feet easterly of the ordinary high water line on the right bank of Boulder Creek to the intersection of the township line between Section 36, T.2 S., R.6 E., and Section 36, T.2 1/2 S., R. 6 E., W.M.

T.2 1/2 S., R.6 E., W.M.

Section 36:

Thence continuing southerly paralleling 300 feet easterly of the ordinary high water line on the right bank of Boulder Creek to a point on the Township line between Section 36, T.2 1/2 S., R.6 E., and Section 1, T.3 S., R.6 E., W.M.; thence westerly along the township line between Sections 36 and 1, crossing Boulder Creek to a point 300 feet westerly of the ordinary high water line on the left bank of Boulder Creek; thence northerly paralleling 300 feet westerly of the ordinary high water line on the left bank of Boulder Creek to the intersection of the township line between Section 36, T.2 1/2 S., R.6 E., and Section 36, T.2 S., R.6 E., W.M.

T.2 S., R.6 E., W.M.

Section 36:

Thence continuing northerly paralleling 300 feet westerly of the mean high water line on the left bank of Boulder Creek to the intersection with the section line between Sections 36 and 35.

Section 35:

Thence northwesterly paralleling 300 feet westerly of the mean high water line on the left bank of Boulder Creek to the intersection with the section line between Sections 35 and 26.

Section 26:

Thence northwesterly and northeasterly paralleling 300 feet westerly of the mean high water line on the left bank of Boulder Creek to the intersection with the section line between Sections 26 and 25; thence northerly along the section line between Sections 25 and 26 to the north right-of-way line of the Mt. Hood Highway, U.S. Highway #26; thence northwesterly along the north right-of-way line of the Mt. Hood Highway, U.S. Highway #26 to the intersection with the section line between Sections 26 and 23.

Section 23:

Thence continuing northwesterly along the north right-of-way line of the Mt. Hood Highway, U.S. Highway #26 to the east right-of-way line of Sunrae Drive; thence easterly to the intersection of the ordinary high water line of the Sandy and Salmon River; thence northeasterly along the ordinary high water line of the Sandy River, crossing the Salmon River, to the intersection with the section line between Sections 23 and 24; thence southerly along the section line between Sections 23 and 24 to the centerline of East Salmon Street.

Section 24:

Thence northeasterly and southeasterly along the centerline of East Salmon Street to the centerline of East Brightwood Loop; thence northeasterly along the centerline of East Brightwood Loop to a point due North of the W 1/16 corner of Section 24 and 25; thence South to the W 1/16 corner of Section 24 and 25.

Section 25:

Thence southerly along the north-south centerline of the northwest quarter of Section 25 to the south right-of-way line of the Mt. Hood Highway, U.S. Highway #26; thence southeasterly along the south right-of-way line of the Mt. Hood Highway, U.S. Highway #26 to the intersection with the Range line between Section 25, T.2 S., R.6 E., and Section 30, T.2 S., R.7 E., W.M.

T.2 S., R.7 E., W.M.

Section 30:

Thence continuing southeasterly along the south right-of-way line of the Mt. Hood Highway, U.S. Highway #26 to the intersection with the section line between Sections 30 and 31.

Section 31:

Thence continuing southeasterly along the south right-of-way line of the Mt. Hood Highway, U.S. Highway #26 to the intersection with the section line between Sections 31 and 32.

Section 32:

Thence southerly along the section line between Sections 32 and 31 to the 1/4 corner of Sections 32 and 31; thence continuing southerly along the section line between Sections 32 and 31 to the S 1/16 corner of Sections 32 and 31; thence easterly along the east-west center line of the southwest quarter of Section 32 to the intersection of the centerline of Chiquepin Street; thence continuing easterly along the centerline of Chiquepin Street to the intersection of the centerline of Elm Avenue, (also known as Grouse Lane); thence southerly along the centerline of Elm Avenue to the intersection with the township line between Section 32, T.2 S., R.7 E., and Section 5, T.3 S., R.7 E., W.M.

T.3 S., R.7 E., W.M.

Section 5:

Thence easterly along the section line between Sections 5 and 32 to the 1/4 corner of Sections 5 and 32 and the intersection with the centerline of Arrah Wanna Blvd; thence southerly along the centerline of Arrah Wanna Blvd to the intersection of the centerline of Fairway Ave.; thence easterly along the centerline of Fairway Ave.to the intersection of the centerline of East Bright Ave.; thence southeasterly along the centerline of East Bright Ave. to the intersection of the centerline of East Nicklaus Way; thence northeasterly along the centerline of East Nicklaus Way to the intersection of the centerline of East Woodruff Way; thence southeasterly along the centerline of East Woodruff Way to the intersection with the centerline of East Welches Road and the intersection with the section line between Sections 5 and 4.

Section 4:

Thence continuing southeasterly along the centerline of East Welches Road to the intersection with the section line between Section 4 and 9.

Section 9:

Thence continuing southeasterly along the centerline of East Welches Road to the intersection of the centerline of East Salmon River Road (USFS Road #2618); thence continuing southeasterly on the centerline of East Salmon River Road (USFS Road #2618) to the intersection with the section line between Sections 9 and 16.

Section 16:

Thence easterly along the section line between Sections 9 and 16 to a point on the Salmon-Huckleberry Wilderness Boundary which is perpendicular and 100 feet easterly of the centerline of East Salmon River Road (USFS Road #2618); thence southeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 100 feet easterly of the centerline of USFS Road #2618, to the intersection with the section line between Sections 16 and 15.

Section 15:

Thence continuing southeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 100 feet easterly of the centerline of USFS Road #2618, to the intersection with the section line between Sections 15 and 22.

Section 22:

Thence continuing southeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 100 feet easterly of the centerline of USFS Road #2618, to the intersection with the section line between Sections 22 and 27.

Section 27:

Thence continuing southerly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 100 feet easterly of the centerline of USFS Road #2618, to the intersection with the section line between Sections 27 and 28.

Section 28:

Thence continuing southerly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 100 feet easterly of the centerline of USFS Road #2618, to the intersection with the section line between Sections 28 and 27.

Section 27 (2nd time):

Thence continuing southerly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 100 feet easterly of the centerline of USFS Road #2618, to the intersection with a point on the Salmon-Huckleberry Wilderness Boundary which is 10 feet northerly of and perpendicular to the centerline of USFS Trail #742; thence continuing southeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 27 and 34.

Section 34:

Thence continuing southeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 34 and 35.

Section 35:

Thence continuing southeasterly along the Salmon-Huckleberry Wilderness Boundary, which is described as paralleling 10 feet northerly of the centerline of USFS Trail #742, to Angle Point 265 on the Salmon-Huckleberry Wilderness Boundary; thence southeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the township line between Section 35, T.3 S., R.7 E., and Section 2, T.4 S., R.7 E., W.M.

T.4 S., R.7 E., W.M.

Section 2:

Thence continuing southeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 2 and 1.

Section 1:

Thence continuing southeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 1 and 12.

Section 12:

Thence continuing easterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the Range line between Section 12, T.4 S., R.7 E., and Section 6, T.4 S., R.8 E., W.M.

T.4 S., R.8 E., W.M.

Section 6:

Thence continuing northeasterly and southeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 6 and 7.

Section 7:

Thence continuing southeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 7 and 18.

Section 18:

Thence continuing southeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 18 and 17.

Section 17:

Thence continuing northeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 17 and 16.

Section 16:

Thence continuing northeasterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 16 and 15.

Section 15:

Thence continuing easterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742, to the intersection with the section line between Sections 15 and 14.

Section 14:

Thence continuing easterly through the Salmon-Huckleberry Wilderness, paralleling 10 feet northerly of the centerline of USFS Trail #742 to the intersection of the Salmon-Huckleberry Wilderness Boundary, which is in the thread of an unnamed creek; thence northerly along the Salmon-Huckleberry Wilderness Boundary, which is described as ascending an unnamed creed, to a point 1/4 mile northerly of the ordinary high water line on the right bank of the Salmon River; thence southeasterly paralleling 1/4 mile northeasterly of the ordinary high water line on the right bank of the Salmon River to the intersection with the section line between Sections 14 and 13.

