

United States Department of Agriculture
Forest Service
Northern Region



Fry Emergence Amendment

Decision Notice and Finding of No Significant Impact

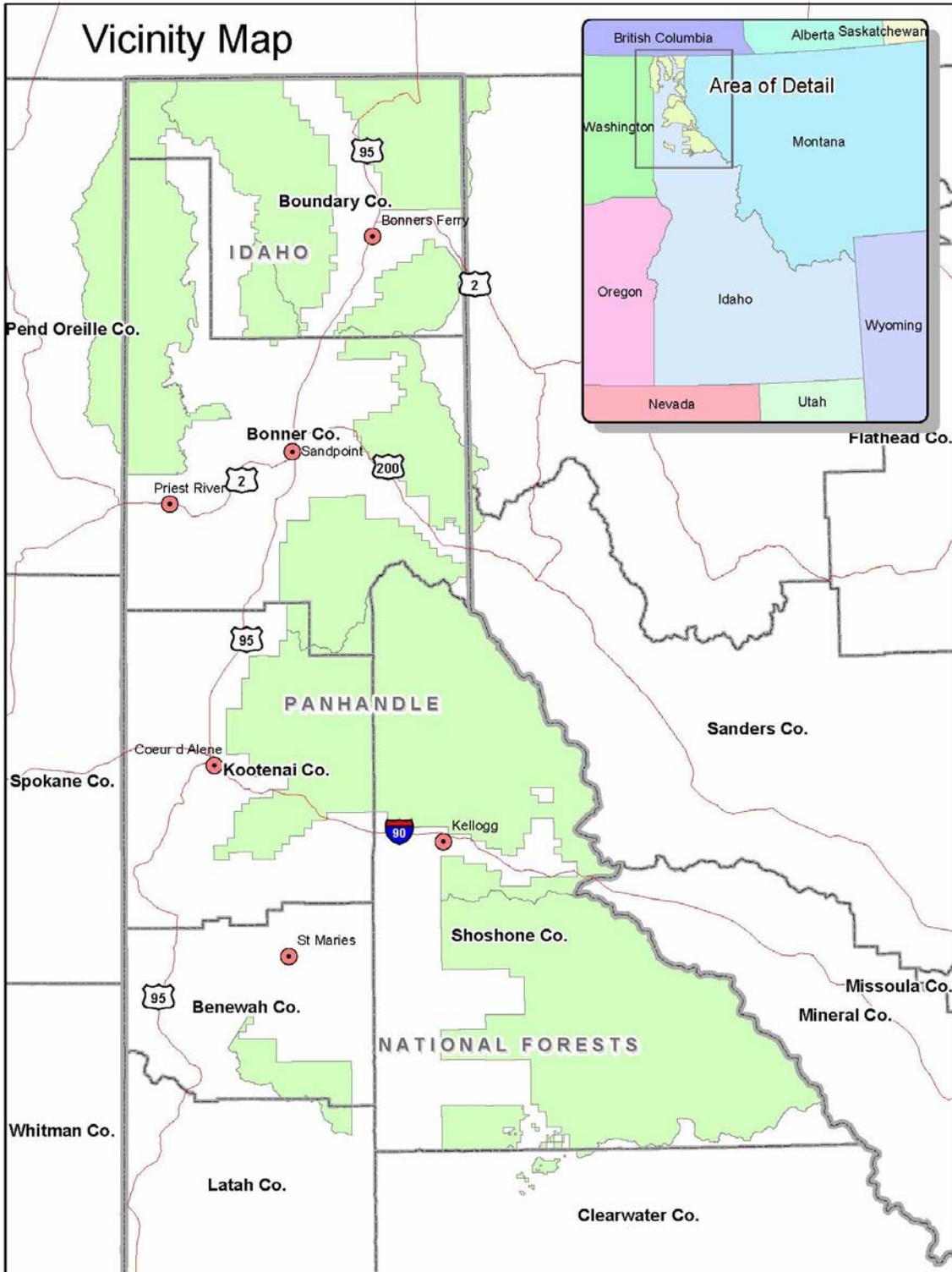
June 2005

Idaho Panhandle National Forests

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**USDA Forest Service
Northern Region
Idaho Panhandle National Forests
Forest Plan Amendment
For
Fry Emergence**

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I. Introduction

This programmatic decision notice (DN) proposes to change the Idaho Panhandle National Forests Land and Resource Management Plan (Forest Plan) by amending fisheries objectives, standards, and monitoring requirements that pertain to fry emergence success within streams across the forest. The change is being done utilizing the procedures found in the 1982 National Forest System Land and Resource Management Planning Rule (36 CFR Part 219, Federal Register, Volume 47, No. 190).

