INLAND NATIVE FISH STRATEGY

Environmental Assessment

United States
Department of
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Forest Service

Decision Notice and Finding of No Significant Impact

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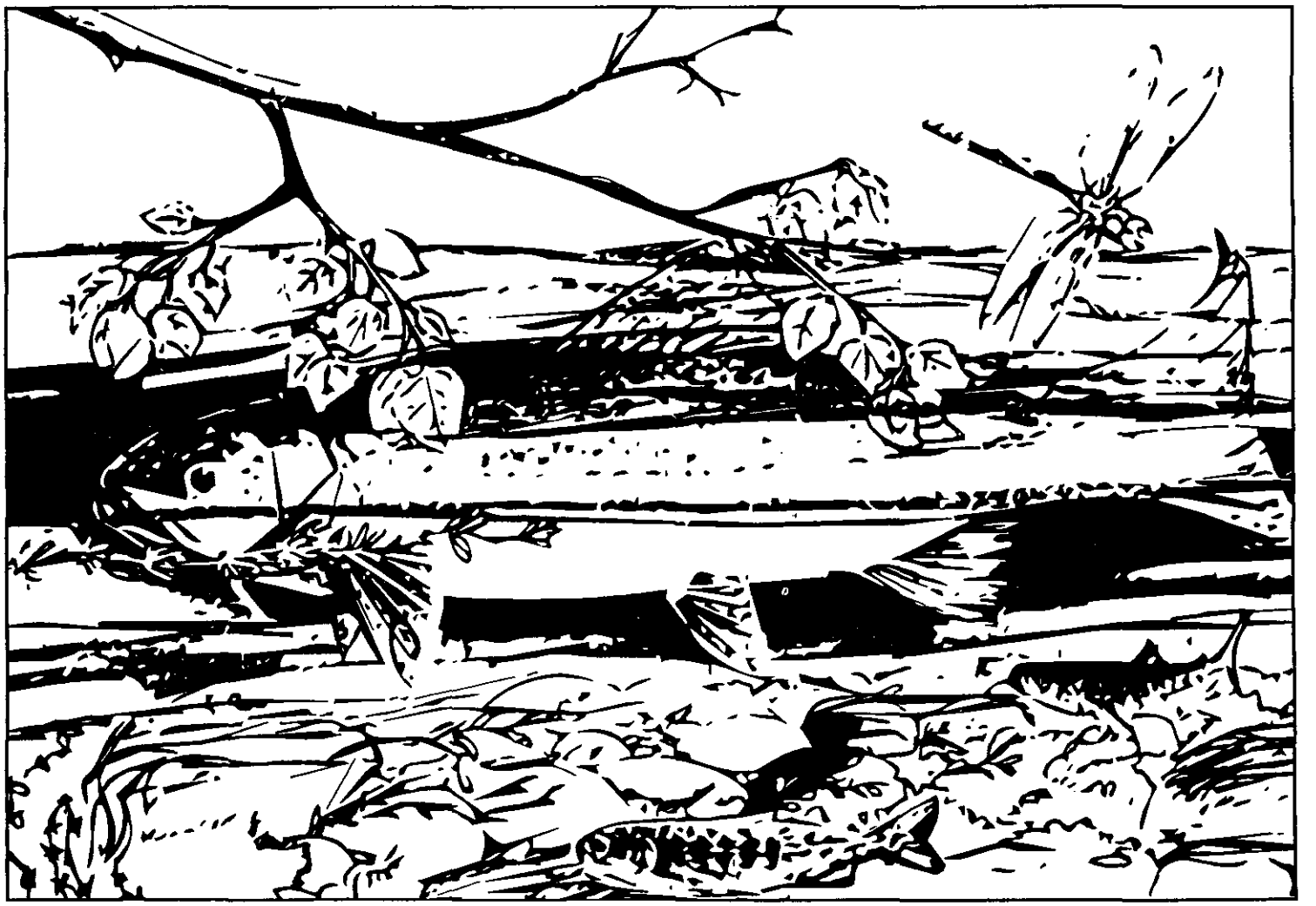

Intermountain, Northern, and Pacific Northwest Regions

DECISION NOTICE
AND
FINDING OF NO SIGNIFICANT IMPACT
FOR THE
INLAND NATIVE FISH STRATEGY

INTERIM STRATEGIES FOR MANAGING FISH-PRODUCING WATERSHEDS IN EASTERN OREGON AND WASHINGTON, IDAHO, WESTERN MONTANA AND PORTIONS OF NEVADA

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ABSTRACT

This strategy is intended to provide interim direction to protect habitat and populations of resident native fish outside of anadromous fish habitat in eastern Oregon, eastern Washington, Idaho, western Montana, and portions of Nevada. Inland native fish species within the scope of this decision have been identified by state, private and federal agencies as being at risk due primarily to habitat degradation, introduction of exotic species, over-fishing, and loss of migratory forms. This interim direction does not apply to areas addressed by the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Land Planning Documents Within the Range of the Northern Spotted Owl* (Northern Spotted Owl ROD) or *Decision Notice/Decision Record for Interim Strategies for Managing Anadromous Fish-Producing Watersheds on Federal Lands in Eastern Oregon and Washington, Idaho and Portions of California* (PACFISH). Long-term management direction is being developed through two ecosystem-based environmental impact statements that are being prepared for National Forest System lands and lands administered by the Bureau of Land Management in the Interior and Upper Columbia River Basins.

This interim direction is in the form of riparian management objectives, standards and guidelines, and monitoring requirements. The action amends the management direction established in the Regional Guides and all existing land and resource management plans for the area covered by the assessment.

The programmatic environmental assessment examined 5 alternatives (including No-Action) which addressed issues identified through the scoping and public involvement phases of the process. Alternative D reflected the proposed action, and is the alternative selected by the USDA Forest Service and supported by USDI Fish and Wildlife Service.

Alternatives C and E provided concepts and philosophy attractive for longer-term reduction of risk to habitat. The Regional Foresters have directed the Inland Native Fish Strategy Team Leader to develop a strategy to apply Alternatives C and E on a limited test basis.

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INTRODUCTION

Environmental Assessment

The Regional Foresters for the Northern, Intermountain and Pacific Northwest Regions of the Forest Service and the Regional Director of the Fish and Wildlife Service have analyzed a proposal for interim direction for approximately an 18-month time period intended to maintain options for inland native fish by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat. The proposal addresses habitat on National Forest System (NFS) lands on 22 National Forests in eastern Oregon, eastern Washington, Idaho, western Montana, and portions of Nevada. The proposal does not include areas addressed by the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Land Planning Documents Within the Range of the Northern Spotted Owl* (Northern Spotted Owl ROD) or *Decision Notice/Decision Record for Interim Strategies for Managing Anadromous Fish-Producing Watersheds on Federal Lands in Eastern Oregon and Washington, Idaho and Portions of California* (PACFISH).

Utilizing Forest Service and Fish and Wildlife Service scientists and related field personnel, management direction has been developed to apply during an approximate 18-month interim period. In accordance with the requirements of NEPA, an environmental analysis was conducted which led to the preparation of an Environmental Assessment to examine the likely effects of proposed protection strategies, and a Finding of No Significant Impact (FONSI) was concluded. The Environmental Assessment and Draft FONSI were published in June, 1995 and circulated for public review and comment. The Forest Service also undertook consultation with the Fish and Wildlife Service in accordance with the requirements of the Endangered Species Act.

Implementation

The Forest Service will implement the strategy through its field offices as amendments to Regional Guides and Land and Resource Management (Forest) Plans. This strategy will be applied to proposed or new projects or activities which must also comply with requirements of the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), and other applicable laws. The interim direction is in the form of riparian management objectives, standards and guidelines, and monitoring requirements.

The selected alternative will provide for a network of priority watersheds within the geographic area. These priority watersheds were designated where watersheds have excellent habitat or strong assemblages of inland native fish, particularly bull trout, or watersheds that provide for population distribution goals, or where the watersheds have a high restoration potential. Within the priority watersheds, ongoing projects have be screened to determine their potential habitat effects and whether they will need to be modified to reduce risk to inland native fish habitat. Watershed analysis would also be required for some management activities within the riparian habitat conservation areas in priority watersheds. Standards and guidelines are displayed in Attachment A.

Longer-Term Direction

Long-term management direction is being developed through two ecosystem-based environmental impact statements that are being prepared for National Forest System lands and lands administered by the Bureau of Land Management in the Interior Columbia River Basin. The Eastside Ecosystem Management Strategy Environmental Impact Statement applies to the area of Washington and Oregon east of the crest of the Cascade mountain range. The Upper Columbia River Basin Environmental Impact Statement will apply to Idaho and portions of Utah, Wyoming, Nevada, and Montana. While the Eastside Ecosystem Management Strategy overlaps some of the area addressed by the President's Forest Plan, the Inland Native Fish Strategy would not.

Cooperation With Other Agencies

The Forest Service is also pursuing a cooperative effort with the various states to assure a coordinated multi-agency effort to address inland native fish issues. A proposal was sent to the Governors of Idaho and Montana on June 23, 1995 to develop conservation strategies that could be used to replace this interim management direction with longer term direction working through the Upper Columbia River Basin EIS. Similar proposals will be made to the Governors of Oregon and Washington. As part of this cooperative effort, we will actively seek participation of local state fish and game personnel in the development of watershed analysis efforts.

THE DECISION

Based on public comment analysis and internal review, we have decided, with the support of the Fish and Wildlife Service, to select Alternative D as described in the Environmental Assessment for the Inland Native Fish Strategy.

Review of public comment indicated a great deal of concern with the science utilized to develop the interim management direction in Alternative D in comparison to Alternatives C and E. We have decided to test the concepts and philosophy of these two alternatives in order to improve our knowledge base. We believe this fits into the adaptive management approach we wish to take toward the development of policy direction. The information generated from this test can be utilized in the development of the EISs being prepared for the longer term direction and in future Forest Plan amendments and revisions. Therefore, we direct the Inland Native Fish Strategy Team Leader to prepare an implementation strategy applying Alternatives C and E in select watersheds, that will accomplish the objectives of this test. Alternative D will be implemented for all of the areas outside the test watersheds. We believe this approach will have a relatively low level of effect on management activities, while greatly reducing risk of loss of populations and potential negative effects to aquatic habitats during the interim period.

This decision amends Regional Guides for the Forest Service's Northern, Intermountain, and Pacific Northwest Regions, and 22 Forest Plans in the affected National Forests. The Forest Service will apply management measures to all proposed or new projects and activities involving the management of timber, roads, grazing, recreation resources, riparian areas, minerals, fire and fuels, and land uses such as leases, permits, rights-of-way and easements, as well as restoration of watershed, fish, and wildlife habitat on National Forest System lands occurring in eastern Washington and Oregon, Idaho, western Montana, and a small portion of Nevada (except for those areas under the direction contained in the Northern Spotted Owl Record of Decision and PACFISH). These measures essentially provide for mitigation of environmental effects of future decisions. Proposed or new projects and activities are defined as those actions that have not been implemented, or for which contracts have not been awarded, or for which permits have not been issued.

This management direction also applies to ongoing projects and activities within the priority watersheds that might pose an unacceptable risk to inland native fish. Ongoing projects and activities are defined as those actions that have been implemented, or that have contracts awarded, or permits issued. Unacceptable risk is described in the Environmental Assessment (Chapter II, page II-12). If either of the following results is probable or foreseeable as a result of an ongoing action or group of actions, that action or group of actions will be considered to pose an unacceptable risk and the interim standards and guidelines would be applied to avoid adverse impacts:

1. *Environmental changes that may cause a population to become threatened or endangered;*

2. *Environmental changes that decrease the estimated numbers and distribution of reproductive individuals such that the continued existence of the population within priority watersheds is at risk.*

The interim direction is designed to protect future options. This direction can be modified by the watershed analysis procedures described in Attachment A. Direction can also be modified in the absence of watershed analysis where watershed or stream reach specific data support the change. In all cases, the rationale supporting the changes will be documented.

Proposed and new projects as well as ongoing projects and activities within priority watersheds were reviewed by fish biologists and resource specialists from each National Forest using a screen developed in conjunction with the US Fish and Wildlife Service. The screen is included in the Environmental Assessment as Appendix I. All activities were rated as either having a high, moderate, or low risk, or no effect on bull trout populations or habitat. Within one month of the signing of this decision notice, Forest Supervisors must submit to their respective Regional Foresters an action plan for how high and moderate risk projects will be modified to avoid an unacceptable risk. Subject to valid existing rights, Forest Supervisors have three options to pursue:

1. *Modify the action to reduce the risk.*
2. *Postpone the action until the final direction is issued.*
3. *Cancel the action.*

Modifications for high and moderate risk projects should be initiated within two months with high risk projects having the highest priority. If there are compelling reasons why a project cannot be modified, delayed, or cancelled, the Forest Supervisor will include in the action plan written documentation of the rationale for such action and what other mitigating measures will be implemented to assure there is not an unacceptable risk. For low risk projects, Forest Supervisors must provide an action plan by March 1, 1996 for means to assure there is not an unacceptable risk.

The interim management direction for minerals, as described in Appendix E of the Environmental Assessment (page E-10) has been modified based on new information related to legal compliance. The modification for standard MM-1 is included in Attachment A, as follows:

> "*Minimize adverse effects to inland native fish species from mineral operations. If a Notice of Intent indicates that a mineral operation would be located in a Riparian Habitat Conservation Area, consider the effects of the activity on inland native fish in the determination of significant surface disturbance pursuant to 36 CFR 228.4. For operations in a Riparian Habitat Conservation Area ensure operators take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat which may be affected by the operations. When bonding is required, consider (in the estimation of bond amount) the cost of stabilizing, rehabilitating, and reclaiming the area of operations.*"

This modification will not significantly change the projected environmental effects, since it ties to current regulatory requirements.

SITE-SPECIFIC PROJECT-LEVEL DECISIONS

The Forest Service strategy applies to proposed and new projects and activities and to ongoing projects and activities that pose an unacceptable risk involving the management of timber, roads, grazing, recreation resources, riparian areas, minerals, fire and fuels, and land uses such as leases, permits, rights-of-way and easements, as well as the restoration of watershed, fish, and wildlife habitat within Riparian Habitat Conservation Areas or that degrade Riparian Habitat Conservation Areas on lands administered by the Forest Service within eastern Washington and Oregon, Idaho, western Montana and a small portion of Nevada (except those areas covered by the President's FEMAT Plan and PACFISH). This interim strategy would apply to all or portions of 22 National Forests in 3 Regions, across 5 states. The total National Forest System lands is approximately 24.9 million acres. The Regional Foresters for

the Northern, Intermountain, and Pacific Northwest Regions are responsible for compliance with this decision on the following national forests:

REGION 1 (Idaho and Montana)	REGION 4 (Idaho and Nevada)	REGION 6 (Washington and Oregon)
Bitterroot	Boise	Colville
Clearwater	Caribou	Deschutes
Deerlodge	Challis	Fremont
Flathead	Humboldt	Malheur
Helena	Payette	Ochoco
Idaho Panhandle	Sawtooth	Okanogan
Kootenai		Wallowa-Whitman
Lolo		Winema

Under the authority of 36 CFR 219.10(f), this decision amends Regional Guides for the Forest Service's Intermountain, Northern, and Pacific Northwest Regions and 22 Forest Plans (Environmental Assessment, Appendix G) to add explicit goals and objectives for inland native fish habitat condition and function, and identify Riparian Habitat Conservation Areas where management activities will meet new comprehensive standards and guidelines for approximately 18 months. These interim standards and guidelines replace existing conflicting direction described in these 22 Forest Plans, except where Forest Plan direction provides more protection for inland native fish habitat (Environmental Assessment, Appendix E). The decision documents for projects where these new standards and guidelines are applied will contain a finding that the project is consistent with the Forest Plans as amended by these interim standards and guidelines and is in compliance with all applicable laws.

RATIONALE FOR SELECTION

Reasonable alternatives to the proposed action were considered in the analysis conducted by the interdisciplinary team (Environmental Assessment, Chapter II, page II-6) and provided for public comment. Five alternatives were developed in response to public issues and management concerns, including the No-Action Alternative required by NEPA. The alternatives in this analysis reflect a difference in management emphasis, rather than a range of outputs.

We considered the ability of each alternative to meet the stated purpose and need of the action; comply with applicable laws, statutes, regulations, executive orders, and policies; and respond to issues and public comments about the alternative strategies. A critical factor relevant to this decision was the ability of the alternatives to respond to the issues identified in the Environmental Assessment (Chapter II, page II-12).

1. ***To what extent will the alternative reduce risk to loss of populations and potential negative impacts to aquatic habitat?***

2. ***How will implementation of the alternative affect management activities, and at what cost (including social and economic costs)?***

Alternative A

This is the No-Action alternative required by National Environmental Policy Act. The No-Action alternative would continue management under the current direction in the Forest Plans. Each Forest Plan would maintain its current standard and guideline direction.

We believe that Alternative A is the most variable in terms of risk, since each Forest has a different set of standards and guidelines. Direction for timber sales would be fairly uniform within the states but in total would not provide the Riparian Habitat Conservation Area protection that would be provided under the action alternatives. There would be little consistency on management of grazing, minerals, or other resources to provide protection for fisheries.

Alternative A would have the lowest social and economic impacts, since current standards and guidelines would continue to be applied. However, this alternative provides the highest risk to species viability and was not selected for this reason. Also, if action is not taken to reduce risk of loss of populations and potential negative effects to aquatic habitats, there is greater likelihood of litigation. An injunction tied to such a lawsuit could halt many activities in the Inland Native Fish Strategy analysis area, which would have a strong impact on those groups that rely on natural-resource extraction for their economic and community stability.

Alternative B

Alternative B provides a strong direction package that would reduce the risk to bull trout, but would not address other sensitive species. Alternative B would focus reduction of risk on watersheds with occupied bull trout habitat (approximately 9 million acres, or 36 percent of the project area). The more restrictive standards and guidelines to be applied would be the same as those under Alternative D. Current Forest Plan standards and guidelines would be applied to watersheds without occupied bull trout habitat, providing greater management flexibility. Social and economic costs would be similar to those under Alternative D, but with less effect on projects outside of priority watersheds. We did not select this alternative because we feel it provides unacceptable risks to inland native fish species other than bull trout.

Alternative C

Alternative C would provide flexible standards and guidelines to the Riparian Habitat Conservation Areas. Standards and guidelines for timber management would be based on the concepts in Fish 2000, an approach provided by the Intermountain Forest Industries Association and other groups during scoping. Riparian Habitat Conservation Areas would be determined with site-specific information based on the geo-hydrologic processes applicable to the site. Management direction for other resource management activities will follow current Forest Plan direction. This alternative would provide maximum flexibility for management operations within the Riparian Habitat Conservation Areas. Standards and guidelines would be applied across the geographic area.

Alternative C would allow the greatest amount of flexibility for developing the protection required on a site-specific basis, but to apply the process and meet the purpose and need for this strategy could increase the costs of project development. To implement this alternative would require an initial assessment prior to any major activity, and a comprehensive analysis when there is any doubt. If this analysis is not done, there is no guarantee that protection would be adequate, since individual familiarity with the Fish 2000 concept and comprehensive data for the watershed would vary for each project. Even with watershed analysis, the amount of management allowed in the Riparian Habitat Conservation Areas could provide a higher potential risk of loss of populations or potential negative effects to aquatic habitat. Due to the fact that no ongoing projects are screened and the greater flexibility to develop commodity production projects, there would be lower social and economic impacts to those people associated with resource-based industries.

We did not select this alternative because our purpose and need for this strategy is to preserve future options. Alternative C is a less conservative approach than Alternative D and we believe poses an unacceptable risk. However, the concepts of providing customized protection specific to the conditions of a watershed is attractive for longer term direction. Therefore, while we do not feel it appropriate to

utilize Alternative C for the entire geographic area, we will test it as described in "The Decision" discussion above, and under "Alternative D," below.

Alternative D

Alternative D would provide a higher level of risk reduction, based on the strong set of standards and guidelines that would be uniform across the entire 24.9 million acres addressed by the Inland Native Fish Strategy. The requirements adequate to protect resources would include procedures allowing flexibility in the development of projects.

In our opinion, Alternative D would have an acceptable effect on management activities, and low social and economic costs. As discussed in Chapter III of the Environmental Assessment, a maximum of 1 percent of the volume of timber harvest and 3.3 percent of the current permitted livestock use may need to be modified to avoid an unacceptable risk. There would be an effect on future projects, but it is anticipated that the effect would be comparatively small for the approximate 18-month interim. We have selected this alternative because we feel there is a high reduction in risk to habitat, with minor or no effect on community stability.

Through review of the public comment, we recognize the selection of this alternative will concern many people who felt this alternative provided either too much or not enough protection. Generally, those who felt too much protection had been provided favored Alternative C, and those desiring more protection favored Alternative E. Therefore, we have directed the Inland Native Fish Strategy Team Leader to develop a strategy to test the concepts and philosophy of those two alternatives, in conjunction with Alternative D. Application of Alternative D will provide the short-term reduction of risk we desire, while this test of Alternatives C and E will allow us to develop the information we need to provide better long-term direction.

The Selected Alternative, Alternative D, is in full compliance with applicable law, statues, regulations, executive orders, and policies of the Forest Service.

Alternative E

Alternative E would apply a consistent set of standards and guidelines to the Riparian Habitat Conservation Areas, with greater emphasis on watershed analysis and protection of unroaded areas. The standards and guidelines for Alternative E would be the same as those under Alternative D. This alternative is based on the concepts in the biological opinions issued by the National Marine Fisheries Service for PACFISH and Forest Plan consultations, and comments received from various environmental groups.

Subject to valid existing rights, there would be no road construction or timber harvest in unroaded areas 1,000 acres or larger in size, until long-term direction is provided by the completed Eastside and Upper Columbia River Basin Environmental Impact Statement's.

Alternative E offers the greatest reduction to risk of loss of populations or potential negative effects to aquatic habitat. While it has the same basic standards and guidelines package as Alternative D, the restrictions on unroaded areas would cause an overall lower risk. This reduction in risk primarily relates to road construction and reduction in activities outside of Riparian Habitat Conservation Areas. Given the strong requirements for road management in Alternative D and the lesser influence of activities outside the Riparian Habitat Conservation Areas, this is a minor reduction in risk in contrast to the potential economic effects described below.

In our opinion, Alternative E would have the most impact on management activities, and the highest potential social and economic cost. The exclusion of operations within unroaded areas 1,000 acres or larger could have a major effect on future salvage and green timber operations. Current estimates are

that about 10 percent of salvage volume is located in inventoried roadless areas. Restricting operations in 1,000-acre unroaded areas would probably greatly increase that percentage. While this interim direction would be short term, people in many rural communities would probably feel very threatened by the closure of so many areas to entry, and may fear that the direction could become long-term under the Eastside and Upper Columbia River Basin Environmental Impact Statements. We did not select this alternative based on the anticipated level of effects and public concern.

As discussed above, there is a strong public concern that more protection is necessary to reduce risk than is provided for in Alternative D. It is our belief that Alternative E is more restrictive than necessary. However, as with Alternative C, this alternative does provide concepts and philosophy attractive for longer-term reduction of risk to habitat. Therefore, we will test the concepts and philosophy of Alternatives C and E in order to improve our knowledge base, as discussed earlier.

PUBLIC INVOLVEMENT

As described in the Environmental Assessment (Chapter II, pages II-1 and II-2; Appendix D), public involvement efforts consisted of a series of briefings and informative letters to the public. A summary of comments received from individuals and organizations who reviewed the Environmental Assessment and Draft FONSI is found in the enclosed Summary of Public Comments.

Scoping Activities

A notice of the proposal to prepare an environmental assessment was published in the Federal Register on March 14, 1995 (Federal Register, Vol. 60, No. 49, p. 13697-13698). The purpose and need for the proposed action was identified, and the public was asked to comment on the project by April 14, 1995. The comment period was later extended to April 26 in response to concerns voiced by the public (Federal Register, April 13, Vol. 60, No. 71, pp. 18799-18800). The process was also modified in response to public concern, to allow the public 30 days to review this Environmental Assessment and provide comments to the Inland Native Fish Strategy Team, prior to a decision being made (Federal Register, May 25, Vol. 60, No. 101, p. 27717).

On March 29, 1995, letters were sent to over 5,000 groups and individuals who have shown an interest in forest planning activities similar to the Inland Native Fish Strategy. The letter briefly described the process for preparing an environmental assessment, discussed the proposed activities and the assessment area, and invited the public to comment on the proposal. Approximately 1,700 people from across the nation affirmed their interest in the Inland Native Fish Strategy and their desire to remain on the project mailing list.

Similar scoping letters were mailed to tribal representatives; the Governors of Washington, Oregon, Idaho, Montana, and Nevada; and Forest Supervisors of National Forests that would likely be affected by the Inland Native Fish Strategy. In addition to the information provided, a briefing of the proposed strategy was offered.

Numerous contacts were made with organizations and individuals, both over the telephone and in person, to clarify the information provided and obtain additional scoping comments from the public. Briefings were provided to members of the House and Senate; the Governors of Washington, Oregon, Idaho, and Montana; federal and state agency officials; and a variety of other organizations. Documentation of the briefings and other contacts is part of the project Administrative Record.

On April 5, 1995, a scoping document was mailed to the public, describing how the project was initiated, its purpose and need and proposed action, the issues and alternative concepts, and the geographic range of the analysis. The public was again invited to provide comments on the proposal.

On May 17, 1995, a letter was mailed to all of those on the project mailing list, providing a brief overview of comments received during scoping. The letter also provided notification that, in response to public comment, the environmental assessment would be made available to the public for a 30-day review period, prior to a decision being made.

Public Comment

The public scoping period for the Inland Native Fish Strategy began March 14 and ended April 26, 1995 (43 days). As of May 19, 1995, 244 letters had been received from people who felt they would be affected by management and natural resource practices related to native fish. The comments came from 16 states and 1 Canadian province. Approximately 93 percent of the comments were from people living in the five-state area (Washington, Oregon, Idaho, Montana, and Nevada).

The Environmental Assessment and Draft FONSI were completed in June, 1995 and distributed for public review and comment. Public hearings were conducted in Spokane, Washington; Bend, Oregon; Boise, Lewiston, and Twin Falls, Idaho; and Missoula, Montana. Twenty-nine people testified at these hearings, and 91 written comments were received. A list of the individuals and organizations submitting comments on the Environmental Assessment and Draft FONSI is found in the enclosed Summary of Public Comments.

The public comment was carefully reviewed by the Regional Foresters and Interdisciplinary Team to determine if there was new information that would require new alternatives or additional analysis prior to making an informed decision. Based on our review there is no need to generate additional alternatives or to reissue the Environmental Assessment. Most public comment did not raise new information but questioned the thoroughness of the analysis that was conducted. Most of the issues raised were the same ones as raised in scoping, as described in Chapter II of the Environmental Assessment. The following are some of the key areas of comment.

Many felt there is no scientific evidence to prove that a problem exists for bull trout or other native fish species.

This issue was addressed in the Environmental Assessment (page II-2). Many commentors included references to a paper prepared by Dr. Bill Platts of Chapman Associates, that questioned whether bull trout is at a point of extinction. This paper was reviewed by the Interdisciplinary Team and the Fish and Wildlife Service. The purpose of this Environmental Assessment is not to determine whether bull trout should be listed as a threatened or endangered species, but rather to preserve management options for not just bull trout, but other inland native species as well, until a more comprehensive assessment and analysis is provided by the Eastside Ecosystem Management Strategy Environmental Impact Statement (EIS) and the Upper Columbia River Basin EIS. The Platts paper indicates that there is a need for improved habitat management; they "strongly recommend that every state with bull trout develop, approve, and implement a bull trout conservation plan."

In addition, we received comment letters from the state fish and game agencies supporting the protection of all inland native fish species. The Washington Department of Fish and Wildlife "is concerned about protecting habitats and populations of inland native fish within the Columbia River Basin." Oregon Department of Fish and Wildlife officials stated they are "pleased that the Forest Service is taking action to implement watershed based habitat protection for inland native fish." Representatives of the Idaho and Montana fish and game agencies also voiced their support for protection of inland native fish species.

Based on the information available, we believe it is necessary to provide this interim direction for all inland native fish.

If species other than bull trout are a concern, why weren't priority watersheds for other species identified?

Priority watersheds are identified for bull trout because they are the species with the highest priority for review for listing under the Endangered Species Act. The selected alternative provides the same basic management direction for all species, and in our opinion will provide the necessary protection to conserve management options for all inland native fish species until the longer term direction is provided by the two EISs.

Some groups wanted to know why this interim direction was not applied to the greater Yellowstone ecosystem National Forests or the upper Missouri area.

The option was explored as an alternative but dropped from detailed consideration, as described in the Environmental Assessment (page II-6). Our intent is to provide direction in an ecosystem context. Ecosystems are areas of common climatic, physical, biological, social, and economic factors that need to be considered in their entirety. We do not wish to implement direction for ecosystems on a piecemeal basis; therefore these areas were excluded from our analysis. Inland native fish will be considered as assessment and analysis work is done in the Greater Yellowstone and Upper Missouri ecosystems.

The Environmental Assessment does not adequately address other limiting factors to the viability of the fish such as fishing pressure, exotic species competition, and stream diversions.

As discussed in the Environmental Assessment (page II-3), we recognize that there are many factors influencing inland native fish. Many of these factors are outside the jurisdiction of the Forest Service. What we can influence are the current and future management activities that affect habitat quality; this interim direction is designed around habitat quality. During project-specific analysis or watershed analysis, managers can determine the factors influencing the species and modify requirements to the local situation. We will also involve local fish and game departments, tribal governments, and other local groups to the maximum extent possible to provide more information. We believe watershed analysis is the appropriate place for these factors to be considered.

Many people felt that interim direction that affects so many Forests and acres should be considered in an Environmental Impact Statement (rather than an Environmental Assessment).

Detailed discussions related to this are included in the Finding of No Significant Impact, enclosed with this document. Since this Environmental Assessment does not ***authorize*** any ground disturbance, is only in effect for approximately 18 months, and is projected to have minor social and economic effects, it is our belief that this strategy is not a major federal action. Longer term direction for the area is being prepared under the Upper Columbia River Basin and Eastside Ecosystem Management Environmental Impact Statements.

Quite a few people questioned whether the two EISs would be completed 18 months based on Congressional actions and the time required for completion of an EIS effort.

The two EIS efforts are currently on a schedule that will show completion within the 18-month time period. If the two EISs are terminated by Congressional action or if they reach a point where they will take significantly more time, we would need to review the options available at that time.

Many people feel that the preferred alternative is still a "one size fits all" approach that will "lock up" the riparian habitat conservation areas, approximately 24 percent of the National Forest System lands.

All of the alternatives would be "one size fits all" *if they did not have the flexibility to be modified.* As described above, we selected Alternative D because it provides a conservative interim direction that

will provide for future management options for inland native fish. It does allow for flexibility, through watershed and site-specific project analysis. We are establishing a process that will require serious scrutiny of riparian and aquatic ecosystems. We are proposing conservative management for these areas in the next 18 months. We are not "locking out" legitimate management activities. In addition, we are testing the concepts and philosophy of Alternative C, which provides the greatest flexibility for developing site-specific direction. This will allow us to improve our knowledge base concerning the best way to provide direction to meet our objectives.

Some people felt that allowing any management action to occur represented too great a risk, and that management actions allowed to occur outside the riparian habitat conservation areas would increase risk to habitat and species. Some groups particularly wanted unroaded areas to be set aside as reserves.

As described in the previous comment, we feel the selected alternative adequately provides for inland native fish while still allowing management activities where appropriate. As for projects outside the riparian habitat conservation areas, all projects must still comply with Forest Plan management direction and meet National Environmental Policy Act requirements. In addition, a biological evaluation is done whenever there is the presence of a sensitive species. These safeguards should be sufficient to provide adequate protection.

The concept of reserves was explored in Alternative E, which was not selected for implementation. The rationale for not selecting Alternative E is expressed above. We will be testing the concepts of this alternative which will allow us to begin the evaluation of the value of reserves.

Many people felt that the Environmental Assessment did not adequately assess the risk of riparian and water quality degradation due to insect and disease disturbances combined with catastrophic fires. They felt active silvicultural management should be required to reduce this risk.

The Environmental Assessment addressed this issue (pages III-19 to 21). In the next 18 months, managers have the flexibility to address serious degradation concerns through watershed analysis or site-specific project analysis. There is a low probability of significantly reducing insect and disease risk across millions of acres. To successfully reduce risk would require longer-term analysis and direction, and has been identified as one of the issues to be addressed in the two Environmental Impact Statements. We feel that the two EISs are the appropriate place for this policy decision to be made.

People felt that the economic analysis was not detailed enough to provide adequate information to make a decision.

The Inland Native Fish Strategy Environmental Assessment is a programmatic document. We wanted to know the potential effects of interim direction for the 18-month time period prior to the two Environmental Impact Statements being completed. The analysis in the Environmental Assessment focused on the most immediate potential effect, which would be caused by the modification of ongoing activities to reduce risk to the inland native fish. Through our analysis we determined that there will be minor effects. For new projects, we believe most Forests have the flexibility to either postpone activities within the riparian habitat conservation areas for the next 18 months, or they can utilize watershed or site-specific analysis to proceed with projects while still meeting our objectives. Effects will be disclosed in the site-specific NEPA analysis. We also recognize that there may be positive economic effects caused by this project. Given the short duration the interim direction is in effect, it will be difficult to measure these benefits. We do not anticipate that this interim direction will significantly change the flow of goods and services from the Forests for the next 18 months. We believe that we have adequate economic information to make this decision.

NFMA FINDING OF NON-SIGNIFICANCE

Under the National Forest Management Act (NFMA), (16 USC 1604(f)(4), Regional Guides and Forest Plans must "be amended in any manner whatsoever after final adoption and after public notice, and, if such amendment would result in a significant change in such plan, in accordance with subsections (e) and (f) of this section and public involvement comparable to that required by subsection (d) of this section." The NFMA regulations at 36 CFR 219.10(f) state: "Based on an analysis of the objectives, guidelines, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan." Neither NFMA nor its implementing regulations define the term "significant." Instead, the regulations place full discretion to determine whether or not a proposed amendment will be significant in the hands of the Forest Service.

Under NFMA and its regulations, an amendment that does not result in a significant change in a Forest Plan must be undertaken with public notice and appropriate NEPA compliance. If a change to a Forest Plan is determined to be significant, the Regional Forester must follow the same procedure required for the development of the Forest Plan, including preparation of an Environmental Impact Statement.

The Forest Service *Land and Resource Management Planning Handbook* (Forest Service Handbook 1909.12) provides more detailed guidance for exercising this discretion. This guidance offers a framework for consideration, but does not demand mechanical application. No one factor is determinative and the guidelines make it clear that other factors may be considered.

Under section 5.32, Forest Service Handbook 1909.12 lists four factors to be used when determining whether a proposed change to a Forest Plan is significant or not significant: timing; location and size; goals, objectives and outputs; and management prescriptions. It also states that "[o]ther factors may also be considered, depending on the circumstances." The determination if a proposed change to a Forest Plan is significant or not depends on an analysis of all of these factors. While these factors are to be used, they do not override the statutory criterion that there be a significant change in the Plan. Basically, the decisionmaker must consider the extent of the change in the context of the entire Plan affected, and make use of the factors in the exercise of his or her professional judgement. The Forest Service has carefully evaluated the interim strategy and concluded that it does not constitute a significant amendment of the Regional Guides for the Forest Service's Northern, Intermountain, and Pacific Northwest Regions, and 22 Forest Plans in eastern Washington and Oregon, Idaho, western Montana and a small portion of Nevada.

1. Timing.

The timing factor examines at what point, over the course of the Forest Plan period, the Plan is amended. Both the age of the underlying document and the duration of the amendment are relevant considerations. The handbook indicates that the later in the time period, the less significant the change is likely to be. All of the Forest Plans affected are at least half-way through the first planning period. As noted in the Environmental Assessment (Chapter I, page I-3; Chapter III, page III-2) and FONSI (pages 2-4), the action is limited in time and changes to the Plans are not intended to be permanent. The fact that these interim guidelines, by definition, will only be in place until the current analysis of a long-term strategy is complete supports the determination that they do not constitute significant amendments of the Regional Guides and Forest Plans.

2. Location and Size.

The key to the location and size is context, or "the relationship of the affected area to the overall planning area," (Forest Service Handbook 1909.12, sec. 5.32(d)). As further discussed in Forest Service Handbook 1909.12, sec. 5.32(d), "the smaller the area affected, the less likely the change is to be a significant change in the Forest Plan." As discussed in the FONSI (page 2) and the

Environmental Assessment (Chapter I, page I-4; Chapter II, pages II-1 and II-7; Chapter III, page III-1), the interim strategy applies only to projects within Riparian Habitat Conservation Areas or projects outside of the Riparian Habitat Conservation Areas that would degrade the Riparian Habitat Conservation Area condition. The size of the area affected during the interim time period is very small when compared to the overall planning area.

The appropriate inquiry when considering the significance of Plan amendments is the change made on each Forest, and not the cumulative change on all of the involved Forests. The cumulative change on all the involved Forests is assessed to determine whether the amendment of the Regional Guides is significant. In both cases, the areas in the planning unit affected by the interim standards and guidelines is not so large in size as to mandate a significant amendment (Environmental Assessment, Chapter III, page III-2) and FONSI (page 2).

3. Goals, Objectives, and Outputs

The goals, objectives, and outputs factor involves the determination of "whether the change alters the long-term relationship between the level of goods and services in the overall planning area" (Forest Service Handbook 1909.12, section 5.32(c)). This criterion concerns analysis of the overall Forest Plan and the various multiple-use resources that may be affected. There is no guarantee under NFMA that output projections will actually be produced. As discussed in the FONSI (page 3) and the Environmental Assessment (Chapter I, page I-3), the interim strategy would apply only to proposed or new projects and activities and ongoing projects and activities that pose an unacceptable risk. Thus, the interim strategy does not significantly alter the long-term relationships between the levels of goods and services projected by the Forest Plans. For example, the effects on timber supply and other commodity resources are short term. The interim strategy will have short-term beneficial effects upon some resources, such as water quality and riparian resources.

Relatively small changes would occur in recreation use, timber harvested and animals grazed with adoption of the interim strategy. There may be opportunities to substitute other areas and activities for those ongoing or proposed projects affected by the Inland Native Fish Strategy. The interim strategy does not involve a demand for any new service or good not discussed in or contemplated by the existing Forest Plans or Regional Guides. Furthermore, the interim strategy will only be in effect until a long-term strategy is developed and examined in an Environmental Impact Statement (approximately 18 months). The guidance in Forest Service Handbook 1909.12, section 5.32(c) explains: "In most cases, changes in outputs are not likely to be a significant change in the Forest Plan unless the change would forego the opportunity to achieve an output in later years." Any short-term temporary reductions in outputs do not foreclose opportunities to achieve such outputs in later years. Thus, the interim strategy does not foreclose the achievement of existing goals and objectives.

4. Management Prescriptions

The management prescriptions factor involves the determination of (1), whether the change in a management prescription is only for a specific situation or whether it would apply to future decisions throughout the planning area" and (2), "whether or not the change alters the desired future condition of the land and resources or the anticipated goods and services to be produced" (Forest Service Handbook 1909.12, section 5.32(d)).

The desired future conditions and long-term levels of goods and services projected in current plans would not be substantially changed by the interim strategy. The interim strategy will work to accomplish an element of the multiple-use desired future condition of the Regional Guides and Forest Plan by providing for protection of threatened, endangered and sensitive species. As noted above, the interim strategy is temporary and applies only to a portion of the overall planning area. Thus, the "anticipated goods and services" will not be greatly affected by interim direction. The

interim strategy only affects limited area where selected projects are occurring or may be proposed and does not alter the management framework for the vast majority of lands within the overall planning area. In adopting the interim strategy (essentially mitigation measures) until a long-term strategy is developed, the Plan amendments retain or improve the environmental status quo on a portion of the affected national forests.

Other Factors

The handbook guidance allows for the consideration of other factors. It is crucial that the agency be able to respond to scientific information and changing environmental conditions. By responding to changing circumstances, the Forest Service will be better able to manage the national forests for multiple-use resources and assure a continuous supply of goods and services from the national forests for the long term.

In the case of the interim strategy, the other factors include the ability of the Forest Service to adapt to changing conditions and protect threatened, endangered and sensitive species for a short period of time until a long-term strategy can be analyzed and adopted. The interim strategy is merely a temporary attempt to preserve the environmental status quo, thereby maintaining management option, while long-term direction can be evaluated. By taking the active step of adopting interim guidelines pending the development of long-term options, the Forest Service is better able to achieve its goals of managing the National Forests for sustainable multiple uses, and to avoid drastic emergency measures in the future.

The process of adapting forest management to changing social and environmental conditions is not finished. The long-term environmental impact statements will also analyze similar issues concerning environmental protection and commodity production. The interim strategy provides a short-term response to complex, changing circumstances.

FINDING OF NO SIGNIFICANT IMPACT

Background

The Regional Foresters for the Northern, Intermountain and Pacific Northwest Regions of the Forest Service have analyzed a proposed strategy for interim direction for approximately an 18 month time period intended to maintain options for inland native fish by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat. The strategy addresses habitat on National Forest System (NFS) lands on 22 National Forests in eastern Oregon, eastern Washington, Idaho, western Montana, and portions of Nevada. The strategy does not include areas under the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Land Planning Documents Within the Range of the Northern Spotted Owl* (Northern Spotted Owl ROD) or *Decision Notice/Decision Record for Interim Strategies for Managing Anadromous Fish-Producing Watersheds on Federal Lands in Eastern Oregon and Washington, Idaho and Portions of California* (PACFISH).

The strategy is intended to provide programmatic mitigation measures for potential environmental effects which may result from future projects and activities and to reduce risk for high and moderate risk on-going projects and activities within the priority watersheds. The selected strategy makes no irreversible commitment of resources. Additional mitigation measures may be added to particular projects as a result of site-specific conditions during project-level analysis. Because this action will mitigate current and future environmental effects, the indirect physical consequences are expected to be beneficial. No adverse indirect physical effects should occur. There may be indirect adverse social and economic effects; however, these effects are not significant and therefore do not require the preparation of an environmental impact statement (40 CFR 1508.8).

Other related environmental documents were taken into account include: Regional Guides, Land and Resource Management Plans (Forest Plans) and associated National Environmental Policy Act (NEPA) documents, the Northern Spotted Owl ROD and associated NEPA documents, the PACFISH Decision Notice and associated NEPA documents, and the Decision Notice for the *Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales* and associated NEPA documents, which was prepared in the Pacific Northwest Region. The Idaho Fish and Game Commission's *Bull Trout Conservation Strategy* issued January 23, 1995 was also evaluated and considered.

Reasons for the Finding of No Significant Impact

The selected strategy for interim direction, Alternative D, has a relatively broad context by applying interim management direction to 22 National Forests over 25 million acres in five western states, Oregon, Washington, Idaho, Montana, and Nevada. The alternatives, affected environment, and consequences are disclosed in the Environmental Assessment. In consideration of the analysis documented in the Environmental Assessment and in light of the reasons set forth below, we find that adoption of Alternative D as the interim strategy will not significantly impact the human environment.

1. ***The interim strategy would be limited in geographic application (40 CFR 1508.27(a)).*** The interim strategy would apply to projects within Riparian Habitat Conservation Areas (RHCAs), approximately 24% of the NFS lands on the 22 National Forests. The amount of land affected by the interim direction within the 18 month period will be a subset of this land since not all lands will have projects generated in that time period. In addition, as described on page III-35 of the Environmental Assessment, a large percentage of the priority watersheds are in management area categories that are already highly restrictive. This means less of the area will be affected by the interim direction.

2. ***The interim strategy would be limited to certain projects and activities.*** The interim strategy would apply to proposed or new projects started within the next 18 months and activities* and ongoing projects and activities that pose a high or moderate risk** to bull trout populations or habitat within priority watersheds. Thus, resource effects would not be significant, given the short duration of interim direction and the ability of the Forest Service to relocate activities outside the RHCAs. The interim strategy will reduce the potential environmental impacts of project decisions from those allowed by current plans.

   * *"Proposed or new projects and activities" are defined as those actions that have not been implemented, or for which contracts have not been awarded, or for which permits have not been issued.*

   ** *"Ongoing projects and activities" are defined as those actions that have been implemented, or have contracts awarded, or have permits issued. "High or moderate risk to bull trout populations or habitat" was determined by fish biologists and resource specialists from each National Forest using a screen developed in conjunction with the US Fish and Wildlife Service. Priority watersheds were also developed by each Forest and represent approximately 22 percent of the assessment area. Priority watersheds were identified based on whether they have excellent habitat or strong assemblages of inland native fish, provide for meta-population objectives, or they have a high restoration potential.*

3. ***The interim strategy would not significantly affect public health or safety (40 CFR 1508.27(b)2)).*** The interim strategy does not, on its own, authorize any ground-disturbing activities or direct changes to the environmental status quo. Instead, it provides programmatic direction and mitigation measures to be applied to site-specific projects and activities. Additional mitigation measures may be added to particular projects as a result of site-specific conditions during project-level analysis. New project decisions will be preceded by site-specific NEPA analysis. Thus, the selected alternative does not have significant effects on human health and safety beyond those already documented in existing plan Environmental Impact Statements and site-specific analyses of ongoing projects and activities, or might be identified in such future analyses of proposed projects and activities. Potential environmental effects on some resources (e.g. aquatic, riparian) will be

reduced. The beneficial effects will be not be significant due to the short time frame involved, the limited area affected, and the limited intensity of the beneficial effects.

4. ***The interim strategy would not significantly affect any unique characteristics of the geographic area (40 CFR 1508.27(b)(3)), does not adversely affect anything listed or eligible for listing in the National Register of Historic Places, nor does it cause loss or destruction of significant scientific, cultural, or historic resources (40 CFR 1508.27(b)(8)).*** The interim strategy does not alter the environmental protection afforded such unique lands as is already provided for in the Forest Plans and provides improved protection for such resources if they reside within the RHCAs.

5. ***The interim strategy does not involve physical or biological effects that are likely to be highly controversial (40 CFR 1508.27(b)(4)).*** The scientific basis for this interim direction has been established and evaluated in the Northern Spotted Owl ROD and associated NEPA documents and the PACFISH Decision Notice and associated NEPA documents. There is no controversy that the interim direction would be beneficial towards meeting the purpose and need for this action. Any controversy pertains to whether the interim direction needs to be stronger or is too strong for an interim time period.

6. ***The interim strategy does not involve social or economic effects that are likely to be highly controversial (40 CFR 1508.27(b)(4).*** Controversy in this context refers to cases where there is substantial dispute as to the size, nature or effect of the Federal action, rather than to opposition to its adoption. Some individuals and groups might take exception to the proposal, see social analysis in Chapter III. For the economic effects analysis, the projection for ongoing projects is that a maximum of 1.1 percent of timber harvesting volume and 3.3 percent of permitted grazing for the 22 National Forests might be affected in the short term. Effects on proposed or new projects and activities are more difficult to project but for the short time period should be minor (see discussion point in the Decision Notice). This projected effects are well within the level of goods and services projected by the Forest Plans. Forest Plans do not set commodity targets, but provide a dynamic programmatic framework for future decisionmaking. Commodity production values estimated in Forest Plans are projections based on best information and dependent upon budget appropriations.

7. ***The interim strategy does not establish any highly uncertain, unique, or unknown experimental risks (40 CFR 1508.28(b)(5)).*** The best available scientific information provided the foundation for designing the interim strategy (Environmental Assessment, page II-3, Appendix E). Measures similar to the interim strategy are used for management of fish habitat in areas subject to the Northern Spotted Owl ROD and PACFISH and have been proposed in the Idaho Conservation Strategy.

8. ***The interim strategy does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6), nor is it related to other actions with individually insignificant but cumulative significant impacts (40 CFR 1508.27(b)(7)).*** The interim strategy is a short-term effort to retain the environmental status quo while the long-term strategies are developed in the Eastside and Upper Columbia River Basin Environmental Impact Statements. The interim strategy will apply for a limited time, approximately 18 months, until these Environmental Impact Statements are completed. The temporary nature of the interim strategy will limit its effects. The Environmental Assessment discloses the cumulative effects of interim direction on habitat conditions and trends on land within the watersheds administered by the Forest Service within the geographic area of the project.

   The Environmental Impact Statements being prepared for the long-term environmental strategies will produce the long-term cumulative effects information. Because recovery processes within

riparian areas and aquatic habitats are gradual, such short term adjustments in management practices are unlikely to result in significant environmental effect on future actions on NFS lands. The interim strategy is not binding on any future decisions made on long-term strategies.

This interim strategy is not related to other strategies such as PACFISH or the Northern Spotted Owl ROD in such a way as to generate a significant impact requiring preparation of an Environmental Impact Statement. This is due to the findings related in items 1, 5 and 6 relating to the small geographic area affected in the time frame and limited physical, biological, social, and economics effects.

9. ***The interim strategy will not adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9))*** Biological Evaluations and Biological Assessments have been prepared for this project and are located in Appendix F. They have a finding of not likely to adversely effect for all species.

10. ***The interim strategy does not threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)).*** Adoption of the selected alternative would not significantly affect the following elements of the human environment, which are specified in statute, regulation, or executive order: Air Quality, Areas of Critical Environmental Concern, Cultural Resources, Farm Lands (prime or unique), Floodplains, Native American Religious Concerns, Threatened or Endangered Species, Hazardous or Solid Wastes, Water Quality, Wild and Scenic Rivers, and Wilderness.

Finding

On the basis of the information and analysis contained in the Environmental Assessment and all other information available as summarized above, it is our determination that adoption of the interim direction over approximately the next 18 months, until the Eastside and Upper Columbia River Basin Environmental Impact Statements are completed, does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement is not needed.

APPEAL RIGHTS

This decision notice reflects the final decision of the Forest Service. This decision may be appealed in accordance with the provisions of 36 CFR 217.7(b) by filing a written notice of appeal, in duplicate, within 45 days of the date of publication of the legal notice of availability for this decision. The decision is effective 7 days after publication of the legal notice (36 CFR 217.10(a). The appeal must be filed with the Chief of the Forest Service:

Chief of Forest Service
14th and Independence Avenue S.W.
Post Office Box 96090
Washington, D.C. 20090-6090

The notice of appeal must include sufficient narrative evidence and argument to show why this decision should be changed or reversed (36 CFR 217.9).

DOCUMENTS AND PROJECT FILES

The Administrative Record contains the detailed information, data used and decisions made in selecting Alternative D for implementation. The Environmental Assessment, Decision Notice and supporting documents are available for inspection during regular business hours at:

Inland Native Fish Strategy
Idaho Panhandle National Forests
3815 Schreiber Way
Coeur d'Alene, Idaho 83814

For HAL SALWASSER
Regional Forester
Northern Region
Missoula, Montana
(406) 329-3316

7/28/95
Date

DALE N. BOSWORTH
Regional Forester
Intermountain Region
Ogden, Utah
(801) 625-5605

7/28/95
Date

JOHN E. LOWE
Regional Forester
Pacific Northwest Region
Portland, Oregon
(503) 326-3625

7/28/95
Date

ATTACHMENT A

INLAND NATIVE FISH STRATEGY
SELECTED INTERIM DIRECTION

Management Direction

Under the selected Alternative D, the Inland Native Fish Strategy will apply the following management direction to all 22 Forests except where PACFISH or the President's Plan apply. This is approximately 24.9 million acres.

The adoption of Alternative D as the Inland Native Fish Strategy could lead to deferring or suspending some resource management projects and activities within priority watersheds within the Riparian Habitat Conservation Areas (RHCAs, described below) or that degrade RHCAs during the interim period. Adoption of these requirements during the interim period is **not** to be considered a "lockout" of any project or activity from the RHCAs. However, proper analysis is required prior to initiation of projects. See the discussion below on priority watersheds and watershed analysis.

In addition, we will be testing the concepts and philosophies of alternatives C and E as described in the Decision Notice for this project. The direction for alternatives C and E are included with this package but are only to be used within the watersheds assigned for the testing. More detail will be sent out as to how and where the testing will be accomplished.

Riparian Goals

The goals establish an expectation of the characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. Since the quality of water and fish habitat in aquatic systems is inseparably related to the integrity of upland and riparian areas within the watersheds, The strategy identifies several goals for watershed, riparian, and stream channel conditions. The goals are to maintain or restore:

(1) water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems;

(2) stream channel integrity, channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed;

(3) instream flows to support healthy riparian and aquatic habitats, the stability and effective function of stream channels, and the ability to route flood discharges;

(4) natural timing and variability of the water table elevation in meadows and wetlands;

(5) diversity and productivity of native and desired non-native plant communities in riparian zones;

(6) riparian vegetation, to:

(a) provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems;

(b) provide adequate summer and winter thermal regulation within the riparian and aquatic zones; and

(c) help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.

(7) riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region; and

(8) habitat to support populations of well-distributed native and desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.

Riparian Management Objectives

In the development of PACFISH, landscape-scale interim Riparian Management Objectives (RMOs) describing good habitat for anadromous fish were developed, using stream inventory data for pool frequency, large woody debris, bank stability and lower bank angle, and width to depth ratio. Applicable published and non-published scientific literature was used to define favorable water temperatures. All of the described features may not occur in a specific segment of stream within a watershed, but all generally should occur at the watershed scale for stream systems of moderate to large size (3rd to 6th order streams).