Section 13:

Thence northeasterly paralleling 1/4 mile northerly of the ordinary high water line on the right bank of the Salmon River to the intersection with the Range line between Section 13, T.4 S., R.8 E., and Section 14, T.4 S., R.8 1/2 E., W.M.

T.4 S., R.8 1/2 E., W.M.

Section 14:

Thence continuing northeasterly paralleling 1/4 mile northerly of the ordinary high water line on the right bank of the Salmon River to the intersection with the section line between Sections 14 and 13.

Section 13:

Thence continuing northeasterly paralleling 1/4 mile northerly of the ordinary high water line on the right bank of the Salmon River to a point, Latitude 45° 13' 45.606" North, Longitude 121° 43' 44.538" West; thence northerly on a straight line to the intersection with the section line between Sections 13 and 12.

Section 12:

Thence continuing northerly on a straight line to a point 200 feet easterly and perpendicular to the centerline of USFS Road #2656-254, Latitude 45° 14' 10.876" North, Longitude 121° 43' 54.858" West; thence northeasterly paralleling 200 feet easterly of the centerline of USFS Road #2656-254 to a point Latitude 45° 14' 46.796" North, Longitude 121° 43' 45.098" West, thence westerly to a point on Mud Creek Ridge, Latitude 45° 14' 46.794" North, Longitude 121° 43' 51.230" West; thence northerly along Mud Creek Ridge to the intersection with the section line between Sections 12 and 1.

Section 1:

Thence continuing northeasterly along Mud Creek Ridge to a point, Latitude 45° 15' 10.676" North, Longitude 121° 44' 16.324" West; thence easterly along Mud Creek Ridge to a point, Latitude 45° 15' 19.163" North, Longitude 121° 43' 46.490" West; thence northeasterly along Mud Creek Ridge to the intersection with the Township line between Section 1, T.4 S., R.8 1/2 E., and Section 36, T.3 S., R.8 1/2 E., W.M.

T.3 S., R.8 1/2 E., W.M.

Section 36 and 25:

Thence continuing northeasterly along Mud Creek Ridge to a point, Latitude 45° 15' 43.637" North, Longitude 121° 43' 38.404" West ; thence northwesterly along Mud Creek Ridge to a point, Latitude 45° 16' 02.189" North, Longitude 121° 43' 41.750" West; thence northeasterly along Mud Creek Ridge to a point, Latitude 45° 16' 15.790" North, Longitude 121° 43' 29.365" West; thence northerly to the section corner on the Range line common to Sections 30 and 31 only, T.3 S., R.9 E.; thence continuing northerly along the Range line between R.8 1/2 E., Sections 36 and 25, and R.9 E., Section 30, to the south right of way of the newly realigned portion of U.S. Highway #26.

T.3 S., R.9 E., W.M.

Section 30:

Thence continuing southeasterly along the south right of way of the newly realigned U.S. Highway #26 to the intersection with a point 200 feet west of the mean high water line on the right bank of the West Fork of the Salmon River; thence continuing northwesterly paralleling 200 feet westerly of the mean high water line on the right bank of the West Fork of the Salmon River to the intersection with the section line between Sections 30 and 19.

Section 19:

Thence continuing northwesterly paralleling 200 feet westerly of the mean high water line on the right bank of the West Fork of the Salmon River to the intersection with the section line between Sections 19 and 18.

Section 18:

Thence continuing northwesterly paralleling 200 feet westerly of the mean high water line on the right bank of the West Fork of the Salmon River to the intersection with a point 100 feet south of the centerline of Timberline Road, State Highway 173; thence easterly paralleling 100 feet southerly of the centerline of Timberline Road, State Highway 173 to the intersection with the section line between Sections 18 and 17.

Section 17:

Thence easterly and northerly paralleling 100 feet southerly of the centerline of Timberline Road, State Highway 173 to a point 100 feet easterly of the center line of the junction with USFS Road #5000-123; thence northerly paralleling 100 feet easterly of the centerline of USFS Road #5000-123 to a point, Latitude 45° 18' 40.872" North, Longitude 121° 42' 02.212" West; thence northwesterly on a straight line to a point 100 feet easterly of and perpendicular to the centerline of USFS Road #5000-122, Latitude 45° 18' 48.767" North, Longitude 121° 42' 06.673" West; thence northwesterly paralleling 100 feet easterly of the centerline of USFS Road #5000-122 to the intersection with the section line between Sections 17 and 8.

Section 8:

Thence northwesterly paralleling 100 feet easterly of the centerline of USFS Road #5000-122 to a point, Latitude 45° 19' 05.741" North, Longitude 121° 42' 11.970" West, at the end of the road; thence northerly on a straight line to a point 100 feet easterly of and perpendicular to the centerline of Timberline Road, State Highway 173, Latitude 45° 18' 10.872" North, Longitude 121° 42' 12.528" West; thence northerly paralleling 100 feet easterly of the centerline of Timberline Road, State Highway 173 to the intersection with the section line between Sections 8 and 7.

Section 7:

Thence continuing northwesterly paralleling 100 feet easterly of the centerline of Timberline Road, State Highway 173 to a point, Latitude 45° 19' 29.820" North, Longitude 121° 42' 26.189" West; thence on a straight line to a point 100 feet easterly of and perpendicular to the centerline of Timberline Road, State Highway 173, Latitude 45° 19' 34.162" North, Longitude 121° 42' 28.141" West; thence northerly paralleling 100 feet easterly of the centerline of USFS Road #50 to the intersection with the section line between Sections 7 and 6.

Section 6:

Thence northwesterly paralleling 100 feet easterly of the centerline of Timberline Road, State Highway 173 to a point, Latitude 45° 19' 50.938" North, Longitude 121° 42' 28.699" West; thence northerly on a straight line to the junction of the Pacific Crest Trail #2000 and a point 50 feet easterly of and perpendicular to the centerline of USFS Trail #788; thence northeasterly paralleling 50 feet easterly of the centerline of USFS Trail #788 to a point westerly of and perpendicular to the headwaters of the Salmon River; thence easterly to the point of beginning.

Preliminary boundary description subject to change through ground verification and other factors.

Appendix G

Glossary

Glossary

A

Acre-foot (af)

A water measurement term equal to the amount of water that would cover an area of one acre to a depth of one foot (43,560 cubic feet).

Activity

Actions, measures, or treatments that are undertaken that directly or indirectly produce, enhance, or maintain forest outputs and rangeland outputs, or achieve administrative and environmental quality objectives. Forest Service activity definitions, codes, and units of measure are contained in the Management Information Handbook (FSM 1309.11).

Airshed

A geographical area that, because of topography, meteorology, and climate, shares the same air.

Allowable Sale Quantity

Or ASQ. The quantity of timber that may be sold from the area of land covered by the Forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the average annual allowable sale quantity. (The allowable sale quantity applies only to the lands determined to be suitable for timber production, and to utilization standards specified in the land and resource management plan.)

Alternative

One of several policies, plans, or projects proposed for decision making.

Amenity

An object, feature, quality, or experience that gives pleasure or is pleasing to the mind or senses. Amenity value is typically used in land use planning to describe those resource properties for which market values cannot be established.

Anadromous Fish

Those species of fish that mature in the ocean and migrate into streams to spawn. Salmon, steelhead, and shad are examples.

Animal Unit Month (AUM)

The quantity of forage required by one mature cow (1,000 pounds), or the equivalent for one month, based upon average daily forage consumption of 26 pounds of dry matter per day (800 pounds/month).

Aquatic Ecosystems

Stream channels, lakes, marshes or ponds, etc., and the plant and animal communities they support.

Aquatic Habitat

Habitat directly related to water.

Aquifer

A geologic formation or structure that contains and transmits water in sufficient quantity to supply the needs for water development. Aquifers are usually saturated sands, gravel, or fractured rock.

B

Background

The visible terrain beyond the foreground and middleground where individual trees are not visible but are blended into the total fabric of the forest stand (see Foreground and Middleground).

Benefit

The results of a proposed activity, program or project expressed in monetary or nonmonetary terms.

Best Management Practices (BMP)

A practice or combination of practices that are the most effective and practical (including technological, economic and institutional considerations) means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.