Planning for units of the National Forest System involves two levels of decision-making. The first level, often referred to as programmatic planning, is the development or amendment of Forest Plans that provide management direction for resource programs, uses, and protection measures. Forest Plans and associated amendments are intended to set out Management Area prescriptions or decisions with goals, objectives, standards, and guidelines for future decision-making through site-specific planning. The environmental analysis accomplished at the Plan Amendment level guides resource management decisions and aids site-specific planning.

The second level of planning involves the analysis and implementation of management practices designed to achieve goals and objectives of the Forest Plan. This is commonly referred to as site-specific or project-level planning. It requires relatively detailed information and is most often accomplished at the ranger district (local) level.

II. Purpose and Need¹

The fry emergence objectives, standards and monitoring requirements currently in the IPNF Forest Plan do not contribute as well as INFISH objectives, standards, guidelines, and monitoring direction towards meeting the goals of providing sufficient habitat in support of maintaining diverse and viable populations of fish species across the forest. INFISH was designed to provide a means for passive restoration of degraded aquatic habitat conditions by preventing implementation of site-specific actions that would reduce aquatic habitat quality (EA, p. 28). Fry emergence direction allows for aquatic habitat degradation to occur from site-specific projects and it does not effectively preclude future additions of sediment when the stated threshold level is reached (EA, p. 28). Rather it allows for projects with significant negative effects on water resources to proceed at line officer discretion, provided state water quality laws are not violated (EA, p.28 and Appendix B). Existing standards for water quality in the IPNF Forest Plan (p. II-33) already provide for the requirement that our actions must meet or exceed state water quality standards.

¹ The EA (pp. 3-6) provides a background discussion of the fry emergence and INFISH direction.

The fry emergence standard is redundant when considering existing forest plan water quality standards and is contrary to the intent of INFISH by not preserving management options for fish species, by not reducing the risk of loss of fish populations, and by not reducing potential negative impacts to aquatic habitat of resident fishes (Project Record, Volume 3, Document 4, p. I-1). It is also inconsistent with Forest Service responsibilities under the Endangered Species Act (ESA) because by allowing potentially significant degradation of aquatic habitat, it fails to contribute to the conservation of threatened and endangered species on the forest. The standard is also inconsistent with Forest Service responsibilities under NFMA because by permitting significant habitat degradation it fails to contribute to the maintenance of viable fish populations across the forest.

Additionally, forest plan monitoring and other independent research has shown that fry emergence models give highly variable results, have limited application, and do not reliably predict the effects of stream sedimentation on fry emergence success (EA, p. 24-25; Project Record, Volume 2, Document 2). The recent United States Court of Appeals for the Ninth Circuit finding (*Lands Council v. Powell*) that the INFISH standards and guidelines and fry emergence standard are not in conflict would require the Forest Service to determine, based upon monitoring data, if the fry emergence standard (maintain at least 80 percent fry emergence success) is being achieved in streams on the forest containing fish. Because of the limited application of the fry emergence models and their unreliability, and the inability to determine fry emergence success in the field due to high variability affected by multiple natural and human-caused factors, the Forest Service would not be able to state with any degree of certainty whether measures of fry emergence success are accurate or precise.

Regulations for implementing the National Environmental Policy Act (NEPA) [40 CFR 1500.1(b)] require that environmental information used to support conclusions made in our site-specific project decisions (fuel reduction projects, timber sales, recreation projects, watershed restoration projects, etc...) be of high quality and accurate. The National Forest Management Act (NFMA) [36 CFR 219.1 (b)] requires that our site-specific project decisions demonstrate compliance with the standards contained in our respective forest plan. In using the fry emergence model we cannot demonstrate that the model either provides high quality, accurate scientific information or supports consistency findings with forest plan fish standards.

Therefore, for the above stated reasons, there is a need for amending the IPNF Forest Plan to address: 1) the lack of high quality information provided by the fry emergence model and 2) the inconsistencies that exist between the fry emergence objectives and standards and the INFISH, ESA, and NFMA direction.

III. Decision

It is my decision to select for implementation Alternative B, as described within the Fry Emergence Amendment EA. The following objectives, standards, and monitoring requirements will be modified or removed from the forest plan.