This material was reviewed in regard to its applicability to inland native fish. It has been determined that the Riparian Management Objectives described in PACFISH are good indicators of ecosystem health. The analysis that led to development of the RMO's involved watersheds in Oregon, Washington, and Idaho that include inland native fish as well as anadromous fish. With the exception of the temperature objective, which has been modified, the RMO's represented a good starting point to describe the desired condition for fish habitat.

Under the Inland Native Fish Strategy, these interim RMO's would apply where watershed analyis has not been completed. The components of good habitat can vary across specific geographic areas. Interim RMO's are considered to be the best watershed scale information available; National Forest managers would be encouraged to establish site-specific RMO's through watershed analysis or site specific analysis.

RMOs should be refined to better reflect conditions that are attainable in a specific watershed or stream reach based on local geology, topography, climate, and potential vegetation. Establishment of RMO's would require completion of watershed analysis to provide the ecological basis for the change. However, interim RMO's may be modified by amendment in the absence of watershed analysis where watershed or stream reach specific data support the change. In all cases, the rationale supporting RMO's and their effects would be documented.

The interim RMOs for stream channel conditions provide the criteria against which attainment or progress toward attainment of the riparian goals is measured. Interim RMOs provide the target toward which managers aim as they conduct resource management activities across the landscape. It is not expected

that the objectives would be met instantaneously, but rather would be achieved over time. However, the intent of interim RMOs is not to establish a ceiling for what constitutes good habitat conditions. Actions that reduce habitat quality, whether existing conditions are better or worse than objective values, would be inconsistent with the purpose of this interim direction. Without the benchmark provided by measurable RMOs, habitat suffers a continual erosion.

As indicated below, some of the objectives would apply to only forested ecosystems, some to non-forested ecosystems, and some to all ecosystems regardless of whether or not they are forested. Objectives for six environmental features have been identified, including one key feature and five supporting features. These features are good indicators of ecosystem health, are quantifiable, and are subject to accurate, repeatable measurements. They generally apply to 3rd to 6th order watersheds.

Under the strategy, interim RMO's would apply to watersheds occupied by inland native fish. Application of the interim RMOs would require thorough analysis. That is, if the objective for an important feature such as pool frequency is met or exceeded, there may be some latitude in assessing the importance of the objectives for other features that contribute to good habitat conditions. For example, in headwater streams with an abundance of pools created by large boulders, fewer pieces of large wood might still constitute good habitat. The goal is to achieve a high level of habitat diversity and complexity through a combination of habitat features, to meet the life-history requirements of the fish community inhabiting a watershed.

Many people commented on the draft what it meant to not retard the attainment of the RMOs. For the purposes of analysis, to "retard" would mean to slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system. This obviously will require professional judgement and should be based on watershed analysis of local conditions.

Table A-1. Interim Riparian Management Objectives.

Habitat Feature	Interim Objectives
Pool Frequency (kf[1]) (all systems)	Varies by channel width (see Table A-2).
Water Temperature (sf[2])	No measurable increase in maximum water temperature (7-day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period). Maximum water temperatures below 59F within adult holding habitat and below 48F within spawning and rearing habitats.
Large Woody Debris (sf) (forested systems)	East of Cascade Crest in Oregon, Washington, Idaho, Nevada and western Montana: >20 pieces per mile; >12 inch diameter; >35 foot length.
Bank Stability (sf) (non-forested systems)	>80 percent stable.
Lower Bank Angle (sf) (non-forested systems)	>75 percent of banks with <90 degree angle (i.e., undercut).
Width/Depth Ratio (sf) (all systems)	<10, mean wetted width divided by mean depth

[1] Key feature.
[2] Supporting feature.

Table A-2. Interim objectives for pool frequency.

Wetted width (feet)	10	20	25	50	75	100	125	150	200
Pools per mile	96	56	47	26	23	18	14	12	9

Riparian Habitat Conservation Areas

Interim Riparian Habitat Conservation Areas (RHCAs) would be delineated in every watershed on National Forest System lands within the geographic range of the strategy.

Riparian Habitat Conservation Areas are portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. Riparian Habitat Conservation Areas include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams, (2) providing root strength for channel stability, (3) shading the stream, and (4) protecting water quality (Naiman et al. 1992).

The Riparian Habitat Conservation Areas under the strategy would be nearly identical to those under the Idaho Conservation Strategy (Idaho Department of Fish & Game Commission's Bull Trout Conservation Strategy, 1995). The main difference is that, under the Idaho Conservation Strategy, Riparian Habitat Conservation Areas would apply only in key watersheds. Since their key watersheds are large and cover much of the National Forest System lands in Idaho, there would be little difference between the two Strategies in regard to Riparian Habitat Conservation Areas within occupied bull trout habitat.

Widths of interim Riparian Habitat Conservation Areas that are adequate to protect streams from non-channelized sediment inputs should be sufficient to provide other riparian functions, including delivery of organic matter and woody debris, stream shading, and bank stability (Brazier and Brown 1973, Gregory et al. 1984, Steinblums et. al 1984, Beschta et al. 1987, McDade et al. 1990, Sedell and Beschta 1991, Belt et al. 1992). The effectiveness of riparian conservation areas in influencing sediment delivery from non-channelized flow is highly variable. A review by Belt et al. (1992) of studies in Idaho (Haupt 1959a and 1959b, Ketcheson and Megehan 1990. Burroughs and King (1985 and 1989) and elsewhere (Trimble and Sartz 1957, Packer 1967, Swift 1986) concluded that non-channelized sediment flow rarely travels more than 300 feet and that 200-300 foot riparian "filter strips" are generally effective at protecting streams from sediment from non-channelized flow.

Interim RHCA widths would apply where watershed analysis has not been completed. Site-specific widths may be increased where necessary to achieve riparian management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects. Establishment of RHCA's would require completion of watershed analysis to provide the ecological basis for the change. However, interim RHCAs may be modified by amendment in the absence of watershed analysis where stream reach or site-specific data support the change. In all cases, the rationale supporting RHCA widths and their effects would be documented.

Standard Widths Defining Interim RHCAs

The four categories of stream or water body and the standard widths for each are:

Category 1 - **Fish-bearing streams:** Interim RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet, including both sides of the stream channel), whichever is greatest.

Category 2 - **Permanently flowing non-fish-bearing streams:** Interim RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year flood plain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greatest.

Category 3 - **Ponds, lakes, reservoirs, and wetlands greater than 1 acre:** Interim RHCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the extent of moderately and highly unstable areas, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond or lake, whichever is greatest.

Category 4 - **Seasonally flowing or intermittent streams, wetlands less than 1 acre, landslides, and landslide-prone areas**: This category includes features with high variability in size and site-specific characteristics. At a minimum the interim RHCAs must include:

a. the extent of landslides and landslide-prone areas

b. the intermittent stream channel and the area to the top of the inner gorge

c. the intermittent stream channel or wetland and the area to the outer edges of the riparian vegetation

d. for Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest

e. for watersheds not identified as Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one-half site potential tree, or 50 feet slope distance, whichever is greatest

In non-forested rangeland ecosystems, the interim RHCA width for permanently flowing streams in categories 1 and 2 is the extent of the 100-year flood plain.

Standards and Guidelines

Project and site-specific standards and guidelines listed below would apply to all RHCAs and to projects and activities in areas outside RHCAs that are identified through NEPA analysis as potentially degrading RHCAs. The combination of the standards and guidelines for RHCAs specified below with the standards and guidelines of existing forest plans and Land Use Plans would provide a benchmark for management actions that reflects increased sensitivities and a commitment to ecosystem management.

Under the strategy, the standards and guidelines listed below would be applied to the entire geographic area for the project. Due to the short-term duration of this interim direction, provisions for development and implementation of road/transportation management plans and the relocation, elimination, or reconstruction of existing roads, facilities, and other improvements (i.e., RF-2 c, RF-3 a and c, RF-4, RF-5, GM-2, RM-1, and MM-2) would be initiated but would be unlikely to be completed during the interim period. Where existing roads, facilities, and other improvements found to be causing an unacceptable risk cannot be relocated, eliminated, or reconstructed, those improvements would be closed. Also, due to the short-term duration of this direction, adjustments to management not within the sole discretion of the Agencies (i.e., RF-1, LH-3, RA-1, WR-2, FW-3, and FW-4) would be initiated but would be unlikely to be completed during the interim period.

The standards and guidelines under the Inland Native Fish Strategy have the same intent as the 38 standards and guidelines under the Idaho Conservation Strategy. The Inland Native Fish Strategy has one additional standard and guideline (RA-4), related to storage of fuels and refueling in RHCA's.

Many people commented on the draft what it meant to not retard the attainment of the RMOs. For the purposes of analysis, to "retard" would mean to slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system. This obviously will require professional judgement and should be based on watershed analysis of local conditions.

Timber Management

TM-1 Prohibit timber harvest, including fuelwood cutting, in Riparian Habitat Conservation Areas, except as described below.

a. Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting in Riparian Habitat Conservation Areas only where present and future woody debris needs are met, where cutting would not retard or prevent attainment of other Riparian Management Objectives, and where adverse effects can be avoided to inland native fish. For priority watersheds, complete watershed analysis prior to salvage cutting in RHCAs.

b. Apply silvicultural practices for Riparian Habitat Conservation Areas to acquire desired vegetation characteristics where needed to attain Riparian Management Objectives. Apply silvicultural practices in a manner that does not retard attainment of Riparian Management Objectives and that avoids adverse effects on inland native fish.

Roads Management

RF-1 Cooperate with Federal, Tribal, State, and county agencies, and cost-share partners to achieve consistency in road design, operation, and maintenance necessary to attain Riparian Management Objectives.

RF-2 For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by:

a. completing watershed analyses prior to construction of new roads or landings in Riparian Habitat Conservation Areas within priority watersheds.

b. minimizing road and landing locations in Riparian Habitat Conservation Areas.

c. initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan:

1. Road design criteria, elements, and standards that govern construction and reconstruction.

2. Road management objectives for each road.

3. Criteria that govern road operation, maintenance, and management.

4. Requirements for pre-, during-, and post-storm inspections and maintenance.

5. Regulation of traffic during wet periods to minimize erosion and sediment delivery and accomplish other objectives.

6. Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control.

7. Mitigation plans for road failures.

d. avoiding sediment delivery to streams from the road surface.

1. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe.

2. Route road drainage away from potentially unstable stream channels, fills, and hillslopes.

e. avoiding disruption of natural hydrologic flow paths.

f. avoiding sidecasting of soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in priority watersheds.

RF-3 Determine the influence of each road on the Riparian Management Objectives. Meet Riparian Management Objectives and avoid adverse effects on inland native fish by:

a. reconstructing road and drainage features that do not meet design criteria or *operation and maintenance standards, or that have been shown to be less effective* than designed for controlling sediment delivery, or that retard attainment of Riparian Management Objectives, or do not protect priority watersheds from increased sedimentation.

b. prioritizing reconstruction based on the current and potential damage to inland native fish and their priority watersheds, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of Riparian Habitat Conservation Areas.

c. closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to inland native fish in priority watersheds, and the ecological value of the riparian resources affected.

RF-4 Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria, or that have been shown to be less effective than designed for controlling erosion, or that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds from increased sedimentation. Base priority for upgrading on risks in priority watersheds and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

RF-5 Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

Grazing Management

GM-1 Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of Riparian Management Objectives or are likely to adversely affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting Riparian Management Objectives.

GM-2 Locate new livestock handling and/or management facilities outside of Riparian Habitat Conservation Areas. For existing livestock handling facilities inside the Riparian Habitat Conservation Areas, assure that facilities do not prevent attainment of Riparian Management Objectives. Relocate or close facilities where these objectives cannot be met.

GM-3 Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that would not retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish.

GM-4 Adjust wild horse and burro management to avoid impacts that prevent attainment of Riparian Management Objectives or adversely affect inland native fish.

Recreation Management

RM-1 Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Riparian Management Objectives and avoids adverse effects on inland native fish. Complete watershed analysis prior to construction of new recreation facilities in Riparian Habitat Conservation Areas within priority watersheds. For existing recreation facilities inside Riparian Habitat Conservation Areas, assure that the facilities or use of the facilities would not prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Relocate or close recreation facilities where Riparian Management Objectives cannot be met or adverse effects on inland native fish can not be avoided.

RM-2 Adjust dispersed and developed recreation practices that retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting Riparian Management Objectives and avoiding adverse effects on inland native fish, eliminate the practice or occupancy.

RM-3 Address attainment of Riparian Management Objectives and potential effect on inland native fish in Wild and Scenic Rivers, Wilderness, and other Recreation Management plans.

Minerals Management

MM-1 Minimize adverse effects to inland native fish species from mineral operations. If a Notice of Intent indicates that a mineral operation would be located in a Riparian Habitat Conservation Area, consider the effects of the activity on inland native fish in the determination of significant surface disturbance pursuant to 36 CFR 228.4. For operations in a Riparian Habitat Conservation Area ensure operators take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat which may be affected by the operations. When bonding

is required, consider (in the estimation of bond amount) the cost of stabilizing, rehabilitating, and reclaiming the area of operations.

MM-2 Locate structures, support facilities, and roads outside Riparian Habitat Conservation Areas. Where no alternative to siting facilities in Riparian Habitat Conservation Areas exists, locate and construct the facilities in ways that avoid impacts to Riparian Habitat Conservation Areas and streams and adverse effects on inland native fish. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate and revegetate roads no longer required for mineral or land management activities.

MM-3 Prohibit solid and sanitary waste facilities in Riparian Habitat Conservation Areas. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Habitat Conservation Areas exists, and releases can be prevented and stability can be ensured, then:

a. analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.

b. locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Habitat Conservation Areas.

c. monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to inland native fish and to attain Riparian Management Objectives.

d. reclaim and monitor waste facilities to assure chemical and physical stability and revegetation to avoid adverse effects to inland native fish, and to attain the Riparian Management Objectives.

e. require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.

MM-4 For leasable minerals, prohibit surface occupancy within Riparian Habitat Conservation Areas for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and Riparian Management Objectives can be attained and adverse effects to inland native fish can be avoided. Adjust the operating plans of existing contracts to (1) eliminate impacts that prevent attainment of Riparian Management Objectives and (2) avoid adverse effects to inland native fish.

MM-5 Permit sand and gravel mining and extraction within Riparian Habitat Conservation Areas only if no alternatives exist, if the action(s) would not retard or prevent attainment of Riparian Management Objectives, and adverse effects to inland native fish can be avoided.

MM-6 Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of Riparian Management Objectives and avoid adverse effects on inland native fish.

Fire/Fuels Management

FM-1 Design fuel treatment and fire suppression strategies, practices, and actions so as not to prevent attainment of Riparian Management Objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could perpetuate or be damaging to long-term ecosystem function or inland native fish.

FM-2 Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of Riparian Habitat Conservation Areas. If the only suitable location for such activities is within the Riparian Habitat Conservation Area, an exemption may be granted following a review and recommendation by a resource advisor. The advisor would prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to inland native fish a primary goal. Use an interdisciplinary team, including a fishery biologist, to predetermine incident base and helibase locations during presuppression planning.

FM-3 Avoid delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor and a fishery biologist, when the action agency determines an escape fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.

FM-4 Design prescribed burn projects and prescriptions to contribute to the attainment of the Riparian Management Objectives.

FM-5 Immediately establish an emergency team to develop a rehabilitation treatment plan to attain Riparian Management Objectives and avoid adverse effects on inland native fish whenever Riparian Habitat Conservation Areas are significantly damaged by a wildfire or a prescribed fire burning out of prescription.

Lands

LH-1 Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the *appropriate State agencies. During relicensing of hydroelectric projects, provide written and* timely license conditions to the Federal Energy Regulatory Commission (FERC) that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate State agencies.

LH-2 Locate new hydroelectric ancillary facilities outside Riparian Habitat Conservation Areas. For existing ancillary facilities inside the RHCA that are essential to proper management, provide recommendations to FERC to assure that the facilities would not prevent attainment of the Riparian Management Objectives and that adverse effects on inland native fish are avoided. Where these objectives cannot be met, provide recommendations to FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in Riparian Habitat Conservation Areas to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish.

LH-3 Issue leases, permits, rights-of-way, and easements to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish. Where the authority to do so was retained, adjust existing leases, permits, rights-of-way, and easements to eliminate effects that would retard or prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. If adjustments are not effective, eliminate the activity. Where the authority to adjust was not retained, negotiate to make changes in existing leases, permits, rights-of-way, and easements to eliminate effects that would prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. Priority for modifying existing leases, permits, rights-of-way, and easements would be based on the current and potential adverse effects on inland native fish and the ecological value of the riparian resources affected.

LH-4 Use land acquisition, exchange, and conservation easements to meet Riparian Management Objectives and facilitate restoration of fish stocks and other species at risk of extinction.

General Riparian Area Management

RA-1 Identify and cooperate with Federal, Tribal, State and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.

RA-2 Trees may be felled in Riparian Habitat Conservation Areas when they pose a safety risk. Keep felled trees on site when needed to meet woody debris objectives.

RA-3 Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish.

RA-4 Prohibit storage of fuels and other toxicants within Riparian Habitat Conservation Areas. Prohibit refueling within Riparian Habitat Conservation Areas unless there are no other alternatives. Refueling sites within a Riparian Habitat Conservation Area must be approved by the Forest Service or Bureau of Land Management and have an approved spill containment plan.

RA-5 Locate water drafting sites to avoid adverse effects to inland native fish and instream flows, and in a manner that does not retard or prevent attainment of Riparian Management Objectives.

Watershed and Habitat Restoration

WR-1 Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and contributes to attainment of Riparian Management Objectives.

WR-2 Cooperate with Federal, State, local, and Tribal agencies, and private landowners to develop watershed-based Coordinated Resource Management Plans (CRMPs) or other cooperative agreements to meet Riparian Management Objectives.

Fisheries and Wildlife Restoration

FW-1 Design and implement fish and wildlife habitat restoration and enhancement actions in a manner that contributes to attainment of the Riparian Management Objectives.

FW-2 Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside Riparian Habitat Conservation Areas, assure that Riparian Management Objectives are met and adverse effects on inland native fish are avoided. Where Riparian Management Objectives cannot be met or adverse effects on inland native fish avoided, relocate or close such facilities.

FW-3 Cooperate with Federal, Tribal, and State wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of the Riparian Management Objectives or adversely affect inland native fish.

FW-4 Cooperate with Federal, Tribal, and State fish management agencies to identify and eliminate adverse effects on native fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

Priority Watersheds

Priority watersheds have been designated in Oregon, Idaho, Montana, Nevada, and Washington. Criteria considered to designate priority watersheds in the 22 National Forests were:

1. *Watersheds with excellent habitat or strong assemblages of inland native fish, with a priority on bull trout populations.*
2. *Watersheds that provide for meta-population objectives.*
3. *Degraded watersheds with a high restoration potential.*

The intent of designating priority watersheds is to provide a pattern of protection across the landscape where habitat for inland native fish would receive special attention and treatment. Areas in good condition would serve as anchors for the potential recovery of depressed stocks, and also would provide colonists for adjacent areas where habitat had been degraded by land management or natural events. Those areas of lower quality habitat with high potential for restoration would become future sources of good habitat with the implementation of a comprehensive restoration program. Priority watersheds would have the highest priority for restoration, monitoring and watershed analysis.

Within priority watersheds, ongoing activities have been screened. This screening effort is a way to monitor ongoing activities to categorize the extent of risk they represent to bull trout habitat or populations. Projects determined to be a high or medium risk must be reviewed by Forest Supervisors and, subject to valid existing rights, they have three options to pursue:

1. *Modify the action to reduce the risk.*
2. *Postpone the action until the final direction is issued.*
3. *Cancel the action.*

Forest Supervisors will submit to their respective Regional Foresters an action plan for how high and moderate risk projects will be modified to avoid an unacceptable risk. This action plan will be submitted

within one month. Modifications for moderate and high risk projects should be initiated within two months with high risk projects having the highest priority. If there are compelling reasons why a project can not be modified, delayed, or cancelled, the Forest Supervisor will include in the action plan written documentation of the rationale for such action and what other mitigating measures will be implemented to assure there is not an unacceptable risk. For low risk projects, Forest Supervisors must provide an action plan by March 1, 1996 for means to assure there is not an unacceptable risk.

Watershed Analysis

Watershed analysis is a systematic procedure for determining how a watershed functions in relation to its physical and biological components. This is accomplished through consideration of history, processes, landform, and condition. Generally, watershed analysis would be initiated where the interim RMOs and the interim RHCA widths do not adequately reflect specific watershed capabilities, or as required in the standards and guidelines before specific projects are initiated. The guidelines and procedural manuals being developed by the Interagency Watershed Analysis Coordination Team and other potentially relevant procedures (e.g., the Cumulative Watershed Effects Process for Idaho, etc.) would be considered and used, where appropriate, in development of a watershed analysis protocol. Eventually, any watershed analysis would follow the final *Ecosystem Analysis at a Watershed Scale.* Additional information will be sent out when it is available.

Watershed analysis is a prerequisite for determining which processes and parts of the landscape affect fish and riparian habitat, and is essential for defining watershed- specific boundaries for Riparian Habitat Conservation Areas and for Riparian Management Objectives. Watershed analysis can form the basis for evaluating cumulative watershed effects; defining watershed restoration needs, goals and objectives; implementing restoration strategies; and monitoring the effectiveness of watershed protection measures, depending upon the issues to be addressed in the watershed analysis. Watershed analysis employs the perspectives and tools of multiple disciplines, especially geomorphology, hydrology, geology, aquatic and terrestrial ecology, and soil science. It is the framework for understanding and carrying out land use activities within a geomorphic context, and is a major component of the evolving science of ecosystem analysis. Forests should utilize local fish and game department, tribal staff, or other local groups whenever possible to increase the knowledge base and expertise for watershed analysis.

Watershed analysis consists of a sequence of activities designed to identify and interpret the processes operating in a specific landscape. Since the concept of watershed analysis was first introduced, there has been much discussion as to the procedures and detail that a watershed analysis should complete. It is recognized that the components and intensity of the analysis would vary depending on level of activity and significance of issues involved. Following are the general process steps for watershed analysis currently being considered:

1. ***Characterization of the Watershed.***
    a. *Place the watershed in a broader geographic context.*
    b. *Highlight dominant features and processes with the watershed.*

2. ***Identification of Issues and Key Questions.***
    a. *Key questions and resource components.*
    b. *Determine which issues are appropriate to analyze at this scale.*

3. ***Description of Current Condition.***

4. ***Description of Reference Conditions.***
    a. *Establish ecologically and geomorphically appropriate reference conditions for the watershed.*

5. ***Interpretation of Information.***
    a. *Provide a comparison and interpretation of the current, historic, and reference conditions.*

6. ***Recommendations.***
    a. *Provide conclusions and recommendations to management.*

The process described above is significantly streamlined to allow managers to focus watershed analysis to address specific issues and management needs. This can include modification of RMO's, RHCA's, or identification of restoration and monitoring needs. The state-of-the art for watershed analysis is still developing and the processes would need to flexible.

Watershed Restoration

Watershed restoration comprises actions taken to improve the current conditions of watersheds to restore degraded habitat, and to provide long-term protection to natural resources, including riparian and aquatic resources. The strategy does not attempt to develop a restoration strategy given the short time period for implementation of this interim direction. It is expected that Forests would utilize the information from watershed analysis and project development to initiate restoration projects where appropriate and funds are available. Priority watersheds would have the highest priority for restoration efforts.

Monitoring

Monitoring is an important component of the proposed interim direction. The primary focus is to verify that the standards and guidelines were applied during the project implementation. Monitoring to assess whether those protective measures are effective to attain Riparian Goals and Management Objectives would be a lower priority given the short time frame for this interim direction. Complex ecological processes and long time frames are inherent in the RMOs, and it is unrealistic to expect that the planned monitoring would generate conclusive results within 18 months. Nevertheless, it is critical to begin monitoring. Forests are urged to utilize current Forest Plan monitoring efforts, and Section 7 Monitoring results from PACFISH areas where on the same Forest to establish a baseline for determining the effectiveness of these standards and guidelines. Priority watersheds would have the highest priority for monitoring efforts.

A third type of monitoring (validation monitoring) is intended to ascertain the validity of the assumptions used in developing the interim direction. Because of the short-term nature of the management direction, no specific requirements are included for validation monitoring.

ALTERNATIVE C

The following information on Alternative C is supplied for the testing efforts. It is not for general application.

Alternative C is based on the "National Forest Riparian and Aquatic Habitat Management Strategy (FISH 2000)" developed by the Northwest Forest Resource Council in January, 1995. FISH 2000 was submitted by many commentors as an alternative that should be evaluated in detail. Following are the key elements of the strategy. FISH 2000 is included in the planning record.

This alternative does not establish generalized Riparian Management Objectives or Riparian Habitat Conservation Areas. Rather these are established through assessment of key processes related to the forest canopy and shade, large woody debris recruitment, sediment from surface erosion, sediment from mass failures, and gravel recruitment. As described in FISH 2000 (page iv), the process is implemented in three steps:

1. *Watershed scale riparian function assessment would establish current riparian conditions, riparian input processes, areas not functioning within ecological potential, and appropriate riparian goals.*

2. *Project and site-specific assessment determines the extent to which riparian functions are currently provided and identify management actions that would maintain them.*

3. *Where riparian function relationships and management needs remain unclear, FISH 2000 requires a more comprehensive watershed analysis be conducted to adjust RHCA's, RMO's, and Standards and Guidelines.*

This alternative articulated several goals for watershed, riparian, and stream channel conditions. These goals are the same as those described for the strategy and are listed above.

FISH 2000 provides standards and guidelines only for the management of resources within the RHCA's. For the purposes of this alternative, the current Forest Plan management direction for other resources and any existing State Best Management Practices would be considered the management direction to be applied.

Refer to Table A-3, below, for the Standards and Guidelines guiding project development under Alternative C.

ALTERNATIVE E

The following information on Alternative E is supplied for the testing efforts. It is not for general application.

Alternative E would be similar to the strategy, in that it would apply the same riparian goals, interim Riparian Management Objectives, Riparian Habitat Conservation Areas, and standards and guidelines for the entire area of the project. Based on the results of scoping, it was determined that another alternative was needed to provide stronger direction in the following areas:

1. *A Riparian Management Objective for sediment substrate would be established to be less than 20 percent fine sediment in spawning habitat.*

2. *A Riparian Management Objective for streambank stability would be established ensuring that at least 90 percent of all streambanks would be stable.*

3. *Watershed analysis, although conducted as described for the strategy, must be completed in Priority Watersheds prior to initiation of any new projects and activities therein.*

4. *Subject to valid existing rights, prohibit all road construction and timber sales in unroaded areas 1,000 acres or larger or unroaded areas smaller than 1,000 acres that are biologically significant.*

5. *All watershed analysis findings that would change Resource Management Objectives, Riparian Habitat Conservation Areas, or standards and guidelines would undergo peer review.*

Table A-3. Interim standards and guidelines design considerations.

Function	RHCA Requirements	Activity	Timber Management Considerations
Water/bank stability: constrained channels	Up to 20 feet	Harvesting, Grazing[1]	20-ft. no-cut zone around all fish-bearing streams; selectively harvest 20 ft. up to 100 ft. Small streams, leave trees <8 inches dbh[2]
Water/bank stability: unconstrained channels	Up to 1 effective tree height around all active channel migration zones.	Harvesting, Grazing	20-ft. no-cut zone around all fish-bearing streams; selectively harvest 20 ft. up to 100 ft. Small streams, leave trees <8 inches dbh
Canopy	Up to 75 feet	Harvesting, Grazing	Selectively harvest trees not required for shade and temperature control according to locally applicable models (e.g., WA canopy-elev-temp model for E. WA).
Large Woody Debris (LWD)	Up to 1 effective tree height. Around all active channel migration zones.	Harvesting	Selectively harvest trees not required for LWD recruitment. For example, see Oregon Forest Practices Rules for standing leave-tree needs.
Litter	100 feet for medium to large streams, 50 feet for small streams. Around all active channel migration zones.	Harvesting	Selectively harvest trees in accordance with requirements for shade and LWD.
Nutrients	100 feet for medium to large streams, 50 feet for small streams. Around all active channel migration zones.	Harvesting, Grazing, Roads, Slash Disposal	No piling and burning of slash. Minimize broadcast burning consistent with ecosystem management fire ecology. Minimize soil disturbance.
Sediment from Surface Erosion	Roads: 150 feet. Ground-based skidding: 50 feet.	Harvesting, Grazing, Roads	Selectively harvest within 75 ft. of large streams, 20 ft. of small streams. No ground-skidding equipment within 50 ft. Minimize subsoil disturbance. Minimize location of roads within 150 ft. and mitigate erosion.
Sediment from Mass Failures	High risk sites.	Harvesting, Grazing, Roads	Stabilize fills, carefully maintain culverts and drainage systems. Locate and construct roads only when failures will not occur. Remove trees when slope instability will not result.
Fuel Loads/Wildfires Vegetative Community	Riparian and stream-adjacent sites	Harvesting, Thinning, Prescribed Burning	Prevent catastrophic wildfires. Return RHCAs to a more healthy species mix, density and lower fuel load.
Gravel	Bank erosion and mass failure sites.	Harvesting, Grazing, Roads	Conduct management activities so as not to prevent natural process from providing necessary gravels.

[1] Grazing is a key riparian management consideration, but grazing standards and guidelines are not included within this table.
[2] Diameter at breast height.

United States Department of Agriculture | Forest Service | Inland Native Fish Strategy FAX (208) 765-7307 | 3815 Schreiber Way Coeur d'Alene, ID 83814 (208) 765-7452

June 12, 1995

The Inland Native Fish Strategy Environmental Assessment and Draft Finding of No Significant Impact have been completed. During public scoping for the assessment, the public indicated a strong interest in reviewing the alternatives and effects analysis documented in the assessment. The Inland Native Fish Strategy Team relayed the public's desire for further review to the Regional Foresters of the Northern, Intermountain, and Pacific Northwest regions of the Forest Service, and the Regional Director and Deputy Regional Director of the US Fish and Wildlife Service. They agreed that the public should be given this opportunity.

A copy of the Environmental Assessment has been sent to those people who commented during the scoping period or requested a copy of the full document. A Summary of the Environmental Assessment has been sent to the remainder of those on our mailing list. Enclosed is your copy of the Summary. If after reviewing the Summary, you wish to have more information, please contact us to receive the full Environmental Assessment. The 30-day review period will end on July 14, 1995. All of the comments received will be considered, and a decision notice will be issued in late July, documenting which alternative will be implemented.

A series of public hearings will be held during the last week in June to allow ample opportunity for the public to share their concerns. The hearings will be held in the following locations:

June 26, 1995
Bend, Oregon
River House Inn
(North/Middle Sister Rooms)
3075 North Highway 97

June 27, 1995
Twin Falls, Idaho
AmeriTel Inn
(Blue Lakes Room)
1377 Blue Lakes Blvd. North

June 28, 1995
Helena, Montana
Park Plaza
(Rimini Room)
22 North Last Chance Gulch

June 29, 1995
Spokane, Washington
Holiday Inn
(Hawthorne Room)
W. 4212 Sunset Blvd.

Each of the hearings will begin at 4:00 p.m. local time. Speakers are required to sign up, and will be given a maximum of 5 minutes time. For more information on the public hearings, please contact Laird Robinson, Public Affairs Officer for the Inland Native Fish Strategy, USDA Forest Service, P.O. Box 7669, Missoula, Montana, 59807. Laird's telephone number is (406) 329-3434; his FAX number is (406) 329-3347.

I hope that this Summary provides you with the information you need to comment on the Inland Native Fish Strategy Environmental Assessment. Thank you for your continued interest.

David J. Wright

DAVID J. WRIGHT
Inland Native Fish Strategy
Team Leader

Enclosure

DECISION NOTICE CORRECTION
FOR THE
INLAND NATIVE FISH STRATEGY

INTERIM STRATEGIES FOR MANAGING FISH-PRODUCING WATERSHEDS IN EASTERN OREGON AND WASHINGTON, IDAHO, WESTERN MONTANA AND PORTIONS OF NEVADA

USDA FOREST SERVICE

REASON FOR CORRECTION

During internal review of the Decision Notice, it appeared that it might not be clear that the selected alternative **does** replace the interim direction established May 20, 1994 by Region 6 Regional Forester John E. Lowe in the *Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem, and Wildlife Standards for Timber Sales.* This correction is to clarify the intent of the selected alternative.

CORRECTION

In the Decision Notice, page 2, paragraph 3 under **"THE DECISION,"** the first sentence is corrected to read:

> *"This decision amends Regional Guides for the Forest Service's Northern, Intermountain, and Pacific Northwest Regions, the 22 Forest Plans in the affected National Forests, and replaces the interim riparian standard established May 20, 1994 by Region 6 Regional Forester John E. Lowe in the Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem, and Wildlife Standards for Timber Sales."*

On page 4, paragraph 2, under the main heading **"SITE-SPECIFIC PROJECT-LEVEL DECISIONS,"** the second sentence will be replaced by the following two sentences:

> *"These interim standards and guidelines replace existing conflicting direction described in these 22 Forest Plans, including the interim riparian standard established May 20, 1994 by Region 6 Regional Forester John E. Lowe in the Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem, and Wildlife Standards for Timber Sales. Current Forest Plan direction, except for the replaced Region 6 interim riparian direction, will still apply if it provides more protection for inland native fish habitat (Environmental Assessment, Appendix E)."*

* * *

INLAND NATIVE FISH STRATEGY
ENVIRONMENTAL ASSESSMENT SUMMARY

ERRATA SHEET

June 12, 1995

I. PRIORITY WATERSHEDS MAP

In the Summary, no reference was made to Figure S-4 on page S-12 ("Priority Watersheds Within INFS"). The total acreage of National Forest System lands within the assessment area is 24.9 million acres. All alternatives considered in detail consider this area, in addition to considerations related to bull trout within priority watersheds. Figure S-4 displays the priority watersheds in the Inland Native Fish Strategy analysis area. The priority watersheds occupy about 5.5 million acres (22 percent of the assessment area).

II. SCREENS

Since the completion of writing the Inland Native Fish Strategy Environmental Assessment, some of the screening of ongoing projects within priority watersheds was modified after additional discussions with the US Fish and Wildlife Service. The relative differences between alternatives has not changed, but some of the specific numbers have been modified. Instead of 10 timber sales, only eight timber sales would be affected. This would reduce the total volume that might require modification from 37.7 million board feet to 22.2 million board feet. The total grazing allotments affected would be reduced from 31 to 28, and from approximately 46,000 animal unit months (AUMs) to 38,900 AUMs.

In the Summary, Page S-15, the second paragraph under issue 2 should be replaced with the following:

> *"Alternative D would have substantially less effect on management activities and lower social and economic costs. Total volume of timber harvest affected would be a maximum of 22.2 million board feet (MMBF). This compares to the 2,100 MMBF that is currently under contract or proposed for sale in the projected time for this assessment. There would be an effect on future projects, but it is anticipated that the effect would be comparatively small. Maximum permitted grazing Animal Unit Months (AUM's) affected would be approximately 2.8 percent of the current permitted use."*

We hope that these corrections will be helpful to you in your review of the Inland Native Fish Strategy Environmental Assessment.

INLAND NATIVE FISH STRATEGY
ENVIRONMENTAL ASSESSMENT

ERRATA SHEET

June 12, 1995

I. MAPS

The maps in the Environmental Assessment (pages I-5, 6 and 7; and pages II-10 and II-11) were unreadable as printed. More readable copies of the 5 maps have been included with the Environmental Assessment.

II. SCREENS

Since the completion of writing the Inland Native Fish Strategy Environmental Assessment, some of the screening of ongoing projects within priority watersheds was modified after additional discussions with the US Fish and Wildlife Service. The relative differences between alternatives has not changed, but some of the specific numbers have been modified. Instead of 10 timber sales, only eight timber sales would be affected. This would reduce the total volume that might require modification from 37.7 million board feet to 22.2 million board feet. The total grazing allotments affected would be reduced from 31 to 28, and from approximately 46,000 animal unit months (AUMs) to 38,900 AUMs.

Following are the specific changes:

Inland Native Fish Strategy - FONSI, Page 3; replace Point 6 with the following:

6. ***"The interim strategy does not involve social or economic effects that are likely to be highly controversial (40 CFR 1508.27(b)(4).*** *Controversy in this context refers to cases where there is substantial dispute as to the size, nature or effect of the Federal action, rather than to opposition to its adoption. Some individuals and groups might take exception to the proposal, see social analysis in Chapter III. For the economic effects analysis, the projection is that a maximum of 1.1 percent of timber harvesting volume and 2.8 percent of permitted grazing for the 22 National Forests might be affected in the short term. This is well within the level of goods and services projected by the Forest Plans. Forest Plans do not set commodity targets, but provide a dynamic programmatic framework for future decisionmaking. Commodity production values estimated in Forest Plans are mere projections."*

Environmental Assessment, Page II-14; replace paragraph 2 with the following:

"Alternative D would have substantially less effect on management activities and lower social and economic costs. Of the 1,600 projects screened to date, only 40 have been rated as high risk, and 82 as moderate. Two timber sales have been identified as high risk, and six as moderate. Total volume for these sales would be 22.1 MMBF. This compares to the 2,100 MMBF that is currently under contract or proposed for sale in the projected time for this project. There would be an effect on future projects, but it is anticipated that the effect would be comparatively small."

Environmental Assessment, Page III-30; replace the first 4 paragraphs with the following:

"Over 1,600 projects were screened for this effort. Of these, 40 were rated as high risk and 82 were considered moderate. These reflect 8 percent of the total number of projects.

Effects on Timber Harvesting

Of the timber projects screened, only 8 were identified as having high or moderate risk. Volume associated with these projects is 22.2 million board feet, representing 1.1 percent of the total 2.1 billion board feet currently under contract or projected for sale by the 22 National Forests within the analysis area. The amount of volume under contract is 13.7 million board feet. The bid value for the volume under contract ranges from $110 to $319 per thousand board feet. If all sales under contract had to be cancelled, the foregone stumpage value would be approximately $3.7 million. Experience with the timber sales in PACFISH indicates that this would be an extreme "worst case" scenario; expected modifications would be less than 50 percent of the volume.

The Forest Service might incur costs for compensating timber purchasers holding existing contracts for active or awarded sales (sales under contract). While it is not possible to estimate specific costs at this time, a range of magnitude of sale cancellation costs can be estimated. If out-of-pocket costs already expended by the purchasers were approximately $10 to $20 per thousand board feet, the maximum compensation costs would be between $137,000 and $274,000. The expected values would be much lower than this. If the current trend in static stumpage bids continued at the time of sale cancellation, there would be no difference between sale contract stumpage values and recent bid values.

Under current law, 25 percent of the gross receipts collected by the Forest Service from timber sales, grazing permits, campground fees, and other special use permits are returned to the counties which contain the National Forest System lands (based on all receipts over an entire year for the Forest). The payments to counties are based on gross receipts. In the case of timber stumpage payments, gross receipts are defined by law to include not only the stumpage payments, but also the purchaser road credits going to timber purchasers. (Purchaser road credits allow timber purchasers to deduct a certain amount of the costs they incur for building roads for timber harvest from the price they pay to the federal government for the timber stumpage they have purchased.) These payments to counties are transfer payments from the Federal government back to the local governments. They are not additive to revenue effects from changes in use of the Federal lands, but are a subset of the changes in the level of those revenues collected. The range of effect would vary from $900 thousand dollars, plus 25% of any purchaser road credits if none of the volume would be available, to no effect if modifications could be made without affecting volume harvested."

Environmental Assessment, Page III-31; replace the second paragraph under "Effects on Range" with the following:

"For the 288 allotments within priority watersheds that were screened, 28 allotments (10 percent) were identified as having high to moderate risk. The total Animal Unit Months (AUMs) associated with these allotments is slightly under 39,000, representing 2.8 percent of the total AUMs for the 22 Forests in the analysis area. This reflects a high number; experience has shown that only minor changes in permitted AUMs is possible when making modifications to grazing practices or through range improvements. The current grazing fee applying to these National Forests is $1.61/AUM. A maximum reduction of fee income would be approximately $126,000 for the two grazing seasons likely to be affected by this interim direction. Actual reductions, if any, would likely be much lower. The maximum reduction in payments to the counties (from the 25 percent of gross receipts) would be approximately $15,700 per year. This would be spread across a wide number of counties."

We hope that these corrections will be helpful to you in your review of the Inland Native Fish Strategy Environmental Assessment.

INLAND NATIVE FISH STRATEGY

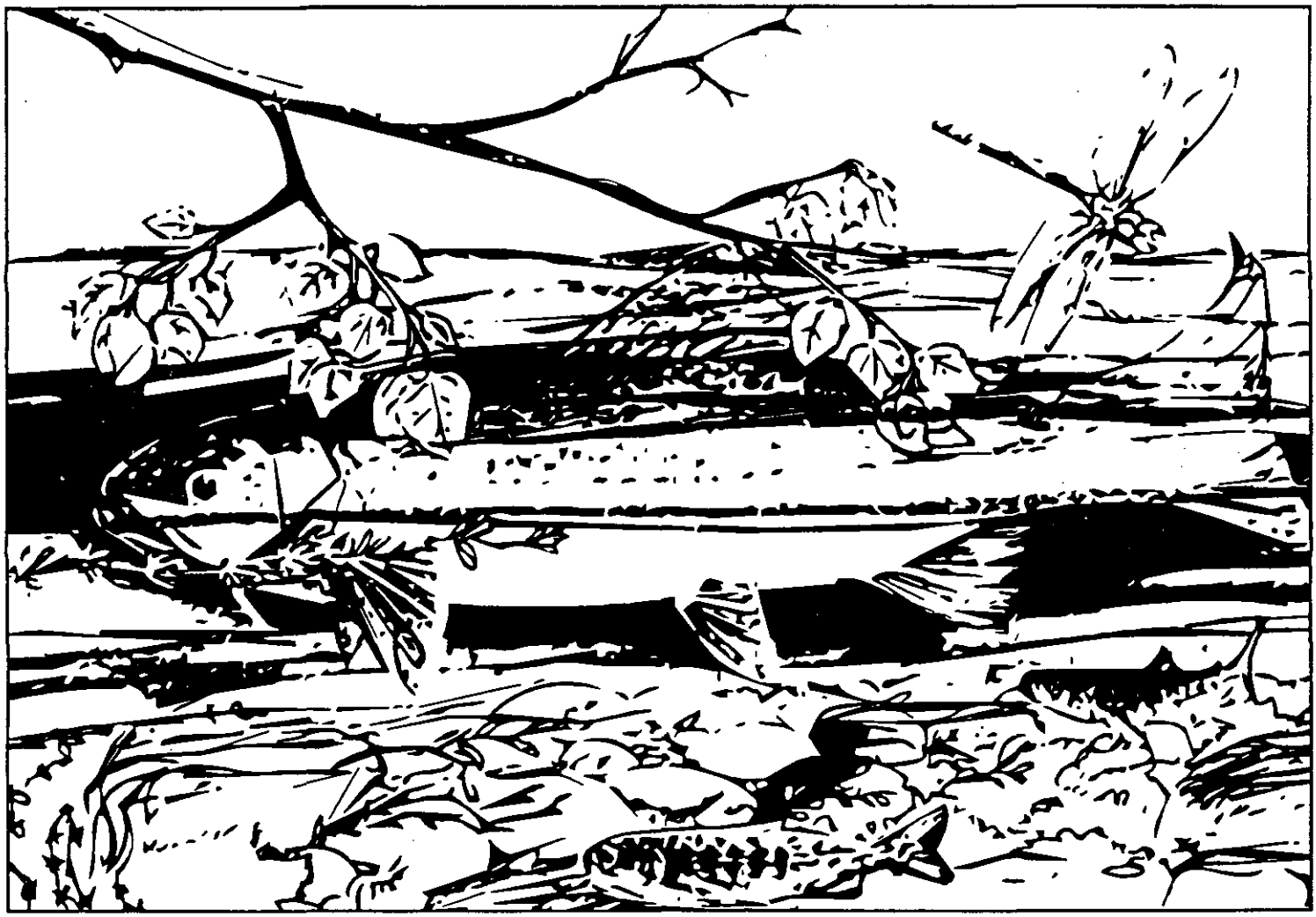
Environmental Assessment

United States
Department of
Agriculture

Forest Service

1995

SUMMARY



Intermountain, Northern, and Pacific Northwest Regions

SUMMARY OF THE ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT

INTRODUCTION

The Regional Foresters for the Northern, Intermountain and Pacific Northwest Regions of the Forest Service have analyzed a proposal for interim direction for approximately an 18 month time period intended to maintain options for inland native fish by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat. The proposal addresses habitat on National Forest System (NFS) lands on 22 National Forests in eastern Oregon, eastern Washington, Idaho, western Montana, and portions of Nevada. The proposal does not include areas under the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Land Planning Documents Within the Range of the Northern Spotted Owl* (Northern Spotted Owl ROD) or *Decision Notice/Decision Record for Interim Strategies for Managing Anadromous Fish-Producing Watersheds on Federal Lands in Eastern Oregon and Washington, Idaho and Portions of California* (PACFISH).

Other related environmental documents considered include: Regional Guides, Land and Resource Management Plans (Forest Plans) and associated National Environmental Policy Act (NEPA) documents, the Northern Spotted Owl ROD and associated NEPA documents, the PACFISH Decision Notice and associated NEPA documents, and the Decision Notice for the *Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales* and associated NEPA documents, which was prepared in the Pacific Northwest Region. The Idaho Fish and Game Commission's *Bull Trout Conservation Strategy* issued January 23, 1995 was also evaluated and considered.

This is your opportunity to give us your opinion on the Preferred Alternative and the Inland Native Fish Strategy. You and other members of the public have 30 days to review the Environmental Assessment and Draft Finding of No Significant Impact. Comments should be as specific as possible, and address the adequacy of the document and/or the merits of the alternatives discussed. If you need additional information or clarification of the information presented here, or would like to receive a full copy of the Environmental Assessment, please contact Dave Wright, Team Leader for the Inland Native Fish Strategy, at the Supervisor's Office of the Idaho Panhandle National Forests, Coeur d'Alene, Idaho, (208) 765-7354.

Refer to Figures S-1 and S-2 for the Inland Native Fish Strategy vicinity map, and a map displaying the National Forests within the Inland Native Fish Strategy analysis area.

PURPOSE AND NEED

This is a programmatic environmental assessment. The purpose and need for this assessment is to preserve management options for inland native fish, by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat of resident fishes for an interim period. This Environmental Assessment is intended to provide the basis for establishing appropriate interim direction to protect habitat and populations of resident native fishes outside of anadromous fish habitat.

Review of Monitoring and Evaluation reports for 28 national forests indicate that many watersheds in the analysis area are below Forest Plan standards, or exceed thresholds of concern. Review of research reports and published professional papers suggest that the concern for native resident fish and their habitat merits this environmental analysis to insure continuing compliance with applicable land management and environmental laws, and to provide consistent protection for habitat and resident fisheries during an interim period.

Figure S-3 displays the historic range of bull trout versus the watersheds with current strong populations. The map clearly shows the fragmentation of habitat, and supports the concern for managing the species. This map is based on preliminary information from the Interior Columbia Basin Ecosystem Management Project and has not yet been verified.

PROPOSED ACTION

Long-term management direction is being developed through two ecosystem-based environmental impact statements that are being prepared for National Forest System lands and lands administered by the Bureau of Land Management in the Interior Columbia River Basin. The Eastside Ecosystem Management Strategy Environmental Impact Statement applies to the area of Washington and Oregon east of the crest of the Cascade mountain range. The Upper Columbia River Basin Environmental Impact Statement will apply to Idaho and portions of Utah, Wyoming, Nevada, and Montana. While the Eastside Ecosystem Management Strategy overlaps some of the area addressed by the President's Forest Plan, the Inland Native Fish Strategy would not.

The proposed action of the Inland Native Fish Strategy is to establish interim management direction that would reduce the risk of loss of inland resident native fish populations or negative impacts to their habitat on National Forest System lands in the assessment area. The interim direction will be in the form of riparian management objectives, standards and guidelines, and monitoring requirements. The action amends the management direction established in the Regional Guides and all existing land and resource management plans for the area covered by this assessment, except where existing Forest Plan direction would provide more protection.

The management direction package will be more specific to inland native fish, particularly bull trout. This requires changing the riparian management objective for temperature, since bull trout require colder water. The proposed objective would be 48° F for spawning and rearing habitat and 59° F for adult holding habitat. The proposed action will also provide for a network of priority bull trout watersheds within the proposed action area, based on metapopulation needs of bull trout. Ongoing projects within the priority watersheds will be screened to determine their potential habitat effects and whether they will need to be modified. Watershed analysis would also be required for some management activities within the riparian habitat conservation areas in priority watersheds. Standards and guidelines are discussed in detail in the Environmental Assessment, Appendix E.

PREFERRED ALTERNATIVE

Alternative D reflects the proposed action, and is the alternative preferred by the Forest Service and the US Fish and Wildlife Service. Alternative D would have a relatively low level of effect on management activities, while greatly reducing risk of loss of populations and potential negative effects to aquatic habitats. In combination with the President's Plan and PACFISH, it would provide consistent interim management direction for the area that will be covered by the Interior Columbia River Basin Ecosystem Management Project.

DRAFT FINDING OF NO SIGNIFICANT IMPACT

The proposal for interim direction, Alternative D and four alternatives, has a relatively broad context by applying interim management direction to 22 National Forests over 25 million acres in five western states, Oregon, Washington, Idaho, Montana, and Nevada. The alternatives, affected environment, and consequences are disclosed in the Environmental Assessment. In consideration of the analysis documented in the Environmental Assessment, it is our determination that adoption of the interim direction

over approximately the next 18 months, until the Eastside and Upper Columbia River Basin Environmental Impact Statements are completed, does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement is not needed.

A complete copy of the Draft Finding of No Significant Impact is included in the Environmental Assessment.

APPLICATION

Under provisions of the NFMA, the proposed interim direction would amend regional guides and forest plans for each of the affected national forests to incorporate new goals, objectives, standards, guidelines, and management direction. These new standards, guidelines, and direction will supersede or replace conflicting direction described in forest plans that provide less protection.

Thereafter, future and ongoing projects and alternatives would be evaluated to determine if modifications are warranted, depending upon the alternative selected for implementation.

GEOGRAPHIC RANGE

In conjunction with PACFISH, the area covered by the proposed action would provide an interim aquatic and riparian management strategy for all watersheds within the geographic area covered by the Eastside Ecosystem Management Strategy Environmental Impact Statement and Upper Columbia River Basin Environmental Impact Statement (refer to the maps at the end of this chapter). This would apply to all or portions of 22 National Forests in 3 Regions, across 5 states. The total National Forest System lands is approximately 24.9 million acres. The national forests that are likely to be affected by the Inland Native Fish Strategy are displayed in Table S-1.

Table S-1. National Forests Likely to be Affected by the Inland Native Fish Strategy.

REGION 1 (Idaho and Montana)	REGION 4 (Idaho and Nevada)	REGION 6 (Washington and Oregon)
Bitterroot	Boise	Colville
Clearwater	Caribou	Deschutes
Deerlodge	Challis	Fremont
Flathead	Humboldt	Malheur
Helena	Payette	Ochoco
Idaho Panhandle	Sawtooth	Okanogan
Kootenai		Wallowa-Whitman
Lolo		Winema

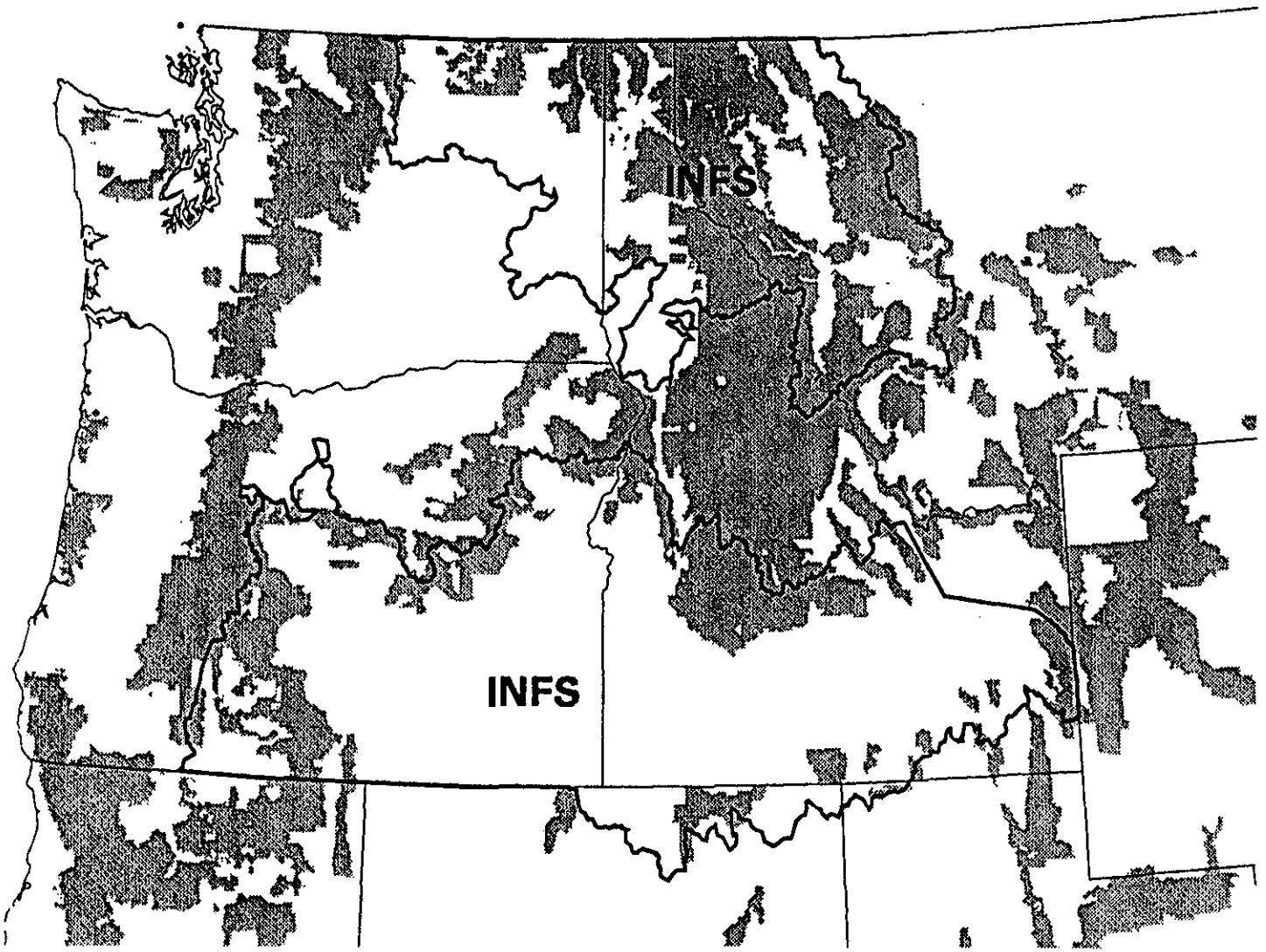
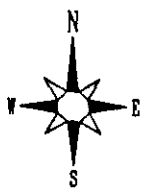


Figure S-1.