Big Game

Those species of large mammals normally managed for sport hunting.

Biological Control

Biological control is the use of parasites, predators, or disease pathogens (bacteria, fungi, viruses, and others) to suppress pest populations.

Biomass

The total quantity (at a given time) of living organisms of one or more species per unit of space (species biomass), or the total quantity of all the species in a biotic community (community biomass).

Broadcast Burn

Allowing a prescribed fire to burn over a designated area within well-defined boundaries for a reduction of fuel hazard or as a silvicultural treatment, or both.

C

Capability

The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease. (36 CFR 219.3)

Class I Wilderness

Those wilderness over 5,000 acres which were in existence as of August 7, 1977. All other National Forest System lands are Class II, including new wildernesses and expansions to Class I wildernesses which occurred after August 7, 1977.

Clearcutting

The harvesting in one cut of all trees in an area for the purpose of creating a new, even-aged stand. The area harvested may be a patch, stand, or strip large enough to be mapped or recorded as a separate age class in planning for sustained yield.

Climax Species

Those species that dominate the forest stand in either numbers per unit area or biomass at climax.

Code of Federal Regulations (CFR)

The listing of various regulations pertaining to management and administration of the National Forest.

Commercial Forest Land (cfl)

Forest land that is producing or is capable of producing crops of industrial wood and (a) has not been withdrawn from timber management by Congress, the Secretary, or the Chief; (b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils, productivity, or watershed conditions; and (c) existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking of young trees can be attained within five years after final harvest.

Commercial Thinning

Cutting by means of sales of products (poles, posts, pulpwood, etc.) in immature forest stands to improve the quality and growth of the remaining stand.

Community Stability

A community's capacity to handle change without major hardships or disruptions to component groups or institutions.

Commodity

A transportable resource product with commercial value, all resource products which are articles of commerce.

Common Varieties

Nonmineralized sand, gravel, stone, etc.

Congressionally Classified and Designated Areas

Areas that require Congressional enactment for their establishment, such as National Wilderness Areas, National Wild and Scenic Rivers, and National Recreation Areas.

Conifer

A group of cone-bearing trees, mostly evergreen, such as pine, spruce, and fir.

Consumptive Use

Those uses of a resource that reduce its supply.

Core Area

(As related to spotted owl.) An area encompassing at least 300 contiguous acres of old-growth forest suitable for nesting and reproduction. The area consists of a portion of the territory required by a pair of owls, the nest site, and principal roost areas.

Created Opening

Created openings are openings in the Forest created by the silvicultural practices of shelterwood regeneration cutting at the final harvest, clearcutting, seed tree cutting, or group selection cutting.

Critical Habitat

For threatened or endangered species, the specific areas within the geographical area occupied by the species (at the time it is listed, in accordance with provisions of Section 4 of the Endangered Species Act) on which are found those physical or biological features essential to the conservation of the species. This habitat may require special management considerations or protection. Protection may also be required for additional habitat areas outside the geographical area based on a determination of the Secretary of the Interior that such areas are essential for the conservation of the species.

Cubic Foot

A unit of measure with the dimensions of one foot by one foot byone foot.

Culmination of Mean Annual Increment (CMAI)

The point where the mean annual growth of a timber stand ceases to increase prior to decline. This is calculated by determining the cubic foot per acre volume of a stand of trees divided by the age of the stand.

Cultural Resources

Includes the remains or records of districts, sites, areas, structures, buildings, networks, neighborhoods, memorials, objects and events from the past which have scientific, historic or cultural value. They may be historic, prehistoric, archaeological, or architectural in nature. Cultural resources are an irreplaceable and nonrenewable aspect of our national heritage.

Cumulative Effects

The combined effects of two or more management activities. The effects may be related to the number of individual activities, or to the number of repeated activities on the same piece of ground. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

D

Data Recovery

The systematic removal of the scientific, prehistoric, historic, and/or archaeological data that provides a cultural resource property with its research or information value.

Debris Slide

A shallow landslide of soil, rock, and organic material that occurs on steep slopes.

Debris Torrent

A large debris slide that is changed with water and confined to a steep stream channel. Debris torrents may travel several thousand feet.

Decision Criteria

Essentially the rules or standards used to evaluate alternatives. They are measurements or indicators that are designed to assist a decisionmaker in identifying a preferred choice from an array of possible alternatives.

Demand

The amount of output that users are willing to take at specific price, time period, and conditions of sale.

Designated Wild and Scenic River

A river which is part of the National Wild and Scenic River system.

Destination Locations

Those areas people commonly seek for camping or day use.

Destination Resort

A recreation resort designed for multi-day use in contrast to single day use.

Developed Recreation Site

Distinctly defined or designated area where facilities are provided for concentrated public use; e.g., campgrounds, picnic areas, boating sites, and ski areas.

Developed Recreation Site Maintenance Levels

Level I - Minimum Level. Operation and Maintenance of developed recreation sites at a level that only meets minimum requirements for public health and safety and does not maintain facilities over time. At this level no funding is provided for upgrading of facilities or completion of any portion of the backlog rehabilitation needs associated with developed sites.

Level II - Low Standard. Operation and Maintenance of developed recreation sites at the level necessary to maintain facilities over time and protect investments in facilities and to complete approximately 50 percent of the backlog rehabilitation needs associated with developed sites.

Level III - Standard Service Level. Operation and Maintenance of developed recreation sites at a level that will ensure normal life expectancy of facilities and at a level that meets Forest Service full service standards of maintenance, service, compliance and ensures the experience level for which the site is designed and meets other aspects of administration as outlined in Forest Service manuals and regulations. At this level one hundred percent of any backlog rehabilitation needs associated with developed sites will be completed.

Dispersed Recreation

Outdoor recreation that takes place outside developed recreation sites or the Wilderness.

Diversity

The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan. (36 CFR 219.3)

Domestic Water Source

A watershed which provides water for human consumption that does not meet the criteria for a municipal watershed.

E

Earthflow

Rotational failure which occurs on gentle to moderate slopes.

High Risk - High potential for mass movement. Damage to facilities, loss of life or detrimental effects on fisheries or municipal water sources.

Moderate Risk - Moderate potential for movement. Less a risk of loss of life, damage to facilities or fisheries and municipal water sources encompass many acres.

Low Risk - Small in size. Little risk of loss of life, damage to facilities or fisheries and municipal water sources.

Ecosystem

An interacting system of organisms considered together with their environment; for example, marsh, watershed, and lake ecosystems.

Edge

The boundary between two or more elements of the environment; e.g., field and woodland.

Eligible Wild And Scenic River

Candidate river that is free-flowing and contains at least one outstandingly remarkable value.

Effects

Environmental consequences as a result of a proposed action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and are later in time or further removed in distance, but which are still reasonably foreseeable. Indirect effects may include population growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects may be ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic quality, historic, cultural, economic, social, or health related, whether direct, indirect, or cumulative. Effects resulting from actions may have both beneficial and detrimental aspects, even if on balance the agency believes that the overall effects will be beneficial (40 CFR 1508.8).

Endangered Species

Any species of animal or plant which is in danger of extinction throughout all or a significant portion of its range. Not included are members of the class Insecta which have been determined by the Secretary to constitute a pest whose protection under the provisions of this Act (Endangered Species Act of 1973) would present an overwhelming and overriding risk to humans. An endangered species must be designated in the Federal Register by the appropriate Federal Agency Secretary.

Endemic Plant

A plant confined to a certain country or region and with a comparatively restricted geographic distribution.

Energy Minerals

Minerals which produce energy, e.g., oil, gas, geothermal, coal.

Enhancement

A short- or long-term management practice which is done with the express purpose of increasing positive aspects of a resource.

Environmental Analysis

An investigation and analysis of alternative actions and their predictable short- and -long-term environmental effects, incorporating the physical, biological, economic, social, and cumulative effects. This process provides the information needed for identifying actions that may be categorically excluded or for preparing environmental documents as required.

Environmental Assessment

A concise public document required by the regulations implementing the National Environmental Policy Act.

Environmental Impact Statement (EIS) and Decision Documents

Refers to a NEPA environmental assessment, environmental impact statement finding of no significant impact, decision notice, notice of intent or record of decision.