1) Forest plan objectives for fisheries (p. II-7): The following sentences from the first paragraph will be removed:

Sedimentation arising from land management activities will be managed so that in forest fisheries streams the objective is to maintain 80 percent of fry emergence success as measured from pristine conditions. Appendix I details the analysis process.

The revised forest plan objective for fisheries will read as follows:

The Idaho Panhandle National Forests will be managed to maintain and improve fish habitat capacities in order to achieve cooperative goals with the State Fish and Game Department and to comply with state water quality standards.

Fishery and timber riparian management activities will be coordinated in order to maximize the contribution of riparian vegetation to aquatic habitats. An annual program of direct habitat improvement work will be pursued. Several unroaded stream and river segments will be managed as low public access areas to maintain a diversity of fishing experiences on the Forest.

- 2) Forest plan standards for fisheries (p. II-29): Standard #1 for fish, which reads as follows, will be removed in its entirety:

Activities on National Forest lands will be planned and executed to maintain existing water uses. Maintain is defined as “limiting effects from National Forest activities to maintain at least 80 percent of fry emergence success in identified fishery streams.” The percent is measured from pristine conditions. Current methodology will not detect an impact of less than 20 percent. During the life of the plan, new technologies may permit more precise assessments; however, the goal of this standard will remain as “to maintain 80 percent of fry emergence success.”

- 3) Forest plan standards for fisheries (p. II-30): Standard #2 for fish would be removed in its entirety:

Streams providing spawning and rearing habitat, which are considered critical to the maintenance of river and lake populations of special concern, will be managed at a standard higher than the 80 percent standard. Monitoring will be needed to detect this higher standard. The high value streams are:

High Value Streams

<i>Upper Marble</i>	<i>Skookum</i>
<i>Catspur</i>	<i>Bird</i>
<i>Foehl</i>	<i>Eagle (Avery R.D.)</i>
<i>Lund</i>	<i>Quartz (Avery R.D.)</i>
<i>Canyon (Avery R.D.)</i>	<i>Johnson</i>
<i>Boundary</i>	<i>North Fork Hayden</i>
<i>South Fork Granite</i>	<i>East Fork Hayden</i>
<i>Blacktail (Priest Lake R.D.)</i>	<i>Granite (Sandpoint R.D.)</i>
<i>North Fork Granite (Priest Lake)</i>	<i>Gold (Sandpoint R.D.)</i>
<i>Trestle</i>	<i>North Gold (lower portion)</i>
<i>North Fork Grouse</i>	<i>Upper North Fork Coeur d’Alene (upstream of Iron Creek)</i>
<i>Lightning (below falls)</i>	
<i>Beaver (Priest Lake R.D.)</i>	<i>Upper Simmons</i>
<i>Hughes Fork</i>	<i>Upper Coeur d’Alene (upstream of Spruce Creek)</i>
<i>Grass</i>	<i>Marie</i>
<i>Deer (Bonners Ferry R.D.)</i>	<i>Upper Wolf Lodge</i>
<i>Upper Priest</i>	<i>Cougar</i>
<i>Upper Pack</i>	<i>West Fork, East Fork Steamboat</i>
<i>Upper Grouse</i>	<i>Brown</i>
<i>East Fork Lightning</i>	<i>Trail</i>
<i>Porcupine</i>	<i>Upper Tepee (upstream of Trail Creek)</i>
<i>Wellington (below falls)</i>	<i>Big Elk</i>
<i>Rattle</i>	<i>Savage</i>

Gold (Avery R.D.)

4) Forest plan standards for fisheries (p. II-31): Standard #6 would be modified to delete the reference to Appendix I. The modified standard, to be retained in the forest plan, would read as follows:

Coordinate management activities with water resource concerns as described in MA 16 and Appendix O.

5) Table IV-2 of the forest plan (p. IV-11), which pertains to forest plan monitoring requirements would be modified to delete the following monitoring item.

G-1	Greater than 80% of potential emergence success	58 streams monitored at 29 streams per year	2 years	Annually	When more than 10% of high value streams – below 80%. When more than 20% of important streams – below 80%. A 4 year declining trend on any stream

6) *Appendix I* (see Appendix B of the EA) would be removed from the forest plan.

IV. Rationale for the Decision

My decision to select Alternative B is based upon the following factors:

- Responsiveness to the stated purpose and need
- Responsiveness to public comment and issues

These factors are discussed in the following decision criteria.