Inland Native Fish Strategy

Vicinity Map

National Forests



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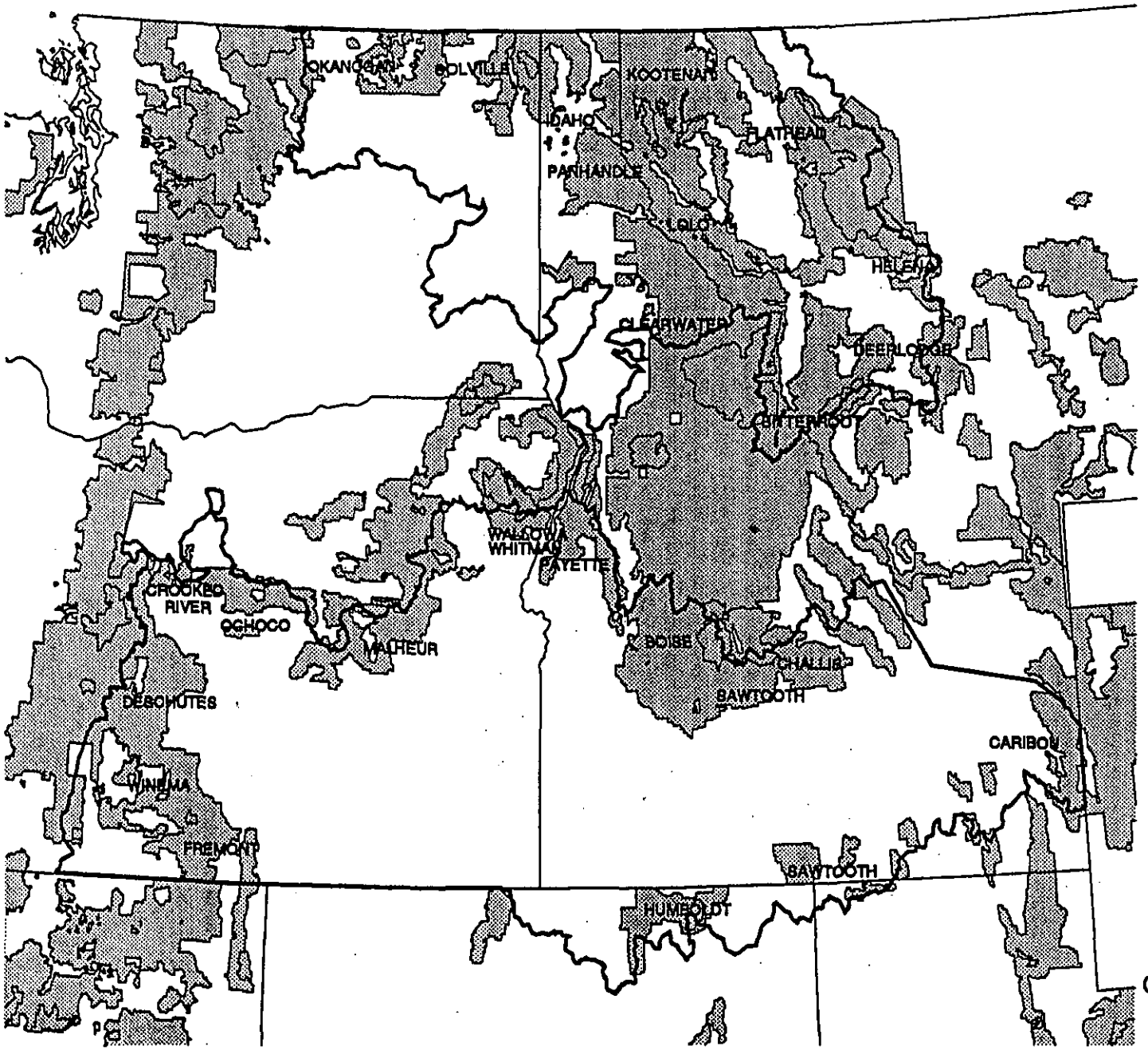
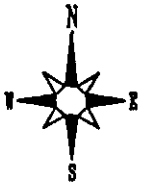


Figure S-2.

National Forests Within INFS



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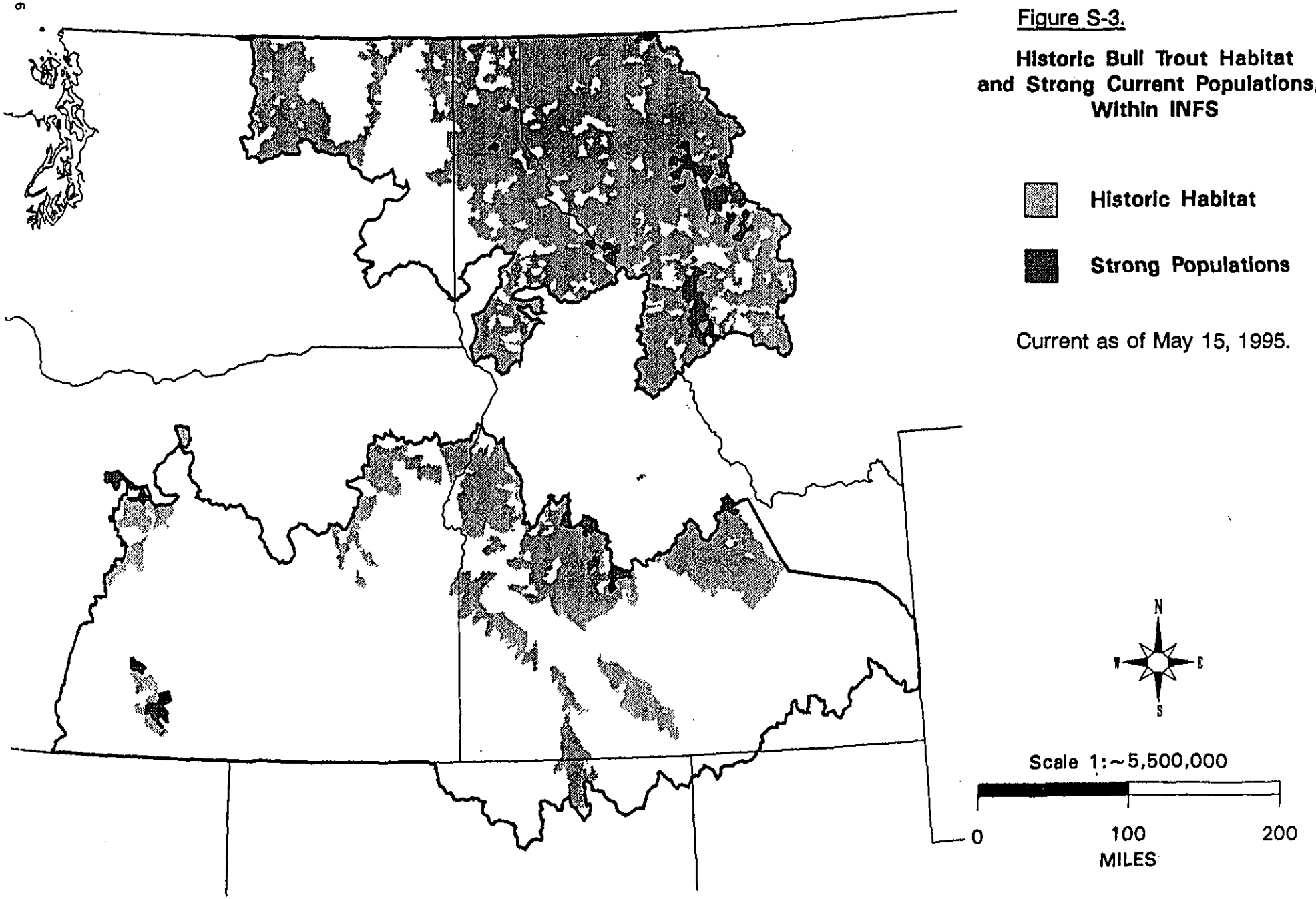


Figure S-3.

Historic Bull Trout Habitat and Strong Current Populations, Within INFS

ISSUES

The alternatives respond to issues identified during the scoping and public involvement process, to the extent feasible within the physical, biological, and legal limits on natural resource management.

Specific issues were identified by the public during the scoping process. Not surprisingly, there were two distinct points of view: One claims there is no proof that the fish is in need of help, and the other that protection is not only needed but overdue. The following comments represent those most often stated by the public in their letters.

More specific information concerning public involvement is included in the Environmental Assessment, Appendix D.

There is a lack of scientific data.

Many felt there is no scientific evidence to prove that a problem exists for bull trout or other fish species.

Many people seemed to feel the Forest Service should require the same level of information as the US Fish and Wildlife Service needs for listing a species, before additional management requirements are initiated. The goal for the Forest Service and other federal agencies is to act to prevent the need for such listings.

There is sufficient information indicating the need to act now. As described in the Purpose and Need statement, there is ample evidence to support the concern for native resident fish and their habitat, meriting this environmental analysis to insure continued compliance with applicable land management and environmental laws, and to protect habitat and resident fisheries during the interim period.

Several species of resident native fish, including all native trout, are listed as State "Species of Concern" or as "Sensitive species" by the USDA Forest Service. Recent reports suggest changes in habitat conditions as a major cause of a declining trend in the security of native fish populations throughout the geographical area of this environmental assessment (Rieman and Apperson 1989; USDA Forest Service 1993; Oregon Trout 1994; Kitano 1994; Fraley and Shepard 1989). The bull trout has recently been petitioned for listing under the Endangered Species Act. Should any of these fish become listed as threatened, endangered or proposed for listing, all Federal actions would be subject to Endangered Species Act provisions and require consultation or special consideration.

The real problem is fishing pressure.

Several commented that the real problem is fishing pressure - recreational, commercial, and tribal. They expressed confusion over how a fish can be identified as threatened or endangered when fishing regulations still allow for the fish to be caught.

There are many factors influencing fish species. The Forest Service recognizes that fishing pressure, species competition and interbreeding, dams and water diversions, as well as the quality of fish habitat on National Forest System lands as a result of management actions, can all affect inland native fish. The magnitude of any one factor varies greatly across the geographic area.

The Forest Service can influence current and future management activities that affect habitat quality on National Forest System lands. This environmental assessment will provide interim direction to maintain

or improve habitat quality. Through watershed analysis, managers can determine the factors influencing the species and modify requirements to the local situation (discussed below).

PACFISH is too rigid.

Several people commented on PACFISH. Many focused on the width of stream/riparian area buffers, and indicated concern with the level of activities that would be allowed or precluded. The PACFISH guidelines were viewed as inflexible and unrealistic for individual projects; there was concern that an "one size fits all" approach would be taken.

The Forest Service does not perceive PACFISH or the Inland Native Fish Strategy as "one size fits all," but rather as the first step in an adaptive management process. In brief, this process identifies the best information available to address an issue and would then modify it over time through monitoring, improved data, site-specific analysis, and research.

The PACFISH management direction package was developed by an interagency team of specialists and scientists. Information from more than one hundred watershed-level surveys were combined to develop the riparian management objectives. This information provides a sufficient base to build upon, and Alternatives B, D, and E utilize it. Under these three alternatives, management direction could be modified through watershed analysis and/or site-specific project analysis.

Alternative C, described below, takes a different approach, in that it would develop management direction only after collecting more site-specific information.

All alternatives would provide only interim direction. The management direction provided by the Selected Alternative will be reviewed, analyzed, and modified if necessary by the efforts of the Eastside Ecosystem Management Strategy and Upper Columbia River Basin Environmental Impact Statements. This would be the next step in the adaptive management process.

Direction to protect fish should not be lost in a trade-off to resource outputs.

There was concern that the direction needed to maintain species viability would lose out to a trade-off in resource outputs, especially in light of recent salvage logging proposals.

The production of goods and services from National Forest System lands is contingent upon compliance with the mandates of federal environmental laws, such as the Endangered Species Act, Clean Water Act, and National Forest Management Act. If commodity production cannot be conducted within the parameters of these laws, then development will be adjusted or not go forward. Decisions resulting in an irretrievable or irreversible commitment of resources are made during project-level planning. Thus, there is no guarantee or assured level of commodity production in national forest planning.

All aquatic species should be addressed.

Several commented on what they felt was the "real" issue: That all aquatic species should be addressed, not just bull trout or just native fish.

The interim management package proposed under all four action alternatives would have positive effects for nearly all aquatic species. The Forest Service feels that it has addressed the species with the highest priority for action. If through monitoring or other sources of information, a need to modify management is discovered, then amendments to management direction can be initiated, similar to what has been done with this assessment.

Consider the full economic and social effects.

People from smaller communities voiced concern that the analysis and decision would not consider the effects on other resources, especially timber management, along with the economic effect on timber-dependent communities. They fear that interim direction will result in a shut-down of activities, which would not only have a detrimental effect on forest health, but would also have a direct and devastating effect on their jobs .

This Environmental Assessment includes both social and economic analyses (Chapter III). While the requirements of the Strategy may affect the development of projects over the short term, the effects of not addressing this issue could indiscriminately bring many activities to a virtual standstill. If action is not taken to reduce risk of loss of populations and potential negative effects to aquatic habitats, there is a greater likelihood for litigation. An injunction, tied to such litigation, could halt activities throughout the assessment area, which would have substantial impact in terms of social and economic effects.

The adoption of any proposed interim strategy, including the No-Action Alternative, may affect the flow of goods and services that are provided from Federal lands and may directly or indirectly affect management activities conducted on other Federal, State and private lands. Any interim management strategy must consider the demand for and the supply of goods and services, and the often conflicting issues that can affect supply. These considerations will be displayed in the Decision Notice that will be issued after the public review and comment period.

The overall process is wrong.

Regardless of what point of view they prefer, most people identified concerns with the overall process. Several stated that federal land managers are out of their jurisdiction - the states should be managing for the fish resources.

Generally, State agencies manage fish harvests, although sovereign tribes and some regulatory federal agencies also have responsibility for management of fisheries resources. The Forest Service's responsibilities are focused on management of habitat and maintaining population viability within the National Forest System. Close cooperation among the various other agencies, governments, and jurisdictions is necessary to provide proper management of fisheries resources.

An Environmental Impact Statement is needed.

Many people felt an environmental impact statement should be prepared for an assessment of this magnitude.

The Forest Service initiated this analysis as an environmental assessment rather than an environmental impact statement. This was done because it would provide interim rather than long-term management direction, will not change the overall projected mix of goods and services, and will be superceded by the two environmental impact statements that are already initiated. The information received from the public after they review this environmental assessment will influence the determination of whether there is any significant impact that would result in the need to prepare an environmental impact statement.

Need further public review.

People at all points on the spectrum felt strongly that they should have an opportunity to review the alternatives and effects analysis that will be documented in the Environmental Assessment.

The Inland Native Fish Strategy Team relayed the public's desire for further review to the Regional Foresters of the Northern, Intermountain, and Pacific Northwest regions of the Forest Service, and the Regional Director and Deputy Director of the US Fish and Wildlife Service. They agreed that the public should be given this opportunity. The Environmental Assessment has been sent to the public for a 30-day review and comment period. Their comments will be considered in reaching a decision.

ALTERNATIVES CONSIDERED IN DETAIL

INTRODUCTION

The following discussion describes the specific features of the five alternatives as designed to respond to the issues (including the No-Action Alternative). **Alternative Descriptions** are provided for each alternative, followed by **Features Common to All Alternatives**, and a **Comparison of Alternatives Considered In Detail.**

There were 5 additional alternatives that were considered, but were eliminated from further study. These are described in the Environmental Assessment (Chapter II).

ALTERNATIVE DESCRIPTIONS

Alternative A

This is the No-Action alternative required by National Environmental Policy Act and National Forest Management Act. The No-Action alternative would continue management under the current direction in the Forest Plans. Each Forest Plan would have its current standard and guideline direction.

Alternative B

Alternative B would focus reduction of risk on watersheds with occupied bull trout habitat (approximately 9 million acres). The more restrictive standards and guidelines to be applied would be the same as those under Alternative D. Current Forest Plan standards and guidelines would be applied to watersheds without occupied bull trout habitat.

Alternative C

Alternative C would provide flexible standards and guidelines to the Riparian Habitat Conservation Areas. Standards and guidelines would be based on the concepts in Fish 2000, an approach provided by the Intermountain Forest Industries Association and other groups during scoping. Riparian Habitat Conservation Areas would be determined with site-specific information based on the geo-hydrologic processes applicable to the site. This alternative would provide maximum flexibility for management operations within the Riparian Habitat Conservation Areas (RHCAs). Standards and guidelines would be applied across the geographic area.

Alternative D

Alternative D would apply a consistent set of standards and guidelines to the Riparian Habitat Conservation Areas. Alternative D most accurately represents the proposed action. Standards and guidelines would be based on the concepts in PACFISH and the Idaho Conservation Strategy for Bull Trout. This set of standards and guidelines would be consistent across all Forests.

Alternative E

Alternative E would apply a consistent set of standards and guidelines to the Riparian Habitat Conservation Areas, with greater emphasis on watershed analysis and protection of unroaded areas. The standards and guidelines for Alternative E would be the same as those under Alternative D. This alternative is based on the concepts in the biological opinions issued by the National Marine Fisheries Service for PACFISH and Forest Plan consultations, and comments received from various environmental groups.

Subject to valid existing rights, there would be no road construction or timber harvest in unroaded areas 1,000 acres or larger in size, until long-term direction is provided by the completed Eastside and Upper Columbia River Basin Environmental Impact Statement's.

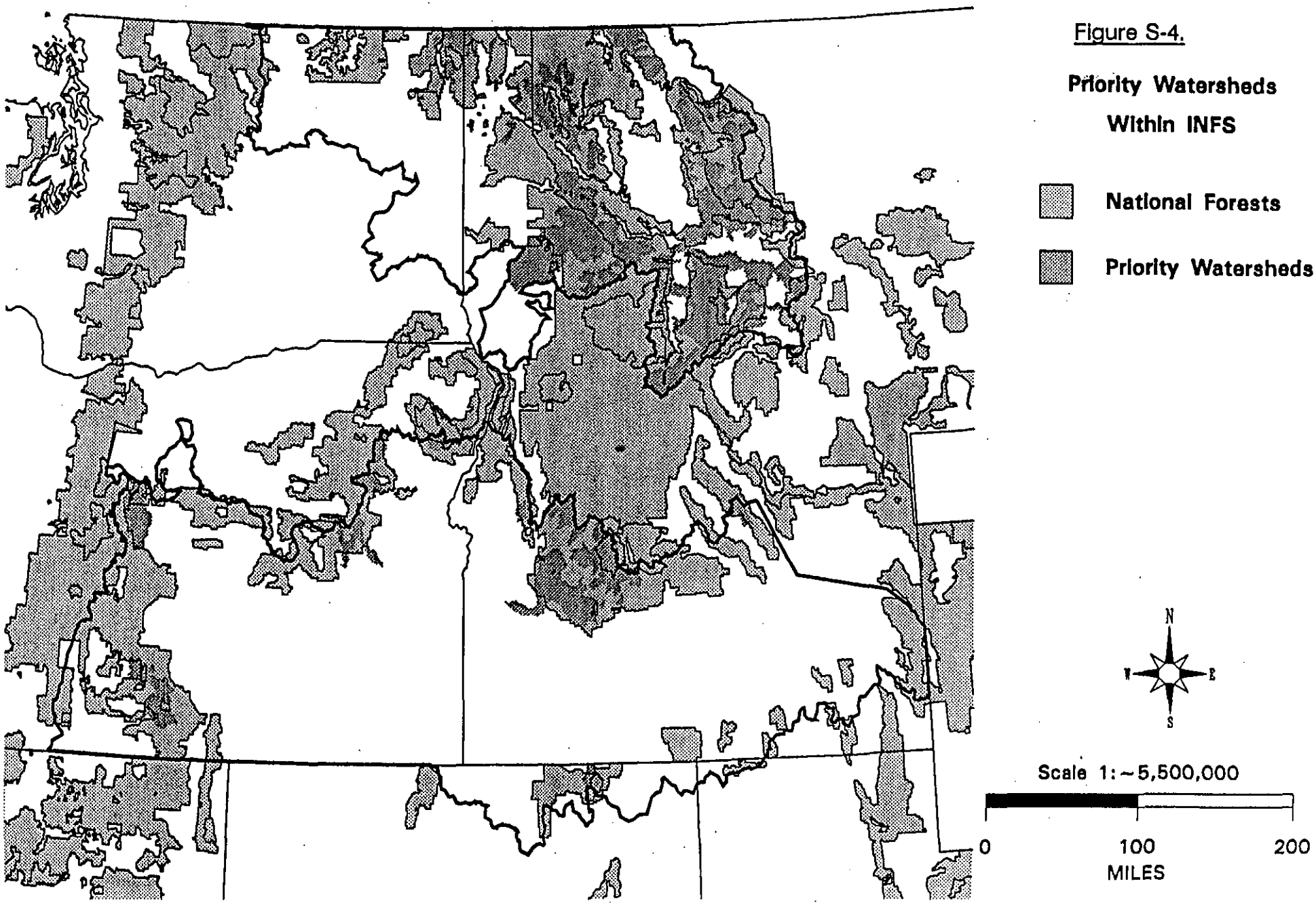


Figure S-4.

Priority Watersheds Within INFS

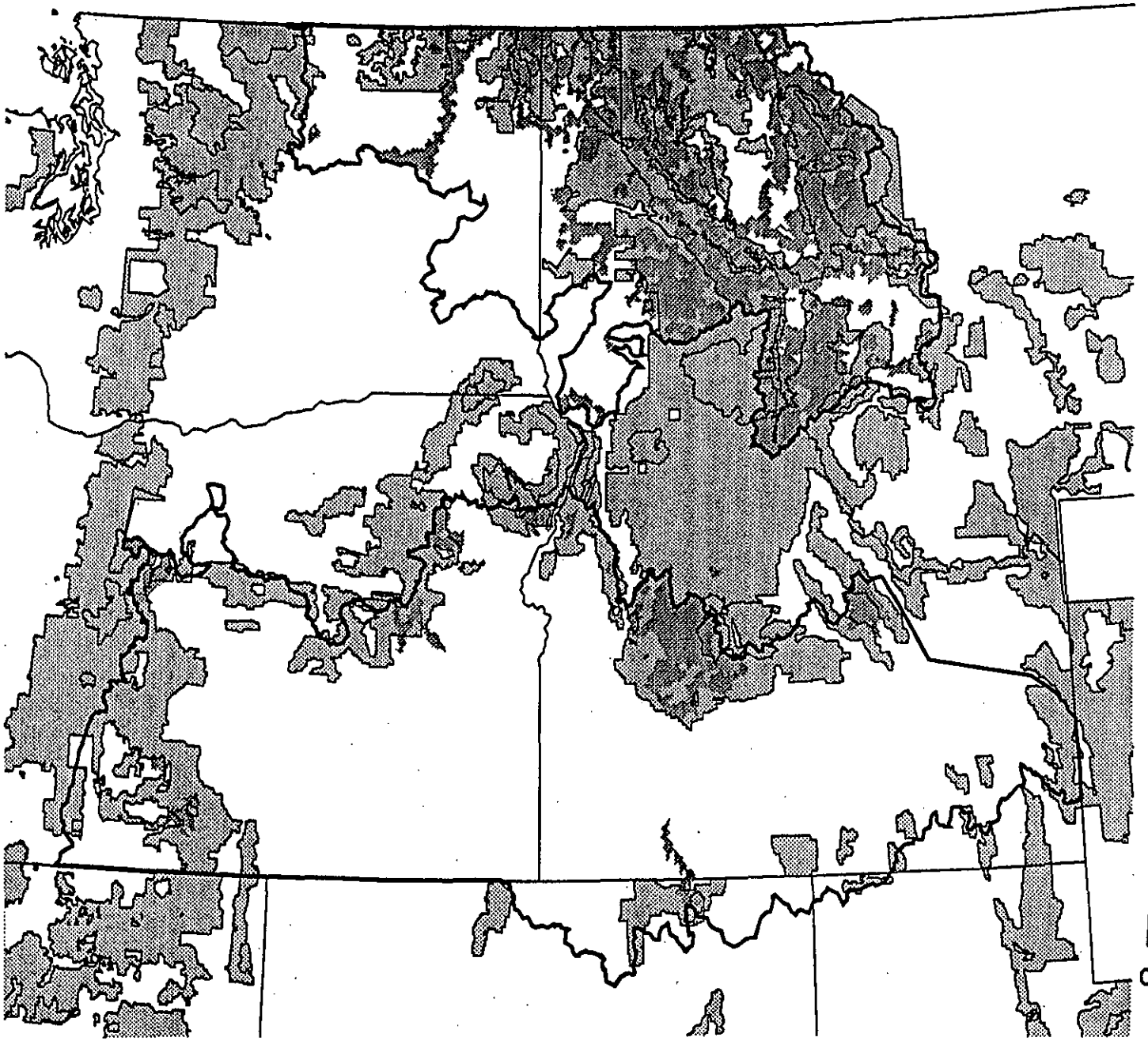


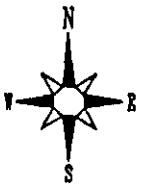
Figure S-5.

Occupied Bull Trout Habitat Within INFS

National Forests

Occupied Habitat

Current as of May 15, 1995.



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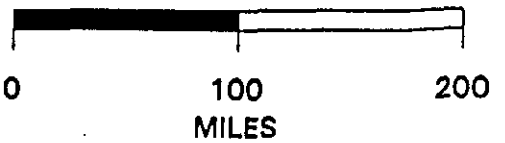


COMPARISON OF ALTERNATIVES CONSIDERED IN DETAIL

During alternative development, two questions were identified as representing the most critical issues in evaluating alternatives:

1. To what extent will the alternative reduce risk to loss of populations and potential negative impacts to aquatic habitat?

2. How will implementation of the alternative affect management activities, and at what cost (including social and economic costs)?

Looking at the alternatives in a very broad perspective, they can be rated from highest to lowest reduction in risk, and lowest to highest economic costs:

Highest reduction in risk <----------> Lowest reduction in risk

Alt. E	Alt. D	Alt. C	Alt. B	Alt. A

Lowest economic costs <----------> Highest economic costs

Alt. A	Alt. C	Alt. B	Alt. D	Alt. E

This is a very simplistic view of the comparison of alternatives; the following discussion provides additional insight into the trade-offs between alternatives.

1. To what extent will the alternative reduce risk to loss of populations and potential negative impacts to aquatic habitat?

Alternative E offers the greatest reduction to risk of loss of populations or potential negative effects to aquatic habitat. While it has the same basic standards and guidelines package as Alternative D, the restrictions on unroaded areas would cause an overall lower risk.

Alternative D would also provide a high level of risk reduction, based on the strong set of standards and guidelines that would be uniform across the entire Inland Native Fish Strategy assessment area. The requirements adequate to protect resources would include procedures allowing flexibility in the development of projects.

Alternative C would allow the greatest amount of flexibility for developing the protection required on a site-specific basis. However, there is no guarantee that protection would be adequate, since the skill level and knowledge of personnel and comprehensive data for the watershed would vary for each project. The amount of management allowed in the RHCAs would also provide a higher potential risk of loss of populations or potential negative effects to aquatic habitat.

Alternative B provides a strong direction package, but would apply to only 36 percent of the project area. This would reduce the risk to bull trout, but would not address other sensitive species.

Alternative A is the most variable in terms of risk, since each Forest has a different set of standards and guidelines. Direction for timber sales would be fairly uniform but would not provide the RHCA

protection that would be provided under the action alternatives. There would be no consistency on management of grazing, minerals, or other resources to provide protection for fisheries.

2. How will implementation of the alternative affect management activities, and at what cost (including social and economic costs)?

Alternative E would have the most effect on management activities, and the highest potential social and economic cost. The exclusion of operations within unroaded areas 1,000 acres or larger could have a major effect on future salvage and green timber operations. Current estimates are that about 10 percent of salvage volume is located in inventoried roadless areas. Restricting operations in 1,000-acre unroaded areas would probably greatly increase that percentage. While this interim direction would be short term, people in many rural communities would probably feel very threatened by the closure of so many areas to entry, and may fear that the direction could become long-term under the Eastside and Upper Columbia River Basin Environmental Impact Statements.

Alternative D would have substantially less effect on management activities and lower social and economic costs. Total volume of timber harvest affected would be a maximum of 37.7 million board feet (MMBF). This compares to the 2,100 MMBF that is currently under contract or proposed for sale in the projected time for this assessment. There would be an effect on future projects, but it is anticipated that the effect would be comparatively small. Maximum permitted grazing Animal Unit Months (AUM's) affected would be approximately 3.3 percent of the current permitted use.

Alternative B would have the same effects as Alternative D for the 9 million acres of watersheds with occupied bull trout habitat. There would be greater management flexibility in the areas without occupied bull trout habitat. Social and economic costs would be similar to those under Alternative D.

Alternative C would allow greater flexibility in the design and development of projects, but to apply the process could increase the costs of project development. As a result of the greater flexibility, there would be lower social and economic impacts to those people associated with resource-based industries.

Alternative A would have the lowest social and economic impacts, since current standards and guidelines would continue to be applied. However, if action is not taken to reduce risk of loss of populations and potential negative effects to aquatic habitats, there is greater likelihood of litigation. An injunction tied to such a lawsuit could halt many activities in the Inland Native Fish Strategy analysis area, which would have a strong impact on those groups that rely on natural-resource extraction for their economic and community stability.

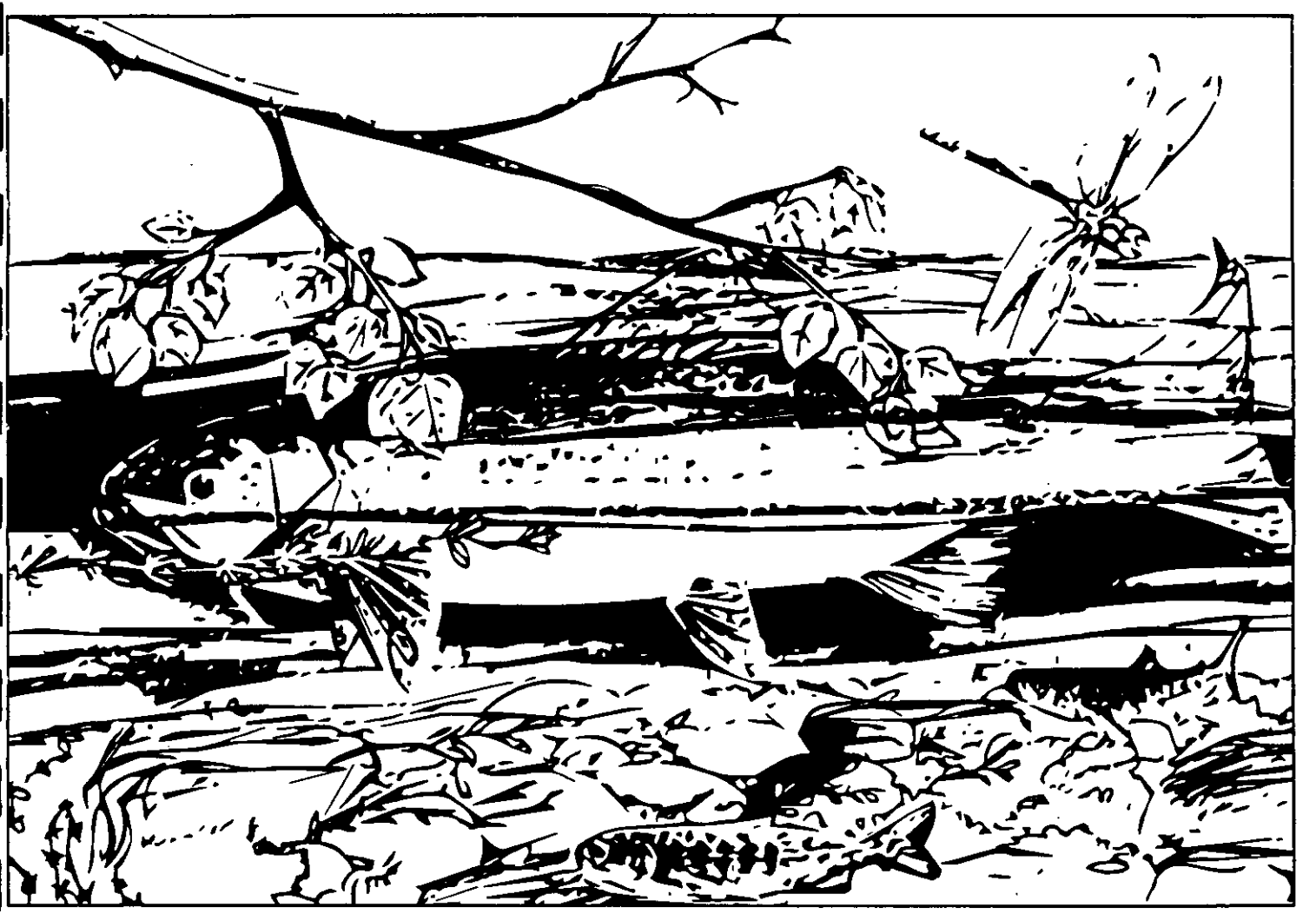
INLAND NATIVE FISH STRATEGY

Environmental Assessment

United States
Department of
Agriculture

Forest Service

1995



Intermountain, Northern, and Pacific Northwest Regions

DRAFT
FINDING OF NO SIGNIFICANT IMPACT

INLAND NATIVE FISH STRATEGY
INTERIM STRATEGIES FOR MANAGING FISH-PRODUCING WATERSHEDS IN EASTERN OREGON AND WASHINGTON, IDAHO, WESTERN MONTANA AND PORTIONS OF NEVADA

USDA Forest Service

BACKGROUND

The Regional Foresters for the Northern, Intermountain and Pacific Northwest Regions of the Forest Service have analyzed a proposal for interim direction for approximately an 18 month time period intended to maintain options for inland native fish by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat. The proposal addresses habitat on National Forest System (NFS) lands on 22 National Forests in eastern Oregon, eastern Washington, Idaho, western Montana, and portions of Nevada. The proposal does not include areas under the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Land Planning Documents Within the Range of the Northern Spotted Owl* (Northern Spotted Owl ROD) or *Decision Notice/Decision Record for Interim Strategies for Managing Anadromous Fish-Producing Watersheds on Federal Lands in Eastern Oregon and Washington, Idaho and Portions of California* (PACFISH).

The proposed action is intended to provide programmatic mitigation measures for potential environmental effects which may result from future projects and activities. The proposed action makes no irreversible commitment of resources. Additional mitigation measures may be added to particular projects as a result of site-specific conditions during project-level analysis. Because this action will mitigate future environmental effects, the indirect physical consequences are expected to be beneficial. No adverse indirect physical effects should occur. There may be indirect adverse social and economic effects; however, these effects are not significant and therefore do not require the preparation of an environmental impact statement (40 CFR 1508.8).

Other related environmental documents were taken into account include: Regional Guides, Land and Resource Management Plans (Forest Plans) and associated National Environmental Policy Act (NEPA) documents, the Northern Spotted Owl ROD and associated NEPA documents, the PACFISH Decision Notice and associated NEPA documents, and the Decision Notice for the *Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales* and associated NEPA documents, which was prepared in the Pacific Northwest Region. The Idaho Fish and Game Commission's *Bull Trout Conservation Strategy* issued January 23, 1995 was also evaluated and considered.

REASONS FOR FINDING OF NO SIGNIFICANT IMPACT

The proposal for interim direction, Alternative D and four alternatives, has a relatively broad context by applying interim management direction to 22 National Forests over 25 million acres in five western states, Oregon, Washington, Idaho, Montana, and Nevada. The alternatives, affected environment, and consequences are disclosed in the Environmental Assessment. In consideration of the analysis

documented in the Environmental Assessment and in light of the reasons set forth below, we find that adoption of Alternative D as the interim strategy will not significantly impact the human environment.

1. ***The interim strategy would be limited in geographic application (40 CFR 1508.27(a)).*** The interim strategy would apply to projects within Riparian Habitat Conservation Areas (RHCAa), approximately 24% of the NFS lands on the 22 National Forests.

2. ***The interim strategy would be limited to certain projects and activities.*** The interim strategy would apply to proposed or new projects started within the next 18 months and activities* and ongoing projects and activities that pose a high or moderate risk** to bull trout populations or habitat within priority watersheds. Thus, resource effects would not be significant, given the short duration of interim direction and the ability of the Forest Service to relocate activities outside the RHCAs. The interim strategy will reduce the potential environmental impacts of project decisions from those allowed by current plans.

   * *"Proposed or new projects and activities" are defined as those actions that have not been implemented, or for which contracts have not been awarded, or for which permits have not been issued.*

   ** *"Ongoing projects and activities" are defined as those actions that have been implemented, or have contracts awarded, or have permits issued. "High or moderate risk to bull trout populations or habitat" was determined by fish biologists and resource specialists from each National Forest using a screen developed in conjunction with the US Fish and Wildlife Service. Priority watersheds were also developed by each Forest and represent approximately 22 percent of the assessment area. Priority watersheds were identified based on whether they have excellent habitat or strong assemblages of inland native fish, provide for meta-population objectives, or they have a high restoration potential.*

3. ***The interim strategy would not significantly affect public health or safety (40 CFR 1508.27(b)2)).*** The interim strategy does not, on its own, authorize any ground-disturbing activities or direct changes to the environmental status quo. Instead, it provides programmatic direction and mitigation measures to be applied to site-specific projects and activities. Additional mitigation measures may be added to particular projects as a result of site-specific conditions during project-level analysis. New project decisions will be preceded by site-specific NEPA analysis. Thus, the preferred alternative does not have significant effects on human health and safety beyond those already documented in existing plan Environmental Impact Statements and site-specific analyses of ongoing projects and activities, or might be identified in such future analyses of proposed projects and activities. Potential environmental effects on some resources (e.g. aquatic, riparian) will be reduced. The beneficial effects will be not be significant due to the short time frame involved, the limited area affected, and the limited intensity of the beneficial effects.

4. ***The interim strategy would not significantly affect any unique characteristics of the geographic area (40 CFR 1508.27(b)(3)), does not adversely affect anything listed or eligible for listing in the National Register of Historic Places, nor does it cause loss or destruction of significant scientific, cultural, or historic resources (40 CFR 1508.27(b)(8)).*** The interim strategy does not alter the environmental protection afforded such unique lands as is already provided for in the Forest Plans and provides improved protection for such resources if they reside within the RHCAs.

5. ***The interim strategy does not involve physical or biological effects that are likely to be highly controversial (40 CFR 1508.27(b)(4)).*** The scientific basis for this interim direction has been established and evaluated in the Northern Spotted Owl ROD and associated NEPA documents and the PACFISH Decision Notice and associated NEPA documents. There is no controversy that the proposed direction would be beneficial towards meeting the purpose and need for this

action. Any controversy pertains to whether the interim direction needs to be stronger or is too strong for an interim time period.

6. ***The interim strategy does not involve social or economic effects that are likely to be highly controversial (40 CFR 1508.27(b)(4).*** Controversy in this context refers to cases where there is substantial dispute as to the size, nature or effect of the Federal action, rather than to opposition to its adoption. Some individuals and groups might take exception to the proposal, see social analysis in Chapter III. For the economic effects analysis, the projection is that a maximum of 1.7 percent of timber harvesting volume and 3.3 percent of permitted grazing for the 22 National Forests might be affected in the short term. This is well within the level of goods and services projected by the Forest Plans. Forest Plans do not set commodity targets, but provide a dynamic programmatic framework for future decisionmaking. Commodity production values estimated in Forest Plans are mere projections.

7. ***The interim strategy does not establish any highly uncertain, unique, or unknown experimental risks (40 CFR 1508.28(b)(5)).*** The best available scientific information provided the foundation for designing the interim strategy (Environmental Assessment, page II-3, Appendix E). Measures similar to the proposed interim strategy are used for management of fish habitat in areas subject to the Northern Spotted Owl ROD and PACFISH and have been proposed in the Idaho Conservation Strategy.

8. ***The interim strategy does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6), nor is it related to other actions with individually insignificant but cumulative significant impacts (40 CFR 1508.27(b)(7)).*** The interim strategy is a short-term effort to retain the environmental status quo while the long-term strategies are developed in the Eastside and Upper Columbia River Basin Environmental Impact Statements. The interim strategy will apply for a limited time, approximately 18 months, until these Environmental Impact Statements are completed. The temporary nature of the interim strategy will limit its effects. The Environmental Assessment discloses the cumulative effects of interim direction on habitat conditions and trends on land within the watersheds administered by the Forest Service.

   The Environmental Impact Statements being prepared for the long-term environmental strategies will produce the long-term cumulative effects information. Because recovery processes within riparian areas and aquatic habitats are gradual, such short term adjustments in management practices are unlikely to result in significant environmental effect on future actions on NFS lands. The interim strategy is not binding on any future decisions made on long-term strategies.

   This interim strategy is not related to other strategies such as PACFISH or the Northern Spotted Owl ROD in such a way as to generate a significant impact requiring preparation of an Environmental Impact Statement. This is due to the findings related in items 1, 5 and 6 relating to the small geographic area and limited physical, biological, social, and economics effects.

9. ***The interim strategy will not adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9))*** Biological Evaluations and Biological Assessments have been prepared for this project and are located in Appendix F. They have a finding of not likely to adversely effect for all species.

10. ***The interim strategy does not threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)).*** Adoption of the

preferred alternative would not significantly affect the following elements of the human environment, which are specified in statute, regulation, or executive order: Air Quality, Areas of Critical Environmental Concern, Cultural Resources, Farm Lands (prime or unique), Floodplains, Native American Religious Concerns, Threatened or Endangered Species, Hazardous or Solid Wastes, Water Quality, Wild and Scenic Rivers, and Wilderness.

FINDING

On the basis of the information and analysis contained in the Environmental Assessment and all other information available as summarized above, it is our determination that adoption of the interim direction *over approximately the next 18 months, until the Eastside and Upper Columbia River Basin Environmental* Impact Statements are completed, does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement is not needed.

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ENVIRONMENTAL ASSESSMENT
INLAND NATIVE FISH STRATEGY

USDA FOREST SERVICE
US FISH & WILDLIFE SERVICE

Lead Agency: USDA Forest Service

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ABSTRACT

As a companion to the protection provided for anadromous fish by PACFISH, this Environmental Assessment is intended to provide interim direction to protect habitat and populations of resident native fish outside of anadromous fish habitat. Long-term management direction is being developed through two ecosystem-based environmental impact statements that are being prepared for National Forest System lands and lands administered by the Bureau of Land Management in the Interior and Upper Columbia River Basins.

The interim direction will be in the form of riparian management objectives, standards and guidelines, and monitoring requirements. The action amends the management direction established in the Regional Guides and all existing land and resource management plans for the area covered by this assessment.

This is a programmatic environmental assessment that examines 5 alternatives (including No-Action) which address issues identified through the scoping and public involvement phases of the project. Alternative D reflects the proposed action, and is the alternative preferred by the Forest Service.

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CHAPTER I
PURPOSE OF AND NEED FOR ACTION

BACKGROUND

There has been a growing concern over the status of native fish communities and their habitat throughout the inland west. Bull trout are a species representative of this concern. They are considered a "Species of Special Concern" by the American Fisheries Society and the States of Idaho and Montana, and as a "Sensitive Species" by the Forest Service and the State of Oregon. In June, 1994, the US Fish and Wildlife Service identified the status of the bull trout as "Warranted but Precluded" from listing as threatened or endangered in its entire range. On February 23, 1995, Regional Foresters from the Northern, Intermountain and Pacific Northwest Regions of the USDA Forest Service met with the Regional Director of the US Fish and Wildlife Service (from Portland, Oregon), to discuss the bull trout situation.

During the meeting, the Regional Foresters and Fish and Wildlife Service Director identified the need to develop an inland native fish habitat management strategy to protect native fish habitats, including those of bull trout, that are not already covered within the geographic scope of the President's Forest Plan (FEMAT) (Forest Ecosystem Management Assessment Team, 1993) or the Anadromous Fish Habitat and Watershed Conservation Strategy, more commonly known as PACFISH (USDA Forest Service and USDI Bureau of Land Management, 1995). PACFISH is a strategy to conserve Pacific salmon, steelhead and sea-run cutthroat trout throughout their range in Oregon, Washington, Idaho, and portions of California.

Refer to Figures I-1 and I-2 for the Inland Native Fish Strategy vicinity map, and a map displaying the National Forests within the Inland Native Fish Strategy analysis area.

PURPOSE AND NEED

This is a programmatic environmental assessment. The purpose and need for this assessment is to preserve management options for inland native fish, by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat of resident fishes for an interim period. This Environmental Assessment is intended to provide the basis for establishing appropriate interim direction to protect habitat and populations of resident native fishes outside of anadromous fish habitat, as a companion to the protection provided for anadromous fish by PACFISH.

There is strong evidence that shifts away from channel equilibrium can result in negative changes in the structure and function of stream ecosystems and their dependent fish populations (Bilby and Likens 1980; Schlosser 1982). Bisson and Sedell (1982) reported that where stream channels had become destabilized, riffles elongated and in many cases extended through former pool locations resulting in loss of pool volume and large stable debris for cover. They suggested that declines in older fish may have resulted due to their dependency upon deeper water habitats.

The function of headwater streams and their importance to downstream supported fisheries has been reviewed by Bilby and Likens (1980) and Schlosser (1982). Their work suggests that organic debris dams are a important component of small stream ecosystems and that their loss results in considerable seasonal and annual variation in the trophic structure and total biomass of aquatic ecosystems. Many major river systems have been strongly or moderately affected by fragmentation of the river channels by dams and by water regulation resulting from reservoir operation, interbasin diversion,and irrigation. These conditions indicate that many types of river ecosysyems have been lost and that the populations of many riverine species have become highly fragmented (Dynesius and Nilsson 1994). In many of the

managed watersheds of the inland northwest, clearcut timber harvests in the past occurred in headwater drainages without benefit of a buffer strip, and were then burned in preparation for planting. This practice left many streams without a large organic debris component. The results of several researchers suggests that we can best provide for the persistence of viable populations of sensitive aquatic species over time by maintaining lateral and instream habitat complexity in association with channel stability and connectivity in multiple sub-watersheds (Frissell 1994; Sedell et al. 1990; Karr and Freemark 1983; Karr and Dudly 1981; Gorman and Karr 1978).

Structurally diverse streams in watersheds unmodified by human activity typically have a great deal of buffering capacity to sustain fish populations. Channel pattern and bed configuration tends to moderate the effect of floods, pools in association with large woody debris offer refuges for fish during summer low flows and winter high flows, and canopy cover moderates thermal loading. The research of Bisson and Sedell (1982) and Heede and Rinne (1990) suggest the ecological processes that create and distribute fish habitat attributes, especially stream channel dynamic equilibrium, have been significantly modified by human activities.

Review of Monitoring and Evaluation reports for 28 national forests indicate that many watersheds in the analysis area are below Forest Plan standards, or exceed thresholds of concern. The current status of fish populations varied, but ranged from stable to trends toward smaller and weaker populations. Forests reported that a majority of streams that had been impacted by past practices were not healing as fast as anticipated, even though the rate of compliance and effectiveness of best management practices on current projects is improving.

Review of research reports and published professional papers (Dynesius and Nilsson 1994; Rieman and McIntyre 1993; Sedell et al. 1990; Grumbine 1990; Williams and Neves 1992; Oregon Trout 1994) suggest that the concern for native resident fish and their habitat merits this environmental analysis to insure continuing compliance with applicable land management and environmental laws, and to provide consistent protection for habitat and resident fisheries during an interim period.

Figure I-3 displays the historic range of bull trout versus the watersheds with current strong populations. The map clearly shows the fragmentation of habitat, and supports the concern for managing the species. This map is based on preliminary information from the Interior Columbia Basin Ecosystem Management Project and has not yet been verified.

PROPOSED ACTION

Long-term management direction is being developed through two ecosystem-based environmental impact statements that are being prepared for National Forest System lands and lands administered by the Bureau of Land Management in the Interior Columbia River Basin. The Eastside Ecosystem Management Strategy EIS applies to the area of Washington and Oregon east of the crest of the Cascade mountain range. The Upper Columbia River Basin EIS will apply to Idaho and portions of Utah, Wyoming, Nevada, and Montana. While the Eastside Ecosystem Management Strategy overlaps some of the area addressed by the President's Forest Plan, the Inland Native Fish Strategy would not.

The proposed action of the Inland Native Fish Strategy is to establish interim management direction that would reduce the risk of loss of inland resident native fish populations or negative impacts to their habitat on National Forest System lands in the assessment area. The interim direction will be in the form of riparian management objectives, standards and guidelines, and monitoring requirements. The action amends the management direction established in the Regional Guides and all existing land and resource management plans for the area covered by this assessment, except where existing Forest

Plan direction would provide more protection (refer to the map displaying "National Forests Within INFS, at the end of this chapter, and the list of Forest Plans in Appendix G).

The interim management direction will be based on the scientific information and primary elements of the selected alternative from the PACFISH Environmental Assessment. PACFISH, in combination with the similar management direction from the Aquatic Ecosystem Strategy from the President's Plan, has been applied to nearly 50 percent of the public lands in Oregon, Washington, and the interior Columbia River Basin. Applying the Inland Native Fish Strategy proposed action would provide for consistent direction across the remainder of national forest system lands in the area.

The management direction package will be slightly modified from PACFISH to be more specific to inland native fish, particularly bull trout. This requires changing the riparian management objective for temperature, since bull trout require colder water. The proposed objective would be 48° F for spawning and rearing habitat and 59° F for adult holding habitat. The proposed action will also provide for a network of priority bull trout watersheds within the proposed action area, based on metapopulation needs of bull trout. Ongoing projects within the priority watersheds will be screened to determine their potential habitat effects and whether they will need to be modified. Watershed analysis would also be required for some management activities within the riparian habitat conservation areas in priority watersheds. See Appendix E for more details.

Alternative D reflects the proposed action, and is the alternative preferred by the Forest Service and the US Fish and Wildlife Service.

APPLICATION

Under provisions of the NFMA, the proposed interim direction would amend regional guides and forest plans for each of the affected national forests to incorporate new goals, objectives, standards, guidelines, and management direction. These new standards, guidelines, and direction will supersede or replace conflicting direction described in forest plans that provide less protection.

Thereafter, future and ongoing projects and alternatives would be evaluated to determine if modifications are warranted, depending upon the alternative selected for implementation. The Forest Service believes the proposed action would not be a significant amendment as defined by NFMA for the following reasons:

1. The action would be applied for a limited time, approximately 18 months.

2. The action would not substantially modify the goals and objectives in existing Forest Plans. The economic discussion in Chapter III displays only minor effects to ongoing or future projects.

3. The action would not alter long-term levels of goods and services projected by current Forest Plans. The interim management direction does not commit to any irreversible actions that would alter the long-term relationships projected in the Forest Plans.

On its own, none of the alternatives examined in this environmental assessment would change the physical environment. Any subsequent proposed actions that would change the environment would be subject to mitigation measures prescribed under the interim direction adopted. Any action proposed during the interim period would be subject to appropriate, site-specific analyses required by NEPA and, when appropriate, provisions of the Endangered Species Act, as well as relevant planning regulations. Thus, the site-specific effects of application of the standards and guidelines specified under any alternative would be disclosed at the project level of decision making, depending on the previous

level of environmental analysis. Such projects or activities would be carried out only after the appropriate level of NEPA analysis has been completed. For more information on this process (including provisions for public notice, review and comment, and administrative appeal) refer to 40 CFR 1500-1508, 36 CFR 217, Forest Service NEPA Handbook 1909.15, and Forest Service Manual 1950.

GEOGRAPHIC RANGE

In conjunction with PACFISH, the area covered by the proposed action would provide an interim aquatic and riparian management strategy for all watersheds within the geographic area covered by the Eastside Ecosystem Management Strategy EIS and Upper Columbia River Basin EIS (refer to the maps at the end of this chapter). This would apply to all or portions of 22 National Forests in 3 Regions, across 5 states. The total National Forest System lands is approximately 24.9 million acres. The acreage by Forest is displayed in Appendix H of this document. The national forests that are likely to be affected by the Inland Native Fish Strategy are displayed in Table I-1.