Erodible

Susceptible to erosion.

Erosion

The wearing away or detachment of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitation creep.

Erosion (accelerated)

Erosion much more rapid than normal, primarily as a result of the influence or the activities of man.

Escape Cover

Usually vegetation dense enough to hide an animal, used by animals to escape from potential enemies.

Essential Habitat

Areas designated by the Regional Forester of the Forest Service that possess the same characteristics of critical habitat as those designated by the Secretary of the Interior or Commerce.

Evapotranspiration

Loss of water from a land area through transpiration of plants and from the soil.

Even-aged Management

The application of a combination of actions that results in the creation of forest stands composed of trees of essentially the same age. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes throughout the forest area). The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained in a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands. (36 CFR 219.3)

F

Fee Campground

A fee campground must have as a minimum all of the following: tent or trailer spaces, drinking water, access road, refuse containers, toilet facilities, camp fee collection, reasonable visitor protection, and simple devices for containing a campfire where permitted.

Fish Passage

Passage of fish up or downstream especially over stream obstructions.

Floodplain

The lowland and relatively flat areas adjoining inland and coastal water including, at a minimum, that area subject to one percent or greater chance of flooding in any given year.

Forage

All browse and non-woody plants available to livestock or wildlife for grazing or harvestable for feed.

Forbs

Non-woody plants, other than grasses. Term refers to feed used by both wildlife and domesticated animals.

Foreground

A term used in visual (scenery) management to describe the stand of trees immediately adjacent to a high-value scenic area, recreation facility, or forest highway (see "Background", "Middleground").

Forest Land

Land at least 10 percent occupied by forest trees of any size or formerly having had such cover and not currently developed for non-forest use. Lands developed for non-forest use include areas devoted to crops, improved pasture, residential or administrative areas, improved roads of any width and adjoining road clearing and powerline clearing of any width (36 CFR 219.3).

Forest Plan Amendment

Formal alteration of the Forest Plan by modification, deletion or addition based upon nonsignificant or significant changes. Non-significant changes are minor modifications of management direction. Significant changes are major alterations of specific management prescription direction or land use designations. Unlike a complete Plan revision, an amendment addresses only the issues that trigger a need for a change. Amendments must satisfy both NFMA and NEPA procedural requirements, including appropriate public notification.

Forest-wide Standard

A principle requiring a specific level of attainment: a rule to measure against. The Forest-wide Standards apply to all areas of the Forest regardless of the other prescriptions applied.

Fuels

Combustible wildland vegetative materials. While usually applied to the above ground living and dead surface vegetation, this definition also includes roots and organic soils such as peat.

Fuel Treatment

The rearrangement or disposal of natural or activity fuels to reduce the fire hazard.

Game

Wildlife that are hunted for sport and regulated by State Game regulations.

General Distribution

The geographic area presently occupied, often on a seasonal basis, by a species within the planning area. Distribution is not to be confused with present occupancy of specific habitat(s). Resource management activities will create changes in habitat which will force local shifts in occupancy.

Geothermal

Of or pertaining to the inherent heat of the earth. Geothermal steam is a leasable mineral.

Goal

A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principle basis from which objectives are developed. (36 CFR 219.3)

Goods and Services

The various outputs, including on-site uses, produced from forest and rangeland resources. (36 CFR 219.3)

Gradient

Change of elevation, velocity, pressure or other characteristics per unit length.

Group Selection Cutting

Removal of tree groups ranging in size from a fraction of an acre up to about 2 acres in area that is smaller than the minimum feasible for even-aged management of a single stand.

Guideline

An indication or outline of policy or conduct that is not a mandatory requirement (as opposed to a standard, which is mandatory.

H

Habitat

The place where a plant or animal naturally or normally lives and grows.

Habitat Component

A simple part, or a relatively complex entity, regarded as a part of an area or environment in which an organism or biological population normally lives.

Habitat Capability

The estimated ability of an area, given existing or predicted habitat conditions, to support a wildlife, fish or plant population. It is measured in terms of potential population numbers.

Hardwood

A broad-leafed flowering tree.

Harvest Cutting Method

A combination of interrelated actions whereby forests are tended, harvested, and replaced. The combination of management practices used to manipulate the vegetation in forests. Harvest cutting methods are classified as even-aged and uneven-aged.

Hiding Cover

Vegetation capable of hiding 90 percent of a standing deer or elk from the view of a human at a distance of 200 feet.

High Quality Habitat

Habitat which completely satisfies a species' existence requirements.

History

People, places, things and events which have occurred or pertain to the time of written record. For the Pacific Northwest, the history of written documentation is approximately 1600 AD.

Hundred-year Flood

Severe flood which, statistically, has a chance of occurring once in a hundred years, or has a 1 percent chance of occurring each year.

Hydrology

The scientific study of the properties, distribution, and effects of water in the atmosphere, on the earth's surface, and in soil and rocks.

Hyphoriac Zone

The subterranean areas below and adjacent to stream channels, which contain a complex community of small animals (i.e., insects and crustaceans) living in the gravels.

I

Impact, Economic

The change, positive or negative, in economic conditions, including distribution and stability of employment and income in affected local, regional, and national economies, which directly or indirectly results from an activity, project, or program.

Indian Tribe

The governing body of any Indian tribe, band, nation, or other group which is recognized as an Indian tribe by the Secretary of the Interior for which the United States holds land in trust or restricted status for the entity of its members. Such term also includes any Native village corporation, regional corporation, and Native group established pursuant to the Alaska Native Claims Settlement Act (36 CFR 800.2(g)).

Indicator Species

A wildlife management scheme in which the welfare of a selected species is presumed to indicate the welfare of other species.

Individual (single) Tree Selection

See Uneven-aged Silvicultural Systems.

Instream Flows

A prescribed level (or levels) of stream flow, usually expressed as a stipulation in a permit authorizing a dam or water diversion, for the purpose of meeting National Forest System management objectives.

Integrated Pest Management

A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resources values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable. (36 CFR 219.3)

Intensive Forest Management

A high investment level of timber management that envisions initial harvest, regeneration with genetically improved seedling stock, control of competing vegetation, fill-in planting, precommercial thinning as needed for stocking control, one or more commercial thinnings, and final harvest.

Interdisciplinary Team

A team of people that collectively represent several disciplines and whose duty it is to coordinate and integrate planning activities.

Intermittent Stream

A stream that flows above ground at intervals or only flows periodically during the year. Intermittent streams generally have well-defined channels.

Inventory

Strategies designed to collect existing information and locate cultural resources in a specific area, such as through field survey, records search, oral interviews, and archival study.

Irretrievable

Applies to losses of production, harvest, or use of renewable natural resources. For example, some or all of the timber production from an area is irretrievably lost during the time an area is used as a winter sports site. If the use is changed, timber production can be resumed. The production lost is irretrievable, but the action is not irreversible.

Irreversible

Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity, that are renewable only over long time periods. Irreversible also includes loss of future options.

Issue

A point, matter, or question of public discussion or interest to be addressed or decided through the planning process.

K

Key Interest Areas

Any interesting feature or condition in an area that attracts people. For example, a waterfall along a trail or road, a scenic overlook or a wildlife viewing area.

Key Site Riparian Areas

Large riparian areas exhibiting high habitat diversity and outstanding capabilities for producing high quality water; excellent fish spawning and rearing habitat; high quality waterfowl breeding, nesting and resting habitat; wildlife cover; and diverse plant communities.

Knutson-Vandenberg Act

Or K-V. Legislation authorizing the collection of money from timber sale receipts for reforestation, stand improvements, and other resource improvement or mitigation projects on timber sale areas.

L

Land Allocation

The assignment of a management emphasis to particular land areas with the purpose of achieving the goals and objectives of that alternative.

Landings

Those designated areas within a timber sale where logs are temporarily stored before transport to a mill.

Landslide

The group of slope movements wherein shear failure occurs along a specific surface or combination of surfaces.

Large Woody Debris

Logs, tree boles, and root wads greater than 4 inches in diameter.