A. Achievement of Purpose and Need

My decision affirmatively addresses the purpose and need for action as presented in the EA (pp. 6-7) by amending the IPNF Forest Plan to remove or modify objectives, standards and monitoring requirements pertaining to fry emergence. Other existing goals, objectives, standards, and monitoring requirements pertaining to water quality and fish will remain in the forest plan. Appendix A of this document displays the forest plan objectives, standards, guidelines, and monitoring requirements related to fisheries and water quality that will remain in the 1987 IPNF Forest Plan. I expect these goals, objectives, standards, guidelines and monitoring requirements to provide sufficient direction for maintaining water quality, diverse and viable populations of fish species across the forest and prevent the degradation of aquatic habitat. The selected alternative is also consistent with our responsibilities under the National Environmental Policy Act and the National Forest Management Act to provide high quality, accurate scientific information that supports consistency findings with the amended forest plan fish standards.

The No-action Alternative would maintain existing direction in the forest plan pertaining to fry emergence success. As such, this alternative would not meet the identified purpose and need for action.

When the existing forest plan was developed in 1987, models for determining fry emergence based on fine sediment were popular and monitoring included in the forest plan (see Project Record, Volume 2, Document 1) required that we monitor and annually report on fry emergence success in various streams across the forest (monitoring item G-1). The Forest Service did extensive sediment monitoring on the IPNF to determine fry emergence in 1988 and 1989 (Project Record, Volume 2, Documents 2 and 3). After analyzing the resulting data on 25 streams using approximately 610 core samples, the conclusions were that:

- The relationship between sampled inter-gravel fines/embeddedness parameters and the amount of timber harvest and roading in a watershed was weak;
- Although there was a general trend for higher levels of inter-gravel fine sediment and embeddedness in developed watersheds, there was a lot of “scatter and variability” observed in the data;
- The emergence success levels or trends in relation to the 80 percent standard could not be determined;
- This was primarily due to too much variation with sampling techniques and natural variation of sediment within streams.

We documented these findings that fry emergence success was not a good monitoring tool to report stream health in the 1989 Forest Plan Monitoring and Evaluation Report (Project Record, Volume 2, Document 2, pp. 14 and 15).

A report by Chapman² (1988) supports our conclusions. The forest plan (p. II-7) based fry emergence success solely on fine sediment, and models to predict it were initially developed based on laboratory studies (e.g., Bjornn³ 1969). In the field, however, fine sediment is one of many factors that can affect survival of fry. Changes in natural conditions (such as floods, temperature regimes, geology) and human-induced causes (including increased sediment inputs) can affect fry emergence. With natural and human-caused agents affecting habitat, it is difficult to determine what proportion of mortality is due to each cause. As a result, fry emergence is highly variable, and the underlying relationship between sediment in redds (fish nests) and survival is difficult to predict and often inconclusive. (EA, pp. 24-25).

While increases in sediment may only partially explain variability in fry emergence success, fine sediment in streams has been shown to have detrimental effects on fish and their habitat. But sediment, the surrogate used to determine fry emergence success, is very variable and difficult to monitor (EA pp. 25). On the IPNF, we have found great variability in the sediment measurements and annual load determinations (Project Record, Volume 2, Document 31). Suspended sediment coefficient of variation ranges between 150 and 1,400 percent between measurements for a station; and 85 to 165 percent between years (EA, p. 26). Bedload, which is not related as well to stream flow, ranges up to 600 percent between samples and over 110 percent between years at a station (EA, p 26). This is a large and wide range of variability for the hydrologic parameters and is amplified when they are related to sediment disposition over time at a site since they would only explain a part of the variability of sediment deposition (EA, p. 26).

For these reasons, sediment cannot provide an appropriate quantitative standard for non-point sources under the Clean Water Act or State Water Quality Standards. Sediment is more appropriately addressed

² Chapman, D. W. 1988. Critical review of variables used to define effects of fines in redds of large salmonids. Transactions of the American Fisheries Society 117: 1-21.

³ Bjornn, T. C. 1969. Embryo survival and emergence studies. Job No. 5, Federal Aid in Fish and Wildlife Restoration. Job Completion Report Project F-49-R-7. Idaho Fish and Game Department. 11 pages.

through a performance-based standard, such as Best Management Practices or INFISH standards and guidelines. While sediment loads can be used as objectives and basis for comparison as well as for validation and effectiveness monitoring, I do not believe they can be appropriately used for compliance measures (EA p. 26).