Table I-1. National Forests Likely to be Affected by the Inland Native Fish Strategy.

REGION 1 (Idaho and Montana)	REGION 4 (Idaho and Nevada)	REGION 6 (Washington and Oregon)
Bitterroot	Boise	Colville
Clearwater	Caribou	Deschutes
Deerlodge	Challis	Fremont
Flathead	Humboldt	Malheur
Helena	Payette	Ochoco
Idaho Panhandle	Sawtooth	Okanogan
Kootenai		Wallowa-Whitman
Lolo		Winema

ORGANIZATION OF THE DOCUMENT

Chapter II describes five alternatives (including No-Action) which address or resolve the issues identified through the scoping and public involvement phases of the assessment. The four action alternatives wholly or partially meet the purpose and need for the proposed action. The range of alternatives are displayed for comparison.

The format of this Environmental Assessment differs from the traditional format, in that the Existing Condition (usually Chapter III) and Environmental Consequences (usually Chapter IV) are described for each resource in a single chapter (Chapter III). Chapter III describes the existing condition of specific resources, and the changes that would occur to the resources under each alternative, including the No-Action Alternative. Direct, indirect, and cumulative effects are discussed.

The Appendices contain analytical reports and specific or supplementary information that further explain discussions in the main chapters.

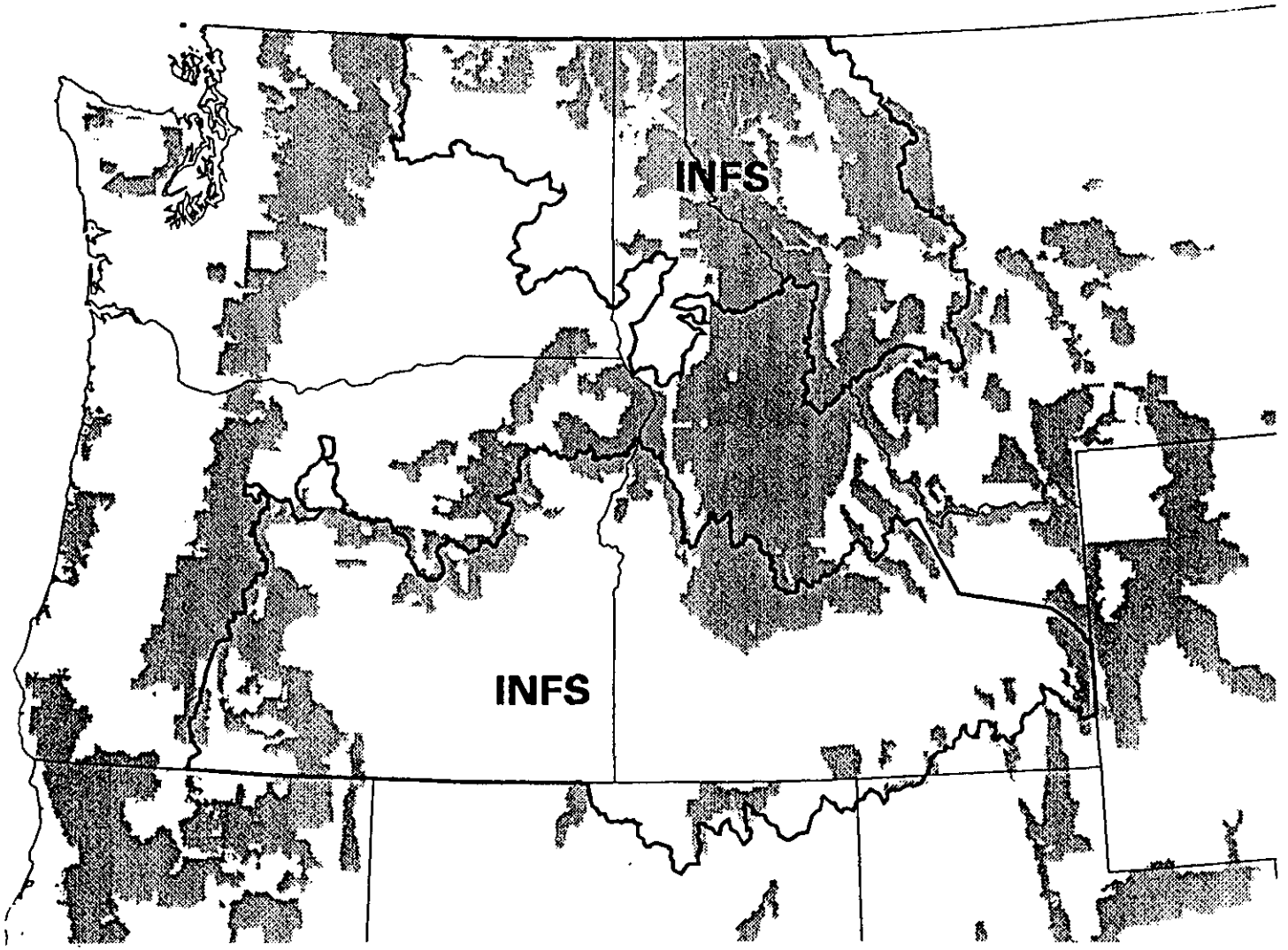
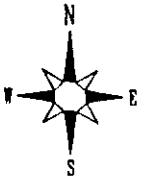


Figure I-1.

Inland Native Fish Strategy Vicinity Map

National Forests



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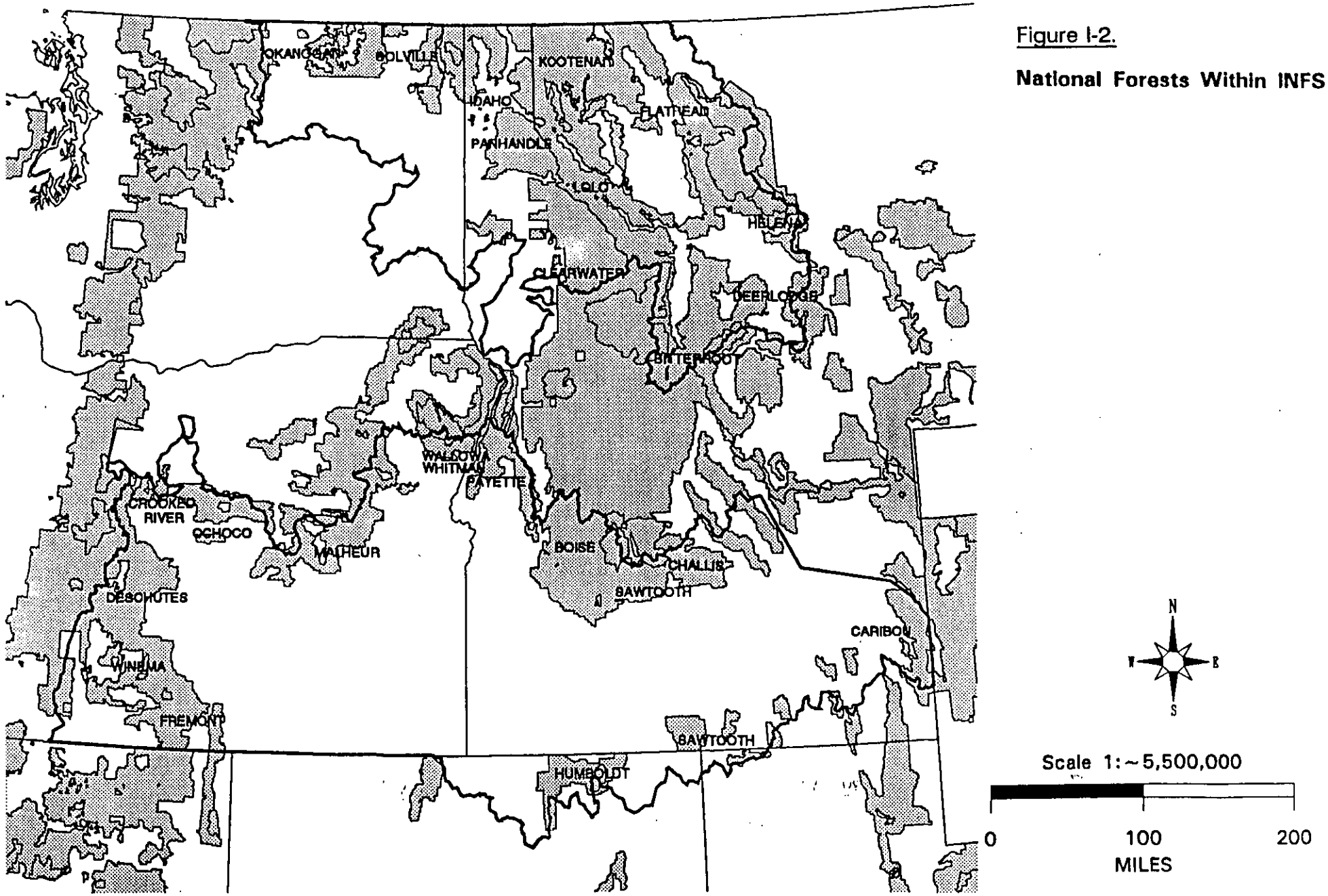


Figure I-2.

National Forests Within INFS

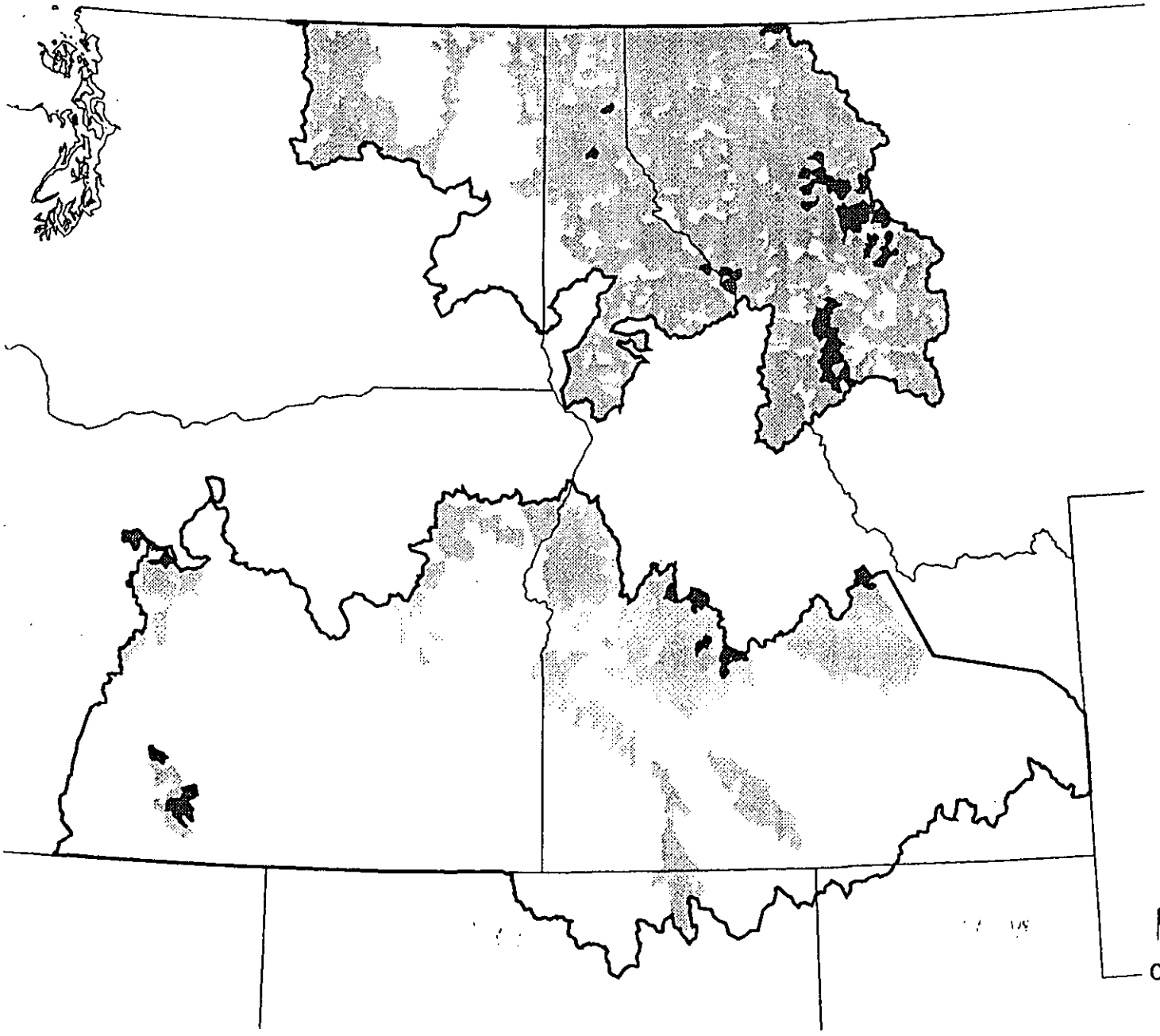


Figure I-3.

Historic Bull Trout Habitat and Strong Current Populations, Within INFS

Historic Habitat

Strong Populations

Current as of May 15, 1995.

N
W
E
S

Scale 1:~5,500,000

0 100 200
MILES

CHAPTER II
ALTERNATIVES

INTRODUCTION

This chapter describes in detail the five alternatives considered for interim management of the inland native fish habitat in the assessment area, including a No-Action Alternative.

This chapter has been divided into the following sections:

- Management Direction
- Development of Alternatives (the development process, scoping, and issues)
- Alternatives Considered but Eliminated From Further Study
- Alternatives Considered in Detail
- Comparison of Alternatives (how they respond to the issues)

The Comparison of Alternatives in this Chapter and the Chapter III disclosure of projected Environmental Consequences of each alternative provide information that allows the decisionmaker to make a reasonable choice between alternatives.

MANAGEMENT DIRECTION

Alternatives to the proposed riparian management objectives, riparian habitat conservation areas, and standards and guidelines, will be considered. Compliance with the National Environmental Policy Act would be required for all projects and activities. Under provisions of the Endangered Species Act (ESA), consultation would be required where projects or activities may affect listed species or designated critical habitat.

The Forest Service proposes to adopt an alternative providing mitigation and management measures as interim direction that would amend current Regional Guides and Forest Plans. The amendments would add new riparian goals, interim Riparian Management Objectives (RMO's), and standards and guidelines for application to all new and proposed and some ongoing projects and activities, to protect the condition and function of Riparian Habitat Conservation Areas (RHCA's). The standards and guidelines would serve to provide adequate environmental safeguards for proposed or new and ongoing projects and activities that degrade or pose an unacceptable risk within RHCA's. As required in 36 CFR 219.10(e), all outstanding and future permits, contracts and other instruments of occupancy shall, subject to valid existing rights, be consistent with the Forest Plans as amended. These interim standards and guidelines would replace conflicting direction described in the existing Forest Plans, except where Forest Plan direction would provide more protection for fish habitat.

DEVELOPMENT OF ALTERNATIVES

Scoping for the assessment began in March of 1995. Scoping is an early and open process for determining the scope of issues to be addressed and for identifying issues related to the proposed action. A notice of the proposal to prepare an environmental assessment was published in the Federal Register on March 14, 1995 (Federal Register, Vol. 60, No. 49, pp. 13697-13698). The purpose and need for the proposed action was identified, and the public was asked to comment on the assessment by April 14, 1995. The comment period was later extended to April 26 (Federal Register, April 13, Vol. 60, No. 71, pp. 18799-18800). The process has also been modified to allow 30 days for the public to review and

comment on the environmental assessment, prior to issuing a decision notice (Federal Register, May 25, Vol. 60, No. 101, p. 27717).

The Interdisciplinary Team held several meetings to review the issues and concerns, evaluate existing resource conditions, establish information needs, develop management alternatives, and analyze the effects of the developed alternatives. The Forest Plan monitoring and evaluation reports were reviewed, as well as the current Forest Plan direction, to determine management concerns. The Interdisciplinary Team developed alternative strategies in response to issues identified during internal scoping and public involvement participation activities. Using a process designed to address both agency and public concerns, the Interdisciplinary Team developed a range of preliminary alternatives. Of these, five were carried through a detailed analysis process (see "Alternatives Considered in Detail" in this chapter), and five alternatives were eliminated from further study for various reasons (discussed under "Alternatives Considered But Eliminated From Further Study").

More specific information concerning public involvement is included in Appendix D, Public Involvement.

ISSUES

The alternatives respond to issues identified during the scoping and public involvement process, to the extent feasible within the physical, biological, and legal limits on natural resource management.

Specific issues were identified by the public during the scoping process. Not surprisingly, there were two distinct points of view: One claims there is no proof that the fish is in need of help, and the other that protection is not only needed but overdue. The following comments represent those most often stated by the public in their letters.

There is a lack of scientific data.

Many felt there is no scientific evidence to prove that a problem exists for bull trout or other fish species.

Many people seemed to feel the Forest Service should require the same level of information as the US Fish and Wildlife Service needs for listing a species, before additional management requirements are initiated. The goal for the Forest Service and other federal agencies is to act to prevent the need for such listings.

There is sufficient information indicating the need to act now. As described in the assessment Purpose and Need statement (Chapter I), there is ample evidence to support the concern for native resident fish and their habitat, meriting this environmental analysis to insure continued compliance with applicable land management and environmental laws, and to protect habitat and resident fisheries during the interim period.

Several species of resident native fish, including all native trout, are listed as State "Species of Concern" or as "Sensitive species" by the USDA Forest Service. Recent reports suggest changes in habitat conditions as a major cause of a declining trend in the security of native fish populations throughout the geographical area of this environmental assessment (Rieman and Apperson 1989; USDA Forest Service 1993; Oregon Trout 1994; Kitano 1994; Fraley and Shepard 1989). The bull trout has recently been petitioned for listing under the Endangered Species Act. Should any of these fish become listed as threatened, endangered or proposed for listing, all Federal actions would be subject to Endangered Species Act provisions and require consultation or special consideration.

The real problem is fishing pressure.

Several commented that the real problem is fishing pressure - recreational, commercial, and tribal. They expressed confusion over how a fish can be identified as threatened or endangered when fishing regulations still allow for the fish to be caught.

There are many factors influencing fish species. The Forest Service recognizes that fishing pressure, species competition and interbreeding, dams and water diversions, as well as the quality of fish habitat on National Forest System lands as a result of management actions, can all affect inland native fish. The magnitude of any one factor varies greatly across the geographic area.

The Forest Service can influence current and future management activities that affect habitat quality on National Forest System lands. This environmental assessment will provide interim direction to maintain or improve habitat quality. Through watershed analysis, managers can determine the factors influencing the species and modify requirements to the local situation (discussed below).

PACFISH is too rigid.

Several people commented on PACFISH. Many focused on the width of stream/riparian area buffers, and indicated concern with the level of activities that would be allowed or precluded. The PACFISH guidelines were viewed as inflexible and unrealistic for individual projects; there was concern that an "one size fits all" approach would be taken.

The Forest Service does not perceive PACFISH or the Inland Native Fish Strategy as "one size fits all," but rather as the first step in an adaptive management process. In brief, this process identifies the best information available to address an issue and would then modify it over time through monitoring, improved data, site-specific analysis, and research.

The PACFISH management direction package was developed by an interagency team of specialists and scientists. Information from more than one hundred watershed-level surveys were combined to develop the riparian management objectives. This information provides a sufficient base to build upon, and Alternatives B, D, and E utilize it. Under these three alternatives, management direction could be modified through watershed analysis and/or site-specific project analysis.

Alternative C, described below, takes a different approach, in that it would develop management direction only after collecting more site-specific information. The consequences of this approach are displayed in Chapter III.

All alternatives would provide only interim direction. The management direction provided by the Selected Alternative will be reviewed, analyzed, and modified if necessary by the efforts of the Eastside Ecosystem Management Strategy and Upper Columbia River Basin Environmental Impact Statements (EIS's). This would be the next step in the adaptive management process.

Direction to protect fish should not be lost in a trade-off to resource outputs.

There was concern that the direction needed to maintain species viability would lose out to a trade-off in resource outputs, especially in light of recent salvage logging proposals.

The production of goods and services from National Forest System lands is contingent upon compliance with the mandates of federal environmental laws, such as the Endangered Species Act, Clean Water Act, and National Forest Management Act. If commodity production cannot be conducted within the

parameters of these laws, then development will be adjusted or not go forward. Decisions resulting in an irretrievable or irreversible commitment of resources are made during project-level planning. Thus, there is no guarantee or assured level of commodity production in national forest planning.

All aquatic species should be addressed.

Several commented on what they felt was the "real" issue: That all aquatic species should be addressed, not just bull trout or just native fish.

The interim management package proposed under all four action alternatives would have positive effects for nearly all aquatic species. (See Chapter III for the projected environmental consequences.) The Forest Service feels that it has addressed the species with the highest priority for action. If through monitoring or other sources of information, a need to modify management is discovered, then amendments to management direction can be initiated, similar to what has been done with this assessment.

Consider the full economic and social effects.

People from smaller communities voiced concern that the analysis and decision would not consider the effects on other resources, especially timber management, along with the economic effect on timber-dependent communities. They fear that interim direction will result in a shut-down of activities, which would not only have a detrimental effect on forest health, but would also have a direct and devastating effect on their jobs .

This Environmental Assessment includes both social and economic analyses (Chapter III). While the requirements of the Strategy may affect the development of projects over the short term, the effects of not addressing this issue could indiscriminately bring many activities to a virtual standstill. If action is not taken to reduce risk of loss of populations and potential negative effects to aquatic habitats, there is a greater likelihood for litigation. An injunction, tied to such litigation, could halt activities throughout the assessment area, which would have substantial impact in terms of social and economic effects.

The adoption of any proposed interim strategy, including the No-Action Alternative, may affect the flow of goods and services that are provided from Federal lands and may directly or indirectly affect management activities conducted on other Federal, State and private lands. Any interim management strategy must consider the demand for and the supply of goods and services, and the often conflicting issues that can affect supply. These considerations will be displayed in the Decision Notice that will be issued after the public review and comment period.

The overall process is wrong.

Regardless of what point of view they prefer, most people identified concerns with the overall process. Several stated that federal land managers are out of their jurisdiction - the states should be managing for the fish resources.

Generally, State agencies manage fish harvests, although sovereign tribes and some regulatory federal agencies also have responsibility for management of fisheries resources. The Forest Service's responsibilities are focused on management of habitat and maintaining population viability within the National Forest System. Close cooperation among the various other agencies, governments, and jurisdictions is necessary to provide proper management of fisheries resources.

An EIS is needed.

Many people felt an environmental impact statement should be prepared for an assessment of this magnitude.

The Forest Service initiated this analysis as an environmental assessment rather than an environmental impact statement. This was done because it would provide interim rather than long-term management direction, will not change the overall projected mix of goods and services, and will be superceded by the two environmental impact statements that are already initiated. The information received from the public after they review this environmental assessment will influence the determination of whether there is any significant impact that would result in the need to prepare an environmental impact statement.

Need further public review.

People at all points on the spectrum felt strongly that they should have an opportunity to review the alternatives and effects analysis that will be documented in the Environmental Assessment.

The Inland Native Fish Strategy Team relayed the public's desire for further review to the Regional Foresters of the Northern, Intermountain, and Pacific Northwest regions of the Forest Service, and the Regional Director and Deputy Director of the US Fish and Wildlife Service. They agreed that the public should be given this opportunity. The Environmental Assessment has been sent to the public for a 30-day review and comment period. Their comments will be considered in reaching a decision.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER STUDY

Defer all actions until the Eastside and Upper Columbia River Basin EIS's are issued.

One alternative would be to defer all actions in the geographic area until such time as the two environmental impact statements provide longer term direction. This was eliminated from detailed consideration because in some cases the Forest Service does not have legal authority to stop projects within the interim time period covered by this environmental assessment. In addition some projects that would be deferred would actually improve existing conditions, e.g. watershed restoration, road closures, etc. Finally, such an action would have tremendous social and economic effects completely out of proportion to the needs for the species.

Develop process-oriented Standards and Guidelines.

Many standards and guidelines are developed to address physical and biological processes such as sediment filtering or shading requirements. These can vary significantly based on site specific conditions. One alternative considered was to develop standards and guidelines based on the processes that apply and varying by site specific conditions. This was eliminated from detailed consideration because of inadequate information across the entire geographic area to adequately describe the range of processes that would need to be developed. The concept of providing more process and site specific oriented approaches is addressed in Alternative C and in the watershed analysis approaches in Alternatives B, D and E.

Apply stricter standards and guidelines only to Endangered Species Act "Candidate" and "Sensitive" species habitat within the geographic area.

Rather than apply stricter standards and guidelines across the entire geographic area, one alternative considered was to only apply it to known areas with habitat occupied by species listed as candidates for Endangered Species Act listing and by Forest Service Sensitive species. This was eliminated from detailed consideration since the occupied habitat is not known for every species but in aggregate it was felt that a large proportion of National Forest System lands would be involved. For an interim period it was determined to be more appropriate to address this concern with Alternative D.

Apply stricter standards and guidelines only to Endangered Species Act "Candidate" and "Sensitive" species habitat within the range of the species.

This alternative would apply stricter standards and guidelines across the entire range of the species listed as candidates for Endangered Species Act listing and by Forest Service Sensitive species. For example, standards and guidelines for westslope cutthroat trout would cross over to the Missouri River Basin. This was eliminated from detailed consideration since there is no assessment for the areas outside of the Columbia River Basin that can be used for this assessment. In addition, the intent of this environmental assessment is to only provide interim direction. There is no assessment currently in place that would provide long term direction outside the area covered by the Eastside and Upper Columbia River Basin EIS's. Given the higher concern for the area in this assessment, the Forest Service felt it must move ahead with the assessment as described.

Initiate recovery efforts.

One alternative would be to not only maintain future options but to begin restoration efforts that would initiate the recovery for the candidate species. This was eliminated from detailed consideration because within the time frame for this assessment we can not develop a comprehensive, area wide strategy to direct restoration activities for the next 18 months. In addition, the budgetary processes have already been completed for most of that time period, limiting the ability to modify requests. Forests are urged to move ahead at a local level but no comprehensive recovery strategy could be developed at this time. This assessment however, starts the process by identifying priority watersheds and making them a priority for restoration and monitoring.

ALTERNATIVES CONSIDERED IN DETAIL

INTRODUCTION

This portion of Chapter II describes the specific features of the five alternatives as designed to respond to the issues (including the No-Action Alternative). **Alternative Descriptions** are provided for each alternative, followed by **Features Common to All Alternatives**, and a **Comparison of Alternatives Considered In Detail.**

ALTERNATIVE DESCRIPTIONS

Components of the Alternatives

Following are the key components of the alternatives to be considered:

Level of Standards and Guidelines: The purpose of this environmental assessment is to provide interim direction to maintain management options until the Eastside and Upper Columbia River Basin EIS's are completed. Since any alternative represents some level of risk to populations and aquatic habitat, one feature of the alternatives is how much reduction in risk will be provided by the standards and guidelines.

Geographic Area: All alternatives would address National Forest System lands covered by the decisions in the Interior Columbia Basin and Upper Columbia River Basin EIS's with the exclusion of the area covered by PACFISH. The two environmental impact statements and this environmental assessment will not address the National Forest System lands in the Greater Yellowstone Ecosystem.

The total acreage of National Forest System lands within the assessment area is 24.9 million acres. All alternatives considered in detail consider this area, in addition to considerations related to bull trout within priority watersheds. Figure II-1 displays the priority watersheds in the Inland Native Fish Strategy analysis area. The priority watersheds occupy about 5.5 million acres (22 percent of the assessment area).

Screens: An item of great concern to Fish and Wildlife Service and other members of the public is to what extent screens of ongoing projects will be applied. The environmental assessment provides three variations that have been incorporated in the alternatives:

a) No screens
b) Screening only in priority watersheds
c) Screening of all on-going projects

Watershed Analysis: The President's Plan and PACFISH both initiated the concept of doing watershed analysis to adjust and enhance the objectives, standards, and guidelines to be applied. Another feature of the alternatives is the extent and factors for initiating watershed analysis. It is assumed any watershed analysis will follow the final *Federal Agency Guide for Pilot Watershed Analysis* (USDA Forest Service, et al, January 1994).

Monitoring: Monitoring is a key feature in an adaptive management strategy. Monitoring will focus on implementation rather than effectiveness. The short-term nature of this interim direction would not allow for meaningful effectiveness monitoring. Monitoring will be incorporated into all alternatives, but will not be used to compare alternatives. Monitoring associated with this proposal does not preclude established monitoring efforts by the individual Forests.

Alternative Descriptions

Alternative A

This is the No-Action alternative required by National Environmental Policy Act and National Forest Management Act. The No-Action alternative would continue management under the current direction in the Forest Plans. Each Forest Plan would have its current standard and guideline direction. No screens would be applied to ongoing projects. Individual projects would be evaluated by current NEPA and

NFMA requirements. No specific watershed analysis would be required. Under provisions of the Endangered Species Act, consultation would be required where projects or activities may affect listed species or designated critical habitat.

Alternative B

Alternative B would focus reduction of risk on watersheds with occupied bull trout habitat (approximately 9 million acres). The more restrictive standards and guidelines to be applied would be the same as those under Alternative D. Current Forest Plan standards and guidelines would be applied to watersheds without occupied bull trout habitat. The screen for ongoing projects would be applied to priority watersheds. Watershed analysis requirements would basically apply to any road construction, recreation facility construction, or salvage logging projects in Riparian Habitat Conservation Areas (RHCAs) within priority watersheds, or in changing the riparian management objectives or RHCA widths. Figure II-2 displays the occupied bull trout habitat within the Inland Native Fish Strategy analysis area.

Alternative C

Alternative C would provide flexible standards and guidelines to the Riparian Habitat Conservation Areas. Standards and guidelines would be based on the concepts in Fish 2000, an approach provided by the Intermountain Forest Industries Association and other groups during scoping. Riparian Habitat Conservation Areas would be determined with site-specific information based on the geo-hydrologic processes applicable to the site. This alternative would provide maximum flexibility for management operations within the RHCA.

Standards and guidelines would be applied across the geographic area. No priority watersheds would be identified. The screen for on-going projects would not be applied. Watershed analysis requirements would be the same as those applied in Fish 2000. This would include a watershed-scale riparian assessment to formulate riparian management objectives, with an initial riparian analysis for each new project followed by a more detailed watershed analysis only if needed to clarify riparian relationships to management needs.

Alternative D

Alternative D would apply a consistent set of standards and guidelines to the Riparian Habitat Conservation Areas. Alternative D most accurately represents the proposed action.

Standards and guidelines would be based on the concepts in PACFISH and the Idaho Conservation Strategy for Bull Trout. This set of standards and guidelines would be consistent across all Forests but could be adjusted through watershed analysis and/or site-specific project analysis. The standards and guidelines would be applied to the entire geographic area. Priority watersheds would be identified for screening, and prioritization of recovery and monitoring efforts. Watershed analysis requirements would basically apply to any road construction, recreation facility construction, or salvage logging projects in RHCAs within priority watersheds, or for changing the riparian management objectives or RHCA widths.

Alternative E

Alternative E would apply a consistent set of standards and guidelines to the Riparian Habitat Conservation Areas, with greater emphasis on watershed analysis and protection of unroaded areas. The standards and guidelines for Alternative E would be the same as those under Alternative D. This alternative is based on the concepts in the biological opinions issued by the National Marine Fisheries Service for PACFISH and Forest Plan consultations, and comments received from various environmental groups.

Standards and guidelines would be applied across the geographic area. Priority watersheds would be identified for watershed analysis. The screen for on-going projects would be applied across the entire geographic area. Watershed analysis would be required before initiation of projects in any priority watersheds or for projects outside of RHCAs that might preclude meeting the riparian management objectives. Watershed analyses would be peer-reviewed. Alternative E would establish Riparian Management Objectives for sediment and would have a stricter standard for streambank stability. Subject to valid existing rights, there would be no road construction or timber harvest in unroaded areas 1,000 acres or larger in size, until long-term direction is provided by the completed Eastside and Upper Columbia River Basin EIS's.

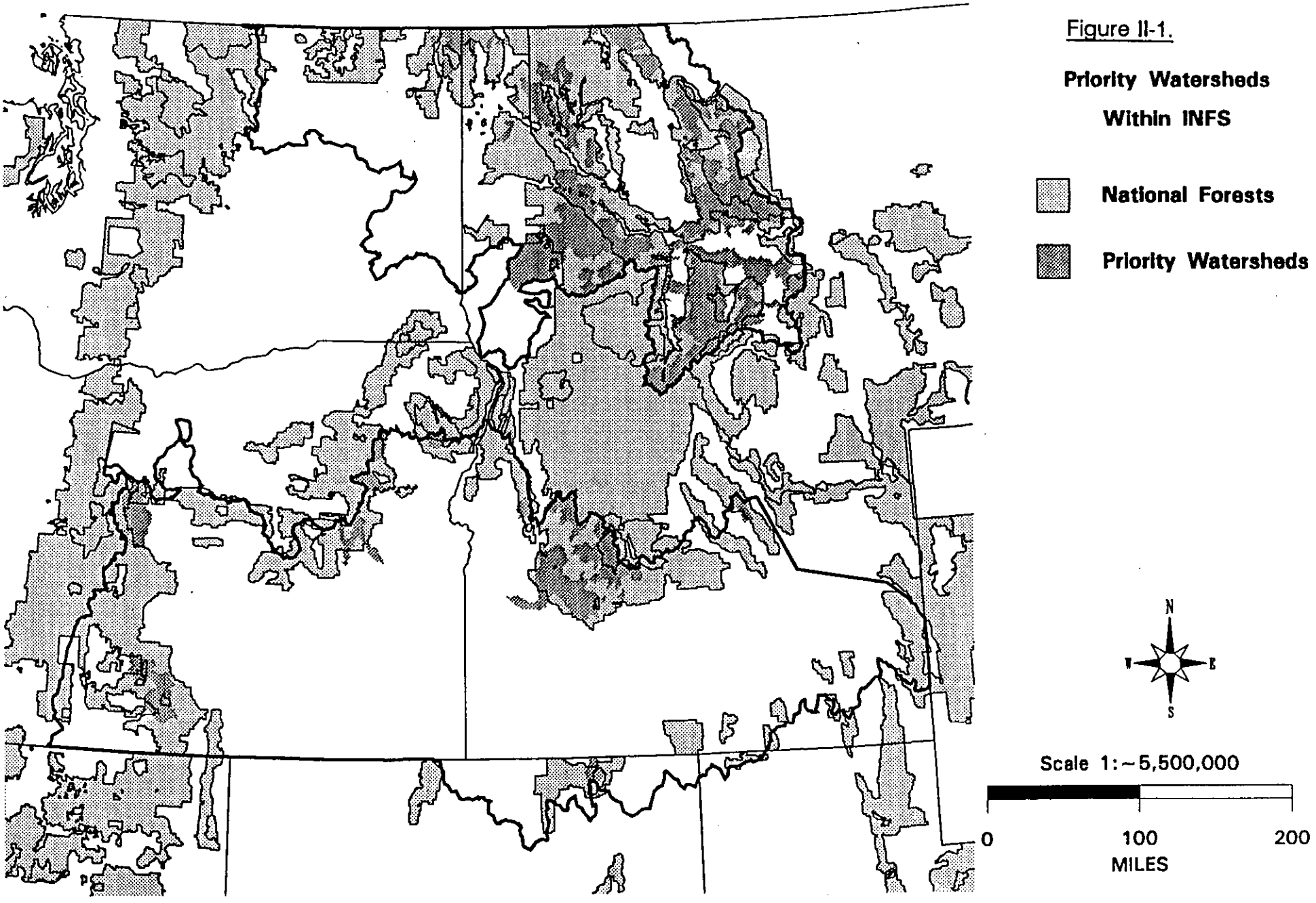


Figure II-1.

Priority Watersheds Within INFS

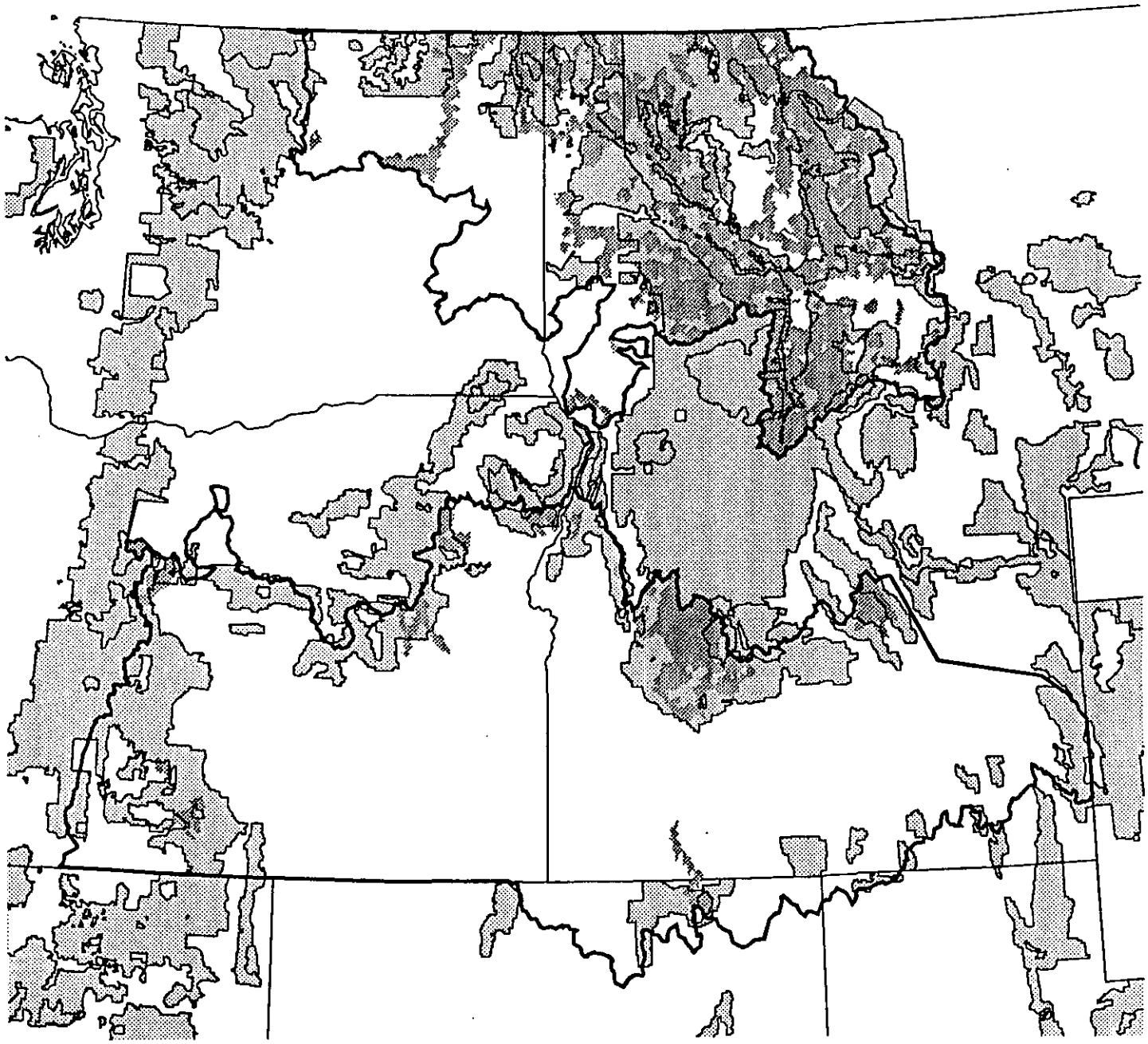


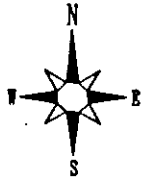
Figure II-2.

Occupied Bull Trout Habitat Within INFS

National Forests

Occupied Habitat

Current as of May 15, 1995.



Scale 1:~5,500,000

FEATURES COMMON TO ALL ALTERNATIVES

Riparian goals would establish a common set of characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. Because the quality of water and fish habitat in aquatic systems is inseparably related to the integrity of upland and riparian areas within the watersheds, several goals are identified for watershed, riparian, and stream channel conditions, including the maintenance of water quality, stream channel integrity, channel processes, sediment regime, instream flows, natural timing and variability of the water table elevation in meadows and wetlands, and the diversity and productivity of native and desired non-native plant, vertebrate and invertebrate communities. These goals focus on ecological processes and functions under which the riparian and aquatic ecosystems developed and the unique genetic anadromous fish stocks evolved.

Riparian Management Objectives (RMO's) would establish measurable habitat parameters that together define good fish habitat and serve as indicators against which attainment or progress toward attainment of the goals can be measured.

Proposed **standards and guidelines** have been developed for management of timber, grazing, recreation, roads, minerals, fire and fuels, and general riparian areas, as well as for land uses such as those governed by leases, permits, rights-of-way, and easements. Standards and guidelines have also been developed for the restoration of watershed, fisheries, and wildlife habitat. Standards and guidelines would provide management direction believed necessary to meet Riparian Goals and RMO's for stream channels, riparian areas, and watersheds.

If either of the following results is probable or foreseeable as a result of an ongoing action or group of actions, that action or group of actions will be considered to pose an unacceptable risk and the interim standards and guidelines would be applied to avoid adverse impacts:

1. Environmental changes that may cause a population to become threatened or endangered.

2. Environmental changes that decrease the estimated numbers and distribution of reproductive individuals such that the continued existence of the population within priority watersheds is at risk.

Interim **Riparian Habitat Conservation Areas** (RHCA's) would be established to identify areas in watersheds that are most sensitive to management. Standards and guidelines would be applied within all RHCA's and to projects and activities outside RHCA's that could degrade RHCA condition.

COMPARISON OF ALTERNATIVES CONSIDERED IN DETAIL

During alternative development, two questions were identified as representing the most critical issues in evaluating alternatives:

1. To what extent will the alternative reduce risk to loss of populations and potential negative impacts to aquatic habitat?

2. How will implementation of the alternative affect management activities, and at what cost (including social and economic costs)?

Looking at the alternatives in a very broad perspective, they can be rated from highest to lowest reduction in risk, and lowest to highest economic costs:

Highest reduction in risk <----------> Lowest reduction in risk

Alt. E	Alt. D	Alt. C	Alt. B	Alt. A

Lowest economic costs <----------> Highest economic costs

Alt. A	Alt. C	Alt. B	Alt. D	Alt. E

This is a very simplistic view of the comparison of alternatives; the following discussion provides additional insight into the trade-offs between alternatives.

1. To what extent will the alternative reduce risk to loss of populations and potential negative impacts to aquatic habitat?

Alternative E offers the greatest reduction to risk of loss of populations or potential negative effects to aquatic habitat. While it has the same basic standards and guidelines package as Alternative D, the greater intensity of watershed analysis and non-entry into roadless areas would cause an overall lower risk.

Alternative D would also provide a high level of risk reduction, based on the strong set of standards and guidelines that would be uniform across the entire INFS area. The watershed analysis requirements would be adequate to protect resources, while allowing flexibility in the development of projects.

Alternative C would allow the greatest amount of flexibility for developing the protection required on a site-specific basis. However, there is no guarantee that protection would be adequate, since the skill level and knowledge of personnel and comprehensive data for the watershed would vary for each project. The amount of management allowed in the RHCAs would also provide a higher potential risk of loss of populations or potential negative effects to aquatic habitat.

Alternative B provides a strong direction package, but would apply to only 36 percent of the project area. This would reduce the risk to bull trout, but would not address other sensitive species.

Alternative A is the most variable in terms of risk, since each Forest has a different set of standards and guidelines. Direction for timber sales, particularly in Region 6, is fairly uniform but does not provide the RHCA protection that would be provided under the action alternatives. There would be no consistency on management of grazing, minerals, or other resources to provide protection for fisheries.

2. How will implementation of the alternative affect management activities, and at what cost (including social and economic costs)?

Alternative E would have the most effect on management activities, and the highest potential social and economic cost. The requirement to screen all activities basin-wide would have a high management cost and could require modifications to many projects. The screening process just completed within the priority bull trout watersheds required the review of over 1,600 activities or groups of activities. For the entire Inland Native Fish Strategy assessment area, an estimated 27,000 activities could require review. The costs for watershed analyses would be higher than under any other alternative, because

of the need to do more analyses and for the analyses to be peer reviewed. Finally, the exclusion of operations within unroaded areas 1,000 acres or larger could have a major effect on future salvage and green timber operations. Current estimates are that about 10 percent of salvage volume is located in inventoried roadless areas. Restricting operations in 1,000-acre unroaded areas would probably greatly increase that percentage. While this interim direction would be short term, people in many rural communities would probably feel very threatened by the closure of so many areas to entry, and may fear that the direction could become long-term under the Eastside and Upper Columbia River Basin Environmental Impact Statements.

Alternative D would have substantially less effect on management activities and lower social and economic costs. Of the 1,600 projects screened to date, only 49 have been rated as high risk, and 92 as moderate. Two timber sales have been identified as high risk, and seven as moderate. Total volume for these sales would be 30 MMBF. This compares to the 2,460 MMBF that is currently under contract or proposed for sale in the projected time for this project. There would be an effect on future projects, but it is anticipated that the effect would be comparatively small.

Alternative B would have the same effects as Alternative D for the 9.2 million acres of watersheds with occupied bull trout habitat. There would be greater management flexibility in the areas without occupied bull trout habitat. Social and economic costs would be similar to those under Alternative D. There would be less impact in Regions 4 and 6 than in Region 1, since fewer activities would be affected in those regions. Most of the occupied bull trout habitat is located in Region 1.

Alternative C would allow greater flexibility in the design and development of projects, but to apply the process could increase the costs of project development. As a result of the greater flexibility, there would be lower social and economic impacts to those people associated with resource-based industries.

Alternative A would have the lowest social and economic impacts, since current standards and guidelines would continue to be applied. However, due to the uncertainty of appeals and litigation, many Forests are already utilizing stricter standards and guidelines than are currently in their Forest Plans. Another factor for consideration is that, if action is not taken to reduce risk of loss of populations and potential negative effects to aquatic habitats, there is greater likelihood of litigation. An injunction tied to such a lawsuit could halt many activities in the Inland Native Fish Strategy analysis area, which would have a strong impact on those groups that rely on natural-resource extraction for their economic and community stability.

CHAPTER III
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

None of the alternatives examined in this environmental assessment would, on its own, change the physical environment within Riparian Habitat Conservation Areas (RHCA's). Under Alternatives B, D and E, activities proposed or active within RHCA's that would change the environment would be subject to mitigation measures prescribed under the interim direction set by the selected alternative. Such projects and activities would be implemented only after the appropriate level of NEPA analysis has been completed, with Endangered Species Act (Section 7) consultation as required, and administrative appeal under 36 CFR 215.

To provide the decision maker with a means of comparing the possible effects of the alternatives, the Interdisciplinary Team evaluated components of the environment that would affected by the proposed action. The following discussion describes the direct, indirect, and cumulative effects that the alternatives would have on each component during the interim period. Virtually all of the environmental consequences disclosed in this environmental assessment would be cumulative effects.

Analysis of environmental consequences are based primarily on estimates of the effects of predicted changes in timber harvesting and livestock grazing. Other resources such as recreational use, mineral activities, as well as the road construction and reconstruction activities associated with those uses are discussed but at a lower level of detail.

In analyzing the alternatives considered in detail, the Interdisciplinary Team assumed the following:

1. On their own, Alternatives B, D and E would not result in any ground-disturbing activities or direct changes to the environmental status quo. The alternatives would provide a range of management regimes and mitigation measures to be applied to projects and activities. The mitigation measures could result in the delay or modification of projects and activities. New project decisions would be preceded by site-specific environmental analysis, as appropriate.

2. Alternative A represents no deviation from the level and intensity of ongoing or proposed projects and activities. Conditions and trends would not change substantially, and all ongoing and proposed projects would proceed in accordance with approved Forest Plans and land use plans, and in compliance with Agency regulations, provisions of the Endangered Species Act, and direction provided by Congress.

3. The affected environment is the present environment. Analyses in this environmental assessment consider trends and changes associated primarily with ongoing and proposed timber harvesting and livestock grazing uses during the interim period. Net changes to the affected environment are the basis for comparison of alternatives.

4. Environmental effects of the alternatives considered in detail are based solely on the implementation of any new strategy within the geographic scope of the proposed action. Management direction described under each alternative would apply only to National Forest System lands.

Cumulative Effects

The potential cumulative effects of this action would be limited by the nature of the interim direction itself. No ground-disturbing actions would be authorized, funded, or implemented by the interim direction. Such ground disturbing activities will need to placed in a context of both past, present, and future activities for the site specific analysis. The interim direction would not involve any irreversible commitment of resources. In this programmatic environmental assessment, the USDA Forest Service is merely considering the impacts of various interim strategies for protecting inland native fish habitat until completion of the Upper Columbia River Basin EIS and Eastside EIS, in approximately 18 months. The intended effect of the interim direction is to maintain the environmental status quo while long-term management strategies are being developed.

The standards and guidelines presented in the various alternatives are intended to limit or mitigate the effects of human activity on inland native fish habitat on various amounts of National Forest System lands, depending on the alternative selected. The potential cumulative effects of this action would also be limited by the short time period in which this interim direction would be in effect.

Reasonably-foreseeable related future actions, such as the development of long-term management strategies for inland native fish habitat, were considered in the analysis presented in this chapter. At this time, the preparation of these long-term management strategies is not complete, and it would be speculative to attempt to analyze what, if any, cumulative effects may result. It is not clear at this time if any part of the interim strategy will be adopted as part of the long-term strategies. There is no precedent established by this analysis of alternative interim strategies.

WATERSHED AND WATER RESOURCES

AFFECTED ENVIRONMENT

The proposed action encompasses a large area of the Columbia River Basin upstream and east of the Cascade Mountains crest that is located outside the scope of PACFISH. Essentially, it includes all of the lands in the Columbia River Basin not currently containing anadromous fish, and in a few adjacent basins. The scope of this analysis includes the Deschutes River above Round Butte Dam in Oregon and the upper Klamath River in Oregon; the Upper Snake River above Hells Canyon Dam in Idaho; the Columbia River above Chelan Falls in Washington, Idaho, and Montana; and small areas of Utah and Nevada. The affected broad watershed descriptions are summarized here. They are based, in part, on section descriptions from *Ecological Subregions of the United States: Section Descriptions* (USDA Forest Service, July 1994). More complete, descriptions of the affected physical environment are included in the Forest Plans and Environmental Impact Statement listed in Appendix G.

Columbia River Basin

The Columbia and its tributaries flow through several geomorphic provinces. The area within the scope of the proposed action is dominated by the intrusive granites and metasediments associated with the Idaho Batholith and Bitterroot Range, the extruded basalts and other igneous rocks associated with the Columbia Plateau, and various sedimentary and wind-deposited formations. Glacial actions and mountain uplift defined the morphology of most of the higher elevations. Volcanic activity influences much of the western and central basins.

The watersheds, streams, and riparian areas that exist within these provinces are as complex as the provinces themselves. Generally, though, since the scope of this analysis is limited to National Forest System lands in the basin, most of the streams and rivers can be characterized as lower order streams including their headwaters. The 1st, 2nd, and 3rd-order streams tend to be high energy fast-moving water courses that are often confined or partially confined with limited flood prone areas; and they are often structurally controlled. The higher order streams (typically 4th and 5th order) can be expected to have moderate energy and slopes, and they are usually weakly confined by their valleys.

Streamflow from the headwaters generally is snow-dominated. A significant snowpack accumulates from late fall through spring. Snow melt in spring and early summer results in a notable runoff surge that usually is sustained well into the summer. Water temperatures tend to be cool year-round. Generally, water quality is excellent in the headwaters.

Rivers and streams are relatively steep in the headwaters, controlled by bedrock and glacially-derived formations. Falls, step-pools, and cascades are not uncommon. High mountain lakes are common in the headwaters. Relatively gentle gradient meadow reaches are frequent, but they are not dominant over most tributary lengths near the headwaters.

Lower in the drainage where gradients are less, channels are not as confined, and depositional landforms dominate, the streams often exhibit meandering characteristics with lateral adjustments taking place. Wide flood-prone areas become more frequent. Channels tend toward pool-riffle-run systems.

Deschutes River above Round Butte Dam and Upper Klamath River in Oregon

The area is dominated by two distinctly different ecologic provinces. The main stem and lower tributaries drain plains with low hills and canyons, and lava plateaus of the warm and dry Intermountain Semi-desert Province of south-central Oregon. These relatively warm, dry, and low elevation lands over basalts have few, mostly intermittent streams associated with them.

The headwaters of the Deschutes and Klamath Rivers on the west drain the eastern Cascade volcanic mountains of the Cascade mixed forest Province. Glacial action has modified some of the volcanic slopes, which are overlain by volcanic ash. Precipitation is highly variable and falls mainly as rain and snow from fall to spring. Summers are dry. Stream densities are generally low and stream flows tend to be flashy; that is, the streams respond quickly to storm and snowmelt events.

Upper Snake River Basin (above Hells Canyon)

The Upper Snake Basin lies primarily in the Middle Rock Mountain Steppe and the Columbia Intermountain provinces of southeast Oregon and southern Idaho. The three forks of the Payette River and the upper Boise River lie in the Idaho Batholith Section of this Province. The higher elevations have been strongly glaciated leaving alpine ridges and cirques, and large U-shaped valleys. Mature surfaces are strongly dissected resulting in steep breaklands. Granite forms the Batholith, while basalts and metasediments exist on the periphery. The climate is cool temperate and has a maritime influence in that storms are generally cyclonic from the Pacific Ocean. Precipitation falls primarily during fall, winter, and spring; summers are dry.