Leasable Minerals

All minerals except salable minerals on acquired lands. All minerals on Outer Continental shelf. Coal; phosphate; oil; gas; chlorides, sulphates, carbonates, borates, silicates or nitrates of potassium and sodium; native asphalt, solid and semi-solid bitumen and bitumenous rock including oil-impregnated rock or sands from which oil is recoverable only by special treatment after the deposit is mined.

Legal Trout

A trout six inches or longer is legal by registration in the State of Oregon.

Life Form

How a species makes its living, also called a niche.

Limiting Habitat

Habitat which completely satisfies existence requirements.

Limits of Acceptable Change (LAC)

Maximum limit of human-caused change allowed in wilderness. Each WRS Class has a set of limits which presupposes that certain areas of wilderness (trails) will be allowed to receive higher levels of use than other areas (trail-less), and thus will receive more change or resource impact. LAC's are not a management objective, but a maximum limit.

Litter

The uppermost layer of organic debris on the ground under a vegetation cover. Essentially the freshly fallen or only slightly decomposed vegetable material, mainly from foliage but also bark fragments, twigs, flowers, fruits, etc.

Local Roads

Connect terminal facilities such as log landings and recreation sites, with forest collector roads, forest arterial roads, or public highways. Location and standards are determined by the specific resource needs that the roads serve.

Locatable Minerals

Those hardrock minerals which can be obtained by filing a claim on Public Domain or National Forest System lands reserved from the Public Domain. In general, the locatable minerals are those hardrock minerals which are mined and processed for the recovery of metals, but may also include certain nonmetallic minerals and uncommon varieties of mineral materials.

M

M

Thousand

Maintenance Levels 1-5

Level 1 - This level is assigned to intermittent service roads during the time management direction requires that the road be closed to motorized traffic.

Level 2 - This level is assigned where management direction requires that the road be open for limited passage of traffic. Roads in this maintenance level are intended for use by high clearance vehicles and not maintained passenger car traffic.

Level 3 - This level is assigned where management direction requires that the road be open and maintained for safe travel by a driver in a standard four-wheel passenger car.

Level 4 - This level is assigned where management direction requires the road to provide a moderate degree of user comfort and convenience at moderate travel speeds. Traffic volumes are normally sufficient to require a double land aggregate surfaced road. Paved surfaces are often used.

Level 5 - This level is assigned where management direction requires the road to provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities.

Management Area

An area with similar management objectives and a common management prescription. In Region 6, a management area is the contiguous area assigned to a specific management strategy (the management strategy then becomes the management prescription).

Management Direction

A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them. (36 CFR 219.3)

Management Practice

A specific activity, measure, course of action, or treatment. (36 CFR 219.3)

Management Prescription

Management practices and intensity of management selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives. (36 CFR 219.3)

Mass Movement

Downslope, unit movement of a portion of the land's surface; i.e., a single landslide or the gradual simultaneous, downhill movement of the whole mass of loose earth material on a slope face.

Mature Timber

Trees that have attained full development, particularly in height, and are in full seed production.

Maximum Modification

A visual quality objective meaning man's activity may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

MBF

Thousand board feet. A measure of wood volume.

Middleground

The visible terrain beyond the foreground where individual trees are still visible but do not stand out distinctly from the stand.

Mineral Potential

A rating system for mineral resources based on the degree to which certain criteria indicates favorable potential for development of mineral resources.

Mining Claims

That portion of the public estate held by law for mining purposes in which the right of exclusive possession of locatable mineral deposits is vested to the locator of a deposit.

Mitigation

Actions to avoid, minimize, reduce, eliminate, or rectify the impact of a management practice.

MM

Million.

MMBF

Million board feet.

Monitoring

A process to collect significant data from defined sources to identify departures or deviations from expected plan outputs.

Modification

A visual quality objective meaning human activity may dominate the characteristic landscape but must, at the same time, utilize natural established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.

Multilayered Canopy

A stand of trees with two or more distinct tree layers in the canopy.

Multiple Use

The management of all the various renewable surface resources of the National Forests so that they are utilized in the combination that will best meet the needs of the American people. The concept also includes making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in the use to conform to changing needs and conditions. Some lands will be used for less than all of the resources. There will be harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land. Consideration will be given to the relative values of the various resources, and management will not necessarily favor the combination of uses that will give the greatest dollar return or the greatest unit output.

N

National Environmental Policy Act (NEPA) (1969)

An Act, to declare a National policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation; and to establish a Council on Environmental Quality.

National Forest Management Act (NFMA)

An Act passed in 1976 amending the Forest and Rangeland Renewable Resources Planning Act. NFMA requires the preparation of Regional and Forest Plans and the preparation of regulations to guide that development.

National Forest Systems

All National Forest lands reserved or withdrawn from the public domain of the United States, all National Forest lands acquired through purchase, exchange, donation, or other means, the National Grasslands and land utilization projects administered under Title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525, 7 USC 1010-1012), and other lands, waters or interests therein which are administered by the Forest Service or are designated for administration through the Forest Service as a part of the system. (16 U.S.C. 1608)

National Register - Eligible Property

A property that has been determined eligible for National Register listing by the Secretary of the Interior, or one that has not yet gone through the formal eligibility-determination process but meets the National Register criteria. For management purposes, an "eligible" property is treated as if it were already listed.

National Registry of Natural Landmarks

National inventory and listing of all or part of recreation areas classified under 36 CFR294.1 and research natural areas classified under 36 CFR 251.23 which have values illustrating the ecological or geological character of the nation.

Natural Forest

The condition of a forest environment at any point in time including its associated plant and animal communities, which has been reached essentially through the process of natural succession. This process would include the effects of natural catastrophic occurrences.

NEPA

An abbreviation of National Environmental Policy Act.

NFMA

An abbreviation of the National Forest Management Act of 1976.

Non-game

Any species of wildlife or fish which is not managed or otherwise controlled by hunting, fishing, or trapping regulations.

Non-point

Refers to area sources of water pollution such as a watershed in contrast to a point source such as an outlet from a factory.

Noxious Weeds

A plant considered to be extremely destructive or harmful to agriculture and designated by law. An undesirable species that conflicts with, restricts, or otherwise causes problems with the management objectives.

O

Objective

A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals. (36 CFR 219.3)

Off-road Vehicle (ORV)

Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, snow, ice, or other natural terrain. Non-motorized Mountain Bicycle use is also considered an Off-Road Vehicle.

Old-growth Stand

An old-growth stand is defined as any stand of trees 10 acres or greater generally containing the following characteristics: 1) stands contain mature and overmature trees in the overstory and are well into the mature growth stage; 2) stands will usually contain a multilayered canopy and trees of several age classes; 3) standing dead trees and down material are present; and 4) evidence of human activity may be present but does not significantly alter the other characteristics and would be a subordinate factor in a description of such a stand.

For additional information on how old growth was defined on the Mt. Hood National Forest, see FEIS-Chapter 3.

Output

A good, service, or on-site use that is produced from forest and rangeland resources. See FSH 1309.11 for forest and rangeland outputs, codes and units of measure. Examples: X06 - Softwood Sawtimber production - MCF; X80 - Increased Water Yield - Acre feet; W01 - Primitive Recreation Use - RVD's.

Outstandingly Remarkable Values

River-related resource values that are rare, unique or exemplary, and are significant at a Regional or National level.

Overstory

That portion of the trees in a forest of more than one story, forming the upper canopy layer.

P

PAOT

Persons-At-One-Time - Public recreational measurement term. The number of people in an area or using a facility at one time.

Partial Retention

A visual quality objective where man's activities may be evident but subordinate to the characteristic landscape.

Particulates

A component of polluted air consisting of any liquid or solid particles suspended or falling through the atmosphere.

Patented Mining Claims

A patent is a document which conveys a title. Public law provides that when patented, a mining claim becomes private property and is land over which the United States has no property rights, except as may be reserved in the patent. After a mining claim is patented, the owner does not have to comply with requirements of the General Federal Mining law, but is required to meet State regulations.

Payment in Lieu of Taxes

Payments to local or State governments based on ownership of Federal land and not directly dependent on production of outputs or receipt sharing. Specifically, they include payments made under the Payments in Lieu of Taxes Act of 1976, P.L. 94-565 Stat. 2662; 31 USC 1601-1607 (Note these payments are in addition to payments made from gross receipts from forest products made under the Twenty-Five Percent Fund Act of May 1908).

Peak Discharge, Peak Flow

The maximum volume of flow attained at a given point in a stream during a runoff event.

Perennial Stream

A stream that flows throughout the year.

Permanent Road Closure

Roads closed with the intent to never use them again, action taken to make them impassable and remove them from the transportation system.

Personal Use Firewood

Firewood gathered for use by the woodcutter. Resale of personal use firewood is not allowed.

Physically Challenged Individuals

Persons with physical conditions who require specialized access or equipment for certain activities.

Planning Area

The area of the National Forest System covered by a regional guide or Forest Plan. (36 CFR 219.3)

Plant Communities

A vegetation complex unique in its combination of plants which occur in particular locations under particular influences. A plant community is a reflection of integrated environmental influences on the site, which includes soils, temperature, elevation, solar radiation, slope, aspect, and rainfall.

Pool Habitat

That portion of the stream with reduced current velocity, often with water deeper than the surrounding areas, and which is frequently usable by fish for resting and cover.

Practices

Those management activities that are proposed or expected to occur.

Precommercial Thinning

The selective felling or removal of trees in a young stand, primarily to accelerate diameter increment on the remaining stems, maintain a specific stocking or stand density range, and improve the vigor and quality of the trees that remain.

Prehistory

People, places, things and events which have occurred or pertain to the time before written record.

Prescribed Fire

A wildland fire burning under preplanned specified conditions which will accomplish certain planned objectives. The fire may result from either planned or unplanned ignitions. Proposals for use of unplanned ignitions for this purpose must be approved by the Regional Forester.

Prescribed Natural Fire

The use of unplanned natural ignitions to meet management prescriptions.

Preservation

A visual quality objective that allows only ecological changes to take place.

Presuppression

Activities required in advance of fire occurrence to ensure an effective suppression action. It includes (1) recruiting and training fire forces, (2) planning and organizing attack methods, (3) procuring and maintaining fire equipment, and (4) maintaining structural improvements necessary for the fire program.

Primitive Recreation

Those recreation activities which occur in areas characterized by an essentially unmodified natural environment of fairly large size (2,500 acres or greater).

Production Potential

The capability of the land or water to produce a given resource.

Programmed Harvest

The part of the potential timber yield that is scheduled for harvesting. Includes salvage and cull timber volumes. It is based on current demand, funding, and multiple use considerations.

Public Access

Usually refers to a road or trail route over which a public agency claims a right-of-way for public use.

R

Radio Telemetry

A radio signal that is used to measure the position and/or movement of a wild animal. The radio transmitter is attached to the animal, and a receiver is used by a researcher to locate the animal in its natural habitat.

Range Allotment

A designated area containing land suitable and available for livestock grazing use upon which a specified number and kind of livestock are grazed under an approved allotment management plan. It is the basic management unit of the range resource on National Forest System lands administered by the Forest Service.

Range Allotment Plan

A long-term operating plan for a growing allotment designed to reach a given set of objectives and meet forest plan standards and guidelines. It is prepared with input from the permittee.

Ranger District

An administrative subdivision of the Forest, supervised by a District Ranger who reports to the Forest Supervisor.

Raptors

Any predatory bird such as a falcon, hawk, eagle or owl that has feet with sharp talons or claws adapted for seizing prey and a hooked beak for tearing flesh.

Recreation Opportunity

An opportunity for a user to participate in a preferred activity within a preferred setting, in order to realize those satisfying experiences which are desired.

Recreation Opportunity Spectrum (ROS)

Land delineations that identify a variety of recreation experience opportunities categorized into six classes on a continuum from primitive to urban. Each class is defined in terms of the degree to which it satisfies certain recreation experience needs. This is measured based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area, and the relative density of recreation use. The seven classes are:

Primitive - Area is characterized by an essentially unmodified natural environment of fairly large size. Interaction between users is very low, and evidence of other users is minimal. The area is managed to be essentially free from evidence of management restrictions and controls. Motorized use within the area is not permitted.

Semiprimitive Nonmotorized - Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but subtle. Motorized recreation use is not permitted, but local roads used for other resource management activities may be present on a limited basis. Use of such roads is restricted to minimize impacts on recreational experience opportunities.

Semiprimitive Motorized - Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but subtle. Motorized recreation use of local primitive or collector roads with predominantly natural surfaces and trails suitable for motor bikes is permitted.

Roaded Modified - A subclass of the Roaded Natural ROS class. Involves areas that are characterized by predominantly natural-appearing environments with high evidence of the sights and sounds of humans. Such evidence may not harmonize with the natural environment. Interaction between users may be moderate to high, with evidence of other users prevalent. Resource modification and utilization practices are evident and may not harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

Roaded Natural - Area is characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of man. Such evidence usually harmonizes with the natural environment. Interaction between users may be moderate to high, and evidence of other users prevalent. Resource modification and utilization practices are evident but harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

Rural - Area is characterized by a natural environment that has been substantially modified by development of structures, vegetative manipulation, or pastoral agricultural development. Resource modification and utilization practices may be used to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate user densities are present away from developed sites. Facilities for intensified motorized use and parking are available.

Urban - Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are often used to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans are predominant on site and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site.

Recreational Mining

A leisure-time activity involving the search for and collection of mineral specimens using nonsurface disturbing methods.

Reforestation

The natural or artificial restocking of an area with forest trees; most commonly used in reference to artificial restocking.

Regeneration

The actual seedlings and saplings existing in a stand; or the act of establishing young trees naturally or artificially.

Regeneration Cut

Any removal of trees to make regeneration possible.

Regional Forester

The official responsible for administering a single Forest Service region.

Regulated Harvest

Harvest that contributes chargeable timber volume to the Allowable Sale Quantity.

Rehabilitation

A short-term management alternative used to return existing visual impacts in the natural landscape to a desired visual quality.

Resident Trout

A trout which spends its entire life in fresh water.

Residual Stand

The trees remaining standing after some form of selection cutting is performed on a stand.

Residue

Material which includes both desired and unwanted vegetative residues which result from an activity or natural event.

Responsible Official

For land management planning purposes, the Forest Service employee who has been delegated the authority to carry out a specific planning action. (36 CFR 219.3)

Retention

A visual quality objective where human activities are not evident to the casual forest visitor.

Riffle

A feature of a stream having swift-flowing, turbulent water; can be either deep or shallow; features are generally cobble- or boulder-dominated.

Riparian

Pertaining to areas of land directly influenced by water. Riparian areas usually have visible vegetative or physical characteristics reflecting this water influence. Streamsides, lake borders, or marshes and wetlands are typical riparian areas.

Riparian Areas

Geographically delineated areas, with distinctive resource values and characteristics, that are composed of aquatic and riparian ecosystems. On the Mt. Hood National Forest riparian areas typically include areas adjacent to all streams, lakes, ponds and areas comprising seeps, springs, and wetlands.

Riparian Ecosystems

A transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem. Identified by soil characteristics and distinctive vegetation communities that require free or unbound water.

Riparian Vegetation

Vegetation growing on or near the banks of a stream or body of water on soils that exhibit some wetness characteristics during some portion of the growing season.

Risk

The degree and probability of loss based on chance.

Runoff

The flow or discharge of water from an area, including both surface and subsurface flow.

Road

A general term denoting a way for purposes of travel by vehicles greater than 40 inches in width.

Forest Arterial Road. Provides services to large land areas and usually connects with public highways or other Forest arterial roads to form an integrated network of primary travel routes. The location and standard are often determined by a demand for maximum mobility and travel efficiency rather than specific resource management service. It is usually developed and operated for long-term land and resource management purposes and constant service (FSM 7710.51).

Forest Collector Road. Serves smaller land areas than a Forest arterial road and is usually connected to a Forest arterial or public highway. Collects traffic from Forest local roads and/or terminal facilities. The location and standard are influenced by both long-term multi-resource service needs as well as travel efficiency. May be operated for either constant or intermittent service, depending on land use and resource management objectives for the area served by the facility (FSM 7710.51).