Many perennial streams and lakes occur in the Section. Stream breaklands are highly efficient for moving water and sediment. The mature landscapes support lower energy and more complex drainage systems.

Generally east of the Idaho Batholith lies the Beaverhead Mountains Section. Within the Inland Native Fish Strategy analysis area, the Big Lost River is the principle river system. The lands are a complex of

glaciated ridges and fluvial valleys with wide terraces and flood plains. Granitics, metamorphics, volcanics, and Tertiary sedimentary rocks make up the lithology.

Climate is cold, dry, and continental. Most precipitation falls as snow in the cold winter months. Summer are dry. Complex drainage patterns reflect the complex geology. Intermittent streams are common consistent with the relatively arid nature of the climate.

Most of the Snake River above Hells Canyon Reservoir lies in the Owyhee Uplands Section of the Intermountain Semi-Desert Province. The Owyhee, main Payette, lower Malheur, lower Boise, Brunea and Jarbridge, and Raft Rivers; as well as the Snake River dominate this area in southeast Oregon, southern Idaho, and northern Nevada. The region has been uplifted and block-faulting is common. Although the Owyhee Mountains are granite, most of the uplands are rhyolites and welded tuffs with silicic volcanic flows, ash deposits and wind-blown loess. The landscape is deeply dissected.

The climate is dry with precipitation ranging from 7 to 15 inches fairly evenly distributed throughout the year. Stream flow originates from snow accumulations in the higher elevation. Streams and lakes are infrequent.

The Overthrust Mountain Section, which is actually part of the Middle Rocky Mountain Steppe Province, defines the watersheds of the upper Snake River in southeast Idaho. Anticlinal and synclinal structures and thrust fault zones have created linear valleys and ridges in the area. Sedimentary rocks, limestones, siltstones, cherts, sandstones, and shales make up the base rock. Sixteen to 40 inches of precipitation falls during the fall, winter, and spring - mostly as snow above 6,000 feet. Climate is strongly influenced by prevailing winds from the southwest and the north-south orientation of the mountains.

The relatively few rivers and streams are generally high energy and flashy; that is, the streams respond quickly to storm and snowmelt events.

Upper Columbia River above Chelan Falls

The Section known as the Okanogan Highlands forms a significant part of the upper Columbia Basin in northeast Washington, the upper Idaho Panhandle, and extreme northwest Montana. A complex group of lands formed from accretion of continental shelf material to the Rocky Mountain facies and volcanic influences. Extreme metamorphism and deformation have occurred, as well as deposits of glacial tills, outwash, and debris. Lithology of the area includes intrusives and metamorphics, sedimentary rocks and volcanics. Later alluvium, glacial outwash, and tills covered the land.

The climate of the region is distinctly maritime influenced. Precipitation falls mainly as snow. Rain-on-snow events are common.

There are many glacial lakes, wet meadows, and wetlands that have resulted from the glacial history. Rivers and streams that peak with high runoff in late May and June are common. The waters of the area are often affected by the glacial outwash and debris through which they flow. The Okanagon, Colville, and lower Kaniksu Rivers flow through this Section.

The Flathead Valley Section dominates the northern tier of western Montana west of the Continental Divide, and portions of the Idaho Panhandle. These are glaciated mountains, glacial moraines and troughs, and glacial and lacustrine basins and valleys. The geology of the area is predominantly Belt-rock metasediments with glacial deposits and valley fill.

The climate is cool temperate with some maritime influence. Most precipitation falls as snow from fall through spring. Summers are typically dry.

There are many lakes, rivers, and perennial streams with dendritic drainage patterns; as well as lakes, bogs, and wet meadows. The Yaak, Moyie, and Kootenai Rivers; the Stillwater and Flathead Rivers; as well as Flathead Lake and Lake Koocanusa are major waters of the region.
The Northern Rockies Section lies on the far north and east portion of the upper Columbia Basin. These are overthrust mountains of the Northern Rocky Mountains Province. Geomorphic features are sharp alpine ridges and cirque basins at higher elevations, and glacial deposits over metasedimentary and soft sedimentary rocks in the basins and lower slopes.

Precipitation comes as fall-winter-spring snow. The climate is cool temperate with a minor maritime influence. Summers are dry.

Abundant perennial streams occur, often in moderately to deeply incised troughs or valleys. The higher elevation glaciated terrain supports many large lakes including Whitefish Lake and Lake McDonald. The Principle rivers are the North and Middle Forks of the Flathead River and the Swan River.
Most of the Northern Rockies Province in north-central Montana and the Idaho Panhandle is in the Bitterroot Mountains Section. It is characterized by steep and deeply dissected mountains with sharp ridges and narrow valleys. The predominant geology is Precambrian metasediments of the Belt supergroup.

Most precipitation falls as fall, winter, and spring snow. There is a distinct maritime influence with a cool, moist temperate climate that supports relatively mild winters and dry summers.

Perennial streams are frequent and are often quite steep, deeply incised, and have high energy. Structural controls on streams is typical. The principle rivers in the Section are the lower Clark Fork, the North Fork of the Clearwater River; and the Coeur d'Alene and St. Joe Rivers of the Spokane River system.
The Bitterroot Valley Section comprises the upper Clark Fork Basin. It is in the Middle Rocky Mountain Steppe Province in south west Montana. The mountains of the region are highly glaciated with alpine ridges and cirque basins, steep slopes, and narrow glacial and lucustrine valleys. Granites and metasedimentary rocks are the predominant geology.

The climate is cool temperate with some maritime influence. Most precipitation falls as snow from fall through spring. Summers are relatively dry.

There are many perennial streams with dendritic and structurally controlled drainage patterns. Deeply incised, narrow, V-shaped canyons carry the streams to river valleys. The area drains the upper Clark Fork including the Bitterroot and Blackfoot Rivers.

Past and continuing management practices are causing erosion and sedimentation in various forms and by varying degrees throughout the project area. In central Idaho, for example, where granite bedrock rapidly weathers into highly mobile, coarse sand, these phenomena are prevalent. Inadequately located, designed, and constructed roads, as well as poorly designed timber-harvest units, have provided a substantial mechanism for delivering sediments to and through major stream systems throughout the project area.

Mass erosion has been accelerated in many locations where instability is a common natural feature of the landscape. Reduction of tree root holding capacity, increases in slope subsurface water, and undercutting the toe of unstable slopes have resulted in significant sources of downstream sedimentation and local channel damage.

Local extremes in water temperature have been significantly increased by a reduction of shading from bank and other vegetation, flattening of bank angles, and reduction of overall water depth in the summer months from sedimentation as well as water diversion. Temperature effects tend to be localized in the mountainous areas, but in the lower gradient and non-timbered stream reaches, temperature change can be geographically extensive.

Channel condition and channel stability have been and continue to be affected, especially in areas of extensive or long term management. Grazing animals, road construction, logging practices, and recreational use in some areas have destabilized stream banks resulting in bank erosion, loss of cover and shading, widening and filling of channels, and accelerated lateral migration. Recently developed and implemented Best Management Practices, Forest Plans, and Land Use Plans have reduced the frequency with which new stream destabilization occurs; however, existing channel condition and stability problems are not expected to be significantly corrected if present trends continue.

Channel structure, which is a natural control mechanism for maintaining water quality and the stream's ability to handle flooding and provide appropriate fish habitat, has been widely modified throughout the basin. In forested systems, habitat complexity and channel structure are created and maintained largely by the effects of large woody debris. In non-forested systems, healthy riparian communities contribute to the creation and maintenance of structure and complexity as exhibited by the presence of deep pools and undercut banks.

ENVIRONMENTAL CONSEQUENCES

Logging and other timber management-associated activities can affect water resources in several ways. Removal of trees and stream-side brush can reduce the complexity of habitat and channel structure by influencing the amount of large woody debris available for recruitment into stream systems. By altering stream shading, such activities can affect water temperature regimes and eliminate stream habitat cover. Removal of vegetation also can destabilize marginally stable slopes by increasing the subsurface water load, lowering root strength, and altering water flow patterns in the slope. Skid trails, logging roads, landings, and road crossings can be direct sources of sediment to the creek and can provide direct conduits for water yield and sediment from other local sources. Roads, road crossings, and skid trails also can partially constrict or channelize flows and impede a stream's ability to maintain pools.

Grazing patterns in and around riparian areas can alter the vigor, composition, and amount of the natural vegetation. This in turn can affect the site's ability to control erosion, provide stability to stream banks, and provide shade and cover to the stream. Mechanical compaction can reduce the productivity of the soils appreciably and cause bank slough and erosion. Mechanical bank damage often leads to channel widening, lateral migration (channel erosion), and excess sedimentation.

Recreation sites in riparian areas attract and concentrate human use in and around stream channels. Heavy and continuous use often results in severe compaction and bank sloughing, not unlike the effects of heavy livestock use. Erosion and gully formation can follow. Bank and near-bank vegetation often is damaged and the potential for important woody riparian vegetation replacement can be compromised.

Water diversions and impoundments that alter flow regimes (i.e., peaks flows, low flows, and duration of flows) directly reduce available fish habitat, and reduce the stream's ability to move sediment and woody debris, maintain its structural integrity and form, and prevent vegetative encroachment.

For purposes of comparing and evaluating the alternatives in this analysis, essential distinctions between the alternatives are:

- The area specifically identified as protected riparian area or Riparian Habitat Conservation Areas. The delineation of such areas by themselves does not offer any protection; but the fact that certain water resource goals, objectives, and standards and guidelines are required within them does. The total riparian area of each alternative suggests a quantifiable level of risk reduction. The actual risk reduction in the interim period for this decision is tied to the protected riparian area associated with watersheds that have or will have planned activities in them during the interim.

- The goals for every alternative are essentially the same. The standards and guidelines for achieving those goals define the probability of each alternative achieving those goals if management activities take place in the interim.

- Watershed analysis is the primary tool for identifying trends in a watershed, delineating sensitive areas, determining cumulative effects (especially from nonpoint sources), and establishing design criteria to standards and guidelines to fit them to the site, the watershed, and the local situations. Watershed analysis provides the local context that improves the application of standards and guidelines.

Watershed restoration would provide a profound improvement towards the goals of water resources and aquatic systems in the future. For purposes of this interim strategy, it is assumed that the only watershed restoration that can and would take place in the interim, is that which has been planned and programmed already. Therefore, it would occur under all alternatives.

Monitoring is also a critical element toward achieving the water resource and aquatic system goals of this decision. Short-term implementation and effectiveness monitoring is essentially required in most states and all Forest Plans. Therefore there is no difference between the alternatives in terms of monitoring in the interim. In the long term, however, as the feedback loop is closed between monitoring and best management practice design and implementation; monitoring will play a profound role.

Alternative A

The working assumptions related to Alternative A are:

- The lateral extent of riparian areas are defined by Forest Plans and current State regulations. The defining regulations are the Montana Streamside Management Zone Law, the Idaho Forest Practices Act, and the Continuation of Interim Management Direction for national forests in eastern Oregon and Washington.

- Riparian area standards and guidelines are specified by Forest Plans and existing Best Management Practices, state laws and regulations.

- Watershed analyses beyond the scope of NEPA are assumed to not be required.

The analysis of this alternative assumes that protection measures are provided in current plans and through NEPA and current state and federal water quality laws; therefore present trends in riparian and aquatic habitat condition would be expected to continue in Idaho, Montana, and Nevada. Since Region 6 (Oregon and Washington) essentially excludes most timber management related ground-disturbing management activities within specified Riparian Habitat Conservation Areas (RHCA's), the risk of management activities within the RHCAs causing additional adverse effects would be insignificant under this alternative. Indirect and cumulative adverse effects could still occur from activities inside the watersheds but outside of the RHCAs. Modifications to projects and activities to comply with the

requirements of current plans may reduce recreation visitor days, animal unit months of permitted grazing, or timber harvest. However, to the extent these reductions occur, they would be independent of any decision regarding adoption of this interim direction.

Where soil is compacted from heavy use, additional erosion and stream degradation would be expected. Since grazing impacts to streams is usually indirectly addressed with vegetation utilization standards, little or no change in riparian protection or trends can be anticipated in the interim period as a result of this alternative.

Approximately 10 percent of the Inland Native Fish Strategy analysis area is contained within specified riparian areas with specified protection standards and guidelines.

Alternative B

The working assumptions related to Alternative B are:

- The lateral extent of riparian areas in watersheds identified as being occupied by bull trout are defined by the Riparian Habitat Conservation Area descriptions in Appendix E, for this alternative. All other watersheds (those not identified as being occupied by bull trout) are defined by Forest Plans and current State regulations. The defining regulations are the Montana Streamside Management Zone Law, the Idaho Forest Practices Act, and the Continuation of Interim Management Direction for national forests in eastern Oregon and Washington.

- Riparian areas standards and guidelines in watersheds identified as being occupied by bull trout are defined by the Riparian Habitat Conservation Area descriptions in Appendix E, for this alternative. Riparian area standards and guidelines in all other watersheds (those not identified as being occupied by bull trout) are specified by Forest Plans and existing state laws.

- Watershed analyses are required only in watersheds occupied by bull trout and only if management activities are scheduled to take place in the RHCAs of priority watersheds; or to modify the RHCA width or practices that could be implemented with any watershed occupied by bull trout. Otherwise, watershed analyses beyond the scope of NEPA are not required.

Because Alternative B would apply additional protection measures only to projects in watersheds occupied by bull trout, expected effects on watershed and water resources beyond those expected under Alternative A would be limited to only those watersheds. All other watersheds within the Inland Native Fish Strategy area would continue to function with the same protection levels as Alternative A.

Alternative B would apply consistent standards and guidelines to prevent further stream degradation to some specific types of proposed projects and activities within riparian areas in bull trout-occupied watersheds only. Those measures would contribute to the maintenance of effective habitat. There would be essentially no risk of direct effects or damage from most management activities within the RHCAs of occupied watersheds.

In watersheds where comprehensive watershed analyses are initiated, some additional controls over adverse inputs related to management outside the RHCAs and cumulative impacts would be used to meet Riparian Management Objectives. However, since watershed analysis would be required to priority watersheds with occupied habitat where management activities might take place in RHCAs; very few watersheds would benefit from this process in the interim.

Revegetation would begin in some areas in occupied watersheds where soils have not been compacted by heavy use and ongoing activities are not contributing to substantial habitat degradation. Localized benefits could be greater where a large number of proposed projects and activities occur within the affected riparian areas. However, it would be unlikely that improvements in basin-wide water resources and stream conditions would be measurable as a result of actions taken during the interim period.

Approximately 16 percent of the Inland Native Fish Strategy study area is contained within specified riparian areas or RHCAs with specified protection standards and guidelines.

Alternative C

The working assumptions related to Alternative C are:

- The lateral extent of riparian areas are defined by process-based determinations designed to provide for full provision of desireable inputs and to facilitate recovery of degraded conditions. They are assumed to exceed in most cases those defined by Forest Plans and current State regulations.

- Riparian area standards and guidelines are specified as interim design considerations based on protecting full function of geohydrologic stream input processes and full protection of stream and watershed resources.

- Entry into RHCAs would require that a watershed-scale riparian function assessment and a project-specific assessment for each input process be conducted. Watershed analyses would be conducted only when information necessary to determine the requirements for full-function management of the stream processes, as defined by the Northwest Forest Resource Council, is insufficient or remain unclear after watershed-scale riparian function and project-specific assessments have been completed.

Because additional standards and guidelines would be designed and applied to all proposed projects and activities within RHCAs or that could degrade RHCAs, localized risks associated with all proposed projects or activities would be reduced. Since the RHCA widths under Alternative C may be less than the widths under Alternative D, it is implied that the level of risk reduction would be less than under Alternative D. However, since the objectives are similar and standards and guidelines would be designed with those objectives, the level of risk associated with RHCAs may be essentially the same as the Riparian Conservation Habitat Area delineations and standards and guidelines under Alternative D. Since Alternative C would require design and analysis for all activities in RHCAs, it would likely cost more to implement.

Alternative C would require a watershed assessment for many projects, which would address cumulative effects and local conditions.

Revegetation would begin in areas where soils have not been compacted by heavy use, and ongoing activities are not contributing substantially to habitat degradation. Localized benefits could be large where a large number of proposed projects and activities are conducted within the affected RHCAs.

Although measurable improvements in basin-wide water resource and stream conditions would be unlikely, because standards and guidelines would be applied to all proposed projects and activities, and RHCAs would include more of the watershed than would be protected under Alternative B.

Approximately 11 percent of the Inland Native Fish Strategy analysis area is contained within specified riparian areas or RHCAs with specified protection standards and guidelines.

Alternative D

The working assumptions related to Alternative D are:

- The lateral extent of riparian areas in all watersheds would be defined by the Riparian Habitat Conservation Area descriptions in Appendix E, for this alternative.
- Riparian areas standards and guidelines in all watersheds would be defined by the Riparian Habitat Conservation Area descriptions in Appendix E, for this alternative..
- Watershed analyses are assumed to be required only in priority watersheds when management activities are scheduled to take place in RHCAs; or to adjust the width or standards and guidelines within the RHCA anywhere in the Inland Native Fish Strategy area. Otherwise, watershed analyses beyond the scope of NEPA would not be required.

Land managers would evaluate ongoing projects and activities within RHCAs on a case-by-case basis, and modify those that are determined to be causing unacceptable risk. Modifications to proposed projects and activities and to some ongoing projects and activities would lead to a reduction in resource outputs.

Several existing dispersed and developed recreation sites would be closed during the interim period, where continued use would prevent attainment of Riparian Management Objectives or adversely affect listed fish. Such closures would allow some recovery in riparian areas and streams where heavy human uses have degraded riparian and aquatic habitat, although soil compaction resulting from extended use would inhibit such recovery.

Where grazing and timber harvest have caused impacts, adoption of this alternative would provide improved soil stability, additional stream shading, and continuing supplies of large woody debris to affected streams. Where grazing has contributed to unstable stream banks, loss of vegetative cover and shade, and increased sedimentation, the trend toward such habitat degradation would be reversed. This action would be expected to arrest habitat degradation and initiate recovery.

Protection measures prescribed for timber-, recreation-, and grazing-related activities, as well as other activities, would be widely dispersed throughout the area of the proposed action. Where such measures are applied, associated risks to water resources would be reduced. Where they are not applied, associated risks will be few. Risks associated with sediment loading, bank damage, loss of shade, and water temperature increases, or the loss of large woody debris from the riparian area would be substantially reduced from current and expected levels. The degree of recovery would be contingent on the extent of damage, the sensitivity of the affected site and stream channel to modifications in management direction, and the availability of moisture during the interim period. Although improvements to watersheds and water resources could be noticeable at a few sites, measurable improvement in habitat condition during the interim period would not likely be substantial because recovery processes are gradual.

Since watershed analyses would be limited to only a few circumstances under Alternative D, cumulative effects would be the same as under Alternative A.

Approximately 24 percent of the Inland Native Fish Strategy analysis area is contained within specified riparian areas or RHCAs with specified protection standards and guidelines.

Alternative E

The working assumptions related to Alternative E are:

- The lateral extent of riparian areas in all watersheds are defined by the Riparian Habitat Conservation Area descriptions in Appendix E, for this alternative..
- Riparian areas standards and guidelines in all watersheds are defined by the Riparian Habitat Conservation Area descriptions in Appendix E, for this alternative..
- Watershed analyses are assumed to be required if management activities are scheduled to take place anywhere within a priority watershed; or to modify the width or practices permitted within an RHCA. Otherwise, watershed analyses beyond the scope of NEPA would not be required.
- Timber management activities in all unroaded areas would essentially be prohibited in the interim.

Watershed analyses would be required within all priority watersheds prior to initiation of proposed projects and activities in RHCAs, and all activities within RHCAs in all watersheds would be modified to comply with new standards and guidelines. Modifications to ongoing projects and activities would lead to a reduction in resource outputs.

Adoption of Alternative E would provide improved soil stability, additional stream shading and continuing supplies of large woody debris to affected streams. Where grazing, timber, and other activities have contributed to unstable stream banks, loss of vegetative cover and shade, and increased sedimentation, the trend toward such habitat degradation would be slowed or reversed. This action would be expected to arrest habitat degradation and initiate recovery.

Protection measures prescribed for timber-, recreation-, and grazing-related activities, as well as other activities, would be dispersed widely throughout the area considered in this environmental assessment. Associated risks to water resources would be reduced. Risks associated with sediment loading, bank damage, loss of shade and water temperature increases, or the loss of large woody debris from the riparian area would be substantially reduced from current and expected levels. The degree of recovery would be contingent on the extent of damage, the sensitivity of the affected site and stream channel to modifications in management direction, and the availability of moisture during the interim period, although measurable improvements to watersheds and water resources could be noticeable at a few sites. The overall health of affected areas and any substantial improvement in habitat conditions would occur gradually, and would not be expected to improve substantially during the interim period.

Approximately 24 percent of the Inland Native Fish Strategy analysis area is contained within specified RHCAs with specified protection standards and guidelines.

Table III-1. Comparison of Affected Areas, by Alternative.[1]

		Watershed Area	Riparian Width (feet)		Estimated Streams	Riparian Area	
Alt.	Region	acres x 10^6	large	small	mile x 10^3	acres x 10^6	%
A	Idaho	9.4	150	10	59.9	0.1	1
	Montana	8.9	150	100	56.7	0.7	8
	PNW Region 6	6.7	600	300	42.7	1.6	25
	Total	**24.9**	—	—	**159.3**	**2.4**	**11**
B	Idaho bull trout	2.9	600	300	18.5	0.7	25
	Idaho non-bull trout		6.5	150	10	41.4	0.11
	Montana bull trout	5.4	600	300	34.4	1.3	25
	Montana non-bull trout		3.5	150	100	22.3	0.38
	Region 6 bull trout	0.9	600	300	5.7	0.2	25
	Region 6 non-bull trout		5.8	600	300	37.0	1.425
	Total	**24.9**	—	—	**159.3**	**4.0**	**16**
C	**All areas**	**24.9**	**200**	**150**	**158.7**	**2.9**	**12**
D/E	**All Areas**	**24.9**	**600**	**300**	**158.7**	**6.1**	**25**

[1] Assumes 1.2 miles per mile "large" (class I) stream density, and 4.8 miles per mile "small" (class II) stream density.

FISHERY RESOURCES

AFFECTED ENVIRONMENT

Within the area of consideration for this environmental assessment, approximately 26.5 million acres of lands provide diverse riparian and aquatic habitats for a variety of native fish species, including bull trout, westslope and yellowstone cutthroat trout, redband trout, northern squawfish, sculpins, dace, sucker, mountain whitefish, white sturgeon and other lesser known species. Several species and in some cases their critical habitat are presently listed under the Endangered Species Act, including Lost River Sucker (*Deltistes luxatus*); Shortnose Sucker (*Chasmistes brevirostis*); White Sturgeon (*Acipenser transmontanus*) (Kootenai River population) and Warner Sucker (*Catostomus warnerensis*). Also found in these waters are many introduced species of fish, including largemouth and smallmouth bass, yellow perch, brook trout, bluegill, northern pike, tench, and carp, to name a few. More complete watershed-specific descriptions of the affected fishery resource environment are included in Forest Plans and Environmental Impact Statements, listed in Appendix G.

Several species of resident native fish, including all native trout, are listed by the State of Idaho as "Species of Concern" or as "Sensitive species" by the USDA Forest Service. Recent reports suggest changes in habitat conditions as a major cause of a declining trend in the security of native fish populations throughout the geographical area of this environmental assessment (Rieman and Apperson 1989; USDA Forest Service 1993; Oregon Trout 1994; Kitano 1994; Fraley and Shepard 1989). The bull trout has recently been petitioned for listing under the Endangered Species Act. Should any of these fish become listed as threatened, endangered or proposed for listing, all Federal actions would be subject to Endangered Species Act provisions and require consultation or special consideration.

Generally, State agencies manage fish harvests, although sovereign Tribes and some regulatory Federal agencies also have responsibility for management of fisheries resources. The Forest Service's

responsibilities are focused on management of habitat and viability of species that are within its jurisdiction. Close cooperation among the various other agencies, governments, and jurisdictions is necessary to provide proper management of fisheries resources.

Resident native fish show a wide variety of life-history forms including: resident populations that inhabit small headwater streams and are not believed to migrate; fluvial populations that use larger streams and main rivers and may show extensive migrations for spawning or overwintering; and adfluvial populations which use large lakes for rearing before returning to a spawning stream, such as in north western Montana and northern Idaho. Over the last 120 years native resident fish habitat has been adversely affected by human population growth and factors associated with that growth.

Generally, the percent of pool habitat and quality, and large woody debris recruitment in riverine systems has declined, migratory corridors blocked, and riparian vegetation disturbed greater than what is acceptable. As a result, the fish habitat carrying capacity of these streams has been diminished and a declining trend in the security of native fish populations observed. This trend stems from a variety of factors including habitat loss from logging, grazing, mining, recreation, and other surface-disturbing activities, genetic and disease associated with hatchery supplementation and introductions of non-native species, and problems with passage and flow associated with hydropower installations and other impoundment and diversion facilities located in critical watersheds. Future human growth is expected to continue to increase the pressures on these habitats. Management changes that work to improve habitat capability and secure fish populations will be necessary to ameliorate the pressures.

ENVIRONMENTAL CONSEQUENCES

Anticipated effects on native resident fish and the aquatic habitat that supports them traditionally have been estimated by the effects on representative habitats and species. By ensuring that such representative habitats and species are adequately considered, sufficient habitat quality and diversity are presumed to exist where all species using similar habitats are protected and/or restored. Adoption of alternatives presented here would serve, by varying degrees, to preserve or restore existing riparian and aquatic habitats and related aquatic resources, with special emphasis on native resident fish habitat. To gain a crucial perspective on how best to manage riparian and aquatic habitat, it is necessary not only to focus on specific representative habitats and species, but also on the ecological processes that create and maintain these habitats, their structure and function.

Management activities can adversely affect fishery habitats and fish populations by altering riparian vegetation amount, composition, diversity and vigor, reducing streambank vegetation and cover, reducing streambank stability, modifying water quantity, timing and quality. Livestock grazing, timber harvest, and recreational use, with their associated road building and site development, are the most prevalent activities affecting riparian and aquatic habitats and native fish populations on National Forest System lands. Application of management constraints or prescriptions serves to alleviate problems, in time, with habitat and native fish populations. Improvements in habitat quality and quantity and native fish population diversity and abundance at the metapopulation scale can result from application of management prescriptions that produce improved riparian health and increased aquatic habitat diversity.

Alternative A

Under the No-Action Alternative, the effects of ongoing and proposed projects and activities would continue, pursuant to guidance provided in current Forest Plans, compliance with NEPA procedures and, where applicable, Endangered Species Act provisions. Direct, indirect, and cumulative effects to fishery resources from grazing, timber harvest, recreational uses, mining and other discretionary activities, would be expected to continue at current levels.

The severity of effects on fisheries and aquatic and riparian habitat would be proportional to the level of ground-disturbing activities associated with ongoing and future activities that are permitted within riparian areas, or influence riparian areas, in synergism with any naturally-occurring disturbances. Overall trends in fish habitat degradation and declines in inland native fish indicate that modifications or amendments to current regional guides and Forest Plans may be required to meet the requirements of NFMA and species of fish which are presently petitioned for listing under the Endangered Species Act.

Alternative B

Under Alternative B, additional protection of riparian and fish habitat would immediately occur in watersheds supporting bull trout, because Alternative B would broaden the application of management direction by including new standards and guidelines to all proposed projects and activities, and some ongoing projects and activities within the RHCAs of bull trout watersheds. These standards and guidelines would also apply to projects and activities which are outside of RHCAs but are likely to impact the RHCAs of bull trout watersheds.

The effects of ongoing and proposed projects and activities would continue under Alternative B, pursuant to guidance provided in current Forest Plans, compliance with NEPA procedures and, where applicable, Endangered Species Act provisions (except in bull trout watersheds). Direct, indirect, and cumulative effects to fishery resources from grazing, timber harvest, recreational uses, mining, and other discretionary activities would be expected to continue at current levels, except in bull trout watersheds.

Under Alternative B, specific new standards and guidelines would apply to all ongoing and proposed projects and activities in bull trout watersheds only. All ongoing and proposed projects and activities in "Priority" bull trout watersheds would be screened for impacts specific to bull trout habitat and bull trout populations to insure that they meet the standards and guidelines designed to reduce the risk of loss of habitat or fish.

Because the scope of this alternative is limited to bull trout watersheds, expected beneficial effects would be limited and random over the planning area. Localized benefits could be greater where proposed projects occur in affected watersheds. Other species of native fish such as westslope cutthroat trout and redband trout would benefit only if they occur in watersheds supporting bull trout. The severity of impacts to watersheds not supporting bull trout but containing other native fish would be proportional to the level of ground-disturbing activities associated with ongoing and future activities that are permitted within riparian areas, or would influence riparian areas, in synergism with any naturally-occurring disturbances. Overall trends in fish habitat degradation and declines in inland native fish indicate that modifications or amendments to current regional guides and Forest Plans for all watersheds may be required to meet the requirements of NFMA and species of fish which are presently petitioned for listing under the Endangered Species Act.

Alternative C

Under Alternative C, the effects of ongoing and proposed projects and activities would continue, pursuant to guidance provided in current Forest Plans, compliance with NEPA procedures and, where applicable, Endangered Species Act, until watershed analysis is completed. This alternative assumes that the requirements for management of fully functional riparian and aquatic ecosystems is understood to a level that significant disturbance by management can occur in RHCAs without long-term consequences to native fish at risk.

Watershed analysis would be conducted only where information necessary to determine the requirements for full-function management of the stream processes, as defined by the Northwest Forest Resource

Council, is insufficient or unclear after watershed-scale riparian function and project specific assessments have been completed.

Since there would be no screening of ongoing activities under Alternative C, direct, indirect, and cumulative effects to fishery resources from grazing, timber harvest, recreational uses, mining, and other discretionary ongoing activities would be expected to continue at current levels until such assessments were completed. Immediate, temporary risk reduction to fish habitat and riparian habitat would not be achieved within the next 18 months under this alternative.

The severity of effects on fisheries and aquatic and riparian habitat would be proportional to the level of ground-disturbing activities associated with ongoing and future activities that are permitted within riparian areas, or would influence riparian areas, in synergism with any naturally-occurring disturbances. Overall trends in fish habitat degradation and declines in inland native fish indicate that modifications or amendments to current regional guides and Forest Plans may be required to meet the requirements of NFMA and species of fish which are presently petitioned for listing under the Endangered Species Act.

Alternative D

Under Alternative D, additional protection of riparian and fish habitat would immediately occur, because Alternative D would broaden the application of management direction by including new standards and guidelines to all proposed projects and activities and some ongoing projects and activities within RHCAs, and to projects and activities that are outside RHCAs but are likely to impact RHCAs.

Although there would be no permanent cessation of activities in RHCAs, some actions would be modified or deferred during the interim period, therefore some adverse effects on riparian and aquatic habitats within RHCAs would be reduced. Because the restoration of riparian and aquatic habitat complexity typically occurs over a much longer period of time than is considered in this environmental assessment, benefits during the interim period would be expected to be minimal. Case-by-case reviews would be made of ongoing actions in "Priority" watersheds, and those actions determined to pose a risk identified and addressed, so some benefits to native resident fish and bull trout habitat and populations in particular could be expected.

Potential benefits would include the initiation of riparian vegetative recovery that would result from a reduction of human activities and livestock use within riparian areas. Although this eventually would result in improved aquatic habitat conditions and the attainment in time of Riparian Management Objectives, such benefits would not likely be apparent during the interim 18-month period. The severity of effects on fisheries and aquatic and riparian habitat would be proportional to the level of ground-disturbing activities associated with ongoing and future activities that are permitted within riparian areas, or that would influence riparian areas, in synergism with any naturally-occurring disturbances.

Alternative E

Under Alternative E, additional protection of riparian and fish habitat would immediately occur, because this alternative would broaden the application of management direction by applying new standards and guidelines to all proposed projects and activities and some ongoing projects and activities within RHCAs, and to projects and activities that are outside RHCAs but that would likely impact RHCAs.

Although there would be no permanent cessation of activities in RHCAs, some actions would be modified or deferred during the interim period. As a result, some adverse effects on riparian and aquatic habitats within RHCAs would be reduced . Because the restoration of riparian and aquatic habitat complexity

typically occurs over a much longer period of time than is considered in this environmental assessment, benefits during the interim period would be expected to be minimal. However, because all ongoing actions and activities in all watersheds would be reviewed and those actions determined to pose a risk identified and addressed, some benefits to all native fish habitat and populations could be expected.

Potential benefits would include the initiation of riparian vegetative recovery that would result from a reduction of human activities and livestock use within riparian areas. Although this eventually would result in improved aquatic habitat conditions and the attainment in time of Riparian Management Objectives, such benefits would not likely be apparent during the interim 18-month period. The severity of effects on fisheries and aquatic and riparian habitat would be proportional to the level of ground-disturbing activities associated with ongoing and future activities that are permitted within riparian areas, or that would influence riparian areas, in synergism with any naturally-occurring disturbances.

WILDLIFE RESOURCES

AFFECTED ENVIRONMENT

The 22 national forests included in the proposal provide an array of wildlife habitats, ranging from the alpine meadows and mesic, old-growth coniferous forests of northern Washington and Idaho to the semi-arid sagebrush steppes, alkali flats, and volcanic formations of the Great Basin. These diverse landforms and plant communities, in turn, support a large number of species. For example, over 400 species of terrestrial vertebrates have been identified on the Okanogan National Forest (Okanogan Land and Resource Management Plan, 1989). More complete descriptions of the affected wildlife environment are included in the Forest Plans and Environmental Impact Statements listed in Appendix G.

During the preparation of Forest Plans, indicator species were selected to represent either featured species or groups of species that respond to environmental variables in similar ways. Specific allocations and management practices were established to contribute to the continued viability and sustainability of indicators and the species groups they represent. More than 30 bird, mammal, and amphibian indicator species are identified in the Forest Plans. Many of these species have either complex habitat requirements or are closely associated with unique or scarce habitats. Riparian habitats are critical to the conservation of many species in the more arid interior portions of the West and, in general, support greater species richness and density than any other habitat type. Riparian habitats in the West are in short supply, both naturally and as a result of human manipulation.

Many indicator species are considered old-growth-associated or old-growth-dependent. A combination of circumstances (including steep slopes, inaccessibility and/or long fire-return intervals) have resulted in the survival of remnant old-growth stands along many streams in the inland Northwest. Even though highly fragmented, these stringers of late-successional forest still provide micro-climates and forest structure important for a variety of species--from salamanders to bald eagles to Rocky Mountain elk.

ENVIRONMENTAL CONSEQUENCES

Any of the action alternatives would have potential beneficial effects on riparian wildlife habitats and populations, either by avoiding habitat loss, allowing incremental improvement of degraded habitat in the absence of further disturbance, providing the potential for increased reproductive success (on a site-specific basis), or simply by the retention of options for future protection under measures prescribed in the geographically-specific environmental analyses. However, the degree of benefit varies by alternative.

Alternative A

Current Forest Plans and Land Use Plans would remain in effect. Standards and guidelines within those plans call for protection of wildlife species and their habitats, as do Endangered Species Act provisions. Both would govern proposed and ongoing projects and activities. No change of benefit or risk would be expected to result from project implementation.

Alternative B

Alternative B would apply consistent standards and guidelines to prevent further stream degradation to watersheds occupied by bull trout. These measures would contribute to the maintenance of effective habitat. There would be essentially no risk of direct effects or damage from most management activities within the RHCA's of occupied watersheds.

All other watersheds within the Inland Native Fish Strategy area would continute to function with the same protection levels as under Alternative A.

Alternative C

Additional standards and guidelines would be designed and applied to all proposed projects and activities within RHCAs, or that could degrade RHCAs. Localized risks associated with all proposed projects or activities would be reduced from the conditions that would occur under Alternative A. Since RHCA widths and standards and guidelines would vary based on site conditions, effects on wildlife species can vary also. Generally, such measures would contribute to the protection of wildlife species and their habitats, although the effects would likely not be measurable during the interim period.

Alternative D

Standards, guidelines, and procedures for riparian habitat conservation would apply to all proposed projects and activities and those ongoing projects and activities within RHCAs within priority watersheds that are determined to pose unacceptable risk to inland native fish. Because RHCAs would be designated within all watersheds the distribution and size of those areas would contribute to the protection of wildlife species and their habitats. However, the effects likely would not be measurable during the interim period.

Alternative E

Standards, guidelines, and procedures for riparian habitat conservation would apply to all proposed projects and activities, as well as all ongoing projects or activities within RHCAs that are determined to pose unacceptable risk to inland native fish. Because large RHCAs would be designated within all watersheds, the distribution and size of those areas would contribute to the protection of wildlife species and their habitats. The prohibition on road construction and timber harvest in unroaded areas would maintain critical habitats and biotic refuge areas. However, the effects likely would not be measurable during the interim period.

THREATENED, ENDANGERED AND SENSITIVE SPECIES

AFFECTED ENVIRONMENT

Federal agencies list rare plants and animals which are given special consideration. The Regional Foresters in Region's 1, 4 and 6 provide a list of "sensitive" species occuring on National Forest System lands under their jurisdiction (USDA Forest Service, Forest Service Manual 2670.44). Documentation of specific locations and habitats of sensitive species are maintained at each Forest Supervisors Office. The U.S. Fish and Wildlife Service lists species that are "endangered" or "threatened" and receive protection under the Endangered Species Act of 1973.

A number of endangered, threatened or sensitive plant species occur within the proposed project area (see biological assessments and biological evaluations in Appendix F). Projects that might affect species listed as threatened or endangered under the Endangered Species Act are subject to consultation with U.S. Fish and Wildlife Service or the National Marine Fisheries Service (USDA Forest Service, Forest Service Manual 2671.45). In cooperation with the Forest Service and other local, state and federal agencies, these agencies develop recovery plans for threatened or endangered species and projects must not be inconsistent with recovery plan objectives (USDA Forest Service, Forest Service Manual 2672.2). Projects may be modified or cancelled to avoid adverse effects on individuals, populations or critical habitat. In addition, biological assessments and biological evaluations are used to review all Forest Service projects for possible effects on endangered, threatened or sensitive species (USDA Forest Service, Forest Service Manual 2672.4). Biological assessments and biological evaluations are completed and used in the decision-making process for a National Environmental Policy Act (NEPA) document. Biological assessments and biological evaluations provide recommendations for removing, avoiding, or mitigating potential impacts to endangered, threatened or sensitive plants species.

A number of threatened, endangered, and sensitive terrestrial vertebrate and invertebrate species occur on lands administered by the Agencies (50 CFR 17.11). Among the federally-listed threatened and endangered species that occur within the area are bald eagle, peregrine falcon, grizzly bear, and gray wolf. More complete descriptions of the affected threatened, endangered, and sensitive species environment are included in the Forest Plans and Environmental Impact Statements listed in Appendix G.

ENVIRONMENTAL CONSEQUENCES

The Forest Service has prepared biological assessments and biological evaluations to document the anticipated effects to endangered, threatened, and sensitive terrestrial wildlife, plant, and fish species (Appendix F). For terrestrial wildlife and plant species, it has been determined that all of the alternatives have a finding of "may affect, but not likely to adversely affect" due to the lack of site-specific information and the programmatic nature of the direction. Alternative E would have the least risk, followed by Alternatives D, C, B, and Alternative A with the greatest risk.

It was determined that Alternative D, the preferred alternative, would be "not likely to adversely affect" endangered and threatened fish species. In relation to aquatic species identified as "sensitive" by the USDA Forest Service, the action alternatives would have potentially less impacts than the No-Action Alternative. Of the action alternatives, Alternative E would have the least risk, followed by Alternative D. Alternatives C and B would have the most risk to sensitive aquatic species.

FORESTED VEGETATION

AFFECTED ENVIRONMENT

The major forest types found in the affected areas include Fir-Spruce, Ponderosa pine, and Lodgepole pine in eastern Oregon and eastern Washington; Fir-Spruce, Ponderosa pine, Lodgepole pine, White pine, and Larch in Idaho; Ponderosa pine, Lodgepole pine, Douglas fir, and Larch in Montana, and pinyon-juniper, ponderosa pine, and aspen-birch in northeast Nevada. The predominant tree species are softwoods. There also are hardwoods such as aspen, cottonwood, willow, and various oaks associated with many of the forest types, as well as a wide range of understory plant species. More complete descriptions of the affected forested vegetation environment are included in the Forest Plans and Environmental Impact Statements listed in Appendix G.

Most of the forests in the affected areas developed over time under conditions of periodic disturbance by fire (natural and human-caused), catastrophic insect and disease infestations, windstorms, and logging. In terms of tree growth rates and biomass production, the forests are very productive, particularly those areas in or near riparian systems that often are characterized by deep soils and high-moisture regimes. Forest vegetation provides habitat for many species of wildlife and is critical to ensuring the integrity of aquatic ecosystems and the life-forms they support.

The condition of forests on the affected areas varies considerably. Those forests represent a full range of successional stages, from young-growth stands to late-successional stands approaching the end of their biological life-span, often referred to as old growth. Old-growth forests range in age from 100 years for species such as aspen, to many hundreds of years for species such as Douglas fir. The diversity of tree and other vegetative species varies considerably on a site-by-site basis, as does the extent of canopy closure and vertical and horizontal structure. Forest health, as viewed in terms of endemic tree mortality, is generally a function of tree age; however, insect and disease infestations and adverse climatic conditions cause mortality in both young and old forests. High mortality rates are particularly prevalent in the affected areas in eastern Oregon and Idaho. The situation is described in detail in the *Eastside Forest Ecosystem Health Assessment* and *Forest Health Conditions in Idaho*. Current estimates place the amount of dead and dying merchantable material at close to 18 billion board feet nationally, with much of that material located within the Inland Native Fish Strategy analysis area.

ENVIRONMENTAL CONSEQUENCES

Forest riparian areas normally constitute a strip along and adjacent to water courses, meadows, and water bodies. Timber harvesting would be permitted in some of these areas using Best Management Practices and after NEPA analysis requirements are met for Alternative A. Alternatives B, D and E prescribe progressively wider riparian protection areas or RHCAs, based on the type of stream or channel to be protected. Timber harvesting generally is not permitted unless Riparian Management Objectives can be met. Alternative C would provide more flexibility in timber management within the RHCA. In general, when viewed in the context of forest-wide vegetative conditions and successional time scales, adoption of any of the five alternatives would have little effect on forest vegetation during the interim period.

Alternative A

Under this alternative, implementation of Forest Plans and Land Use Plans would continue. All proposed projects and management activities would undergo NEPA analyses, which would be presented for formal public review and comment.

The major environmental impact on forest vegetation would result from timber harvesting, which interrupts natural successional stages of stand development and reduces biomass and structural diversity. Because timber harvest would continue to the extent prescribed in current Forest Plans, with modifications made necessary by consultation provisions of the Endangered Species Act, adoption of this alternative would result in a continuation of the rate at which degradation of riparian and aquatic habitat is occurring. Species composition and structural diversity of forest vegetation following timber harvest is dependent, in part, on the harvest method prescribed in Forest Plans and employed in affected areas. The number of living and dead trees and the amount of material that is involved, which is comprised of down woody material and other vegetation that remains on cut-over areas also depends on the harvest method selected. In general, timber harvest simulates natural events that create an early-seral stage in forest succession. Under this alternative, more overall acreage would be returned to those early stages than under the action alternatives.

Alternatives B and D

Under either of these two alternatives, specific new standards and guidelines regarding timber management projects and activities, logging-slash treatment and the use of prescribed fire, as well as road construction, reconstruction, and maintenance, livestock grazing, and riparian and fish habitat restoration. The standards and guidelines would apply to proposed projects and activities and to some ongoing projects and activities within RHCAs in priority watersheds. This would apply across the area under Alternative D. Under Alternative B, they would only apply to watersheds with occupied bull trout habitat.

Generally, timber harvesting would not be permitted within RHCAs, except in cases of catastrophic events. The exclusion of proposed timber harvesting in the affected areas would permit the natural succession of forest vegetation and would rely more heavily on natural events, such as fire and insect and disease infestations, to influence or shape forest succession. Consequently, increases in tree mortality and the associated risk of fire, insects, and disease would be expected. Less tree mortality would be expected under Alternative B, since over 60 percent of the area would be managed in the same manner as under Alternative A. However, either alternative would have minimal effect on long-term forest health during the interim period.

Alternative C

Alternative C would provide a great deal of flexibility to operate within RHCAs. RHCAs are only as wide as necessary to meet the riparian management objectives. This can result in smaller areas with restrictions on forest vegetation management and could speed the response to salvage logging operations after catastrophic events. When properly designed and applied, localized risks associated with all proposed projects should be reduced, although at a potentially higher risk than with the management direction that would be provided under Alternatives B, D or E.

Alternative E

Within RHCAs, Alternative E would have the same effects as described for Alternatives B and D. The major differences would be the requirements for watershed analysis prior to any activities within priority watersheds, and the exclusion of timber harvesting or road construction within unroaded areas larger than 1,000 acres. These requirements would make it unlikely that any projects not currently developed would be initiated within the interim time period. This would permit the natural succession of forest vegetation and rely more heavily on natural events, such as fire and insect and disease infestations, to influence or shape forest succession. Consequently, tree mortality and the associated risk of fire, insects, and disease could be expected to increase from levels expected under the other action alternatives.

However, the effect would be minimal during the interim period. Exclusion or delay of salvage logging could result in an irretrievable loss of timber volume.

NON-FORESTED VEGETATION

AFFECTED ENVIRONMENT

Non-forested uplands within the affected area consist mostly of sagebrush plant communities. Wyoming, Basin Big, and Mountain Big sagebrush are the most common species. Other common shrubs include bitterbrush, wild rose, and rabbitbrush. Typical perennial grasses are Bluebunch wheatgrass, Idaho fescue, Western wheatgrass, and Giant wild rye. Various forbs, including buckwheats, daisies, phlox, and dandelions, are common. Upland sagebrush communities typically occur in areas where precipitation averages 10-18 inches per year and comes as snow or rain in the winter and spring.

Riparian vegetation in non-forested areas consists mainly of herbaceous species such as Kentucky bluegrass, although sedges, forbs, and woody species such as willow, alder, and cottonwoods are common. Vegetative cover is absent or much diminished in severely degraded riparian areas, and stream banks in such areas have been increasingly exposed to severe erosion. Moderately degraded areas typically have a good cover of Kentucky bluegrass and other plant species but often are lacking in woody species. Riparian areas in good condition have a cover of sedges and/or a variety of different age classes of willows, alders and, in some cases, cottonwoods.

More complete descriptions of the affected non-forested vegetation environment are included in the Forest Plans, Land Use Plans, and EISs listed in Appendix G.

ENVIRONMENTAL CONSEQUENCES

Most negative effects to riparian vegetation have been caused by excessive grazing, although excessive recreational use is important in some areas. Popular summer recreation areas, as well as areas where year-round grazing or grazing during the hot, mid-summer months occurs, have experienced degradation of riparian and aquatic habitat. Normally, changes in ecological condition resulting from a modification in the percent composition of plant species do not occur in the short term. Changes in ecological condition require at least 5 years and in most cases 10 or more years.

The time frame in which measurable change can be expected is dependent on the precipitation zone and the plant community. In higher precipitation areas (where more than 12 inches of precipitation per year is common), improved management regimes in upland plant communities may effect changes in ecological condition within 5-10 years. In drier, more arid areas (where less than 10 inches of precipitation per year is common), improvement in ecological condition may take 30 years or longer. Unlike the uplands, where ecological recovery may take 5-10 years or longer, vegetative improvement in riparian areas may occur within a relatively short time, because water usually is available for plant growth during the entire growing season.

Alternative A

Effects on non-forested uplands would continue. Uplands would not be expected to show measurable improvement in overall ecological condition, although some proposed projects or activities would provide improvement.

Due to the proximity of water and the resultant concentration of livestock and people, uplands adjacent to riparian areas, which are typically some of the most productive, have been some of the most adversely affected. In those upland areas not receiving additional protection, a continued concentration of livestock grazing and dispersed recreational use would continue to cause degradation of upland vegetation.

Non-forested riparian areas would not be expected to show measurable improvement. Current Forest Plan direction would apply to all ongoing and proposed actions. The condition of riparian areas where appropriate protection measures are taken (e.g., "riparian emphasis areas" would improve somewhat. But the condition of riparian and aquatic habitat not designated as riparian emphasis areas would not be expected to improve. A downward trend may be evident in some of those areas. In other, severely degraded areas, where sloughing banks and erosion have resulted in a major loss of soil, degradation would continue.

Alternative B

Under this alternative, specific new standards and guidelines would apply to activities in watersheds with occupied bull trout habitat Conditions would expect to remain stable or improve in riparian areas. Uplands would not be expected to show measurable improvement in their overall ecological condition. Some projects and activities within priority watersheds, that are determined likely to have a high or moderate risk to bull trout, would be modified .

Livestock grazing and recreational uses would continue at near-current levels. However, during the interim period some proposed projects and activities would be modified. Some incremental reduction in the risks to upland and riparian vegetation would be expected; although for the duration of the interim period the improvement in habitat conditions would be negligible.

Alternative C

Alternative C applies the same management direction as Alternative A for non-forested vegetation and would have much the same effects. Where wateshed analysis is accomplished under this alternative the specific analysis procedures would lead to improved riparian management in comparison to Alternative A.

Livestock grazing and recreational uses would continue at near-current levels. Some incremental reduction in the risks to riparian vegetation would be expected, although adoption for the duration of the interim period would result in negligible improvement in habitat conditions.

Alternative D

Under this alternative, the negative effects on non-forested uplands would be somewhat reduced, not only by modifications of proposed projects and activities within RHCAs, but also by the application of standards and guidelines to those ongoing projects and activities within priority watersheds that are determined to be posing a high or moderate risk to aquatic and riparian habitat. This more comprehensive application of direction would help see that ongoing projects and activities, as well as all new projects and activities, would be carried out in a manner to lead to the attainment of riparian management objectives.

Accordingly, livestock grazing, for example, would be modified if current grazing practices pose an unacceptable risk. Modification in such practices could include such things as a reduction in numbers of livestock or season of use, changes in handling practices, or the complete removal of livestock from RHCAs. Similar modifications in management of recreation and other activities would occur as needed.

The amount of improvement of non-forested uplands would be dependent on the type and number of modifications adopted.

In riparian areas where current projects and activities are modified or halted, habitat conditions would be expected to improve, although the amount of improvement would depend on the extent of degradation that has occurred and the overall health of the riparian community. In some areas, the vegetative response to improved management would be expected to be measurable, and in some less degraded areas, substantial. Most vegetated riparian areas would be expected to show an increase in desirable riparian vegetation such as sedges and/or young willows.

With the modification or elimination, during the interim period, of projects that are determined to be high or moderate risk, as well as the application of protective measures in all future projects and activities, some improvement in upland and riparian habitat would be expected, and new causes of degradation would be avoided.

Alternative E

For non-forested vegetation the environmental consequences for Alternative E would be very similar to Alternative D. Screening of all existing projects would provide more improvement over a broader area of land than in Alternative D. Watershed analysis requirements before initiating new projects within priority watersheds would provide more protection for upland and riparian areas.

SOCIAL CONSIDERATIONS

Scope of the Analysis

Physical and biological effects would be limited to the multi-state territory addressed by the Inland Native Fish Strategy (Idaho, Oregon, Montana, Washington, and part of Nevada). Social effects could be broader; during public scoping activities, people across the nation (approximately 1,700) indicated they are interested in the issues dealt with by this analysis and wanted to be on the project mailing list. Comments were received from 244 people who felt they would be affected by management and natural resource practices related to native fish. The comments came from 16 states and 1 Canadian province. While some effects may be national in scope, the area most directly influenced by this assessment would be the northwest; approximately 93 percent of the comments were from people living in the five-state area. Of those who commented, 59 percent were from individuals, 9 percent were from environmental organizations, 7 percent were from timber industry organizations, and 6 percent were from other organized interest groups. (Refer to Appendix D for additional information related to public comment.)

Social History

The key social groups which influence the Northwest today include industry and agriculture (loggers, millworkers, ranchers, farmers, miners), recreation (outfitted recreators, motorized recreators, non-motorized recreators, water recreators, anglers), environmentally-oriented groups (preservationists, conservationists, and restorationists), business people who serve or support industry, agriculture and recreation, and others (Indian nations, government workers, educators, private landowners, etc.). It should be noted that an individual may fit into several groups, depending on the issue or activity of concern.

Over the years, new groups have emerged on the landscape, but to date few have left the landscape, although some subgroups, such as trappers, are much less influential today than they once were. The trend is for the addition of groups, increasing the complexity of the social system, the potential for conflict, and the real need for cooperation. The increasing number of social groups acting in the environment has long been recognized as making social regulation and government more difficult (Dewey, 1927, 1971).

Given the wide variety of social groups, their values are also highly variable, and cannot be easily quantified. Symbolic values, cultural and spirtual values, subsistence values, psychological and social benefits, and economic values are some of the reasons for the importance that people give to species such as fish. Other people assign little value to fish, wildlife, vegetation, and other features of the environment. In general, these people value humans and their lifestyles more than features of the bio-physical environment. They may also believe that human needs and priorities should be emphasized over non-human needs and priorities.