Forest Local Road. Connects terminal facilities with Forest collector or Forest arterial roads or public highways. The location and standard are usually controlled by specific resource activity requirements rather than travel efficiency needs (FSM 7710.51).

Roadless Area

See Inventoried Roadless Area.

ROS

An abbreviation of Recreation Opportunity Spectrum.

Rotation Age

The age of a stand when harvested.

S

Salmonid Smolt

Juvenile fish of the salmon/trout family going through biochemical changes during its migration to the ocean.

Sanitation Cutting (Salvage)

The removal of dead, damaged or susceptible trees primarily to prevent the spread of insect pests or diseases and promote forest hygiene.

Scoping Process

Determining the extent of analysis necessary for an informed decision of a proposed action. The process includes: (1) reviewing present Management direction as it relates to the analysis; (2) contacting those publics interested or affected by the proposed action to get their opinions and surface the issues; 3) determining local management concerns. This process continues throughout analysis until a decision is made.

Second Growth

Forest growth that has come up naturally after some drastic interference with the previous forest growth (e.g., cutting, serious fire, or insect attack).

Sediment

Solid material, both mineral and organic, that is in suspension, and is being transported from its site of origin by air, water, gravity, or ice, or has come to rest on the earth's surface either above or below sea level.

Selection Cut

Selection cutting is the periodic removal of mature trees individually or in small groups from an uneven-aged forest. By this method, both regeneration cutting and tending of immature stand components are accomplished at each entry.

Semi-primitive Motorized ROS Class

See Recreation Opportunity Spectrum.

Semi-primitive Non-motorized ROS Class

See Recreation Opportunity Spectrum.

Sensitive Species

Those species of plants or animals that have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species, that are on an official State list, or that are recognized by the Regional Forester as needing special management to prevent their being placed on Federal or State lists.

Seral

A biotic community which is a developmental, transitory stage in an ecological succession.

Sheet Erosion

The removal of a fairly uniform layer of soil from the land surface by runoff water.

Shelterwood Cutting

Any regeneration cutting in a more or less mature stand designed to establish a new stand under the protection (overhead or side) of the old stand. Usually the shelterwood involves two separate harvest operations. The first harvest (seed cut) is designed to create space and seed production to establish new trees. The second harvest (removal cut) is designed to remove the remainder of the old stand before it begins to compete with the new stand for light and nutrients. This is usually within 10 years.

SHPO

"State Historic Preservation Officer" means the official appointed or designated pursuant to Section 101(b)(1) of the National Historic Preservation Act to administer the State historic preservation program or a representative designated to act for the SHPO. Among other duties, the State Historic Preservation Officer advises and assists Federal agencies and State and local governments and cooperates with these agencies and others to ensure that historic properties are considered at all levels of planning and development.

Silvicultural System

A management process whereby forests are tended, harvested, and replaced resulting in a forest of distinctive form. Systems are classified according to the logging method that removes the mature crop and provides for regeneration and according to the type of forest thereby produced. (36 CFR 219.3)

Silviculture

The art and science of growing and tending forest vegetation for specific management goals.

Site Productivity

Production capability of specific areas of land to produce defined outputs such as AUMs, cubic feet/acre/year, etc.

Snag

A standing dead tree.

Smolt

A young salmon during its migration downstream to the sea after hatching.

Socioeconomic

Pertaining to, or signifying the combination or interaction of, social and economic factors.

Soil Productivity

The capacity of a soil to produce a specified crop such as fiber or forage under defined levels of management. Productivity is generally dependent on available soil moisture and nutrients, and length of growing season.

Special Emphasis Watersheds

This designation is applied to selected watersheds where special management emphasizes unusually high combinations of riparian resource values and high sensitivity due to generally demanding site conditions and where the goal is to maintain or improve habitat conditions for the sustained, long-term production of fisheries and high quality water.

Stand

Timber possessing uniformity as regards to type, age class, risk class, vigor, size class, and stocking class.

Standard

A principle requiring a specific level of attainment, a rule to measure against.

Stream Buffer

See Streamside Management Unit.

Stream Channel Morphology

The structure or form of a stream channel, as influenced by processes of erosion and deposition of channel materials (gravel, cobbles, sand, soil, etc.).

Stream Class

Classification of streams based on the present and foreseeable uses made of the water, and the potential effects of on-site changes on downstream uses. Four classes are defined:

Class I - Perennial or intermittent streams that provide a source of water for domestic use; are used by large numbers of fish for spawning, rearing or mitigation; and/or are major tributaries to other Class I streams.

Class II - Perennial or intermittent streams that are used by moderate though significant numbers of fish for spawning, rearing or migration; and/or may be tributaries to Class I streams or other Class II streams.

Class III - All other perennial streams not meeting higher class criteria.

Class IV - All other intermittent streams not meeting higher class criteria.

Stream Discharge

The volume of water flowing past a point per unit time, commonly expressed as cubic feet per second, million gallons per day, gallons per minute or cubic meters per second.

Stream Scour Or Channel Scour

Erosion of the channel bottom and/or banks caused by high flows or water, loss of channel stability, or debris torrents.

Stream Structure

The arrangement of logs, boulders, and meanders which modify the flow of water, thereby causing the formation of pools and gravel bars in streams. Generally, there is a direct relationship between complexity of structure and fish habitat. Complex structure is also an indication of watershed stability.

Streamflow

The flow of water, generally with its suspended sediment load, down a well-defined watercourse.

Streamside Management Unit (SMU)

An area of varying width adjacent to a stream where practices that might affect water quality, fish, and other aquatic resources are modified to meet water quality goals, for each class of stream. The width of this area will vary with the management goals for each class of stream, the characteristics of the stream and surrounding terrain, and the type and extent of the planned activity.

Successional Stage

A stage or recognizable condition of a plant community that occurs during its development from bare ground to climax. For example, coniferous forests in the Blue Mountains progress through six recognized stages: grass-forb, shrub-seedling, pole-sapling, young, mature, and old growth.

Suppression

The action of extinguishing or confining a fire.

Surface Resources

Renewable resources located on the earth's surface in contrast to ground water and mineral resources located below the earth's surface.

Surface Runoff

Water that flows over the ground surface and into streams and rivers.

T

Targets

Output accomplishments assigned to the Forest by the Forest Service Regional Forester. A statement used to express planned results to be achieved within a stated period of time.

Temporary Roads

Localized roads of limited duration, typically available for generic forest activities during the life of the project for which the road was constructed.

Terrestrial Habitat

Land area; wildlife species that dwell primarily on land, not aquatic, arboreal or aerial.

Thermal Cover

Cover used by animals to lessen the effects of weather; for elk, a stand of coniferous trees 12 meters (40 feet) or more tall with an average crown closure of 70 percent or more; for deer, cover may include saplings, shrubs, or trees at least 1.5 meters (5 feet tall) with 75 percent crown closure.

Threatened Species

Any species of animal or plant which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and which has been designated in the Federal Register by the Secretary of Interior as a threatened species.

Tiering

The coverage of general matters in broader environmental impact statements with subsequent, narrower statements or environmental analyses incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is:

(1) from a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope to a site-specific statement or analysis.

(2) from an environmental impact statement on a specific action at an early stage to a supplement or a subsequent statement or analysis at a later stage. Tiering is such cases is appropriate when it helps the lead agency to focus on the issues which are already ripe for decision and exclude from consideration issues already decided or not yet ripe.

Tolerant Species

Plants that grow well in shade.

Turbidity

The degree of opaqueness, or cloudiness, produced in water by suspended particulate matter, either organic or inorganic. Measured by light filtration or transmission and expressed in Jackson Turbidity Units (JTU).

U

Understory

Vegetation growing under a higher canopy.

Uneven-aged Management

The application of a combination of actions needed to simultaneously maintain continuous high forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes. This management must provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection. (36 CFR 219.3)

Uniform Flow

A state of steady water flow where the mean velocity and cross sectional area are equal at all sections.

Unroaded Acres

Those areas of undeveloped Federal land within which there are no improved roads maintained for travel by means of vehicles intended for highway use.

Unregulated Timber Management

Timber cut from those lands that are not organized to provide sustained yields of timber.