Human Disturbances and Activities

Nearly every social group has affected the landscape in some manner; this analysis can only summarize these effects. Humans have various influences on the environment, which generally include harvesting commodities, cultivating or nurturing the environment in some manner, impacting the environment negatively by harming its resiliency, or engaging in (urban) development which in effect converts the natural environment to a human environment.

The proposed action may affect social groups, values and systems. Because there is a close interaction between economic and social factors, it is clear that a decline in the economic influence of a group results in a decline in many social factors. Using population as an example, as a group or community declines economically, fewer people may seek to join or remain in that group, and so the population declines. With a population decline comes an accompanying political or social decline, which ultimately results in less economic influence.

As the shift from forest product-dependent economies continues, mirroring the nation-wide shift from an industrial economy to a service or information economy, community stability is reduced in those communities that remain dependent on forest products. Those communities that have developed service economies (frequently recreation-oriented services) or information economies (such as computer related products) are more stable than they were as pure industrial economies.

Social effects stemming from a reduction of recreation are related to a limitation in pursuing lifestyle options. Economic effects resulting from a reduction in outdoors related recreation would have social effects similar to any economic downturn, such as an increase in unemployment, crime, abuse, etc. People may choose to leave the area as the result of loss of work, loss of natural or spiritual experiences, or loss of recreational lifestyle, for example.

Direct and Indirect Effects

The social effects related to the Inland Native Fish Strategy may be understood as stemming from the biological, physical and economic effects of the alternatives. These effects are presented in their respective sections of this document and are only referenced here as necessary. The social effects of adopting any of the alternatives would be manifested in a variety of ways. Because the amount of real change in resource use during the interim period would be relatively small, it is not anticipated that adoption of any of the alternatives would have substantial positive or negative social implications.

No-Action Alternative

Alternative A would ostensibly have the lowest social impacts, since management would continue under the current direction in the Forest Plans (Appendix G). However, many people believe that inland native fish species and other endangered species are an indicator of ecosystem health; therefore, the issue for these people is not necessarily saving a single species of fish, rather it relates to saving the entire ecosystem. If action is not taken to reduce risk of loss of populations and potential negative effects to aquatic habitats, there is greater likelihood for litigation. An injunction tied to such a lawsuit could halt many activities within the Inland Native Fish Strategy analysis area, which would have a strong impact on those groups that rely on natural-resource extraction for their economic and community stability.

Action Alternatives

During the interim period (approximately 18 months), adoption of any of the alternatives would likely have no direct or immediate effect on any human values associated with inland native fish. Modifications in management practices affect habitat conditions only gradually, and changes in habitat conditions, whether positive or negative, bring about changes in fish populations only over a period of years. For this reason, the best available information suggests that adoption of any of the alternatives considered in this environmental assessment would be inconsequential during the interim period.

The different social groups will view the alternatives differently depending on their perspective. Environmentalists and recreationists would be more apt to support action alternatives over the No-Action Alternative because the action alternatives attempt to preserve existing fish habitat. Industry or agriculture-related organizations may support the No-Action Alternative over the action alternatives, believing that the action alternatives would be more restrictive to activities that are important to them.

The following generalization displays the alternatives in relation to which are most likely to be preferred by each of the social groups:

Alt. E	Alt. D	Alt. C	Alt. B	Alt. A
Environmental	Recreational		Other	Industrial

The action alternatives are discussed below in terms of their social and economic effects. Alternative D is preferred by the Forest Service and US Fish and Wildlife Service.

Alternative B would provide strong direction for protection of fish habitat, but would apply to only 36 percent of the Inland Native Fish Strategy analysis area. This would reduce the risk to bull trout, but would not address other sensitive species, which are of concern to many people. There would be greater management flexibility in the areas without occupied bull trout habitat, which would be desireable to those people who rely on natural-resource extraction for their economic and community stability. The social and economic effects would be less in Forest Service Regions 4 and 6 (including portions of Nevada, Idaho, Oregon and Washington) than in Region 1 (portions of Idaho and Montana), since most of the occupied bull trout habitat is located in Region 1.

Alternative C would have less social and economic impacts to people associated with resource-based industries, because it would allow greater flexibility in the design and development of projects. However, to apply the process could increase the costs of project development. This alternative would not be as desireable in terms of reducing the risk of loss of populations or potential negative effects to aquatic

habitat, due to the amount of management that could be allowed in the Riparian Habitat Conservation Areas.

Alternative D would have relatively low effects to management activities, with low social and economic costs. It would provide a high level of reduction in risk of loss of populations or potential negative effects to aquatic habitat, which is desirable to most people. Watershed analysis requirements would be adequate to protect resources, yet would provide the flexibility in the development of projects, which would be desirable to those people who rely on natural-resource extraction for their economic and community stability.

Alternative E would have the highest potential social cost. The requirement to screen all activities basin-wide would have a high management cost; could require modifications to many projects, which could result in high costs; and would have the highest costs for watershed analyses. The exclusion of road construction and timber harvest operations within unroaded areas 1,000 acres or larger would offer the greatest reduction in risk of loss of populations or potential negative effects to aquatic habitat, which is desirable to most people. However, this same feature could have a major effect on future salvage and green timber operations, which in turn would have a negative effect on those people who rely on natural-resource extraction for their economic and community stability. While this environmental assessment provides for short-term interim direction, many rural communities would probably feel very threatened by the closure of so many areas, and may fear that the direction could become long-term under the Eastside and Upper Columbia River Basin EIS's.

Irreversible and Irretrievable Commitments

Because social groups can usually rebound and adapt and because each of the action alternatives would be temporary in nature and limited in scope, it is unlikely that any direct social effect would be completely irreversible. However, the social effects of commitments under any of the alternatives could be irretrievable. For example, the loss of income and its social impact on lifestyle, culture, and the loss of social experiences linked to water quality, wildlife, and vegetation would be irretrievable over the short- to mid-term.

Cumulative social effects could become irreversible if a social group were displaced from their community *because of changing economic conditions or changing natural/aesthetic conditions.*

CULTURAL RESOURCES

Watershed-specific descriptions of the cultural resources (e.g., archaeological and historical sites) within the Inland Native Fish Strategy analysis area are included in the Forest Plans, Land Use Plans, and Environmental Impact Statements listed in Appendix G. Effects to cultural resource sites include direct, indirect, and cumulative impacts that would result from either intentional or inadvertent damage to those sites. In general, such effects would be the result of ground-disturbing activities in the vicinity of cultural resources. Such activities are constrained by Forest Plan and Land Use Plan standards and guidelines. Surveys for archaeological resources are accomplished prior to approval of ground-disturbing projects and activities. However, there is a potential for effects on this resource when ground-disturbing projects and activities are implemented.

Alternative A would continue the present management direction provided by current Forest Plans, Land Use plans, and Environmental Impact Statements (Appendix G); this alternative would not provide any additional protection to cultural resources.

The action alternatives, by varying degrees, would provide additional, incremental protection to cultural resources in riparian and associated upland areas, depending on the application of standards and guidelines and the size of riparian areas or RHCAs in which they are principally applied. However, during the interim period, no alternative would be expected to substantially threaten or benefit cultural resources.

Alternatives B and C would provide some additional measure of protection to cultural resources by applying additional standards and guidelines to all proposed projects and activities, and some ongoing projects and activities within Riparian Habitat Conservation Areas (RHCA's) in bull trout watersheds, and projects and activities which are outside of RHCA's but would likely impact the RHCA's of bull trout watersheds. However, only 36 percent of the Inland Native Fish Strategy analysis area would be addressed under Alternative B.

Alternative D would provide additional protection to cultural resources by applying additional standards and guidelines to all proposed projects and activities, and some ongoing projects and activities within Riparian Habitat Conservation Areas in bull trout watersheds, and projects and activities which are outside of RHCA's but would likely impact the RHCA's of bull trout watersheds.

Alternative E would offer the most additional protection to cultural resources. Alternative E would apply standards and guidelines to all proposed projects and activities, and some ongoing projects and activities within Riparian Habitat Conservation Areas in bull trout watersheds, and projects and activities which are outside of RHCA's but would likely impact the RHCA's of bull trout watersheds. In addition, operations would be excluded in unroaded areas 1,000 acres or larger in size.

INDIAN TRIBES

Indian Tribal governments in Oregon, Washington, Idaho and Montana have interests in the planning area. Several of these governments have reserved certain off-reservation rights involving resources on Federal lands managed by the Agencies; the Klamath Tribe exercises rights in former reservation lands. All of the Tribal governments maintain interests in the management of Federal lands and resources, beyond the scope of treaty-reserved rights, which include protection of sacred areas, burial locations, and archaeological sites, as well as the perpetuation of traditional practices. Further description of the affected Indian Tribes are included in the Forest Plans, Land Use Plans, and EISs listed in Appendix G. A list of tribal governments within the analysis area of the Inland Native Fish Strategy is included in the project's Administrative Record.

Treaties negotiated in Oregon and Washington between 1851 and 1855 enumerated a variety of specific reserved rights in addition to the reservation of lands as homes for the tribes. Treaties with the Warm Springs, Umatilla, Nez Perce, and Yakama tribes reserve the right to fish, hunt, gather roots and berries, pasture horses and cattle, and erect temporary buildings for curing fish in off-reservation areas. More specific to fishing, the Warm Springs and Umatilla treaties state as follows:

> *"Provided also, that the exclusive right of taking fish in the streams running through and bordering said reservation is hereby secured to said Indians, and at all other usual and accustomed stations in common with citizens of the United States, and of erecting suitable buildings for curing the same."*

The Yakama and Nez Perce treaties include slight variations of the language. The scope and extent of fishing at "usual and accustomed places in common with citizens" have been defined through numerous court decisions. Exclusive rights to certain resources are limited to streams running through or bordering reservations, whereas other rights off-reservation are to be shared with non-Indians. One primary intent

of the treaties was to provide a right of access to the tribes' resources and a certain share of those resources. The Fort Bridger treaty only addresses off-reservation hunting, but has been held by the Supreme Court of Idaho to include the right to fish as well as the right to hunt.

Even though the Klamath Tribe was terminated in 1964, the courts have held that the Tribe retained hunting, fishing, and trapping rights on former reservation lands still in public ownership (the Winema National Forest). Federal recognition was restored to the Klamath Tribe in 1986.

The courts, Federal legislation, and policy of the Department of the Interior recognize that Federal land managing agencies have a continuing trust responsibility to honor the terms of the treaties and to protect the rights of Indian governments, as well as the resources subject to those rights. In addition, a number of laws, court decisions, and executive orders have increasingly sustained the rights of Tribal governments in public resources. There is an obligation and a responsibility for Federal agencies to consult, cooperate, and coordinate resource management programs and activities upon public lands with Tribes with reserved treaty rights or other interests in those lands.

The five alternatives offer increasingly protective management strategies for trust resources, with Alternative E being most protective. Perpetuation of the ability to exercise treaty rights is legally guaranteed under all alternatives, but Alternatives C, D, and E would offer greater flexibility in the exercise of those rights and the conducting of other traditional practices on Federal lands. The discussions in this environmental assessment addressing water quality and water resources, fisheries, plants, riparian areas, and wildlife address the impacts more specifically.

Other Tribal heritage concerns, including protection of archaeological sites and locations of religious importance, are considered in the cultural resources and social values sections.

ECONOMIC CONSIDERATIONS

AFFECTED ENVIRONMENT

The geographic area described in this environmental assessment includes large parts of Washington, Oregon, Idaho and Montana, and is economically complex. There are substantial amounts of timber, forage, recreation, water, fish, wildlife, minerals, and other resources or resource uses provided from National Forests in the area under consideration. The economic value associated with these resource uses is substantial. State and private lands provide additional amounts of many of those resources and resource uses, but those uses are not addressed in this document because the management direction applies only to lands administered by the Forest Service.

The total geographic area also encompasses many cities, towns, and rural populated areas. Each of these population centers or areas has its own economic structure. which is integrated with a wider subregional economy, which, in turn, is part of an even larger regional economy. All are affected by State, national, and international economic activity and events to a greater or lesser degree.

This economic analysis presents the effects that would likely result from interim direction, primarily as it would apply to timber and range programs. Other programs, such as mineral development and recreation programs, are addressed but only in terms of projects that could be affected.

An essential concept used to conduct the economic analysis is incremental change. The resource impacts presented are estimates attributable only to the adoption of interim direction. Past decisions

and actions already taken to provide some degree of protection to aquatic and riparian ecosystems are part of the baseline for assessing the economic effects of interim direction. Those prior decisions and actions already in place will continue to have their effect, regardless of whether interim direction is adopted. The focus of the economic effects discussion in this environmental assessment is to identify the additional or incremental effects that may be expected as a result of interim direction. More complete descriptions of the affected economic environment (including economic values and economic activity levels) are included in the Forest Plans and EISs listed in Appendix G.

The alternatives also would have direct budget costs associated with them. These costs are economically relevant, but are more appropriately discussed under Agency Effects, in this chapter.

ENVIRONMENTAL CONSEQUENCES

The environmental consequences analysis focuses first on the effects to ongoing projects, and secondly on possible effects to future programs. The available information relates primarily to expected changes in outputs of timber and use of grazing lands on National Forest System lands over the interim period. Some information also is available regarding changes in mineral, recreation, transportation and special use permit activities. Since the direction will be superceded in approximately 18 months and the actions are neither irreversible nor irretrievable, long-term effects are not covered in this analysis.

The main factor for effects to ongoing projects will be the result of screening efforts. The screens identify projects with a high or moderate risk for unacceptable effects. The form used for screening is displayed in Appendix I.

Screening is not a feature of Alternatives A and C, so they would have no effect on ongoing projects.

For Alternatives B and D, the Forest Service and Fish and Wildlife Service agreed to apply screens to ongoing activities in priority watersheds. If either of these alternatives is selected for implementation, the Forest Supervisors must review each of their projects that are identified as having high or moderate risk, and either cancel the action, modify the action or postpone the action until the final direction is issued (subject to valid existing rights). Experience with the screening process utilized in the PACFISH indicates that projects can often be reduced in risk by only slight modification. The estimates below would represent the extreme of either cancellation or the postponement of the activity.

Alternative E would apply this screen to the entire analysis area (the additional area outside of priority watersheds would also be screened).

Some projects have not yet been implemented but are advanced enough in the planning stages to allow review and modification. The estimated effects displayed focus on timber and range activities because the greatest economic impacts during the interim period would be expected there. Impacts from mineral exploration and development activities, special use permits, or road or trail activities vary highly and could not be readily quantified. The estimated effects are displayed, based on the screening results of activities on the 22 Forests.

Over 1,600 projects were screened for this effort. Of these, 42 were rated as high risk and 92 were considered moderate. These reflect 8 percent of the total number of projects.

Effects on Timber Harvesting

Of the timber projects screened, only 10 were identified as having high or moderate risk. Volume associated with these projects is 37.7 million board feet, representing 1.7 percent of the total 2.1 billion board feet currently under contract or projected for sale by the 22 National Forests within the analysis area. The amount of volume under contract is 29.9 million board feet. The bid value for the volume under contract ranges from $110 to $361 per thousand board feet. If all sales under contract had to be cancelled, the foregone stumpage value would be approximately $9.3 million. Experience with the timber sales in PACFISH indicates that this would be an extreme "worst case" scenario; expected modifications would be less than 50 percent of the volume.

The Forest Service might incure costs for compensating timber purchasers holding existing contracts for active or awarded sales (sales under contract). While it is not possible to estimate specific costs at this time, a range of magnitude of sale cancellation costs can be estimated. If out-of-pocket costs already expended by the purchasers were approximately $10 to $20 per thousand board feet, the maximum compensation costs would be between $300,000 and $600,000. The expected values would be much lower than this. If the current trend in static stumpage bids continued at the time of sale cancellation, there would be no difference between sale contract stumpage values and recent bid values.

Under current law, 25 percent of the gross receipts collected by the Forest Service from timber sales, grazing permits, campground fees, and other special use permits are returned to the counties which contain the National Forest System lands (based on all receipts over an entire year for the Forest). The payments to counties are based on gross receipts. In the case of timber stumpage payments, gross receipts are defined by law to include not only the stumpage payments, but also the purchaser road credits going to timber purchasers. (Purchaser road credits allow timber purchasers to deduct a certain amount of the costs they incur for building roads for timber harvest from the price they pay to the federal government for the timber stumpage they have purchased.) These payments to counties are transfer payments from the Federal government back to the local governments. They are not additive to revenue effects from changes in use of the Federal lands, but are a subset of the changes in the level of those revenues collected. The range of effect would vary from $2.8 million dollars, plus 25% of any purchaser road credits if none of the volume would be available, to no effect if modifications could be made without affecting volume harvested.

Alternative E would have a greater effect because the entire area would be screened, encompassing many more projects. If the results from screening in priority watersheds were consistent when applied to the entire area, it would be estimated that less than 2 percent of the volume would be affected (approximately 42 million board feet).

Besides the results of screening, there are also other economic direct and opportunity costs that may be experienced in the interim period that were not measured or available. These could include such things as higher costs of operation within timber sales, higher costs for design of timber sales, and foregone values within the interim period. A major cost area not analyzed for this environmental assessment is that of road closures requried to mitigate impacts and the probable effects on various resource activities and uses. These costs will be examined at the site-specific level.

Alternative A would have no changes in cost in relation to the current situation. For Region 6 Forests, there could be a fairly high foregone value since the current standards and guidelines for operating within RHCAs are very restrictive in relation to timber harvest.

Alternatives B,C,D and E would raise design costs primarily in relationship to the amount of watershed analysis required. This is discussed in the Agency Effects Section.

For all action alternatives there should be a minor effect on future green timber sales since this is only interim direction. Any timber operation can be reinitiated if it is compatible with the final direction developed in the two EISs. The economic analysis for the two EISs will analyze the effects of final direction.

The one area with a potential irretrievable effect would be with salvage logging after catastrophic events. Alternatives B and D would allow for salvage logging but within priority watersheds a watershed analysis would be required (see Appendix E). This might increase the amount of time required to initiate any salvage and could result in some material not be merchantable. Alternative C would be less likely to require intense watershed analysis which should result in faster times and less loss in merchantability. Alternative E would have the greatest potential effect since all watershed analysis would need to be peer reviewed and unroaded areas greater than 1,000 acres would not be entered. Information is not available to estimate the amount of acres or volume that might be involved but the programmatic consequences are displayed.

Effects on Range

Alternatives A and C are not projected to have any effect on range activities. This analysis of effects to range would only apply under Alternatives B, D, and E.

For the 288 allotments within priority watersheds that were screened, 31 allotments (11 percent) were identified as having high to moderate risk. The total Animal Unit Months (AUMs) associated with these allotments is slightly over 46,000, representing 3.3 percent of the total AUMs for the 22 Forests in the analysis area. This reflects a high number; experience has shown that only minor changes in permitted AUMs is possible when making modifications to grazing practices or through range improvements. The current grazing fee applying to these National Forests is $1.61/AUM. A maximum reduction of fee income would be approximately $148,000 for the two grazing seasons likely to be affected by this interim direction. Actual reductions, if any, would likely be much lower. The maximum reduction in payments to the counties (from the 25 percent of gross receipts) would be approximately $18,500 per year. This would be spread across a wide number of counties.

For future operations, all action alternatives would require a more intense review of the interaction between grazing activities and riparian and aquatic habitats. As discussed in the non-forested vegetation section, this could require modifications of grazing practices or range improvements. Within the interim period, this would primarily affect range allotment permits that must be reissued. For priority watersheds, the results of the screening process can be combined with other analyses prepared for the NEPA and the biological evaluation to make a determination on reissuance. For non-priority watersheds, additional screening could be necessary to combine with other analyses prepared for the NEPA and the biological evaluation to make a determination on reissuance.

Effects on Recreation

There should be no effects to recreation under Alternatives A and C.

For Alternatives B, D, and E, the screening results showed that a wide variety of recreational activities, from outfitter guide operations to campgrounds and boat launch facilities, could pose a high to moderate risk. Overall, 12 projects were identified. Such risks primarily related to increased potential of poaching, and/or increased fishing pressure due to trails or campground locations. Only a few activities were identified as impacting habitat through either streamside trails or boating. The modifications necessary could vary from seasonal closures to total closures. The limited number of activities indicates that there should be a limited effect on recreation opportunities across the geographic area coverd in this assessment.

Effects on Minerals

Alternative A and C would have no effect on existing mineral activities.

For Alternatives B, D, and E, the screening results showed that a wide variety of mineral activities, from placer mining operations to abandoned mines, could pose a high to moderate risk. Overall, 40 projects were identified. The primary modifications required to reduce risks for mineral operations would relate to mitigation and restoration requirements. These are highly variable in cost and would be subject to valid existing rights.

Under all of the action alternatives, future operations would be encouraged to operate outside of the RHCAs. This would not necessarily preclude operations, but would influence the costs of operation. The costs would vary for each project.

Effects on Transportation Operations

Alternative A would have no effect on existing transportation operations.

For Alternatives B, D, and E, the screening results showed that a wide variety of transportation operations, from road maintenance to special use permits for roads, could pose a high to moderate risk. Overall, 18 projects were identified. The primary modifications required to reduce risks for transportation operations would relate to mitigation and restoration requirements to prevent sediment reaching streams or to improve fish passage. These modifications are highly variable in cost and would be subject to valid existing rights.

Alternative C would modify operations if, during watershed analysis, such projects were found to be limiting the ability to meet Riparian Management Objectives.

Future operations would be encouraged to operate outside of the RHCAs for all of the action alternatives. This would not necessarily preclude operations but would influence the costs of operation. The amount of cost would vary for each project. Alternative E, subject to valid existing rights, would preclude road construction within any unroaded area 1,000 acres or larger. This would limit any economic development within these areas that is dependent upon road construction.

This analysis does not constitute the basis for an economic analysis in the classical sense of the term. Rather, they are broad indicators of the magnitude of economic value changes that may be expected over the interim period. There are other economic benefits and values that would be experienced over the long-term if fish habitat degradation and the decline of fish populations were slowed, stopped, and

reversed. These values would include increased recreational fishing opportunities, success rates, and quality of experience; increased fish availability for commercial and subsistence fisheries; and increased existence and option values (passive-use values) for people who would not necessarily use the fisheries directly, but value the fact that they exist and would exist in a healthier state. This increased value of resident fish is one of the goals of the Northwest Power Planning Council Columbia River Basin Fish and Wildlife Program.

Economic Impacts on Employment

Impacts on employment are very difficult to estimate with any degree of confidence because of the short duration of this interim direction, the scope of the analysis, the widely varied economies (both in size and geographic complexity), and the relative concentration of estimated effects in certain geographic areas. The employement multipliers or "response coefficients" developed during earlier planning efforts (Appendix G) are generally based on input-output models. These models provided estimates of direct, indirect, and induced employment changes. In reality, such changes generally take place over a period of several years, as the changes in economc activity work their way through the economy. Therefore, they are likely to overstate the effects for an 18-month time frame. The response coefficients also were developed for areas of local economic influence, and are not technically additive with others over this much larger geographic area.

However, it is possible to give an indication of the relative magnitude of what might be expected from adoption of each the alternatives considered in detail, through screening of projects under Alternatives B, D, and E. Employment response coefficients (again, including direct, indirect, and induced employment) for timber-stumpage sales average in the neighborhood of 10 jobs per million board feet of timber harvested, expressed on a basis of annual jobs. Range coefficients appear to be between 0.3 and 0.6 total jobs per thousand AUMs grazed. These figures are highly dependent on the strucure, size, and diversity of the local economy.

Given the above discussion, and looking at the range and timber resource outputs, one can estimate that over the entire geographic area the maximum magnitude of jobs affected would probably be in the low tens for range and the low hundreds for timber.

AGENCY EFFECTS

The major effects to the agency, i.e. the Forest Service, would relate to changes in overall management intensity and intent, and to the budget process. Since this environmental assessment focuses only on the requirements for the Inland Native Fish Strategy, the effects on the entire management direction proposed for the Forest Plans and the effects on budget have not been evaluated. Since the focus on management is within the priority watersheds, the probable effects on the management direction currently applied can be discussed. For budget, the major change would be in the requirements for watershed analysis. This environmental assessment does not prescribe specific monitoring or restoration requirements, but emphasizes using current programs to achieve those goals to the maximum extent possible.

Management Area Categories

For the Interior Columbia Basin Ecosystem Management Project, the management direction for each Forest Plan was categorized into one of eight managememt categories. These categories represent an increasing level of management intensity and display basic intent.

Category 1

Ecological processes such as fire, insects, and disease are essentially allowed to operate relatively free from influence from humans. Diversity resulting from natural succession and disturbances predominates and non-native vegetation is rare. Forest users must be self reliant and should expect low levels of contacts with others. Few, if any man-made facilities are present. travel is nonmotorized with rare exceptions. Typical types of areas are: Designated Wilderness, and backcountry lands.

Category 2

These areas provide for conservation of representative or particular rare and narrowly distributed ecological settings or components. They help insure conservation of ecosystems or ecosystem components that may provide important functions insuring overall sustainability of larger landscapes. Human influences on the ecological processes are limited to the degree possible but are sometimes evident. Types of human uses varies but is generally nonintensive. Travel is generally nonmotorized. Some of these areas help provide an important role under an adaptive management philosophy by providing a "natural" reference for areas heavily managed for particular objectives. These areas are often formally designated. Research Natural Areas and other special areas are typically included.

Category 3

Ecological values are in balance with human occupancy with consideration given for both. Resource management activities may occur but natural ecological processes and resulting patterns will normally predominate. Although the areas are characterized by predominantly natural appearing landscape, an array of management tools can be used to restore or maintain relatively natural patterns of ecological processes. This will result in some evidence of man's activities. Forest users may expect to experience some isolation from the sights and sounds of humans in a setting that offers some challenge and risk. Restrictions on motorized travel can vary from area to area and season to season.

Category 4

Ecological values are managed to provide human recreational use but are maintained well within levels necessary to maintain overall ecological systems. Resource use for other values is not emphasized and has little impact on ecological structure, function, or composition. Sights and sounds of humans, on site, can be expected and even desired. Motorized transportation is common.

Category 5

The areas are primarily forested ecosystems and are managed to meet a variety of ecological and human needs. Ecological conditions will be maintained with an emphasis on selected biological structures and compositions considering the range of natural variability. These lands often display high levels of investment, use and/or activity, density of facilities; and evidence of vegetative manipulation activities. Forest users expect to see other humans and evidence of man's activities. Facilities in support of various resource uses are common. Motorized transportation is common but some seasonal restrictions may occur.

Category 6

The areas are primarily non-forested ecosystems and are managed to meet a variety of ecological and human needs. Ecological conditions will be maintained with an emphasis on selected biological structures and compositions considering the range of natural variability. These lands often display high levels of

investment, use and/or activity, density of facilities, and evidence of vegetative manipulation activities. Forest users expect to see other humans and evidence of man's activities. Facilities in support of various resource uses are common. Motorized transportation is common but some seasonal restrictions may occur.

Category 7

Public lands are intermingled with private lands to the point that ecosystem management objectives are tempered by other landowner's uses and objectives. Human activities have altered the natural appearances in most of these areas, both on private and public lands. Sights and sounds of humans are predominant. Private land use is often residential. Resource use is not planned on a sustainable basis but may occur in concert with surrounding private land values. Motorized transportation is common.

Category 8

Ecological conditions (including processes) are likely to be permanently altered by human activities beyond the level needed to maintain natural appearing landscapes and ecological processes. The areas are generally small. Ecological values are protected where they affect the health, and welfare of human occupancy. Areas such as mines and other concentrated uses are included. Human activities are generally commercial in nature and directly or indirectly, provide jobs and income. Motorized transportation is common.

Table III-2 displays the percent of acreage within priority watersheds by Management Area Categories, under Alternatives B, D, and E. Total area in priority watersheds is 5.5 million acres.

Table III-2. Percent of Priority Watersheds by Management Area Categories.

Category	1	2	3	4	5	6	7	8
Percent	29	2	28	1	38	2	0	0

Over 60 percent of the acreage is in Management Area Categories 1 through 4. These Management Area Categories represent the least amount of management intensity, and should mesh well with the direction from the alternatives. Category 5 represents the area that will require the most modification of direction.

Watershed Analysis Budget

The protocol for conducting watershed analyses is still being developed. Experience gained in western Oregon and Washington indicates that watershed analysis costs can vary widely depending on the amount of information available, geographic information system capabilities, and the issues to be addressed. In this analysis, costs have been estimated and stratified by initial assessments and comprehensive watershed analysis.

Initial assessments gather the information necessary to characterize the present condition and sensitivity of the watershed and water resources to management proposals, to establish water resource and aquatic objectives for the specific watershed conditions, and to calibrate models and methods. This is equivalent to the watershed scale assessment described in Alternative C. Estimated costs are $17,000 to $25,000 per assessment.

Comprehensive assessments evaluate the response of the watershed and water resources to management proposals, to rcommend adjustments to management practices to achieve the riparian management objectives, and to adjust RHCAs and standard and guidelines as necessary. Estimated costs are from $38,000 to $100,000. The peer review in Alternative E would add an additional 20 percent in additional time for review and evaluation by the peer review team.

Costs for NEPA analysis of projects, inventory, monitoring, and research are assumed to be constant under all action alternatives.

To estimate the costs for watershed analysis for each alternative at this time would be purely speculative. The Forests will need to identify and pursue watershed analysis needs as they arise. The alternatives can be evaluated in a programmatic sense, in terms of which would have the greatest amount and intensity of watershed analysis.

Alternative A would not require any specific watershed analysis and would have no costs associated with it.

Alternative B and D would require fewer initial assessments since the Riparian Management Objectives and Riparian Habitat Conservation Areas have already been established. Comprehensive analysis would only be required when there are doubts about the applicability of the Riparian Management Objectives or Riparian Habitat Conservation Areas. This can also be addressed by site specific NEPA analysis for many projects.

Alternative C stresses the developement of site-specific Riparian Management Objectives and Riparian Habitat Conservation Areas. Since the purpose and need for this project is to assure future options, it is important to ensure that RMOs and RHCAs have been established correctly. This would require at least an initial assessment prior to any major activity, and a comprehensive analysis when there are doubts.

Alternative E would have the greatest amount of watershed analysis and intensity. This is due to the requirements for peer review and watershed analysis before any new projects can be initiated in any priority watersheds.

APPENDIX A

LIST OF PREPARERS

The following is a list of the team members who worked together to efficiently produce a quality Environmental Assessment for the Inland Native Fish Strategy.

KERRY ARNESON: Writer-Editor, USDA Forest Service, Coeur d'Alene, Idaho

Experience: USDA Forest Service - 13 years; Planning, Public Information (Idaho, Oregon, Washington). US Army Corps of Engineers - 2 years; Public Information (Mississippi).

Function: Public involvement, document editing, compilation of the Administrative Record.

GLEN BLAIR: Wildlife Biologist, USDA Forest Service, Grangeville, Idaho

Experience: USDA Forest Service Management - 15 years, Wildlife, Fisheries, & Range (Idaho, Utah, Arizona). USDA Forest Service Research - 5 years; Wildlife, Fisheries, & Range (Arizona & New Mexico). U.S. Public Health Service, - 5 years; Communicable Disease Research (Arizona).

Function: Wildlife impacts analysis, interdisciplinary team member, wildlife/terrestrial TES impacts analysis, Biological Evaluations preparation and review, wildlife/fisheries/ range field data collection/summarization.

DAVID CROSS: Aquatic Ecologist, USDA Forest Service, Coeur d'Alene, Idaho

Experience: USDA Forest Service - 7 years; fisheries management (California, Idaho). Consulting aquatic ecologist - 2 years, (California, Alaska, Ohio, New Hampshire). Confederated Salish and Kootenai Tribes - 5 years, Flathead Lake/River Ecosystem Study Director (Montana). USDI Bureau of Land Management - 6 years; fisheries management (California, Oregon). US Navy - 4 years.

Function: Aquatic ecologist. Solicit, gather, and organize fish population and habitat data relative to the geographic area of the Inland Native Fish Strategy. Assist in the formulation and assessment of management alternatives related to the Inland Native Fish Strategy.

ROBERT DAVIS: Regional Planner, USDA Forest Service, Ogden, Utah

Experience: USDA Forest Service, 5 years in Regional Planning, Forest Plan Revision Coordination, Forest Plan Appeals, and monitoring and evaluation. 4 years as Forest Planning, Budget, Lands and Minerals Staff Officer. 6 years as Planning Team Leader, Environmental Coordinator, and Forest Economist. 5 years as Forest Hydrologist. (Idaho, Utah, Colorado and California) U.S Peace Corps Volunter, 1 year in Colombia as hydrologist.

Function: ID Team Leader, NEPA/NFMA Expertise, Economist, document coordination.

BOB HALLOCK: US Fish and Wildlife Service, Spokane, Washington

Experience: US Fish and Wildlife Service, 22 years (habitat enhancement).

Function: IDT member on the INFS project, representing the US Fish and Wildlife Service.

RICHY J. HARROD: Botanist, USDA Forest Service, Leavenworth, Washington

Experience: USDA Forest Service - 5 years; Botany and Ecology (Washington). Wenatchee Valley College - 4 years; Biology and Botany Professor, adjunct faculty (Washington).

Function: Compiling and writing environmental consequences, a Biological Evaluation, and a Biological Assessment for Endangered, Threatened, and Sensitive Plant Species.

CRAIG MORRIS: Operations Analyst, USDA Forest Service, Ogden, Utah

Experience: USDA Forest Service - 13 years, Land Management Planning (Mississippi, Florida, George, Colorado, Wyoming, Idaho, Utah). BS, Forestry, University of Florida, 1980. MS, Forest Economics, Colorado State, 1984.

Function: Coordinated assembly of the project analysis database.

RICK PATTEN: Hydrologist, USDA Forest Service, Coeur d'Alene, Idaho

Experience: US Forest Service - 19 years, Forest Hydrologist. Since December, 1994 on the Idaho Panhandle National Forests, Coeur d'Alene, Idaho; 1990 to 1994 on the Wasatch-Cache National Forest, Salt Lake City, Utah; 1977 to 1989 on the Clearwater National Forest, Orofino, Idaho; 1976-1977 on the Lolo National Forest, Missoula, Montana.

Function: IDT member on the INFS project. Solicit, gather, and organize information and data primarily concerning watershed and water resource management, and concerning hydrologic and stream functions, as well as water quality standards and management as they relate to the INFS area in the northwest United States.

LAIRD ROBINSON: Public Affairs Specialist, USDA Forest Service, Missoula, Montana

Experience: USDA Forest Service, 26 years. Seasonal firefighter, smokejumper. Public involvement - 19 years. Member Class I fire team - 10 years. US Air Force Missle launch Officer - 4 years. (Illinois, California, Montana).

Function: Public Affairs Coordinator. Prepared and disseminated information to the public, including national, state, county and local officials, organizations, and the general public.

MEREDITH WEBSTER: District Ranger, USDA Forest Service, Colville, Washington

Experience: USDA FS; 18 years; Soil Scientist, District Ranger (Washington, Oregon)

Function: Interdisciplinary Team member, representing USDA Forest Service, Region 6.

PATRICK WITHEN: Sociologist, USDA Forest Service, McCall, Idaho

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Function: Social Impact Analysis; Social Baseline Analysis.

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APPENDIX B

ACRONYMS

AFS	American Fisheries Society
ASQ	Allowable Sale Quantity
AUM	Animal Unit Month
BA	Biological Assessment
BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations*
ECA	Equivalent Clearcut Acres
EA	Environmental Assessment
EEMP	Eastside Ecosystem Management Project
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEMAT	Forest Ecosystem Management Assessment Team
FERC	Federal Energy Regulatory Commission
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
FS	Forest Service
FWS	Fish and Wildlife Service
FSH	Forest Service Handbook
IDT	Interdisciplinary Team
KV	Knutson-Vandenberg Act of 1924
LUP	Land Use Plan
MA	Management Area*
MBF	Thousand Board Foot
MMBF	Million Board Foot
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act*
NFMA	National Forest Management Act*
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
RHCA	Riparian Habitat Conservation Area
RMO	Riparian Management Objective
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum*
RPA	Resources Program and Assessment
RVD	Recreation Visitor Day
S&G	Standard and Guideline
UCRBP	Upper Columbia River Basin Project
USC	United States Code
USDA	United States Department of Agriculture
USDI	United States Department of Interior
VQO	Visual Quality Objectives*

* These terms are defined in the Glossary.

GLOSSARY

A

Abiotic. Relating to the non-living components in the ecosystem.

Adverse Effects. Adverse effects include short- or long-term, direct or indirect management-related impacts of an individual or cumulative nature, such as mortality, reduced growth, or other adverse physiological changes; harassment of fish; physical disturbance of redds; reduced reproductive success; delayed or premature migration; or other adverse behavioral changes. Adverse effects to designated critical habitat include effects to any of the essential features of critical habitat that would diminish the value of the habitat for the survival of native inland fish.

Affected Environment. The natural, physical, and human-related environment that is sensitive to changes due to proposed actions.

Allowable Cut. Amount of timber which can be harvested in any given year.

Allowable Sale Quantity (ASQ). The quantity of timber that may be sold from the area of land suitable for timber management, as directed in the Forest Plan for each National Forest.

Alluvial. Materials transported and deposited by water.

Anadromous Fish. Fish that are spawned and reared in freshwater, move to the ocean to grow and mature, and return to freshwater to reproduce.

B

Basal Area. Area of the cross section of a tree stem near the base, generally at breast height and inclusive of bark.

Best Management Practices (BMP). Practices determined by the State to be the most effective and practicable means of preventing or reducing the amount of water pollution generated by non-point sources, to meet water quality goals.

Biological Diversity, Biodiversity or Diversity. The relative distribution and abundance of different plant and animal communities and species within an area.

Biotic. Relating to the living components in the ecosystem.

Board Foot (BF). A unit of measurement equal to an unfinished board one foot square by one inch thick.

Broadcast Burn. See Prescribed Burning.

C

Canopy. More or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.

Clearcut Harvest. A regeneration method under an even-aged silvicultural system. As suitable seed trees are either non-existent or unprotectable, all trees within a defined area are removed at one time. Reserve trees may be left in the unit.

Climax Vegetation. The culminating stage in plant succession for a given site where the composition of the vegetation has reached a highly stable condition over time and perpetuates itself unless disturbed by outside forces.

Code of Federal Regulations (CFR). The listing of various regulations pertaining to management and administration of the National Forests.

Compartments. A geographic area delineated by a subwatershed drainage for management planning purposes.

Condition Class. A descriptive category of the existing tree vegetation as it relates to size, stocking, and age.

Conifer. Any of a group of needle and cone-bearing evergreen trees.

Consultation. A formal interaction between the National Marine Fisheries Service or US Fish and Wildlife Service and another Federal agency when it is determined that the agency's action may affect a species that has been listed as Threatened or Endangered, or its critical habitat.

Council on Environmental Quality (CEQ). An advisory council to the President, established by NEPA. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters.

Cover. Vegetation used by wildlife for protection from predators, or to adverse weather conditions, or in which to reproduce. The different types are identified as hiding cover, thermal cover, and security areas.

Critical Habitat or Designated Critical Habitat. Under the Endangered Species Act, critical habitat is defined as (1) the specific areas within the geographic area occupied by a federally-listed speciees on which are found physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and (2) specific areas outside the geograhical area occupied by the listed species, when it is determined that such areas are essential for the conservation of the species.

Cumulative Effect. The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can also result from individually minor but collectively significant actions taking place over a period of time.

D

Drainage. An area (basin) mostly bounded by ridges or other similar topographic features, encompassing part or all of a watershed.

E

Ecosystem. The organisms of a particular habitat together with the physical environment in which they live; a dynamic complex of plant and animal communities and their assosicated environment.

Ecosystem Approach. A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed toa strategy or plan for managing individual species.

Edge. Where plant communities meet or where successional stage or vegetation conditions within the plant community come together.

Effects (or impacts). Environmental consequences (the scientific and analytical basis for comparison of alternatives) as a result of a proposed action. Effects may be either direct, which are caused by the action and occur at the same time and place, indirect, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable, or cumulative.

Endangered Species. Any plant or animal species which is in danger of extinction throughout all or a significant portion of its range as defined under the Endangered Species Act of 1973, and identified as such through publication in the Federal Register.

Endemic. The population of potentially injurious plants, animals, or diseases that are at their normal, balanced level, in contrast to epidemic.

Environmental Analysis. An analysis of alternatiave actions and their predictable short-term and long-term environmental effects, incorporating physical, biological, economic, and social considerations.

Environmental Assessment (EA). A systematic analysis of site-specific or programmatic activities used to determine whether such activities would have a significant effect on the quality of the physical, biological, and human environment, and whether a formal environmental impact statement is required.

Environmental Impact Statement (EIS). A statement of the environmental effects of a proposed action and alternatives to it. It is required for major federal actions under Section 102 of NEPA and is released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, CEQ guidelines, and directives of the agency responsible for the project proposal.

Ephemeral Streams. Streams that flow only as a direct response to rainfall or snowmelt events. They have no baseflow.

Epidemic. The population of potentially injurious plants, animals, or diseases that are widely prevalent, and exceed their normal, balanced level, in contrast to endemic levels.

Erosion. Detachment or movement of soil or rock fragments by water, wind, ice, or gravity. Accelerated erosion is much more rapid than normal, natural, or geologic erosion, primarily as a result of the influence of activities of people animals, or natural catastrophes.

Even-aged Management. The application of a combination of actions that results in the creation of stands of trees of essentially the same age, growing together. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.

F

Federal Land Policy and Management Act (FLPMA). A law passed in 1976 directing the management of lands administered by the Bureau of Land Management, including the requirement to develop land use plans and prepare regulations to guide that development.

Fish-bearing Streams. Stream segments that support fish during all or a portion of a typical year.

Forage Areas. Vegetated areas with less than 60 percent combined canopy closure of tree and tall shrub (greater than seven feet in height).

Forest Plans. Land and Resource Management Plans developed by the Forest Service pursuant to requirements of the National Forest Management Act, to guide land management.

Fry. Recently hatched fish.

Fuels. Combustible materials present in the forest which potentially contribute a significant fire hazard.

Fuels Management. Manipulation or reduction of fuels to meet Forest protection and management objectives while preserving and enhancing environmental quality.

G

Group Selection. A modification of the selection system in which trees are removed periodically in small groups, resulting in openings that are at least one and one-half times the height of the trees removed. The objective is to create a balance of size and age in a mosaics of contiguous groups in the same forest.

H

Habitat Type (Vegetative). An aggregation of all land areas potentially capable of producing similar plant communities at climax.

Hardwoods. A conventional term for the wood of broadleaf trees.

Hiding Cover. Vegetation capable of hiding 90 percent of a standing adult deer or elk at 200 feet or less. Includes some shrub stands and all forested stand conditions with adequate tree stem density or shrub layer to hide animals. In some cases, topographic features also can provide hiding cover.

I

Indicator Species. Species of fish, wildlife, or plants adapted to a particular kind of environment, which reflect ecological changes caused by land management activities.

Indirect Effects. Secondary effects which occur in locations other than the initial action or significantly later in time.

Individual Tree Selection. The selection of trees for harvest based on individual tree characteristics, and their position within the stand structure.

Interdisciplinary Approach. Utilization of one or more individuals representing areas of knowledge and skills focusing on the same task, problem, or subject. Team member interaction provides needed insight to all stages of the process.

Interdisciplinary Team. A group of individuals with varying areas of speciality, assembled to solve a problem or perform a task.

Interim Direction. Management direction that would guide management decisions on lands administered by the Forest Service and Bureau of Land Management during the approximate 18-month period that Environmental Impact Statements are being prepared to examine long-term options for management.

Intermittent Stream. A stream which flows only at certain times of the year when it receives water from springs or from some surface source, such as melting snow.

Irretrievable. Applies to losses of production, harvest, or a commitment 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 (recreation) 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 that are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options.

Issue. A point, matter, or question of public discussion or interest, to be addressed or resolved through the planning process.

Issue Indicator. A specific, measurable element which expresses some feature or attribute relative to an issue.

L

Land Allocation. The assignment of a management emphasis to particular land areas with the purpose of achieving goals and objectives. Land allocation decisions are documented in environmental analysis documents such as the Idaho Panhandle National Forests' FEIS and Forest Land and Resource Management Plans.

Land Use Plans (LUP). Plans developed by the Bureau of Land Management, pursuant to the Federal Land Policy and Management Act.

Landtype. A unit of land with similar designated soil, vegetation, geology, topography, climate and drainage. The basis for mapping units in the land systems inventory.

Leave Island. Group of trees within a harvest unit that are left unharvested.

Long-term Sustained Yield. The estimated timber harvest that can be maintained indefinitely over time, once all stands have been converted to a managed state under a specific management intensity consistent with multiple-use objectives.

M

Management Area (MA). Geographic areas, not necessarily contiguous, which have common management direction, consistent with the Forest Plan allocations.

Management Direction. A statement of multiple use and other goals and objectives, along with the associated management prescriptions and standards and guidelines to direct resource management.

Management Prescription. A set of land and resource management policies that, as expressed through Standards and Guidelines, creates a Desired Future Condition over time.

Mature Timber. On lands allocated for timber harvest, and for the purpose of this project, mature is defined as trees or stands in which average annual stand growth has culminated, generally around 80 years. In the context of wildlife - Mature forest habitat with characteristics needed to provide habitat for species such as pine marten and pileated woodpecker (generally occurs around age 100).

Mitigation Measures. Modifications of actions that (1) avoid impacts by not taking a certain action or parts of an action; (2) minimize impacts by limiting the degree or magnitude of the actions and its implementation; (3) rectify impacts by repairing, rehabilitating, or restoring the affected environment; (4) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or (5) compensate for impacts by replacing or providing substitute resources or environments.

Monitoring. A process of collecting information to evaluate if objective and anticipated or assumed results of a management plan are being realized (effectiveness monitoring) or if component activities are proceeding as planned (implementation monitoring).

N

National Environmental Policy Act (NEPA) Process. An interdisciplinary process, which concentrates decisionmaking around issues, concerns, alternatives and the effects of alternatives on the environment.

National Forest Management Act (NFMA). Law passed in 1976 as an amendment to the Forest and Rangeland Renewable Resources Planning Act, requiring preparation of Regional Guides and Forest Plans, and the preparation of regulations to guide that development.

National Forest System. Lands administered by the USDA Forest Service.

Natural Regeneration. Renewal of a tree crop by natural means using natural seed fall.

No-Action Alternative. The No-Action Alternative is required by regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1502.14). The No-Action Alternative provides a baseline for

estimating the effects of other alternatives. Where a project activity is being evaluated, the No-Action Alternative is defined as one where current management direction would continue unchanged.

O

Occupied habitat. Occupied bull trout habitat is based on preliminary information from the Interior Columbia River Basin Ecosystem Management Project (May 15, 1995). The codes for watersheds identified as having strong, depressed, status unknown, or corridors were used to identify occupied habitat.

Outputs. The goods and services produced from and offered on National Forest System lands.

Overstory. The portion of trees in a forest which forms the uppermost layer of foliage.

P

PACFISH. An interagency ecosystem management approach for maintaining and restoring healthy, functioning watersheds, riparian areas, and aquatic habitats within the range of Pacific anadromous fish on federal lands managed by the USDI Bureau of Land Management and USDA Forest Service.

Partial Cut. Term to relate harvest units where many trees are left ad forested appearance is retained. Partial cutting usually provides no long-term benefits to forest health and productivity.

Payments to Counties. The portion of receipts derived from Forest Service resource management that is distributed to State and county governments such as the Forest Service 25 percent fund payments.

Perennial Streams. Streams that flow continuously throughout the year.

Point Bars. Point bar formation occurs in mid-channel areas where stream bottom materials are concentrated by flow. Bedload forms an island in the channel and this causes overbank flows.

Preferred Alternative. The alternative recommended for implementation (40 CFR 1502.14).

Prescribed Burning. The intentional application of fire to wildland fuels in either their natural or modified state under such conditions as to allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives (i.e., silviculture, wildlife management, reduction of fuel hazard, etc.).

Prescribed Fire. A wildland fire burning under preplanned specified conditions to accomplish specific planned objectives. It may result from either a planned or unplanned ignition.

Prescription. Management practices selected and scheduled for application on a designated area to attain specific goals and objectives.

Programmatic EA or EIS. An environmental assessment or impact statement that establishes a broad management direction for an area by establishing a goal, objective, standard, management prescription and monitoring and evaluation requirement for different types of activities which are permitted. It also can establish what activities are not permitted within the specific area(s). This document does not mandate or authorize the permitted activities to proceed.

R

Rain-on-Snow Event. A winter storm that is characterized by precipitation falling as rain, rather than snow, and melting of existing snowpack.

Range of Alternatives. An alternative is one way of managing the National Forest, expressed as management emphasis leading to a unique set of goods and services being available to the public. A range of alternatives is several different ways of managing the Forest, offering many different levels of goods and services.

Reforestation. The natural or artificial restocking of an area with forest trees; includes measures to obtain natural regeneration, as well as tree planting and seeding. The work is done on National Forests to produce timber and other forest products, protect watershed functioning, prevent erosion, and improve other social and economic values of the forests, *such as wildlife, recreation, and natural beauty.*

Regeneration. The renewal of a tree crop, whether by natural or artificial means. This term may also refer to the crop (seedlings,saplings) itself.

Regeneration Harvest. Used in reference to clearcut, seedtree and shelterwood harvest methods which remove an existing stand to prepare a site for regeneration.

Rehabilitation. To return unproductive lands, other than roads and trails, into good health through stabilization so as to produce the same vegetation (or similar species) as found on adjacent areas.

Residual Stand. Trees remaining standing after some event, such as selection cutting.

Restricted Road. A National Forest road or segment which *is restricted from a certain type of use or* all uses during certain seasons of the year or yearlong. The use being restricted and the time period must be specified. The closure is legal when the Forest Supervisor has issued and posted an order in accordance with 36 CFR 261.

Riparian Areas/Habitats. Areas of land that are directly affected by water, usually having visible vegetation or physical characteristics reflecting this water influence. Streamsides, lake edges, or marches are typical riparian areas.

Riparian Management Objectives (RMO's). Quantifiable measures of stream and streamside conditions that define good fish habitat, and serve as indicators against which attainment or progress toward attainment of goals will be measured.

Riparian Habitat Conservation Areas (RHCA's). *Portions of watersheds where riaparian-dependent* resources receive primary emphasis, and management activities are subject to specific standards and guidelines. RHCA's include traditional riparian corridors, wetlands, intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris and nutrient delivery systems.

Riparian Zone. Those terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influce of perennial and/or intermittent water, associated high water tables, and soils that exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs, and wet meadows.

Road Maintenance. The upkeep of the entire Forest Development Transportation Facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization.

Rotation. The planned number of years required to establish (including the regeneration period) and grow timber crops to a specified condition or maturity for regeneration harvest. Selected management prescriptions provide the basis for the rotation age.

S

Salvage Harvest. The cutting of trees that are dead, dying, or deteriorating before they lose commercial value as sawtimber. The removed trees are generally overmature, damaged by fire, wind, insects, fungi or other injurious agencies.

Sanitation Harvest. Removal of dead, damaged or susceptible trees to prevent the spread of pests or pathogens.

Sawtimber. Trees containing at least one 12-foot sawlog or two noncontiguous 8-foot log, and meeting regional specifications for freedom from defect. Softwood trees must be at least 9 inches in diameter at breast height, and hardwood trees must be 11 inches in diameter at breast height.

Scoping. The procedures by which the Forest Service determines the extent of analysis necessary for a proposed action, i.e., the range of actions, alternatives, and impacts to be addressed, identification of significant issues related to a proposed action, and establishing the depth of environmental analysis, data, and task assignments needed.

Screen. A checklist to screen activities and projects to determine levels of risk.

Sediment. Any material carried in suspension by water, which will ultimately settle to the bottom. Sediment has two main sources: from the channel area itself and from disturbed sites.

Seed Tree. A tree selected as a natural seed source within a shelterwood or seedtree harvest cut; sometimes also reserved for seed collection.

Seed Tree Harvest. Similar to clearcutting, except a smaller number of better seedbearing trees of the desired species per acre are left singly or in small groups distributed over the area.

Seedlings and Saplings. Non-commercial-size young trees, generally occurring in plantations.

Selection Harvest. The periodic removal of trees, usually at 10-20 year intervals, individually or in small groups, from an uneven-aged forest in order to realize yield and establish regeneration of irregular constitution.

Sensitive Species. Those species for which population viability is a concern as evidenced by significant current or predicted downward trends in (a) population numbers or density, or (b) habitat capability that would reduce a species' existing distribution.

Seral Stage. A transitory or developmental stage of a biotic community in an ecological succession (does not include climax successional stage or pioneer stage).

Shelterwood Harvest. A regeneration system in which a new stand is established under the protection of a partial canopy of trees. A minimum of two harvests is required, the last or final removal cut removing the remaining old stand after the new stand is established. This results in continuous coverage of large or small trees.

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 method of carrying out the cuttings that remove the mature crop and provide for regeneration, and according to the type of forest thereby produced.

Site Preparation. A general term for a variety of activities that remove or treat competing vegetation, slash, and other debris that may inhibit the establishment of regeneration.

Slash. The residue left on the ground after felling and other silvicultural operations and/or accumulating there as a result of storm, fire, girdling, or poisoning of trees.

Snag. A standing dead tree usually without merchantable value for timber products, but may have characteristics of benefit to some cavity nesting wildlife species.

Special Status Species. Those species that are listed or are candidate or proposed for listing pursuant to the Federal Endangered Species Act; or those species that are listed pursuant to a State law or regulation; or those species that are designated as Sensitive by the Forest Service or Bureau of Land Management.

Special Use Permit. A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.

Stand. A community of trees or other vegetation uniform in composition, constitution, spatial arrangement, or condition to be distinguishable from adjacent communities.

Stand Conversions. Application of silvicultural practices that change the species composition of trees in a stand, including planting a variety of species, discrimination against undesirable species during thinning, and other practices that naturally discriminate against undesirable species, such as specific site preparation and harvest methods.

Stock. A group of fish that spawn in a particular river system (or part of it) during a particular season, and do not interbreed to any substantial degree with any other group of fish.

Stocking. The degree to which trees occupy the land, measured by basal area and/or number of trees by size and spacing, compared with a stocking standard; that is, the basal area and/or number of trees required to fully utilize the land's growth potential.

Stream Order. It is often convenient to classify streams within a drainage basin by systematically defining the network of branches. Each nonbranching channel segment (smallest size) is designated a *first-order stream*. A stream which receives only first-order segments is termed a *second-order stream*, and so on. The order of a particular drainage basin is determined by the order of the principle or largest segment.

Stream Segment of Concern. State of Idaho designation of streams identified for special emphasis as part of the State Antidegradation Policy. Local working committees are charged with development of site-specific Best Management Practices for the stream and associated watershed.

Successional Stage. A stage or recognizable condition of a plant community which occurs during its development from bare ground to climax.

Suitable Forest Land. Forest land (as defined in CFR 219.3, 219.14) for which which technology is available that will ensure timber production without irreversible resource damage to soils, productivity, or watershed conditions; for which there is reasonable assurance that such lands can be adequately restocked (as provided in CFR 219.4); and for which there is management direction that indicates that timber production is an appropriate use of that area.

Sustained Yield. See Long-term Sustained Yield.

T

Thinning. Cutting in even-aged stands to redistribute growth potential or benefit the quality of the residual stand.

Threatened Species. Any species of plant or animal which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and which has been designated in the Federal Register as such. In addition, some States have also declared certain species as Threatened in their regulations or statutes.

Tiering. Refers to the coverage of general matters in broader Environmental Impact Statements or Environmental Assessments with subsequent other related statements in Environmental Assessments incorporated, by reference, the discussions contained in the previous document, solely on the issues specific to the statement subsequently prepared.

Timber Base. National Forest System lands that are capable, available, and suitable for timber production.

Timber Types. A descriptive classification of forestland based on present occupancy of an area by tree species (i.e., lodgepole, mixed conifer). More appropriately called forest cover types, this category is further defined by the composition of its vegetation and/or environmental factors that influence its locality.

Tractive. Any logging system which uses ground-based machines.

U

Understory. Vegetation (trees or shrubs) growing under the canopy formed by taller trees.

Uneven-age Management. The application of a combination of actions needed to simultaneously maintain continuous high-forest cover. Cutting methods that develop and maintain uneven-aged stands are individual-tree and group selection.

Unroaded. Area characterized by its lack of existing roads, but not designated as a Roadless Area or Wilderness.

Unsuitable Forest Land. National Forest System lands not selected for timber production in Step II and III of the suitability analysis during the development of Forest Plans due to: (1) the multiple-use objectives for the alternative preclude timber production; (2) other management objectives for the

alternative limit timber production activities to the point where management requirements set forth in 36 CFR 219.27 cannot be met; and (3) the lands are not cost-efficient over the planning horizon in meeting forest objectives that include timber production. Land not appropriate for timber production shall be designated as unsuitable in the Forest Plan.

V

Viable Population. A population which has such numbers and distribution of reproductive individuals as to provide a high likelihood that species will continue to exist and be well-distributed throughout their range.

W

Watershed. The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.

Watershed Analysis. A systematic procedure for scharacterizing watershed and ecological processes to meet specific management and social objectives.

Watershed Restoration. Action taken to improve the current conditions of a watershed to restore degraded habitat, and to provide long-term protection to natural resources, including riparian and aquatic resources.

Wildfire. Any wildfire not designated and managed as a prescribed fire with an approved prescription.

Y

Yarding. A method of bringing logs in to a roadside area or landing, for truck transport. Methods may include forms of skyline cable logging systems, ground-based skidding, balloon, helicopter, etc.

Yield. Measured output; for example, timber yield or water yield.

APPENDIX C

List of Scientific References

See also Appendix G, List of Forest Service Land & Resource Management Plans.

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APPENDIX D

Public Involvement

Scoping Activities

A notice of the proposal to prepare an environmental assessment was published in the Federal Register on March 14, 1995 (Federal Register, Vol. 60, No. 49, p. 13697-13698). The purpose and need for the proposed action was identified, and the public was asked to comment on the project by April 14, 1995. The comment period was later extended to April 26 in response to concerns voiced by the public (Federal Register, April 13, Vol. 60, No. 71, pp. 18799-18800). The process was also modified in response to public concern, to allow the public 30 days to review this Environmental Assessment and provide comments to the Inland Native Fish Strategy Team, prior to a decision being made (Federal Register, May 25, Vol. 60, No. 101, p. 27717).

On March 29, 1995, letters were sent to over 5,000 groups and individuals who have shown an interest in forest planning activities similar to the Inland Native Fish Strategy. The letter briefly described the process for preparing an environmental assessment, discussed the proposed activities and the assessment area, and invited the public to comment on the proposal. Approximately 1,700 people from across the nation affirmed their interest in the Inland Native Fish Strategy and their desire to remain on the project mailing list.

Similar scoping letters were mailed to tribal representatives; the Governors of Washington, Oregon, Idaho, Montana, and Nevada; and Forest Supervisors of National Forests that would likely be affected by the Inland Native Fish Strategy. In addition to the information provided, a briefing of the proposed strategy was offered.

Numerous contacts were made with organizations and individuals, both over the telephone and in person, to clarify the information provided and obtain additional scoping comments from the public. Briefings were provided to members of the House and Senate; the Governors of Washington, Oregon, Idaho, and Montana; federal and state agency officials; and a variety of other organizations. A "contact log" documenting the briefings and other contacts is part of the project Administrative Record.

On April 5, 1995, a scoping document was mailed to the public, describing how the project was initiated, its purpose and need and proposed action, the issues and alternative concepts, and the geographic range of the analysis. The public was again invited to provide comments on the proposal.

On May 17, 1995, a letter was mailed to all of those on the project mailing list, providing a brief overview of comments received during scoping. The letter also provided notification that, in response to public comment, the environmental assessment would be made available to the public for a 30-day review period, prior to a decision being made.

Public Comment

The public scoping period for the Inland Native Fish Strategy began March 14 and ended April 26, 1995 (43 days). As of May 19, 1995, 244 letters had been received from people who felt they would be affected by management and natural resource practices related to native fish. The comments came from 16 states and 1 Canadian province. Approximately 93 percent of the comments were from people living in the five-state area (Washington, Oregon, Idaho, Montana, and Nevada).

Copies were made of all comments and were read by the project team. This helped them to be aware of the public's concerns and desires, and provided them with additional information and references to consider as they complete the analysis of alternatives. The comments were also used to identify issues related to the project, as identified in Chapter II.

The letters provided a good representation of the people interested in and potentially affected by the proposal. A list of agencies and organizations who provided comments is included in this appendix. A complete list of those who commented and copies of all comments are contained in the project Administrative Record.

On May 18, 1995, a summary of public comment was mailed to those who had provided comments or requested a copy of the comment summary.

The Environmental Assessment has been mailed to everyone who commented during the scoping period or requested a copy of the full document. A Summary of the Environmental Assessment has been sent to the remainder of those on the project mailing list.

List of Agencies and Organizations Commenting on the INFS Strategy

Federal Agencies and Elected Officials
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Fish & Wildlife Service
- Forest Service
- National Park Service

State Agencies and Elected Officials
- Idaho Department of Lands
- Idaho Governor Philip Batt
- Montana Governor Marc Racicot
- Oregon Department of Fish & Wildlife
- Oregon Department of Forestry
- Washington Department of Fish and Wildlife
- Washington Department of Transportation

County and City Officials, Civic Groups
- Boise County (Idaho) Commissioners
- Coeur d'Alene Area Chamber of Commerce
- Custer County (Idaho) Commissioners
- Kalispell Area Chamber of Commerce
- Lincoln County (Montana) Commissioners
- Owyhee County (Idaho) Commissioners
- Sandpoint Area Chamber of Commerce
- Weippe Mayor Norman Steadman

Tribal Governments
- Kalispel Tribe of Indians

Agricultural Organizations
- Idaho Cattle Association
- Idaho Farm Bureau Federation
- Tri-County Cattlemen's Association

Environmental Groups
- Alliance for the Wild Rockies
- Biodiversity Legal Foundation
- Columbia River Bioregional Education Project
- Ecosystem Equity Council
- Friends of the Bitter Root
- Friends of HCNRA
- Friends of the Lemhi River
- Friends of the Wild Swan
- Inland Empire Public Lands Council
- Kootenai River Network
- Montana Ecosystems Defense Council
- Montana Wilderness Association
- National Wildlife Federation
- Pacific Crest Biodiversity Project
- Pacific Rivers Council
- Predator Project
- River Care
- Sierra Club Legal Defense Fund
- Swan View Coalition
- The Ecology Center
- Trout Unlimited

Media
- The Record-Courier (Oregon)

Mining Representatives
- Echo Bay Mines
- Hecla Mining
- Independence Mining
- Placer Dome
- Thompson Creek Mining

Recreation Organizations
- Brundage Mountain
- Pacific Northwest Ski Areas Association

Timber Industry Organizations
- Boise Cascade
- Crown Pacific
- F.H. Stolze Land & Lumber Company
- Intermountain Forest Industry Association
- Kiss Logging and Lumber
- Kootenai Timber and Land Coalition
- Louisiana Pacific
- Malheur Lumber Company
- North West Timber Workers Resource Council
- Northwest Forest Resource Council
- Northwest Forestry Association
- Ochoco Lumber Company
- Plum Creek
- Potlatch
- Resource Organization On Timber Supply
- R.Y. Timber
- Weyerhaeuser

Other Businesses
- Barkwell Family Farms
- Battle Mountain Gold
- Dames & Moore
- Holland & Hart
- Pugh Brothers Construction Inc.
- Sunrise Mountain Stockfarm
- Wallow Mountains Visitor Center
- Watershed Consulting
- Watershed Health Program

Other Interest Groups
- AFSEEE
- Federal Lands Advisory Committee
- INWARD
- Kettle Range Conservation Group
- Montanans for Multiple-Use
- People for the West
- People Under Protest Associated
- Wenaha Game Protective Association

APPENDIX E

Standards and Guidelines

ALTERNATIVE A

Alternative A is the No-Action Alternative. Management of all ongoing and proposed projects and activities would continue pursuant to current direction contained in existing Forest Service Land and Resource Management Plans (Forest Plans), as modified by Section 7 consultations in those situations where there are species listed pursuant to the Endangered Species Act.

Under this alternative, goals, objectives, standards and guidelines, and special areas (such as riparian management areas, wilderness areas, roadless areas, wild and scenic rivers, etc.) would be as defined in existing plans as currently amended. No specific watershed analysis would be required beyond normal analysis requirements as directed by the National Forest Management Act. Grazing, minerals, and other activities would be managed with existing levels of administration. Grazing administration is primarily achieved with variations of vegetative utilization standards. Grazing and mining Best Management Practices tend to be generic and compliance is often voluntary.

Review of the 22 Forest Plans indicates very little consistency in terms of desired riparian conditions for elements such as large woody debris, pool frequency, or bank stability. There is consistency by States on management of timber operations within streamside management zones. The influencing factors by the State include the rules and regulations of the Idaho Forest Practices Act, the Montana Streamside Management Zone Law, and the Environmental Assessment for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales (May, 1994), which amended the Forest Plans for nine National Forests in Eastern Oregon and Washington.

The special emphasis streamside and riparian widths are displayed in Table E-1. The distances identified are those for the slope distance on ***each*** side of the channel, not the total of both sides. In each case, the distances would be enlarged to include wetlands when they exist adjacent to the channel.

Table E-1. Streamside and riparian widths.

Stream	Idaho	Montana	Oregon/Washington
Large fish-bearing	75 feet	50-100 feet	300 feet
Small non-fish bearing	5 feet	50-100 feet	150 feet
Intermittent	5 feet	50 feet	100 feet

ALTERNATIVES B AND D

Goals, riparian objectives, standards, guidelines, and procedures (together referred to as "management direction") would be the same under Alternatives B and D.

Under Alternative B, the management direction would be applied only to areas with occupied bull trout habitat as identified by the preliminary data from the Interior Columbia River Basin Ecosystem Management Project. This management direction would be applied to approximately 9 million acres on 18 Forests. Most occupied bull trout habitat in the Deschutes, Ochoco, Okanogan, and Winema National Forests would be covered by either the direction in PACFISH or the President's Plan. If Alternative B is selected, each Forest would need to identify the actual acreage on which this management direction would apply.

Under Alternative D, the management direction would be applied to all 22 Forests except where PACFISH or the President's Plan apply. This is approximately 24.9 million acres.

The adoption of Alternatives B or D could lead to deferring or suspending some resource management projects and activities within priority watersheds within the Riparian Habitat Conservation Areas (RHCAs, described below) or that degrade RHCAs during the interim period. Adoption of these requirements during the interim period would *not* lead to the permanent removal of any project or activity from the RHCAs. See the discussion below on priority watersheds.

Riparian Goals

The goals establish an expectation of the characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. Since the quality of water and fish habitat in aquatic systems is inseparably related to the integrity of upland and riparian areas within the watersheds, Alternatives B and D articulate several goals for watershed, riparian, and stream channel conditions. The goals are to maintain or restore:

(1) water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems;

(2) stream channel integrity, channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed;

(3) instream flows to support healthy riparian and aquatic habitats, the stability and effective function of stream channels, and the ability to route flood discharges;

(4) natural timing and variability of the water table elevation in meadows and wetlands;

(5) diversity and productivity of native and desired non-native plant communities in riparian zones;

(6) riparian vegetation, to:

   (a) provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems;

   (b) provide adequate summer and winter thermal regulation within the riparian and aquatic zones; and

   (c) help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.

(7) riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region; and

(8) habitat to support populations of well-distributed native and desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.

Riparian Management Objectives

In the development of PACFISH, landscape-scale interim Riparian Management Objectives (RMOs) describing good habitat for anadromous fish were developed, using stream inventory data for pool frequency, large woody debris, bank stability and lower bank angle, and width to depth ratio. Applicable published and non-published scientific literature was used to define favorable water temperatures. All of the described features may not occur in a specific segment of stream within a watershed, but all generally should occur at the watershed scale for stream systems of moderate to large size (3rd to 6th order streams).

This material was reviewed in regard to its applicability to inland native fish. It has been determined that the Riparian Management Objectives described in PACFISH are good indicators of ecosystem health. The analysis that led to development of the RMO's involved watersheds in Oregon, Washington, and Idaho that include inland native fish as well as anadromous fish. With the exception of the temperature objective, which has been modified, the RMO's represented a good starting point to describe the desired condition for fish habitat.

Under the Inland Native Fish Strategy, these interim RMO's would apply where watershed analyis has not be completed. The components of good habitat can vary across specific geographic areas. Interim RMO's are considered to be the best watershed scale information available; National Forest managers would be encouraged to establish site-specific RMO's through watershed analysis or site specific analysis.

RMOs should be refined to better reflect conditions that are attainable in a specific watershed or stream reach based on local geology, topography, climate, and potential vegetation. Establishment of RMO's would require completion of watershed analysis to provide the ecological basis for the change. However, interim RMO's may be modified by amendment in the absence of watershed analysis where watershed or stream reach specific data support the change. In all cases, the rationale supporting RMO's and their effects would be documented.

The interim RMOs for stream channel conditions provide the criteria against which attainment or progress toward attainment of the riparian goals is measured. Interim RMOs provide the target toward which managers aim as they conduct resource management activities across the landscape. It is not expected that the objectives would be met instantaneously, but rather would be achieved over time. However, the intent of interim RMOs is not to establish a ceiling for what constitutes good habitat conditions. Actions that reduce habitat quality, whether existing conditions are better or worse than objective values, would be inconsistent with the purpose of this interim direction. Without the benchmark provided by measurable RMOs, habitat suffers a continual erosion.

As indicated below, some of the objectives would apply to only forested ecosystems, some to non-forested ecosystems, and some to all ecosystems regardless of whether or not they are forested. Objectives for six environmental features have been identified, including one key feature and five supporting features. These features are good indicators of ecosystem health, are quantifiable, and are subject to accurate, repeatable measurements.

They generally apply to 3rd to 6th order watersheds.

Under Alternative B, interim RMOs would apply to streams in watersheds with occupied bull trout habitat. Under Alternative D, interim RMO's would apply to watersheds occupied by inland native fish. Application of the interim RMOs would require thorough analysis. That is, if the objective for an important feature such as pool frequency is met or exceeded, there may be some latitude in assessing the importance of the objectives for other features that contribute to good habitat conditions. For example, in headwater streams with an abundance of pools created by large boulders, fewer pieces of large wood might still constitute good habitat. The goal is to achieve a high level of habitat diversity and complexity through a combination of habitat features, to meet the life-history requirements of the fish community inhabiting a watershed.

Table E-2. Interim Riparian Management Objectives.

Habitat Feature	Interim Objectives
Pool Frequency (kf[1]) (all systems)	Varies by channel width (see Table E-3).
Water Temperature (sf[2])	No measurable increase in maximum water temperature (7-day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period). Maximum water temperatures below 59F within adult holding habitat and below 48F within spawning and rearing habitats.
Large Woody Debris (sf) (forested systems)	Coastal California, Oregon, and Washington: >80 pieces per mile; >24 inch diameter; >50 foot length. East of Cascade Crest in Oregon, Washington, Idaho: >20 pieces per mile; >12 inch diameter; >35 foot length.
Bank Stability (sf) (non-forested systems)	>80 percent stable.
Lower Bank Angle (sf) (non-forested systems)	>75 percent of banks with <90 degree angle (i.e., undercut).
Width/Depth Ratio (sf) (all systems)	<10, mean wetted width divided by mean depth

[1] Key feature.
[2] Supporting feature.

Table E-3. Interim objectives for pool frequency.

Wetted width (feet)	10	20	25	50	75	100	125	150	200
Pools per mile	96	56	47	26	23	18	14	12	9

Riparian Habitat Conservation Areas

Interim Riparian Habitat Conservation Areas (RHCAs) would be delineated in every watershed on National Forest System lands within the geographic range of the proposed action under Alternative D, and within bull trout occupied watersheds under Alternative B.

Riparian Habitat Conservation Areas are portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. Riparian Habitat Conservation Areas include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams, (2) providing root strength for channel stability, (3) shading the stream, and (4) protecting water quality (Naiman et al. 1992).

The Riparian Habitat Conservation Areas under Alternative D would be nearly identical to those under the Idaho Conservation Strategy (Idaho Department of Fish & Game Commission's Bull Trout Conservation Strategy, 1995). The main difference is that, under the Idaho Conservation Strategy, Riparian Habitat Conservation Areas would apply only in key watersheds. Since their key watersheds are large and cover much of the National Forest System lands in Idaho, there would be little difference between the two Strategies in regard to Riparian Habitat Conservation Areas within occupied bull trout habitat.

Widths of interim Riparian Habitat Conservation Areas that are adequate to protect streams from non-channelized sediment inputs should be sufficient to provide other riparian functions, including delivery of organic matter and woody debris, stream shading, and bank stability (Brazier and Brown 1973, Gregory et al. 1984, Steinblums et. al 1984, Beschta et al. 1987, McDade et al. 1990, Sedell and Beschta 1991, Belt et al. 1992). The effectiveness of riparian conservation areas in influencing sediment delivery from non-channelized flow is highly variable. A review by Belt et al. (1992) of studies in Idaho (Haupt 1959a and 1959b, Ketcheson and Megehan 1990. Burroughs and King (1985 and 1989) and elsewhere (Trimble and Sartz 1957, Packer 1967, Swift 1986) concluded that non-channelized sediment flow rarely travels more than 300 feet and that 200-300 foot riparian "filter strips" are generally effective at protecting streams from sediment from non-channelized flow.

Interim RHCA widths would apply where watershed analysis has not been completed. Site-specific widths may be increased where necessary to achieve riparian management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects. Establishment of RHCA's would require completion of watershed analysis to provide the ecological basis for the change. However, interim RHCAs may be modified by amendment in the absence of watershed analysis where stream reach or site-specific data support the change. In all cases, the rationale supporting RHCA widths and their effects would be documented.

Standard Widths Defining Interim RHCAs

The four categories of stream or water body and the standard widths for each are:

Category 1 - **Fish-bearing streams**: Interim RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet, including both sides of the stream channel), whichever is greatest.

Category 2 - **Permanently flowing non-fish-bearing streams**: Interim RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active stream

channel to the top of the inner gorge, or to the outer edges of the 100-year flood plain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greatest.

Category 3 - **Ponds, lakes, reservoirs, and wetlands greater than 1 acre**: Interim RHCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the extent of moderately and highly unstable areas, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond or lake, whichever is greatest.

Category 4 - **Seasonally flowing or intermittent streams, wetlands less than 1 acre, landslides, and landslide-prone areas**: This category includes features with high variability in size and site-specific characteristics. At a minimum the interim RHCAs must include:

a. the extent of landslides and landslide-prone areas

b. the intermittent stream channel and the area to the top of the inner gorge

c. the intermittent stream channel or wetland and the area to the outer edges of the riparian vegetation

d. for Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest

e. for watersheds not identified as Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one-half site potential tree, or 50 feet slope distance, whichever is greatest

In non-forested rangeland ecosystems, the interim RHCA width for permanently flowing streams in categories 1 and 2 is the extent of the 100-year flood plain.

Standards and Guidelines

Project and site-specific standards and guidelines listed below would apply to all RHCAs and to projects and activities in areas outside RHCAs that would degrade them. The combination of the standards and guidelines for RHCAs specified below with the standards and guidelines of existing forest plans and LUPs would provide a benchmark for management actions that reflects increased sensitivities and a commitment to ecosystem management.

Under Alternative B, the standards and guidelines would be applied only watersheds with occupied bull trout habitat. Under Alternative D, the standards and guidelines listed below would be applied to the entire geographic area for the project. Due to the short-term duration of this interim direction, provisions for development and implementation of road/transportation management plans and the relocation, elimination, or reconstruction of existing roads, facilities, and other improvements (i.e., RF-2 c, RF-3 a and c, RF-4, RF-5, GM-2, RM-1, and MM-2) would be initiated but would be unlikely to be completed during the interim period. Where existing roads, facilities, and other improvements found to be causing an unacceptable risk cannot be relocated, eliminated, or reconstructed, those improvements would be closed. Also, due to the short-term duration of this direction, adjustments to management not within

the sole discretion of the Agencies (i.e., RF-1, LH-3, RA-1, WR-2, FW-3, and FW-4) would be initiated but would be unlikely to be completed during the interim period.

The standards and guidelines under the Inland Native Fish Strategy have the same intent as the 38 standards and guidelines under the Idaho Conservation Strategy. The Inland Native Fish Strategy has one additional standard and guideline (RA-4), related to storage of fuels and refueling in RHCA's.

Timber Management

TM-1 Prohibit timber harvest, including fuelwood cutting, in Riparian Habitat Conservation Areas, except as described below.

a. Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting in Riparian Habitat Conservation Areas only where present and future woody debris needs are met, where cutting would not retard or prevent attainment of other Riparian Management Objectives, and where adverse effects can be avoided to inland native fish. For priority watersheds, complete watershed analysis prior to salvage cutting in RHCAs.

b. Apply silvicultural practices for Riparian Habitat Conservation Areas to acquire desired vegetation characteristics where needed to attain Riparian Management Objectives. Apply silvicultural practices in a manner that does not retard attainment of Riparian Management Objectives and that avoids adverse effects on inland native fish.

Roads Management

RF-1 Cooperate with Federal, Tribal, State, and county agencies, and cost-share partners to achieve consistency in road design, operation, and maintenance necessary to attain Riparian Management Objectives.

RF-2 For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by:

a. completing watershed analyses prior to construction of new roads or landings in Riparian Habitat Conservation Areas within priority watersheds.

b. minimizing road and landing locations in Riparian Habitat Conservation Areas.

c. initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan:

1. Road design criteria, elements, and standards that govern construction and reconstruction.

2. Road management objectives for each road.

3. Criteria that govern road operation, maintenance, and management.

4. Requirements for pre-, during-, and post-storm inspections and maintenance.

5. Regulation of traffic during wet periods to minimize erosion and sediment delivery and accomplish other objectives.

6. Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control.

7. Mitigation plans for road failures.

d. avoiding sediment delivery to streams from the road surface.

1. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe.

2. Route road drainage away from potentially unstable stream channels, fills, and hillslopes.

e. avoiding disruption of natural hydrologic flow paths.

f. avoiding sidecasting of soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in priority watersheds.

RF-3 Determine the influence of each road on the Riparian Management Objectives. Meet Riparian Management Objectives and avoid adverse effects on inland native fish by:

a. reconstructing road and drainage features that do not meet design criteria or operation and maintenance standards, or that have been shown to be less effective than designed for controlling sediment delivery, or that retard attainment of Riparian Management Objectives, or do not protect priority watersheds from increased sedimentation.

b. prioritizing reconstruction based on the current and potential damage to inland native fish and their priority watersheds, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of Riparian Habitat Conservation Areas.

c. closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to inland native fish in priority watersheds, and the ecological value of the riparian resources affected.

RF-4 Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria, or

that have been shown to be less effective than designed for controlling erosion, or that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds from increased sedimentation. Base priority for upgrading on risks in priority watersheds and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

RF-5 Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

Grazing Management

GM-1 Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of Riparian Management Objectives or are likely to adversely affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting Riparian Management Objectives.

GM-2 Locate new livestock handling and/or management facilities outside of Riparian Habitat Conservation Areas. For existing livestock handling facilities inside the Riparian Habitat Conservation Areas, assure that facilities do not prevent attainment of Riparian Management Objectives. Relocate or close facilities where these objectives cannot be met.

GM-3 Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that would not retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish.

GM-4 Adjust wild horse and burro management to avoid impacts that prevent attainment of Riparian Management Objectives or adversely affect inland native fish.

Recreation Management

RM-1 Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Riparian Management Objectives and avoids adverse effects on inland native fish. Complete watershed analysis prior to construction of new recreation facilities in Riparian Habitat Conservation Areas within priority watersheds. For existing recreation facilities inside Riparian Habitat Conservation Areas, assure that the facilities or use of the facilities would not prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Relocate or close recreation facilities where Riparian Management Objectives cannot be met or adverse effects on inland native fish can not be avoided.

RM-2 Adjust dispersed and developed recreation practices that retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting Riparian Management Objectives and avoiding adverse effects on inland native fish, eliminate the practice or occupancy.

RM-3 Address attainment of Riparian Management Objectives and potential effect on inland native fish in Wild and Scenic Rivers, Wilderness, and other Recreation Management plans.

Minerals Management

MM-1 Avoid adverse effects to inland native fish species habitat from mineral operations. If the Notice of Intent indicates a mineral operation would be located in a Riparian Habitat Conservation Area, or could affect attainment of Riparian Management Objectives, or adversely affect inland native fish, require a reclamation plan, approved Plan of Operations (or other such governing document), and reclamation bond. For effects that cannot be avoided, such plans and bonds must address the costs of removing facilities, equipment, and materials; recontouring disturbed areas to near pre-mining topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvage and replacement of topsoil; and seedbed preparation and revegetation to attain Riparian Management Objectives and avoid adverse effects on inland native fish. Ensure Reclamation Plans contain measurable attainment and bond release criteria for each reclamation activity.

MM-2 Locate structures, support facilities, and roads outside Riparian Habitat Conservation Areas. Where no alternative to siting facilities in Riparian Habitat Conservation Areas exists, locate and construct the facilities in ways that avoid impacts to Riparian Habitat Conservation Areas and streams and adverse effects on inland native fish. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate and revegetate roads no longer required for mineral or land management activities.

MM-3 Prohibit solid and sanitary waste facilities in Riparian Habitat Conservation Areas. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Habitat Conservation Areas exists, and releases can be prevented and stability can be ensured, then:

a. analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.

b. locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Habitat Conservation Areas.

c. monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to inland native fish and to attain Riparian Management Objectives.

d. reclaim and monitor waste facilities to assure chemical and physical stability and revegetation to avoid adverse effects to inland native fish, and to attain the Riparian Management Objectives.

e. require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.

MM-4 For leasable minerals, prohibit surface occupancy within Riparian Habitat Conservation Areas for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and Riparian Management Objectives can be attained and adverse effects to inland native fish can be avoided. Adjust the operating plans of existing contracts to (1) eliminate impacts that prevent attainment of Riparian Management Objectives and (2) avoid adverse effects to inland native fish.

MM-5 Permit sand and gravel mining and extraction within Riparian Habitat Conservation Areas only if no alternatives exist, if the action(s) would not retard or prevent attainment of Riparian Management Objectives, and adverse effects to inland native fish can be avoided.

MM-6 Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of Riparian Management Objectives and avoid adverse effects on inland native fish.

Fire/Fuels Management

FM-1 Design fuel treatment and fire suppression strategies, practices, and actions so as not to prevent attainment of Riparian Management Objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could perpetuate or be damaging to long-term ecosystem function or inland native fish.

FM-2 Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of Riparian Habitat Conservation Areas. If the only suitable location for such activities is within the Riparian Habitat Conservation Area, an exemption may be granted following a review and recommendation by a resource advisor. The advisor would prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to inland native fish a primary goal. Use an interdisciplinary team, including a fishery biologist, to predetermine incident base and helibase locations during presuppression planning.

FM-3 Avoid delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor and a fishery biologist, when the action agency determines an escape fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.

FM-4 Design prescribed burn projects and prescriptions to contribute to the attainment of the Riparian Management Objectives.

FM-5 Immediately establish an emergency team to develop a rehabilitation treatment plan to attain Riparian Management Objectives and avoid adverse effects on inland native fish whenever Riparian Habitat Conservation Areas are significantly damaged by a wildfire or a prescribed fire burning out of prescription.

Lands

LH-1 Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the appropriate State agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate State agencies.

LH-2 Locate new hydroelectric ancillary facilities outside Riparian Habitat Conservation Areas. For existing ancillary facilities inside the RHCA that are essential to proper management, provide recommendations to FERC to assure that the facilities would not prevent attainment of the Riparian Management Objectives and that adverse effects on inland native fish are avoided. Where these objectives cannot be met, provide recommendations to FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in Riparian Habitat Conservation Areas to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish.

LH-3 Issue leases, permits, rights-of-way, and easements to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish. Where the authority to do so was retained, adjust existing leases, permits, rights-of-way, and easements to eliminate effects that would retard or prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. If adjustments are not effective, eliminate the activity. Where the authority to adjust was not retained, negotiate to make changes in existing leases, permits, rights-of-way, and easements to eliminate effects that would prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. Priority for modifying existing leases, permits, rights-of-way, and easements would be based on the current and potential adverse effects on inland native fish and the ecological value of the riparian resources affected.

LH-4 Use land acquisition, exchange, and conservation easements to meet Riparian Management Objectives and facilitate restoration of fish stocks and other species at risk of extinction.

General Riparian Area Management

RA-1 Identify and cooperate with Federal, Tribal, State and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.

RA-2 Trees may be felled in Riparian Habitat Conservation Areas when they pose a safety risk. Keep felled trees on site when needed to meet woody debris objectives.

RA-3 Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish.

RA-4 Prohibit storage of fuels and other toxicants within Riparian Habitat Conservation Areas. Prohibit refueling within Riparian Habitat Conservation Areas unless there are no other alternatives. Refueling sites within a Riparian Habitat Conservation Area must be approved

by the Forest Service or Bureau of Land Management and have an approved spill containment plan.

RA-5 Locate water drafting sites to avoid adverse effects to inland native fish and instream flows, and in a manner that does not retard or prevent attainment of Riparian Management Objectives.

Watershed and Habitat Restoration

WR-1 Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and contributes to attainment of Riparian Management Objectives.

WR-2 Cooperate with Federal, State, local, and Tribal agencies, and private landowners to develop watershed-based Coordinated Resource Management Plans (CRMPs) or other cooperative agreements to meet Riparian Management Objectives.

Fisheries and Wildlife Restoration

FW-1 Design and implement fish and wildlife habitat restoration and enhancement actions in a manner that contributes to attainment of the Riparian Management Objectives.

FW-2 Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the Riparian Management Objectives or adversely affect inland native fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside Riparian Habitat Conservation Areas, assure that Riparian Management Objectives are met and adverse effects on inland native fish are avoided. Where Riparian Management Objectives cannot be met or adverse effects on inland native fish avoided, relocate or close such facilities.

FW-3 Cooperate with Federal, Tribal, and State wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of the Riparian Management Objectives or adversely affect inland native fish.

FW-4 Cooperate with Federal, Tribal, and State fish management agencies to identify and eliminate adverse effects on native fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

Priority Watersheds

Priority watersheds have been designated in Oregon, Idaho, Montana, Nevada, and Washington. Criteria considered to designate priority watersheds in the 22 National Forests were:

(1) watersheds with excellent habitat or strong assemblages of inland native fish, with a priority on bull trout populations; or

(2) watersheds that provide for meta-population objectives; or

(3) degraded watersheds with a high restoration potential.

The intent of designating priority watersheds is to provide a pattern of protection across the landscape where habitat for inland native fish would receive special attention and treatment. Areas in good condition would serve as anchors for the potential recovery of depressed stocks, and also would provide colonists for adjacent areas where habitat had been degraded by land management or natural events. Those areas of lower quality habitat with high potential for restoration would become future sources of good habitat with the implementation of a comprehensive restoration program. Priority watersheds would have the highest priority for restoration, monitoring and watershed analysis.

Within priority watersheds, ongoing activities would also be screened. This screening effort is a way to monitor ongoing activities to categorize the extent of risk they represent to bull trout habitat or populations. Projects determined to be a high or medium risk would be reviewed by Forest Supervisors and, subject to valid existing rights, they have three options to pursue:

1. Cancel the action,
2. Modify the action to reduce the risk, or
3. Postpone the action until the final direction is issued.

High-risk projects would have the highest priority and should be modified within three months of the decision.

Watershed Analysis

Watershed analysis is a systematic procedure for determining how a watershed functions in relation to its physical and biological components. This is accomplished through consideration of history, processes, landform, and condition. Generally, watershed analysis would be initiated where the interim RMOs and the interim RHCA widths do not adequately reflect specific watershed capabilities, or as required in the standards and guidelines before specific projects are initiated. The guidelines and procedural manuals being developed by the Interagency Watershed Analysis Coordination Team and other potentially relevant procedures (e.g., the Cumulative Watershed Effects Process for Idaho, etc.) would be considered and used, where appropriate, in development of a watershed analysis protocol. Eventually, any watershed analysis would follow the final *Federal Guide for Ecosystem Analysis at a Watershed Scale.*

Watershed analysis is a prerequisite for determining which processes and parts of the landscape affect fish and riparian habitat, and is essential for defining watershed- specific boundaries for Riparian Habitat Conservation Areas and for Riparian Management Objectives. Watershed analysis can form the basis for evaluating cumulative watershed effects; defining watershed restoration needs, goals and objectives; implementing restoration strategies; and monitoring the effectiveness of watershed protection measures, depending upon the issues to be addressed in the watershed analysis. Watershed analysis employs the perspectives and tools of multiple disciplines, especially geomorphology, hydrology, geology, aquatic and terrestrial ecology, and soil science. It is the framework for understanding and carrying out land use activities within a geomorphic context, and is a major component of the evolving science of ecosystem analysis.

Watershed analysis consists of a sequence of activities designed to identify and interpret the processes operating in a specific landscape. Since the concept of watershed analysis was first introduced, there has been much discussion as to the procedures and detail that a watershed analysis should complete.

It is recognized that the components and intensity of the analysis would vary depending on level of activity and significance of issues involved. Following are the general process steps for watershed analysis currently being considered:

1. Characterize the Watershed:
   a. Place the watershed in a broader geographic context
   b. Highlight dominant features and processes with the watershed.

2. Identify Issues:
   a. Key questions and resource components
   b. Determine which issues are appropriate to analyze at this scale.

3. Describe Current and Historic Condition.

4. Establish ecologically and geomorphically appropriate reference conditions for the watershed.

5. Provide a comparison and interpretation of the current, historic, and reference conditions.

6. Provide conclusions and recommendations to management.

The process described above is significantly streamlined to allow managers to focus watershed analysis to address specific issues and management needs. This can include modification of RMO's, RHCA's, or identification of restoration and monitoring needs. The state-of-the art for watershed analysis is still developing and the processes would need to flexible.

Watershed Restoration

Watershed restoration comprises actions taken to improve the current conditions of watersheds to restore degraded habitat, and to provide long-term protection to natural resources, including riparian and aquatic resources. Alternatives B and D do not try to develop a restoration strategy given the short time period for implementation of this interim direction. It is expected that Forests would utilize the information from watershed analysis and project development to initiate restoration projects where appropriate and funds are available. Priority watersheds would have the highest priority for restoration efforts.

Monitoring

Monitoring is an important component of the proposed interim direction. The primarly focus is to verify that the standards and guidelines were applied during the project implementation. Monitoring to assess whether those protective measures are effective to attain Riparian Goals and Management Objectives would be a lower priority given the short time frame for this interim direction. Complex ecological processes and long time frames are inherent in the RMOs, and it is unrealistic to expect that the planned monitoring would generate conclusive results within 18 months. Nevertheless, it is critical to begin monitoring. Forests are urged to utilize current Forest Plan monitoring efforts, and Section 7 Monitoring results from PACFISH areas where on the same Forest to establish a baseline for determining the effectiveness of these standards and guidelines. Priority watersheds would have the highest priority for monitoring efforts.

A third type of monitoring (validation monitoring) is intended to ascertain the validity of the assumptions used in developing the interim direction. Because of the short-term nature of the management direction, no specific requirements are included for validation monitoring.

ALTERNATIVE C

Alternative C is based on the "National Forest Riparian and Aquatic Habitat Management Strategy (FISH 2000)" developed by the Northwest Forest Resource Council in January, 1995. FISH 2000 was submitted by many commentors as an alternative that should be evaluated in detail. Following are the key elements of the strategy. FISH 2000 is included in the planning record.

This alternative does not establish generalized Riparian Management Objectives or Riparian Habitat Conservation Areas. Rather these are established through assessment of key processes related to the forest canopy and shade, large woody debris recruitment, sediment from surface erosion, sediment from mass failures, and gravel recruitment. As described in FISH 2000 (page iv), the process is implemented in three steps:

1. Watershed scale riparian function assessment would establish current riparian conditions, riparian input processes, areas not functioning within ecological potential, and appropriate riparian goals.

2. Project and site-specific assessment determines the extent to which riparian functions are currently provided and identify management actions that would maintain them.

3. Where riparian function relationships and management needs remain unclear, FISH 2000 requires a more comprehensive watershed analysis be conducted to adjust RHCA's, RMO's, and Standards and Guidelines.

This alternative articulated several goals for watershed, riparian, and stream channel conditions. These goals are the same as those described for Alternatives B and D, on pages E-2 and E-3 of this Appendix.

FISH 2000 provides standards and guidelines only for the management of resources within the RHCA's. For the purposes of this alternative, the current Forest Plan management direction for other resources and any existing State Best Management Practices would be considered the management direction to be applied.

Refer to Table E-4, below, for the Standards and Guidelines guiding project development under Alternative C.

ALTERNATIVE E

Alternative E would be similar to Alternative D, in that it would apply the same riparian goals, interim Riparian Management Objectives, Riparian Habitat Conservation Areas, and standards and guidelines for the entire area of the project. Based on the results of scoping, it was determined that another alternative was needed to provide stronger direction in the following areas:

1. A Riparian Management Objective for sediment substrate would be established to be <20% fine sediment in spawning habitat.

2. A Riparian Management Objective for streambank stability would be established ensuring that at least 90% of all streambanks would be stable.

3. Watershed analysis, although conducted as described for Alternatives B and D, must be completed in Priority Watersheds prior to initiation of any new projects and activities therein.

4. Subject to valid existing rights, prohibit all road construction and timber sales in unroaded areas 1,000 acres or larger or unroaded areas smaller than 1,000 acres that are biologically significant.

5. The screening process described for Alternatives B and D would be applied to all ongoing projects and activities.

6. All watershed analysis findings that would change RMO's, RHCA's, or standards and guidelines would undergo peer review.

Table E-4. Interim standards and guidelines design considerations.

Function	RHCA Requirements	Activity	Timber Management Considerations
Water/bank stability: constrained channels	Up to 20 feet	Harvesting, Grazing[1]	20-ft. no-cut zone around all fish-bearing streams; selectively harvest 20 ft. up to 100 ft. Small streams, leave trees <8 inches dbh[2]
Water/bank stability: unconstrained channels	Up to 1 effective tree height around all active channel migration zones.	Harvesting, Grazing	20-ft. no-cut zone around all fish-bearing streams; selectively harvest 20 ft. up to 100 ft. Small streams, leave trees <8 inches dbh
Canopy	Up to 75 feet	Harvesting, Grazing	Selectively harvest trees not required for shade and temperature control according to locally applicable models (e.g., WA canopy-elev-temp model for E. WA).
Large Woody Debris (LWD)	Up to 1 effective tree height. Around all active channel migration zonees.	Harvesting	Selectively harvest trees not required for LWD recruitment. For example, see Oregon Forest Practices Rules for standing leave-tree needs.
Litter	100 feet for medium to large streams, 50 feet for small streams. Around all active channel migration zones.	Harvesting	Selectively harvest trees in accordance with requirements for shade and LWD.
Nutrients	100 feet for medium to large streams, 50 feet for small streams. Around all active channel migration zones.	Harvesting, Grazing, Roads, Slash Disposal	No piling and burning of slash. Minimize broadcast burning consistent with ecosystem management fire ecology. Minimize soil disturbance.
Sediment from Surface Erosion	Roads: 150 feet. Ground-based skidding: 50 feet.	Harvesting, Grazing, Roads	Selectively harvest within 75 ft. of large streams, 20 ft. of small streams. No ground-skidding equipment within 50 ft. Minimize subsoil disturbance. Minimize location of roads within 150 ft. and mitigate erosion.
Sediment from Mass Failures	High risk sites.	Harvesting, Grazing, Roads	Stabilize fills, carefully maintain culverts and drainage systems. Locate and construct roads only when failures will not occur. Remove trees when slope instability will not result.
Fuel Loads/Wildfires Vegetative Community	Riparian and stream-adjacent sites	Harvesting, Thinning, Prescribed Burning	Prevent catastrophic wildfires. Return RHCAs to a more healthy species mix, density and lower fuel load.
Gravel	Bank erosion and mass failure sites.	Harvesting, Grazing, Roads	Conduct management activities so as not to prevent natural process from providing necessaru gravels.

[1] Grazing is a key riparian management consideration, but grazing standards and guidelines are not included within this table.
[2] Diameter at breast height.

APPENDIX F

Biological Assessments and Evaluations

This appendix displays the Biological Assessments and Evaluations that have been prepared to determine the effects to Threatened, Endangered, Sensitive and Candidate species, as required by the Endangered Species Act. A list of Threatened, Endangered, Sensitive and Candidate species has been provided by the US Fish and Wildlife Service, and is located at the end of this appendix.

BIOLOGICAL ASSESSMENT
FOR THE
ENVIRONMENTAL ASSESSMENT FOR THE INTERIM STRATEGY FOR MANAGING INLAND NATIVE FISH WATERSHEDS ON U.S.D.A. FOREST SERVICE MANAGED LANDS IN EASTERN OREGON AND WASHINGTON, IDAHO, AND PORTIONS OF MONTANA AND NEVADA

A. INTRODUCTION

This Biological Assessment (BA) analyses the potential effects, from a programmatic standpoint, of the preferred alternative developed in this Environmental Assessment (EA) on fish species listed under the Endangered Species Act (ESA). The preferred alternative considered and developed in the EA would result in amendments, on an interim basis, of Forest Service Land and Resource Management Plans.

B. AREA COVERED BY THE EVALUATION

This evaluation will only address those species and their habitats known or suspected to be on National Forest System lands within the geographic area of the Eastside EIS and the Upper Columbia River Basin EIS and outside that area covered by the direction of PACFISH. Administrative units partially or wholly included in this evaluation are:

STATE	National Forests
Oregon	Deschutes, Malheur, Ochoco, Wallowa-Whitman Winema, Fremont
Idaho	Idaho Panhandle, Clearwater, Boise, Caribou, Challis, Payette, Sawtooth
Montana	Bitterroot, Deerlodge, Flathead, Helena, Kootenai, Lolo
Washington	Okanogan, Colville
Nevada	Humboldt

For a more specific description of the area covered refer to the EA.

C. SPECIES CONSIDERED IN THIS EVALUATION

[(E)-ENDANGERED, (T)-THREATENED, (CH)-CRITICAL HABITAT]

(E, CH) Lost River Sucker, *Deltistes luxatus*; (E, CH) Shortnose Sucker, *Chasmistes brevirostis*; (E) White Sturgeon, *Acipenser transmontanus* (Kootenai River population); (E, CH) Warner Sucker (*Catostomus warnerensis*).

D. LIMITATIONS OF THIS EVALUATIONS

The BA process was designed to evaluate the potential effects of site-specific activities on listed and sensitive species and their habitats. The process does not lend itself well to assessing potential effects of a programmatic decision. Potential, site-specific effects of implementing Alternative D, on any given species or habitat, will be evaluated in a second-level project analysis. Therefore, the discussion in this BA will be qualitiative and not quantitative.

E. DESCRIPTION OF ALTERNATIVE D

Alternative D would apply a consistent set of standards and guidelines to the Riparian Habitat Conservation Areas. Alternative D most accurately represents the proposed action.

Standards and guidelines would be based on the concepts in PACFISH and the Idaho Conservation Strategy for Bull Trout. This set of standards and guidelines would be consistent across all Forests but could be adjusted through watershed analysis and/or site-specific project analysis. The standards and guidelines would be applied to the entire geographic area. Priority watersheds would be identified for screening, and prioritization of recovery and monitoring efforts. Watershed analysis requirements would basically apply to any road construction, recreation facility construction, or salvage logging projects in RHCAs within priority watersheds, or for changing the riparian management objectives or RHCA widths.

F. POTENTIAL EFFECTS OF ALTERNATIVE D ON LISTED SPECIES OR CRITICAL HABITAT

The proposed action is to implement interim direction through the amendment of existing Plans, that would establish interim Riparian Habitat Conservation Areas (RHCA's) and standards and guidelines for managing resources within them. By definition, the RHCAs would be applied to that part of a watershed needed to maintian the hydrologic, geomorphic, and ecological process of riparian ecosystems.

Implementation of Action Alternative D, on a project by project basis, could lead to potential effects to listed species. Due to the interim nature of RHCAs, the constraining nature of the associated direction applied to activities within them, and the intent of improving habitat conditions for inland native fish, the degree of potential direct and indirect effects, during the interim period, from Alternative D are considered to be insignificant.

The criteria for evaluating potential effects to designated critical habitat is whether or not the action would result is adverse modification or destruction of critical habitat. The programmatic nature of Alternative D does not allow for specific evaluation of effects. However, the implementation of Alternative D would have the potential to "not likely to adversely effect" any such critical habitat within the RHCAs, and would not result in the adverse modification or destruction of critical habitat.

G. POTENTIAL EFFECTS TO PROPOSED SPECIES

The question to be answered is whether or not the implementation of Alternative D would jeopardize the continued existence of proposed species. Due to the interim nature of the RHCAs, the constraining nature of the associated direction applied to activities within them, and the intent of improving habitat conditions for inland native fish, the implementation of Alternative D would not result in the jeopardy of any proposed species. The improvement of habitat conditions for inland native fish would also result in improvement of habitat conditions for other riparian dependent species.

H. INTERRELATED AND INTERDEPENDENT ACTIONS

There are no interrelated or interdependent actions associated with the implementation of Alternative D.

I. CUMULATIVE EFFECTS

The proposed action is part of a large array of activities taking place throughout the range on inland native fish, within the area covered by this analysis. In addition to Federal interests, private, state, tribal and local interests are interspersed within the area which are essentially unregulated by federal agencies. The action of private land owners include livestock management and timber management, mining, agriculture, recreation and private residences, and other commercial uses. The type of actions conducted or allowed by State agencies are similar to those on private lands. State agencies and a number of private land owners are taking positive steps to reduce potential impacts to listed species; however, it is impossible to estimate the potential cumulative effects associated with these actions due to the interim nature of the proposed action.

J. DETERMINATION

It has been determined that the implementation of Alternative D, which would amend the Forest Plans on an interim basis, would constitute a "not likely to adversly effect" to listed species within the inland native fish watersheds covered by this analysis.

David Cross
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BIOLOGICAL EVALUATION
FOR THE
ENVIRONMENTAL ASSESSMENT FOR THE INTERIM STRATEGY FOR
MANAGING INLAND NATIVE FISH WATERSHEDS ON U.S.D.A. FOREST SERVICE
MANAGED LANDS IN EASTERN OREGON AND WASHINGTON, IDAHO,
PORTIONS OF MONTANA, AND NEVADA

A. INTRODUCTION

This Biological Evaluation (BE) analyses the potential effects, from a programatic standpoint, of the alternatives considered and developed in the Environmental Assessment (EA) on species identified as sensitive by the U.S.D.A. Forest Service (FS). The purpose of this evaluation is to determine if implementation of the alternatives considered and developed in the EA would result in a loss of viability of sensitive species or move sensitive species toward federal listing under the ESA.

B. AREA COVERED BY THE EVALUATION

This evaluation will only address those species and their habitats known or suspected to be on U.S.D.A. Forest Service managed lands within the geographic area of the Eastside EIS and the Upper Columbia River Basin EIS and outside that area covered by the direction of PACFISH. Administrative units partially or wholly included in this evaluation are:

STATE	National Forests
Oregon	Deschutes, Malheur, Ochoco, Wallowa-Whitman Winema, Fremont
Idaho	Idaho Panhandle, Clearwater, Boise, Caribou, Challis, Payette, Sawtooth
Montana	Bitterroot, Deerlodge, Flathead, Helena, Kootenai, Lolo
Washington	Okanogan, Colville
Nevada	Humboldt

For a more specific description of the area covered refer to the EA.

C. SPECIES CONSIDERED IN THIS EVLAUATION

[(S)-SENSITIVE]

(S) Bull Trout, *Salvelinus confluentus*, (S) Westslope Cutthroat Trout, *Oncorhynchus clarki lewisi*; (S) Wood River Sculpin, *Cottus leiopomus*; (S) Shorthead Sculpin, *Cottus confusus*; (S) Torrent Sculpin, *Cottus rhotheus*; (S) Ling, *Lota lota*; (S) Redband Trout, *Oncorhynchus mykiss sp.*; (S)

Spotted frog, Rana pretiosa; (S) Coeur d'Alene Salamander, Plethodon vandykei indahoensis.

(S)Oregon Lakes tui chub, Gila bicolor oregonensis; Goose Lake sucker, Catostomus occidentalis lacusanserinus; Klamath large scale sucker, Catostomus synderi; Malheur mottled sculpin, Cottus bairdi ssp.; Pit sculpin, Cottus pitensis; Slender sculpin, Cottus tenuis, northwest pond turtle, Clemmys marmorata marmorata

2. LIMITATIONS OF THIS EVALUATION

The BE process was designed to evaluate the potential effects of site-specific activities on sensitive species and their habitats. The process does not lend itself well to assessing potential effects of a programmatic decision. Potential, site-specific effects of implementing any of the alternatives, on any given species or habitat, will be evaluated in a second level project analysis. Therefore, the discussion in this BE will be qualitative and not quantitative.

E. POTENTIAL EFFECTS OF THE ALTERNATIVES ON SENSITIVE SPECIES

As stated above the criterion for evaluating potential effects to sensitive species are:

1. Would implementation of the alternative result in a loss of viability or distribution throughout the planning area of the sensitive species; or

2. Would implementation of the alternatives move sensitive species toward federal listing under the ESA.

An assumption made here is that all regulations, policies, and direction of the Agencies would follow with the implementation of any alternative. Therefore, none of the alternatives, if fully implemented, would fail to meet the two criterion. However, impacts to sensitive species could occur, to some extent, with the implementation of the alternatives. Specific impacts to a given sensitive species cannot be determined due to the programmatic nature of the interim direction.

Relative to the No Action Alternative, the Action Alternatives, with more constraining interim direction, would have potentially less impacts to sensitive aquatic species. Among the Action Alternatives, Alternative E has the least risk followed by Alternative D with Alternatives C and B having the most risk.

David Cross

David Cross
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Coeur d'Alene, Idaho

BIOLOGICAL ASSESSMENT
FOR THE
ENVIRONMENTAL ASSESSMENT FOR THE INTERIM STRATEGY FOR MANAGING INLAND NATIVE FISH WATERSHEDS ON U.S.D.A. FOREST SERVICE MANAGED LANDS IN EASTERN OREGON AND WASHINGTON, IDAHO, AND PORTIONS OF MONTANA, AND NEVADA

A. INTRODUCTION

This Biological Assessment (BA) analyses the potential effects, from a programmatic standpoint, of Alternative D of the Environmental Assessment (EA) on terrestrial species listed under the Endangered Species Act (ESA) and designated critical habitats. Implementation of Alternative D would result in amendments, on an interim basis, of Forest Service Land and Resource Management Plans (LRMPs).