Utility and Transportation Corridors

A strip of land designated for the transportation of energy, commodities, and communications by railroad, state highway, electrical power transmission (69 KV and above), oil and gas and coal slurry pipelines 10 inches in diameter and larger, and tele-communication cable and electronic sites for interstate use. Transportation of minor amounts of power for short distances- such as short feeder lines from small power projects including geothermal or wind, or to serve customer subservice substations along the line- are not to be treated within the Forest Plan effort.

V

Viewshed

The total landscape seen or potentially seen from all or a logical part of a travel route, use area, or water body.

Primary Viewshed - The landscape seen from a designated travel route, or designated use area, which has high volume of use, long duration of use, or is a major access to the Forest.

Secondary Viewshed - The landscape seen from a designated travel route, or designated use area, with low use volume, short use duration, or is a minor access route to the Forest.

Visitor Information Service (VIS)

Activities which interpret for visitors, in layperson's language, Forest management, protection, utilization, and research. It also includes interpretation of local botany, geology, ecology, zoology, history, and archaeology.

Visual Condition

The visual appearance of a landscape described in terms of the degree of alteration of the natural appearing landscape. These terms are normally used as a summary rating for a large land area, such as a viewshed corridor. Descriptive degrees of alteration are:

Natural Appearing - Area appears untouched by humans; changes are not visually evident. Generally similar to the Retention VQO.

Slightly Altered - Changes may be noticed by the average visitor but do not attract attention. Natural appearance dominates minor disturbances. Generally similar to the Partial Retention VQO.

Moderately Altered - Changes are easily noticed by the average visitor and may attract attention. Disturbances are apparent. Generally similar to the modification VQO.

Heavily Altered - Changes are strong and obvious to the average visitor. Changes dominate the landscape but may resemble natural patterns when viewed from a distance of 3 to 5 miles. Disturbances are major. Generally similar to the maximum modification VQO.

Visual Quality Objectives (VQO)

Categories of acceptable landscape alteration measured in degrees of deviation from the natural-appearing landscape.

Preservation (P) - Ecological changes only.

Retention (R) - Management activities should not be evident to the casual Forest visitor.

Partial Retention (PR) - Management activities remain visually subordinate to the characteristic landscape.

Modification (M) - Management activities may dominate the characteristic landscape but must, at the same time, follow naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.

Maximum Modification (MM) - Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

Enhancement - A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists.

Visual Resource (Scenery)

The composite of basic terrain, geologic features, water features, vegetative patterns, and land-use effects that typify a land unit and influence the visual appeal the unit may have for visitors. Visual resource categories include Retention (R), Partial Retention (PR), and Modification (M).

W

Water Quality

The biological, physical, and chemical properties of water that make it suitable for given specified uses. Definition of water quality for forest areas is difficult because of the wide range of downstream uses.

Water Yield

The measured output of the Forest's streams.

Watershed

The line separating head-streams which flow to different river systems; it may be sharply defined (crest of a ridge), or indeterminate (in a low undulating area).

Wetlands

Areas that are inundated by surface or ground water with a frequency sufficient to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction (Executive Order 11990). Under normal circumstances the area does or would support a prevalence of vegetative or aquatic life.

Wild and Scenic Rivers

Those rivers or sections of rivers designated as such by congressional action under the 1968 Wild and Scenic Rivers Act, as supplemented and amended, or those sections of rivers designated as wild, scenic, or recreational by an act of the Legislature of the State or States through which they flow. Wild and scenic rivers may be classified and administered under one or more of the following categories:

Wild River Areas - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic River Areas - Those rivers or sections of rivers that are free of impoundments, with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational River Areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Wilderness

Areas designated by congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions, which generally appear to have been affected primarily by the forces of nature, with the imprint of human activity substantially unnoticeable; have outstanding opportunities for solitude or for a primitive and unconfined type of recreation; include at least 5,000 acres or are of sufficient size to make practical their preservation, enjoyment, and use in an unimpaired condition; and may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest.

Wilderness Resource Spectrum (WRS)

Standard and guidelines for managing Wilderness within the nondegradation policy have been developed under the Wilderness Resource Spectrum (WRS) concept. In the Pacific Northwest Region, the WRS classification system has been adopted to establish a variety of settings to meet Wilderness management and should not be confused with the Recreation Opportunity Spectrum; classification system. WRS classifications are determined by measured criteria which describe the social, biological, and physical characteristics of the area. Three primary zones are:

Primitive Trail-less - This zone offers the maximum possible solitary Wilderness experience. To qualify for this designation, the zone must be large enough to allow at least two days of cross-country travel without crossing a constructed trail. No more than one encountered with another user may be expected. The Forest does not contain this class of Wilderness zone.

Primitive Trailed - This zone offers the most solitary experience to be found on the Forest. The only facilities permitted are those needed to protect the environment. In practice, this means the presence of trails and a limited number of signs only. A user may expect to encounter no more than six other parties per day during 80 percent of the use season.

Semi-Primitive Trailed - This zone offers somewhat less solitary Wilderness experience than the Primitive Trailed. Activities to control degradation of the ecological and social values of the Wilderness are evident. Limited development, including toilets, are permitted. The number of encounters with other users is not expected to exceed 12 parties per day during 80 percent of the season.

Transition - In this zone encounters with other users in some areas exceed those specified for the Semi-Primitive Trailed zone making it desirable to identify areas where the heaviest use of the Wilderness takes place. Higher intensities of management activity in a Transition Zone are evident. More signs are in the zone, and trails may be constructed to higher standards. Encounters with other users is expected to be 18 or less per day during 80 percent of the season.

Wildfire

Any wildland fire not designated and managed as a prescribed fire within an approved prescription.

Winter Range

The area available to and used by big game through the winter season.

Withdrawal

An order removing specific land areas from availability for certain uses.

Appendix H

List of Preparers

List of Preparers

Interdisciplinary Team

Paul Norman, recreation specialist and co-leader for the team, has a B.S. in Outdoor Recreation from Colorado State University. He has 13 years planning experience on the Mt. Hood and Sierra National Forests. Prior to 1978, Paul was in private forestry consulting.

Bob Ratcliffe, BLM recreation planner and co-leader of the team, has a B.A. in Outdoor Recreation and a M.S. in Natural Resource Planning. An avid whitewater boater, he has 10 years experience in river and recreation planning and management.

John Barber, BLM hydrologist for the team, has both a B.S. and M.S. in hydrology. He has five years experience in hydrology, watershed planning, water quality, and aquatic systems.

Val Chambers is the public affairs specialist for the team and is Wild and Scenic Rivers coordinator for the Forest. Since 1975, she has worked for a variety of agencies in natural resource management and planning, and in public affairs. Val has a B.S. in forest management from the University of Washington and a M.S. in public relations/environmental studies from the University of Oregon.

Dick Shaffer, the retired Forest landscape architect for the Mt. Hood National Forest, has a B.S. in landscape architecture from Oregon State University and a M.S. in Urban Planning from Portland State University.

Jeff Jaqua, the cultural resources specialist for the team. He has a B.A. in anthropology from the University of Montana, a B.S. in zoology from Montana State University, and has pursued graduate studies in archaeology at Portland State University and University of Idaho. He has worked for the Mt. Hood National Forest since 1978.

Larry Scofield, the BLM botanist for the team, has a B.A. and M.S. in biology and has 18 years experience with the BLM in botany, ecology, and wildlife.

Jeff Uebel has a B.S. in fisheries science and a B.S. in wildlife science from OSU. He has worked for the Mt. Hood National Forest since 1987. From 1988-1990, he worked in Ecuador in fisheries production and management as a Peace Corps volunteer.

The following people provided valuable technical assistance:

Dan Fissell, Range Management
Barb Kott, Wildlife
Carol Hughes, Wildlife
Jennifer McDonald, Socioeconomics
Rich Wands, Fire Management
Glen Sachet, Recreation, Forest Planning
Shelly Young, Timber
Jamie Bradbury, GIS/Mapping
Rowan Bibb, Cultural Resources
Beth Walton, Cultural Resources
Tom DeRoo, Geology
John Haglund, Forest Ecology
Larry Bryant, Hydrology
Dean Apostol, Landscape Architecture

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