B. AREA COVERED BY THE EVALUATION

This BA will only address those species and their habitats known or suspected to be within the U.S.D.A. Forest Service managed lands within the geographic area of the Eastside EIS and the Upper Columbia River Basin EIS and outside that area covered by the direction of PACFISH. Administrative units partially or wholly included in this evaluation are:

STATE	NATIONAL FORESTS
Oregon	Deschutes, Malheur, Ochoco, Wallowa-Whitman Winema, Fremont
Idaho	Idaho Panhandle, Clearwater, Nez Perce, Boise, Caribou, Challis, Payette, Sawtooth
Montana	Bitterroot, Deerlodge, Flathead, Helena, Kootenai, Lolo
Washington	Okanogan, Colville

For a more specific description of the area covered, refer to the EA.

C. SPECIES CONSIDERED IN THIS EVLAUATION

For a complete listing of federally listed, proposed species and critical habitats potentially affected by the proposal, refer to the Environmental Assessment Appendix.

D. LIMITATIONS OF THIS ASSESSMENT

The BA process was designed to evaluate the potential effects of site-specific activities on listed species and their habitats. The process does not lend itself well to assessing potential effects of a programmatic decision. Potential, site-specific effects of implementing Alternative D on any given listed, proposed species or critical habitat, would be evaluated in second level project analyses. Therefore, the discussions in this BA will be qualitative, not quantitative.

E. DESCRIPTION OF ALTERNATIVE D

(For a full description of the alternatives, see the EA.)

The proposed action is to implement interim direction through the amendment of existing Plans, that would establish interim Riparian Habitat Conservation Areas (RHCA's) and standards and guidelines for managing resources within them. The RHCA's by definition would be applied to that part of a watershed needed to maintian the hydrologic, geomorphic, and ecological processes of riparian ecosystems.

Implementation of the No Action Alternative would continue the direction outlined in the existing Forest Plans. On a project by project basis, the implementation of the current direction has the potential to affect some or all of the species listed above and/or designated critical habitat. Therefore, the implementation of the No Action Alternative would constitute a "may effect, but not likely to adversely affect" conclusion under the ESA. Implementation of the four Action Alternatives, on a project by project basis, could lead to potential effects to listed or proposed species and/or designated critical habitats. Therefore, the implementation of the Action Alternatives would constitute a "may affect, but not likely to adversely affect" conclusion under the ESA.

The four Action Alternatives would have less of an impact than the No Action Alternative due to the more constraining nature of the proposed interim direction. Due to the interim nature of the RHCA's and a lack of site-specific information, the relative degree of potential effects from the Action Alternatives is assumed to be inversely related to the land disturbance constraints that would result from the implementaion of proposed standards and guidelines, and the actions those constraints are applied to. Therefore, Alternative E, being the most conservative and applying to all ongoing and proposed actions, would have the least risk followed by Alternative D, Alternative C and Alternative B which would have the most risk.

F. POTENTIAL EFFECTS OF THE ALTERNATIVES ON SENSITIVE SPECIES

As stated above, the criterion for evaluating potential effects to sensitive species are:

1. Would implementation of the alternatives result in a loss of viability or distribution throughout the planning area of the sensitive species; or

2. Would implementation of the alternatives move sensitive species toward federal listing under the ESA.

An assumption made here is that all regulations, policies, and direction of the Forest Service would follow with the implementation of any alternative. Therefore, none of the alternatives, if fully implemented, would fail to meet the two criterion. However, impacts to sensitive species could occur, to some extent, with the implementation of the alternatives. As with the listed species, specific impacts to a given sensitive species cannot be determined due to the programmatic nature of the interim direction.

Relative to the No Action Alternative, the Action Alternatives, with more constraining interim direction, would have potentially less impacts to

sensitive terrestrial species. Among the Action Alternatives, Alternative E has the least risk followed by Alternative D with Alternatives C and B having the most risk.

Glen S. Blair 5-31-95

Glen S. Blair Date
Wildlife Biologist
U.S.D.A. Forest Service
Grangeville, Idaho

BIOLOGICAL EVALUATION
FOR THE
ENVIRONMENTAL ASSESSMENT FOR THE INTERIM STRATEGY FOR MANAGING INLAND NATIVE FISH WATERSHEDS ON U.S.D.A. FOREST SERVICE MANAGED LANDS IN EASTERN OREGON AND WASHINGTON, IDAHO, AND PORTIONS OF MONTANA, AND NEVADA

A. INTRODUCTION

This Biological Evaluation (BE) analyses the potential effects, from a programmatic standpoint, of the alternatives considered and developed in the Environmental Assessment (EA) on terrestrial species listed under the Endangered Species Act (ESA) and those species identified as sensitive by the U.S.D.A. Forest Service (FS). The purpose of this evaluation is to determine if implementation of the alternatives considered and developed in the EA would result in a "may affect" or "no effect" to the species and/or critical habitat listed or proposed under the ESA; the evaluation will also determine if implementation of the alternatives considered and developed in the EA would result in a loss of viability of the sensitive species or move sensitive species toward federal listing under the ESA.

B. AREA COVERED BY THE EVALUATION

This evaluation will only address those species and their habitats known or suspected to be on U.S.D.A. Forest Service managed lands within the geographic area of the Eastside EIS and the Upper Columbia River Basin EIS and outside that area covered by the direction of PACFISH. Administrative units partially or wholly included in this evaluation are:

STATE	NATIONAL FORESTS
Oregon	Deschutes, Malheur, Ochoco, Wallowa-Whitman Winema, Fremont
Idaho	Idaho Panhandle, Clearwater, Nez Perce, Boise, Caribou, Challis, Payette, Sawtooth
Montana	Bitterroot, Deerlodge, Flathead, Helena, Kootenai, Lolo
Washington	Okanogan, Colville

For a more specific description of the area covered, refer to the EA.

C. SPECIES CONSIDERED IN THIS EVLAUATION

For a complete listing of federally listed, proposed species and critical habitats potentially affected by this proposal under the ESA, refer to the Environmental Assessment Appendix.

For a list of sensitive species designated by the Forest Service, see the FS Land and Resource Management Plans (LRMPs) for the administrative units listed above. The programmatic nature of this evaluation does not warrant the listing of those species here.

D. LIMITATIONS OF THIS EVALUATION

The BE process was designed to evaluate the potential effects of site-specific activities on listed and sensitive species and their habitats. The process does not lend itself well to assessing potential effects of a programmatic decision. Potential, site-specific effects of implementing any of the alternatives, on any given species or habitat, will be evaluated in a second level project analysis. Therefore, the discussions in this BE will be qualitative, not quantitative.

E. POTENTIAL EFFECTS OF THE ALTERNATIVES ON LISTED AND PROPOSED SPECIES AND CRITICAL HABITAT

(For a full description of the alternatives, see the EA.)
The proposed action is to implement interim direction through the amendment of existing Plans, that would establish interim Riparian Habitat Conservation Areas (RHCA's) and standards and guidelines for managing resources within them. The RHCA's by definition would be applied to that part of a watershed needed to maintian the hydrologic, geomorphic, and ecological processes of riparian ecosystems.

Implementation of the No Action Alternative would continue the direction outlined in the existing Forest Plans. On a project by project basis, the implementation of the current direction has the potential to affect some or all of the species listed above and/or designated critical habitat. Therefore, the implementation of the No Action Alternative would constitute a "may effect, but not likely to adversely affect" conclusion under the ESA. Implementation of the four Action Alternatives, on a project by project basis, could lead to potential effects to listed or proposed species and/or designated critical habitats. Therefore, the implementation of the Action Alternatives would constitute a "may affect, but not likely to adversely affect" conclusion under the ESA.

The four Action Alternatives would have less of an impact than the No Action Alternative due to the more constraining nature of the proposed interim direction. Due to the interim nature of the RHCA's and a lack of site-specific information, the relative degree of potential effects from the Action Alternatives is assumed to be inversely related to the land disturbance constraints that would result from the implementaion of proposed standards and guidelines, and the actions those constraints are applied to. Therefore, Alternative E, being the most conservative and applying to all ongoing and proposed actions, would have the least risk followed by Alternative D, with Alternative C and Alternative B having the most risk.

F. POTENTIAL EFFECTS OF THE ALTERNATIVES ON SENSITIVE SPECIES

As stated above, the criterion for evaluating potential effects to sensitive species are:

1. Would implementation of the alternatives result in a loss of viability or distribution throughout the planning area of the sensitive species; or

2. Would implementation of the alternatives move sensitive species toward federal listing under the ESA.

An assumption made here is that all regulations, policies, and direction of the Forest Service would follow with the implementation of any alternative. Therefore, none of the alternatives, if fully implemented, would fail to meet the two criterion. However, impacts to sensitive species could occur, to some extent, with the implementation of the alternatives. As with the listed species, specific impacts to a given sensitive species cannot be determined due to the programmatic nature of the interim direction.

Relative to the No Action Alternative, the Action Alternatives, with more constraining interim direction, would have potentially less impacts to sensitive terrestrial species. Among the Action Alternatives, Alternative E has the least risk followed by Alternative D with Alternatives C and B having the most risk.

Glen S. Blair 5-31-95

Glen S. Blair Date
Wildlife Biologist
U.S.D.A. Forest Service
Grangeville, Idaho

BIOLOGICAL ASSESSMENT FOR THE

ENVIRONMENTAL ASSESSMENT FOR THE
INLAND NATIVE FISH STRATEGY

USDA FOREST SERVICE

A. INTRODUCTION

This Biological Assessment (BA) analyzes the potential effects, from a programmatic standpoint, of Alternative D of the Environmental Assessment (EA) on plant species listed under the Endangered Species Act (ESA) and/or designated critical habitats. Implementation of Alternative D would result in amendments, on interim basis, of Forest Service Land and Resource Management Plans.

B. AREA COVERED BY THE EVALUATION

This evaluation will only address those plant species and their habitats known or suspected to be within the inland native fish habitat (outside of anadromous fish habitats) on all or portions of 23 National Forests. Those administrative units Are:

Region 1 (Idaho and Montana) - Bitterroot, Clearwater, Deerlodge, Flathead, Helena, Idaho Panhandle, Kootenai, and Lolo.

Region 4 (Idaho and Nevada) - Boise, Caribou, Challis, Humboldt, Payette, and Salmon.

Region 6 (Washington and Oregon) - Colville, Deschutes, Fremont, Malheur, Ochoco, Okanogan, Wallowa-Whitman, and Winema.

For a more specific description of the areas covered refer to the EA.

C. SPECIES CONSIDERED IN THIS EVALUATION

((E)-endangered, (T)-threatened (P)-proposed)

Plant species listed under the ESA are: MacFarland's four-o-clock (*Mirabilis macfarlanei*) (E), marsh sandwort (*Arenaria paludicola*) (E), Gambel's water crest (*Rorippa gambellii*) (E), loch lemond coyete-thistle (*Eryngium constancei*) (E), Hoover's spurge (*Chamaesyce hooveri*) (P), pilose Orcutt grass (*Orcutta pilosa*) (P), slender Orcutt grass (*O. tenuis*) (P), and Greene's tuctoria (*Tuctoria greenei*) (P).

For a list of sensitive species, see the FS Land and Resource Management Plans for the administrative units listed above. The programmatic nature of this evaluation does not warrant the listing of those species here.

D. LIMITATIONS OF THIS EVALUATION

The BA process was designed to evaluate the potential affects of site-specific activities on listed and sensitive species and their habitats (FSM 2672.4 and 2672.42). The process does not lend itself well to assessing potential affects of programmatic decisions. Potential, site-specific effects of implementing any of the alternatives, on any given species or habitat, will be evaluated in a second level project analysis. Therefore, the discussion in this BA will be qualitative, not quantitative.

E. DESCRIPTION OF ALTERNATIVE D

Alternative D specifies a set of standards and guidelines based on the concepts in PACFISH and the Idaho Conservation Strategy for Bull Trout. This set of of standards and guidelines would be consistent across all Forests and would only be adjusted through watershed analysis. Watershed analysis requirements would basically apply to any road construction, recreation facility construction, or salvage logging projects in Riparian Habitat Conservation Areas (RHCA) or for changing the riparian management objectives or RHCA width. The screen for on-going projects would be applied to all on-going projects.

F. POTENTIAL EFFECTS OF ALTERNATIVE D ON LISTED SPECIES OR CRITICAL HABITAT

The proposed action is to implement direction, on an interim basis, through the amendment of existing Plans, that would establish interim RHCA's for inland native fish and standards and guidelines for managing resources within them.

Implementation of Alternative D, on a project by project basis, could lead to potential affects to listed plants species. Due to the interim nature of the RHCA's, the constraining nature of the associated direction applied to activities within them, and the intent of improvement of habitat condition for inland native fish, the degree of potential direct and indirect affects, during the interim period, from Alternative D are considered to be insignificant.

The criteria for evaluating potential affects to designated critical habitat is whether or not the action would result in adverse modification or destruction of critical habitat. The programmatic nature of Alternative D does not allow for specific evaluation of effects. However, the implementation of Alternative D would have the potential to "may affect" any such critical habitats within the RCHA's, but would not result in the adverse modification of distruction of critical habitat.

G. POTENTIAL EFFECTS TO PROPOSED SPECIES

The question to be answered is whether or not the implementation of Alternative D would jeopardize the continued existence of the proposed species. Due to the interim nature of the Inland Native Fish Strategy, the constraining nature of the associated direction applied to activities within them, and the intent of improving habitat conditions for anadromous fish, the implementation of Alternative D would not result in the jeopardy of any of the proposed species. The improvement of the habitat conditions for Inland Native fish would also result in improvement of habitat conditions for riparian dependant species.

H. INTERRELATED AND INTERDEPENDENT ACTIONS

There are no interrelated or interdependent actions associated with the implementation of Alternative D.

I. CUMULATIVE EFFECTS

The proposed action is part of a large array of activities taking place throughout the range of anadromous fish, within the area covered by this analysis. In addition to Federal interests, private, state, and local interests are interspersed within the area which are essentially

are unregulated by federal agencies. The actions of private land owners include livestock management and timber management, mining, agriculture, recreation and private residences, and other commercial uses. The type of actions conducted or allowed by State agencies are similar to those on private lands. State agencies and a number of private land owners are taking positive steps to reduce potential impacts to listed species; however, it is impossible to estimate the potential cumulative effects associated with these actions due to the interim nature of the proposed action.

J. DETERMINATION

We have determined that the implementation of Alternative D, which would amend the Forest Plans on an interim basis, would constitute a "may effect" to listed species and designated critical habitat within the Inland Native fish producing watersheds covered by this analysis.

Richy J. Harrod
District Botanist/Ecologist
Leavenworth Ranger District
Wenatchee National Forest

Richy J. Harrod 5/31/95

BIOLOGICAL EVALUATION FOR THE

ENVIRONMENTAL ASSESSMENT FOR THE
INLAND NATIVE FISH STRATEGY

USDA FOREST SERVICE

A. INTRODUCTION

This Biological Evaluation (BE) analyzes the potential effects, from a programmatic standpoint, of the alternatives considered and developed in the Environmental Assessement (EA) on plant species listed under the Endangered Species Act (ESA) and those plant species identified as sensitive by the USDA Forest Service (FS). The purpose of this evaluation is to determine if implementation of the alternatives considered and developed in the EA would result in a "may effect" or "no effect" to the species and/or habitat listed or proposed under the ESA; the evaluation will also determine if implementation of the alternatives considered and developed in the EA would result in a loss of viability of the sensitive species or move sensitive species toward federal listing under the ESA.

B. AREA COVERED BY THE EVALUATION

This evaluation will only address those plant species and their habitats known or suspected to be within the inland native fish habitat (outside of anadromous fish habitats) on all or portions of 23 National Forests. Those administrative units are:

Region 1 (Idaho and Montana) - Bitterroot, Clearwater, Deerlodge, Flathead, Helena, Idaho Panhandle, Kootenai, and Lolo.

Region 4 (Idaho and Nevada) - Boise, Caribou, Challis, Humboldt, Payette, and Salmon.

Region 6 (Washington and Oregon) - Colville, Deschutes, Fremont, Malheur, Ochoco, Okanogan, Wallowa-Whitman, and Winema.

For a more specific description of the areas covered refer to the EA.

C. SPECIES CONSIDERED IN THIS EVALUATION

((E)-endangered, (T)-threatened, (P)-proposed)

Plant species listed under the ESA are: MacFarland's four-o-clock (*Mirabilis macfarlanei*) (E), marsh sandwort (*Arenaria paludicola*) (E), Gambels's water crest (*Rorippa gambellii*) (E), loch lemond coyete-thistle (*Eryngium constancei*) (E), Hoover's spurge (*Chamaesyce hooveri*) (P), pilose Orcutt grass (*Orcuttia pilosa*) (P), slender Orcutt grass (*O. tenuis*) (P), and Greene's tuctoria (*Tuctoria greenei*) (P).

For a list of sensitive species, see the FS Land and Resource Management Plans for the administrative units listed above. The programmatic nature of this evaluation does not warrant the listing of those species here.

D. LIMITATIONS OF THIS EVLUATION

The BE process was designed to evaluate the potential affects of site-specific activities on listed and sensitive species and their habitats (FSM 2672.4 and 2672.42). The process does not lend itself well to assessing potential affects of programmatic decisions. Potential, site-specific effects of implementin any of the alternativies , on any

given species or habitat, will be evaluated in a second level project analysis. Therefore, the discussions in this BE will be qualitative, not quantitative.

E. POTENTIAL AFFECTS OF THE ALTERNATIVES ON LISTED AND PROPOSED SPECIES AND CRITICAL HABITAT

(For a full description of the alternatives, see the EA.)
The proposed action is to establish intermim management direction that would reduce the risk of loss of inland resident native fish populations or negative impacts to their habitat on National Forest System lands. The interim direction will be in the form of riparian management objectives, standards and guidelines, and monitoring requirements. The action amends the management direction established in the Regional Guieds and all existing land and resource management plans for the area covered by this assessment.

Implementation of the No Action Alternative would continue the direction outlined in the existing Plans. On a project by project basis, the implementation of the current direction has the potential to affect listed and proposed species and/or designated critical habitat. Therefore, the implementation of the No Action Alternative would constitute a "may affect" under the ESA. Implementation of the four Action Alternatives, on a project by project basis, could lead to potential affects to listed and proposed species and/or designated critical habitats. Therefore, the implementation of the Action Alternatives would constitute a "may affect" under the ESA.

The four Action Alternatives would have less of an impact than the No Action Alternative due to the more constraining nature of the proposed interim direction. Due the interim nature of the Inland Native Fish Strategy and a lack of site-specific information, the relative degree of potential affects from the Action Alternatives is assumed to be inversely related to the constraints that would result from the implementation of proposed standards and guidelines, and the actions those constraints are applied. Here, a major assumption is that no management activities within or near a population of a listed plant species and/or its habitat means maintaining population or species viability. The following assessment ignores, because of the programmatic nature of this evaluation and lack of site-specific information, individual species ecological or biological requirements. For example, some plant species have evolved in frequent fire enviroments and may actually require fire to regenerate. Managment activities, such as prescribed fire, could be an important tool for maintaining some species viability. Again, although not considered here, individual species requirements would be addressed in second level project analyses.

So, with the above assumption, Alternative E, being the most constraining and applying to all ongoing and proposed actions, would have the least risk to listed plant species, followed by Alternatives C and D, with Alternative B having the most risk to listed plant species.

F. POTENTIAL AFFECTS OF THE ALTERNATIVES ON SENSITIVE SPECIES

The criteria for evaluating potential affects to sensitive species can be found in FSM 2672.32 (Forest Plan objectives for sensitive species) and FSM

2672.41 (objectives of the BE). Specifically, "[the FS is to ensure that] actions do not contribute to loss of viability of any native or desired non-native plant species...or trends toward Federal listing of any species".

An assumption made here is that all regulations, policies, and direction of the FS would be followed with the implementation of any alternative. Therefore, none of the alternatives, if fully implemented, would fail to meet the critieria. However, impacts to sensitive species could occur, to some extent, with the implementation of the alternatives. As with listed species, specific impacts to a given sensitive species cannot be determined due to the programmactic nature of the interim direction.

As with listed and proposed species, the relative degree of potential affects from the Action Alternatives is assumed to be inversely related to the constraints that would result from the implementation of proposed standards and guidelines, and the actions those constraints are applied. Here, a major assumption is that no management activities within or near a population of a listed plant species and/or its habitat means maintaining population or species viability. The following assessment ignores, because of the programmatic nature of this evaluation and lack of site-specific information, individual species ecological or biological requirements. For example, some plant species have evolved in frequent fire enviroments and may actually require fire to regenerate. Managment activities, such as prescribed fire, could be an important tool for maintaining some species viability. Again, although not considered here, individual species requirements would be addressed in second level project analyses.

So, with the above assumption, the Action Alternativees with more constraining interim direction relative to the No Action Alternative, would have potentially less impacts to sensitive plant species. Alternative E, being the most constraining and applying to all ongoing and proposed actions, would have the least risk to listed plant species, followed by Alternatives C and D, with Alternative B having the most risk to listed plant species.

/s/ Richy J. Harrod 5/02/95
Richy J. Harrod
District Botanist/Ecologist
Leavenworth Ranger District
Wenatchee National Forest

Richy J. Harrod 5/31/95

LISTED AND PROPOSED
ENDANGERED, THREATENED, AND CANDIDATE SPECIES

The following listed and proposed Endangered, Threatened, and Candidate species may occur within the Inland Native Fish Strategy analysis area. The species are listed by State.

Washington

Endangered Species

Gray Wolf	*Canis lupus*
Peregrine Falcon	*Falco peregrinus anatum*
Woodland Caribou	*Rangifer tarandus caribou*

Threatened Species

Bald Eagle	*Haliaeetus leucocephalus*
Grizzly Bear	*Ursus arctos*
Water Howellia	*Howellia aquatilis*

Proposed Species

None

Candidate Species

	Botrychium ascenden
	Botrychium pedunculosum
Bull Trout	*Salvelinus confluentus*
Black Tern	*Chlidonias niger*
California Bighorn Sheep	*Ovis canadensis californiana*
California Floater (Mussel)	*Anodonta californiensis*
California Wolverine	*Gulo gulo luteus*
Columbia Pebblesnail	*Fluminicola (=Lithoglyphus) columbianus*
Fringed Myotis (Bat)	*Myotis thysanodes*
Harlequin Duck	*Histrionicus histrionicus*
Long-eared Myotis (Bat)	*Myotis evoti*
Long-legged Myotis (Bat)	*Myotis volans*
North American Lynx	*Felis lynx canadensis*
Northern Goshawk	*Accipiter gentilis*
Olive-sided Flycatcher	*Contopus borealis*
Pacific Fisher	*Martes pennanti pacifica*
Pacific Lamprey	*Lampetra tridentata*
Pale Townsend's (=Western) Big-eared Bat	*Plecotus townsendii pallescens*
Peculiar Moonwart	*Botrychium paradoxum*
Potholes Meadow Vole	*Microtus pennsylvanicus kincaidi*
Small-footed Myotis (Bat)	*Myotis ciliolabrum*
Spotted Frog	*Rana pretiosa*

Washington, Candidate Species, continued

Wavy Moonwart	*Botrychium crenulatum*
Western Burrowing Owl	*Athene cunicularia hypugea*
Westslope Cutthroat Trout	*Oncorhynchus (=Salmo) clarki lewisi*
Yuma Myotis (Bat)	*Myotis yuma nensis*

Oregon

Endangered Species

Lost River Sucker	*Deltistes luxatus*
Peregrine Falcon	*Falco peregrinus anatum*

Threatened Species

Bald Eagle	*Haliaeetus leucocephalus*
Northern Spotted Owl	*Strix occidentalis caurina*

Proposed Species

None

Candidate Species

Abellan Hydropsyche Caddisfly	*Hydropsyche abella*
Blue-leaved Penstemon	*Penstemon glaucinus*
Black Tern	*Chlidonias niger*
California Wolverine	*Gulo gulo luteus*
Cascade Apatanian Caddisfly	*Apatania tavala*
Cascade Frog	*Rana cascadae*
Cockerell's Striated Disc (Snail)	*Discus shemiki cockerelli*
Columbia Cress	*Rorippa columbiae*
Crater Lake Rock Cress	*Arabis suffrutescens* var. *horizontalis*
Deschutes Ochrotirichian Micro Caddisfly	*Ochrotrichia phenosa*
Estes' Artemisia	*Artemisia ludoviciana* ssp. *estesii*
Fringed Myotis (Bat)	*Myotis thysanodes*
Goose Lake Redband Trout	*Oncorhynchus mykiss* ssp.
Goose Lake Sucker	*Catostomus occidentalis lacusanserinus*
Great Columbia River Spire Snail	*Fluminicola columbiana*
Green-tinged Paintbrush	*Castilleja chlorotica*

Harlequin Duck	*Histrionicus histrionicus*
Howell's Milk Vetch	*Astragalus howellii*
Interior Redband Trout	*Oncorhynchus mykiss gibbsi*
Long-bearded Mariposa-lily	*Calochortus longebarbatus* var. *longebarbatus*
Long-eared Myotis (Bat)	*Myotis evotis*
Long-legged Myotis (Bat)	*Myotis volans*
Mt. Mazama Collomia	*Collomia mazama*
North American Lynx	*Felis lynx canadensis*
Northern Goshawk	*Accipiter gentilis*
Northern Sagebrush Lizard	*Sceloporus graciosus graciosus*
Northwestern Pond Turtle	*Clemmys marmorata marmorta*
Pacific Fisher	*Martes pennanti pacifica*
Pacific Western Big-eared Bat	*Plecotus townsendii townsendii*
Peaclam	*Pisidium ultramontanum*
Peck's Milk-vetch	*Astragalus peckii*
Peck's Penstemon	*Penstemon peckii*
Pit Roach	*Lavinia symmetricus mitrulus*
Prostrate Buckwheat	*Eriogonum prociduum*
Pumice Grape-fern	*Botrychium pumicola*
Pygmy Monkeyflower	*Mimulus pygmaeus*
Red-root Yampah	*Perideridia erythrorhiza*
Spotted Frog	*Rana pretiosa*
Tailed Frog	*Ascaphus truei*
Tricolored Blackbird	*Agelaius tricolor*
Western Sage Grouse	*Centrocercus urophasianus phaios*
XL Springs (=Oregon Lakes) Tui Chub	*Gila bicolor oregonensis*
Yuma Myotis (Bat)	*Myotis yumanensis*

Idaho

Endangered Species

Bald Eagle	*Haliaeetus leucocephalus*
Chinook Salmon	*Oncorhynchus tshawytscha*
Gray Wolf	*Canis lupus*
Peregrine Falcon	*Falco peregrinus anatum*
Whooping Crane	*Grus americana*

Threatened Species

Grizzly Bear	*Ursus arctos horribilis*

Proposed Species

None

Candidate
Species

Aaseae's Onion	*Allium aaseae*
Alkali Primrose	*Primula alcalina*
Bartonberry	*Rubus bartonianus*
Boulder Pile Mountainsnail	*Oreohelix jugalis*
Broad-fruit Mariposa	*Calochortus nitidus*
Bugleg Goldenweed	*Haplopappus insecticruris*
Bull Trout	*Salvelinus confluentus*
Black Tern	*Chlidonias niger*
Bonneville Cutthroat Trout	*Oncorhynchus clarki utah*
Cache Penstemon	*Penstemon compactus*
California Bighorn Sheep	*Ovis canadensis californiana*
Carinated Striate Banded Mountainsnail	*Oreohelix strigosa goniogyra*
Centennial Rabbitbrush	*Chrysothamnus parryi* ssp. *montanus*
Christ's Indian Paintbrush	*Castilleja christii*
Columbia Pebblesnail	*Fluminicola (=Lithoglyphus) columbianus*
Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus*
Davis' Wavewing	*Cymopterus davisii*
Ferruginous Hawk	*Buteo regalis*
Fringed Myotis (Bat)	*Myotis thysanodes*
Guardian Buckwheat	*Eriogonum meledonum*
Harlequin Duck	*Histrionicus histrionicus*
Hazel's Prickly Phlox	*Leptodactylum pungens* ssp. *hazeline*
Idaho Douglasia	*Douglasia idahoensis*
Idaho Ground Squirrel	*Spermophilus brunneus brunneus*
Idaho Penstamon	*Penstemon idahoensis*
Idaho Pointheaded Grasshopper	*Acrolophitus pulchellus*
Interior Redband Trout	*Oncorhynchus mykiss gibbsi*
Keeled Bladderpod	*Lesquerella cariata*
Least Phacelia	*Phacelia minutissima*
Leatherside Chub	*Gila copeii*
Loggerhead Shrike	*Lanis ludovicianus*
Long-eared Myotis (Bat)	*Myotis evotis*
Long-legged Myotis (Bat)	*Myotis volans*
Lynx	*Felis lynx*
Mountain Twin Bladderpod	*Physaria integrifolia var. monticola*
Mulford's Milkvetch	*Astragalus mulfordiae*
Northern Goshawk	*Accipiter gentilis*
Out-of-tune Sticky Tofieldia	*Tofieldia glutinosa absona*
Payson's Bladderpod	*Lesquerella paysoni*
Payson's Milkvetch	*Astragalus paysonii*
Rydberg's Musineon	*Musineon lineare*
Slick Spot Peppergrass	*Lepidium montanum* var. *papilliferum*
Snake River Fine-spotted Cutthroat Trout	*Oncorhynchus clarki ssp.*
Snake River Goldenweed	*Haplopappus radiatus*
Spotted Frog	*Rana pretiosa*
Stanley Whitlow-grass	*Draba trichocarpa*
Tobias' Saxifrage	*Saxifraga bryophora* var.*tobiasine*
Townsend's (=Western) Big-eared Bat	

	Plecotus townsendii townsendii
Trumpeter Swan	*Cygnus buccinator*
Western Boreal Toad	*Bufo boreas boreas*
Western Small-footed Myotis (Bat)	*Myotis ciliolabrum*
White Clouds Milkvetch	*Astragalus vexilliflexus* var. *nubilus*
White-faced Ibis	*Plegadis chihi*
Wolverine	*Gulo gulo luscus*
Wood River Sculpin	*Cottus leiopomus*
Yuma Myotis (Bat)	*Myotis yumanensis*

Montana

Endangered Species

Bald Eagle	*Haliaeetus leucocephalus*
Gray Wolf	*Canis lupus*
Peregrine Falcon	*Falco peregrinus anatum*
White Sturgeon	*Acipenser transmontanus*
Whooping Crane	*Grus americana*

Threatened Species

Grizzly Bear	*Ursus arctos horribilis*
Water Howellia	*Howellia aquatilis*

Proposed Species

None

Candidate Species

Alexander's Rhyacophilan Caddisfly	
	Rhyacophila alexanderi
Black Tern	*Chlidonias niger*
Bull Trout	*Salvelinus confluentus*
	Botrychium ascendens
	Carex lenticularis var. *dolia*
Clustered Lady's Slipper	*Cypripedium fasiculatum*
Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus*
Few-seeded Bladderpod	*Lesquerella humilis*
Harlequin Duck	*Histrionicus histrionicus*
Howell's Gumweed	*Grindellia howellii*
Interior Redband Trout	*Oncorhynchus mykiss gibbsi*
Keeled Bladderpod	*Lesquerella cariata*
Lackschewitz' Fleabane	*Erigeron lackschewitzii*
Lemhi Beardtongue	*Penstemon lemhiensis*

Long-eared Myotis (Bat)	*Myotis evotis*
Long-legged Myotis (Bat)	*Myotis volans*
Meltwater Lednian Stonefly	*Lednia tumana*
North American Lynx	*Felis lynx canadensis*
Northern Goshawk	*Accipiter gentilis*
Pale Townsend's (=Western) Big-eared Bat	*Plecotus townsendii pallescens*
Payson's Bladderpod	*Lesquerella paysonii*
Peculiar Moonwart	*Botrychium paradoxum*
Preble's Shrew	*Sorex preblei*
Pygmy Poppy	*Papaver pygmaeum*
Sapphire Rockcress	*Arabis fecunda*
Small-footed Myotis (Bat)	*Myotis ciliolabrum*
Spalding's catchfly	*Silene spaldingii*
Spotted Frog	*Rana pretiosa*
Tailed Frog	*Ascaphus truei*
Trumpeter Swan	*Cygnus buccinator*
Wavy Moonwart	*Botrychium crenulatum*
Westslope Cutthroat Trout	*Oncorhynchus (=Salmo) clarki lewisi*
Wolverine	*Gulo gulo luscus*
Woodland Caribou	*Rangifer tarandus caribou*
Yellow Springbeauty	*Claytonia lanceolata* var. *flava*
Yuma Myotis (Bat)	*Myotis yumanensis*

Nevada

Endangered Species

Bald Eagle	*Haliaeetus leucocephalus*
Peregrine Falcon	*Falco peregrinus anatum*

Threatened Species

Lahontan Cutthroat Trout	*Oncorhynchus clarki henshawi*

Proposed Species

None

Candidate Species

Black Tern	*Chlidonias niger*
Broad Fleabane	*Erigeron latus*
Bruneau River Prickly Phlox	*Leptodactylon glabrum*
Bull Trout	*Salvelinus confluentus*
California Floater (Mussel)	*Anodonta californiensis*

Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus*
Elko Rock-cress	*Arabis falcifructa*
Ferruginous Hawk	*Buteo regalis*
Fringed Myotis (Bat)	*Myotis thysanodes*
Goose Creek Milk-vetch	*Astragalus anserinus*
Grimes Vetchling	*Lathyrus grimesii*
Grimy Ivesia	*Ivesia rhypara* var. *rhypara*
Interior Redband Trout	*Oncorhynchus mykiss gibbsi*
Least Bittern	*Ixobrychus exilis hesperis*
Least Phacelia	*Phacelia minutissima*
Leatherside Chub	*Gila copeii*
Leiberg Clover	*Trifolium leibergii*
Lewis Buckwheat	*Eriogonum lewisii*
Long-eared Myotis (Bat)	*Myotis evotis*
Long-legged Myotis (Bat)	*Myotis volans*
Mattoni's Blue Butterfly	*Euphilotes rita mattoni*
Meadow Pussytoes	*Antennaria arcuata*
Nevada Viceroy	*Limenitus archippus lahontani*
Northern Goshawk	*Accipiter gentilis*
Osgood Mountains Milk-vetch	*Astragalus yoder-williamsae*
Packard's Stickleaf	*Mentzelia packardiae*
Pale Townsend's (=Western) Big-eared Bat	*Plecotus townsendii pallescens*
Preble's Shrew	*Sorex preblei*
Pygmy Rabbit	*Brachylagus idahoensis*
Sierra Nevada Red Fox	*Vulpes vulpes necator*
Small-footed Myotis (Bat)	*Myotis ciliolabrum*
Spotted Bat	*Euderma maculatum*
Spotted Frog	*Rana pretiosa*
Townsend's (=Western) Big-eared Bat	*Plecotus townsendii townsendii*
Western Burrowing Owl	*Athene cunicularia hypugea*
White-faced Ibis	*Plegadis chihi*
Wolverine	*Gulo gulo luscus*
Yuma Myotis (Bat)	*Myotis yumanensis*

APPENDIX G

LIST OF FOREST SERVICE LAND & RESOURCE MANAGEMENT PLANS (FOREST PLANS)

REGION 1 - NORTHERN REGION

IDAHO

Clearwater National Forest

USDA Forest Service, Northern Region. 1987. Final Environmental Impact Statement for the Clearwater National Forest Land and Resource Management Plan. September, 1987. Clearwater National Forest. Orofino, Idaho.

USDA Forest Service, Northern Region. 1987. Clearwater National Forest Land and Resource Management Plan. September, 1987. Clearwater National Forest. Orofino, Idaho.

Idaho Panhandle National Forests

USDA Forest Service, Northern Region. 1987. Final Environmental Impact Statement for the Idaho Panhandle National Forest Land and Resource Management Plan. September, 1987. Idaho Panhandle National Forests. Coeur d'Alene, Idaho.

USDA Forest Service, Northern Region. 1987. Idaho Panhandle National Forests Land and Resource Management Plan. September, 1987. Idaho Panhandle National Forests. Coeur d'Alene, Idaho.

MONTANA

Bitterroot National Forest

USDA Forest Service, Northern Region. 1987. Final Environmental Impact Statement for the Bitterroot National Forest Land and Resource Management Plan. September, 1987. Bitterroot National Forest. Hamilton, Montana.

USDA Forest Service, Northern Region. 1987. Bitterroot National Forest Land and Resource Management Plan. September, 1987. Bitterroot National Forest. Hamilton, Montana.

Deerlodge National Forest

USDA Forest Service, Northern Region. 1987. Final Environmental Impact Statement for the Deerlodge National Forest Land and Resource Management Plan. September, 1987. Deerlodge National Forest. Butte, Montana.

USDA Forest Service, Northern Region. 1987. Deerlodge National Forest Land and Resource Management Plan. September, 1987. Deerlodge National Forest. Butte, Montana.

Flathead National Forest

USDA Forest Service, Northern Region. 1986. Final Environmental Impact Statement for the Flathead National Forest Land and Resource Management Plan. January, 1986. Flathead National Forest. Kalispell, Montana.

USDA Forest Service, Northern Region. 1986. Flathead National Forest Land and Resource Management Plan. January, 1986. Flathead National Forest. Kalispell, Montana.

Helena National Forest

USDA Forest Service, Northern Region. 1986. Final Environmental Impact Statement for the Helena National Forest Land and Resource Management Plan. May, 1986. Helena National Forest. Helena, Montana.

USDA Forest Service, Northern Region. 1986. Helena National Forest Land and Resource Management Plan. May, 1986. Helena National Forest. Helena, Montana.

Kootenai National Forest

USDA Forest Service, Northern Region. 1987. Final Environmental Impact Statement for the Kootenai National Forest Land and Resource Management Plan. September, 1987. Kootenai National Forest. Libby, Montana.

USDA Forest Service, Northern Region. 1987. Kootenai National Forest Land and Resource Management Plan. September, 1987. Kootenai National Forest. Libby, Montana.

Lolo National Forest

USDA Forest Service, Northern Region. 1986. Final Environmental Impact Statement for the Lolo National Forest Land and Resource Management Plan. April, 1986. Lolo National Forest. Missoula, Montana.

USDA Forest Service, Northern Region. 1986. Lolo National Forest Land and Resource Management Plan. April, 1986. Lolo National Forest. Missoula, Montana.

REGION 4 - INTERMOUNTAIN REGION

IDAHO

Boise National Forest

USDA Forest Service, Intermountain Region. 1990. Final Environmental Impact Statement for the Boise National Forest Land and Resource Management Plan. April, 1990. Boise National Forest. Boise, Idaho.

USDA Forest Service, Intermountain Region. 1990. Boise National Forest Land and Resource Management Plan. April, 1990. Boise National Forest. Boise, Idaho.

Caribou National Forest

USDA Forest Service, Intermountain Region. 1985. Final Environmental Impact Statement for the Caribou National Forest Land and Resource Management Plan. September, 1985 . Caribou National Forest. Pocatello, Idaho.

USDA Forest Service, Intermountain Region. 1985. Caribou National Forest Land and Resource Management Plan. September, 1985. Caribou National Forest. Pocatello, Idaho.

Challis National Forest

USDA Forest Service, Intermountain Region. 1987. Final Environmental Impact Statement for the Challis National Forest Land and Resource Management Plan. June, 1987. Challis National Forest. Challis, Idaho.

USDA Forest Service, Intermountain Region. 1987. Challis National Forest Land and Resource Management Plan. June, 1987. Challis National Forest. Challis, Idaho.

Payette National Forest

USDA Forest Service, Intermountain Region. 1988. Final Environmental Impact Statement for the Land and Resource Management Plan for the Payette National Forest. May, 1988. Payette National Forest. McCall, Idaho.

USDA Forest Service, Intermountain Region. 1988. Land and Resource Management Plan for the Payette National Forest. May, 1988. Payette National Forest. McCall, Idaho.

Sawtooth National Forest

USDA Forest Service, Intermountain Region. 1987. Final Environmental Impact Statement for the Sawtooth National Forest Land and Resource Management Plan. September, 1988. Sawtooth National Forest. Twin Falls, Idaho.

USDA Forest Service, Intermountain Region. 1987. Sawtooth National Forest Land and Resource Management Plan. September, 1988. Sawtooth National Forest. Twin Falls, Idaho

NEVADA

Humboldt National Forest

USDA Forest Service, Intermountain Region. 1986. Final Environmental Impact Statement for the Humboldt National Forest Land and Resource Management Plan. August, 1986. Humboldt National Forest. Elko, Nevada

USDA Forest Service, Intermountain Region. 1986. Humboldt National Forest Land and Resource Management Plan. August, 1986. Humboldt National Forest. Elko, Nevada

REGION 6 - PACIFIC NORTHWEST REGION

OREGON

Deschutes National Forest

USDA Forest Service, Pacific Northwest Region. 1990. Final Environmental Impact Statement - Deschutes National Forest Land and Resource Management Plan. August, 1990. Deschutes National Forest. Bend, Oregon.

USDA Forest Service, Pacific Northwest Region. 1990. Deschutes National Forest Land and Resource Management Plan. August, 1990. Deschutes National Forest. Bend, Oregon.

Fremont National Forest

USDA Forest Service, Pacific Northwest Region. 1989. Final Environmental Impact Statement - Fremont National Forest Land and Resource Management Plan. May, 1989. Fremont National Forest. Lakeview, Oregon.

USDA Forest Service, Pacific Northwest Region. 1989. Fremont National Forest Land and Resource Management Plan. May, 1989. Fremont National Forest. Lakeview, Oregon.

Malheur National Forest

USDA Forest Service, Pacific Northwest Region. 1990. Final Environmental Impact Statement - Malheur National Forest - Land and Resource Management Plan. May, 1990. Malheur National Forest. John Day, Oregon.

USDA Forest Service, Pacific Northwest Region. 1990. Malheur National Forest - Land and Resource Management Plan. May, 1990. Malheur National Forest. John Day, Oregon.

Ochoco National Forest

USDA Forest Service, Pacific Northwest Region. 1989. Final Environmental Impact Statement - Land and Resource Management Plans - Ochoco National Forest and Crooked River National Grassland. August, 1989. Ochoco National Forest. Prineville, Oregon.

USDA Forest Service, Pacific Northwest Region. 1989. Land and Resource Management Plans - Ochoco National Forest and Crooked River National Grassland. August, 1989. Ochoco National Forest. Prineville, Oregon.

Wallowa-Whitman National Forest

USDA Forest Service, Pacific Northwest Region. 1990. Final Environmental Impact Statement - Wallowa-Whitman National Forest Land and Resource Management Plan. April, 1990. Wallowa-Whitman National Forest. Baker, Oregon.

USDA Forest Service, Pacific Northwest Region. 1990. Wallowa-Whitman National Forest Land and Resource Management Plan. April, 1990. Wallowa- Whitman National Forest. Baker, Oregon.

Winema National Forest

USDA Forest Service, Pacific Northwest Region. 1990. Final Environmental Impact Statement - Winema National Forest Land and Resource Management Plan. September, 1990. Winema National Forest. Klamath Falls, Oregon.

USDA Forest Service, Pacific Northwest Region. 1990. Winema National Forest Land and Resource Management Plan. September, 1990. Winema National Forest. Klamath Falls, Oregon.

WASHINGTON

Colville National Forest

USDA Forest Service, Pacific Northwest Region. 1988. Final Environmental Impact Statement - Colville National Forest Land and Resource Management Plan. December, 1988. Colville National Forest. Colville, Washington

USDA Forest Service, Pacific Northwest Region. 1988. Colville National Forest Land and Resource Management Plan. December, 1988. Colville National Forest. Colville, Washington

Okanogan National Forest

USDA Forest Service, Pacific Northwest Region. 1989. Final Environmental Impact Statement - Land and Resource Management Plan - Okanogan National Forest. December, 1989. Okanogan National Forest. Okanogan, Washington.

USDA Forest Service, Pacific Northwest Region. 1989. Land and Resource Management Plan - Okanogan National Forest. December, 1989. Okanogan National Forest. Okanogan, Washington.

APPENDIX H

Acres of National Forest System Lands

National Forest	Acres in NFS Lands	Acres of Occupied Bull Trout Habitat	Remaining Acres Covered By INFS
Bitterroot	1,111,000	921,000	190,000
Clearwater	915,000	593,000	322,000
Deerlodge	697,000	333,000	364,000
Flathead	2,368,000	1,771,000	597,000
Helena	387,000	105,000	282,000
Idaho Panhandle	2,470,000	800,000	1,670,000
Kootenai	2,252,000	911,000	1,341,000
Lolo	2,074,000	1,333,000	741,000
Region 1 Total	**12,273,000**	**6,766,000**	**5,507,000**
Boise	1,769,000	1,088,000	681,000
Caribou	762,000	0	762,000
Challis	904,000	129,000	775,000
Humboldt	631,000	57,000	574,000
Payette	474,000	42,000	432,000
Sawtooth	1,427,000	199,000	1,228,000
Region 4 Total	**5,966,000**	**1,514,000**	**4,452,000**
Colville	1,086,000	280,000	806,000
Deschutes	860,000	0	860,000
Fremont	1,139,000	69,000	1,070,000
Malheur	730,000	141,000	589,000
Ochoco	780,000	29,000	751,000
Okanogan	342,000	0	342,000
Wallowa-Whitman	686,000	187,000	499,000
Winema	1,042,000	0	1,042,000
Region 6 Total	**6,665,000**	**706,000**	**5,959,000**
All Forests Total	**24,905,000**	**8,986,000**	**15,919,000**

APPENDIX I - Screens

United States Department of Agriculture	Forest Service	Intermountain Region	324 25th Street Ogden, UT 84401-2310

File Code: 2670 Date: April 10, 1995
Route To: Planning

Subject: Screening of Ongoing Activities in Priority Bull Trout Habitats

To: Forest Supervisors, Regions 1, 4, and 6

REPLY DUE MAY 15

The Regional Foresters in Regions 1, 4 and 6 have made the decision to evaluate an inland native fish habitat management strategy within those areas of the upper Columbia River basin not covered by FEMAT or PACFISH, excluding the Greater Yellowstone Ecosystem. The U.S. Fish and Wildlife Service has agreed to participate as a full partner in this effort. As part of this effort the Forest Service will prepare an Environmental Assessment (EA) on implementation of the Strategy. Important parts of the assessment are the identification of priority watersheds for bull trout, and the effectiveness monitoring of ongoing projects within these watersheds and the geographic scope of the EA.

Draft priority watersheds for the Strategy were identified by your fisheries biologists on April 5th. The proposed monitoring strategy was also discussed and modified at that time. The final effectiveness monitoring strategy is attached. Because of the short time frame for the completion of the EA (May 31, 1995), the monitoring strategy is designed to provide a quick, low resolution, monitoring of ongoing activities within priority watersheds. The results will be a categorization of ongoing activities as to degree of risk to bull trout and their habitat for use in analysis of alternatives. Existing information should be used, and where there are concerns about a significant lack of data, those concerns should be documented on the form. It will also be important to document all ongoing projects that are determined to pose no risk to the bull trout and its habitat. The results of your monitoring are due to the Project NEPA Coordinator, Bob Davis (guest30:R01F04A), no later than **MAY 15,1995**. Earlier submissions would be greatly appreciated!

As full partners in this effort, the Fish and Wildlife Service (FWS) is prepared to assist you in your project monitoring. Their role is to facilitate the completion of the monitoring and to strengthen their ownership and support of the product. It is not the intent that FWS function in an oversight capacity, as this is not a consultation process, but rather as a partner providing much needed assistance. A list of the key FWS contacts is enclosed. Please help them and yourselves by prompt scheduling of their people. Under no circumstances will an inability to schedule with the FWS justify a delay in meeting the due date.

For more information and questions on the monitoring strategy please contact Rick Stowell, R-1 (406-329-3287), Dave Heller, R-6 (503-326-6637),or Seona Brown, R-4 (801-625-5668).

Thank you for your cooperation and quick response.

/s/D.J.Wright
DAVID J. WRIGHT
Inland Native Fish Team Leader

Enclosures

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FOREST PLAN BULL TROUT HABITAT EFFECTIVENESS MONITORING STRATEGY

Introduction

This activity is intended to gauge the effectiveness of ongoing Federal actions in maintaining the quality and quantity of bull trout habitat in selected high priority watersheds. It is accomplished by reviewing individual or groups of like activities against a series of questions. The process will rely on existing information and the use of professional judgement. The review is to be accomplished by an Interdisciplinary Team, with final results and risk determinations made by a journey level fisheries biologist.

Federal actions are defined (ESA, Sec 7(a)(2)) as any action authorized, funded, or carried out by a Federal agency. Ongoing Federal actions are defined as those actions that, prior to the decision on the proposed inland native fish strategy, have been implemented, or have contracts awarded, permits issued, or have a signed NEPA decision document.

For purposes of this screen these actions include such categories as administration of grazing permits and AOP's, timber sales, road and trail maintenance, administration of mining activities, and special use permits which are being reissued or which have an annual operation plan.

There are several "gray" areas where a determination must be made on a site-specific basis as to whether an activity constitutes a Federal Action. This may include such things as dispersed recreation activities, water diversions, and special use permits which do not have an annual operating plan. If activities or projects in this category pose a risk to bull trout habitat or populations, include them in this screen.

All ongoing projects and activities will first go through an initial screen by evaluating the following two questions: 1. Does the project or activity occur in the RHCA (assume 300' width each side of fish-bearing and perennial streams and 150' width each side of intermittent streams)? If yes, the project or activity must go through the detail screen. 2. Are there activities outside the RHCA that will have an adverse effect on the RHCA? If yes, the project or activity must go through the detail screen. All projects passing the initial screen will be considered not to pose a risk to bull trout habitat or populations.

Generally, groups of like activities will be run through the series of questions. If they are not collectively having an adverse effect on bull trout habitat or populations as measured against existing conditions, ratings will be made on the group. If adverse effects are occurring, individual activities may need to be examined to determine which are the source of the effects. Rationale for answering each of the questions will be recorded on the form.

An optional page is included which allows the identification of conditions or activities (non-Federal actions) not addressed but which may be causing significant adverse effects to bull trout habitat or populations in the project area. These may include interaction with non-native fish, natural perturbations to the environmental baseline such as mass failures or existing transportation systems. This information will be useful in identifying and prioritizing future restoration opportunities.

FOREST PLAN BULL TROUT HABITAT EFFECTIVENESS MONITORING

CHECKLIST FOR SCREENING ONGOING ACTIONS

Forest/Unit:_____

Watershed being evaluated:_____

Basin Name:_____

Description of Ongoing Actions or Group of Actions that are being tested against screens:_____

_____

Fisheries Biologist Performing Evaluation:_____

Telephone Number:_____ Date:_____

DETAILED SCREENING PROCESS

CHECKLIST

Respond with a Y (Yes) or N (No) to each component of the following question. Provide a brief rationale for responses, (i.e., Cite the applicable references to support your response. In the absence of data, document the professional judgement that supports the response).

1. Is it probable or foreseeable that the ongoing actions or group of ongoing actions would adversely affect any of the following features of habitat (i.e., an adverse affect would be a yes to any element of this screen)?
Migration, Spawning and Rearing Habitats

_____ Water quality (e.g., chemical, suspended sediment, temperature)

Rationale:_____

_____ Water quantity (i.e., magnitude, duration, timing of high/low flows)

Rationale:_____

_____ Juvenile or adult migration and passage

Rationale:_____

_____ Quantity or quality of spawning habitat

Rationale:_____

_____ Quantity or quality of rearing habitat (to include over wintering)

Rationale:_____

_____ Riparian vegetation (does the action degrade existing conditions)

Rationale:_____

_____ Riparian vegetation (does the action retard recovery of vegetation or the function it provides)

Rationale:_____

_____ Harassment of fish (including the results of increased human access) or physical disturbance of redds.

Rationale:_____

2. Is it probable or foreseeable that any of the adverse impacts (activities likely to contribute to the need for listing of a bull trout population), identified in step 1, would be of sufficient magnitude to result in an adverse impact to fish?

_____ Reduced bull trout growth or survival (includes increased mortality, reduced growth of fitness, reduced reproductive success, etc.)

Rationale:_____

3. Relative risk assessment. For those projects, or groups of projects, which are determined to have adverse effects, use the following guide to determine a relative degree of impact.

! Relative Magnitude ! (Degree/Extent of Impacts)	Relative Probability of Impact Occurring ------->		
	High	Med	Low
High	H	H	M
Med	H	M	L
Low	M	L	L

NOTE: If "High Risk" bull trout populations (Rieman and MacIntyre 1993) are affected, the relative rating will be increased one category for Med or Low ratings (for example, a Med rating would be increased to High).

_____

SUPPLEMENTAL INFORMATION

Identify conditions or activities (non-Federal actions) not addressed but which may be causing significant adverse effects to bull trout habitat or populations. These may include but are not limited to interaction with non-native fish, natural perturbations to the environmental baseline such as mass failures or existing transportation systems. This will be useful in identifying and prioritizing future restoration opportunities.

EFFECTS DETERMINATION

The following list of projects has been assessed and determined to have a high (H), moderate (M), or low (L) risk to bull trout habitat or populations.

HIGH RISK	MODERATE RISK	LOW RISK

Prepared by:

_____ _____

Signature of Fisheries Biologist Date

Reviewed:

_____ _____

Signature of Forest Fisheries Biologist Date

Reviewed:

_____ _____

Line Officer Date

Bull Trout Effectiveness Monitoring Contacts
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