The purpose of the INFISH is to protect inland native fish by reducing the risk of loss of populations and reducing potential negative impacts to aquatic habitat (Project Record, Volume 3, Document 4, pp. I-1 and I-2). The standards and guidelines under INFISH are performance-based rather than threshold-based and seek to optimize aquatic and riparian resources rather than manage to the threshold (EA, p. 28). The intent of the riparian management objectives was not to establish a ceiling for what constitutes good habitat conditions. Rather, actions that would reduce habitat quality, whether existing conditions are better or worse than the objective values would be inconsistent with the purpose of INFISH (Project Record, Volume 3, Document 2, p. A-3). As a result, projects on the IPNF can only be found consistent with existing forest plan direction for fish, and receive my approval for implementation, if the project does not contribute to a degradation of aquatic habitat⁴.

In contrast to the purpose of the INFISH direction, the forest plan fry emergence standard did allow for degradation of aquatic habitat. First, it allowed a degradation of up to 20% fry emergence success from potential condition. It then allowed further degradation beyond 20% through direction contained in Appendix I of the forest plan. Appendix I detailed procedures forest fish biologists and hydrologists were to follow if the cumulative effect of a proposed action, in combination with other past actions was predicted to result in stream sedimentation levels that are greater than (exceed) a 20 percent reduction in fry emergence. In such instances the standard did not prohibit further impacts but merely required a more detailed fishery/watershed analysis to be undertaken. There was no requirement that a project be modified to meet the standard (i.e. corrective action taken) prior to its implementation, rather I was allowed to approve a project decision that potentially had significant negative effects to water resources provided the project met minimum state water quality standards (USDA 1987⁵, p. I-2).

Prior to incorporation of the INFISH amendments into the forest plan, the threshold standard provided by the fry emergence direction was not adequately protecting fish habitat on the forest, which was found to be declining, primarily due to timber harvest and road building activities (EA, p. 20). INFISH has led to improvement in the condition of aquatic resources by offering greater protections to critical riparian areas (EA p. 22).

Increases in sediment can be detrimental to fish and aquatic habitat in many ways; therefore, the goal should be to limit increases in sediment delivery from forest management activities. Unlike the threshold approach of the fry emergence standard (allowing degradation to the limits of the standard), the INFISH amendment aims to prevent increased sediment delivery to streams from management activities. INFISH establishes RHCAs and sets for standards and guidelines that apply to all RHCAs, and all projects and activities outside of RHCAs that could potentially affect RHCAs (Project Record, Volume 3, Document 2, pp. A-1 to A-18). INFISH gives riparian dependent resources priority over other resources in the RHCA, so that while RHCAs are not “lock out” zones, activities that occur in them must either benefit riparian and aquatic resources or at least “not slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system” (Project Record, Volume 3, Document 2, p. A-3).

⁴ Degradation of habitat is a downward trend in habitat condition.

⁵ USDA 1987b. Forest plan, Idaho Panhandle National Forests.

Based on the foregoing discussion, I have determined that the existing INFISH direction contained in the IPNF Forest Plan:

- More effectively achieves the plan's goals for maintaining diverse and viable populations of fish species across the forest;
- Is more consistent with the intent the Endangered Species Act and NFMA;
- Better allows our resource specialists to provide high quality, accurate scientific information to myself and our publics on project effects to aquatic species and their habitat; and
- Allows our resource specialists to more accurately demonstrate consistency findings with forest plan fish standards than does the objectives, standards, and monitoring requirements pertaining to fry emergence.

B. Responsiveness to Public Comment and Issues

1. Public Involvement

The public scoping for the proposal began in March of 2005. Scoping letters were mailed to about 315 people, organizations, tribes, and agencies. A legal notice requesting public comment appeared in the *Spokesman-Review*, the forest's newspaper of record, on March 23, 2005. The project was listed on the forest's quarterly schedule of proposed actions beginning with the April 2005 quarter and the scoping letter was posted on the Idaho Panhandle National Forests website.

Five public responses to the scoping letter were received, evaluated and summarized in a report called *Summary of Public Comments* (Project Record, Volume 1, Document 27). Three of the respondents were not supportive of amending the IPNF Forest Plan to remove or modify those objectives, standards, guidelines, and monitoring requirements related to fry emergence, while two respondents were not opposed to the removal of the fry emergence direction. However, four of the respondents stated that if direction to measure and monitor fry emergence is removed from the forest plan, the Forest Service should propose an alternate standard to replace it. The replacement standard should be quantitative in nature and provide a threshold level, above which further water quality or fish habitat degradation is precluded from occurring. The respondents didn't believe that the 1995 INFISH amendment to the IPNF Forest Plan provides the same level of protection necessary to ensure viability of fish species, as does the fry emergence direction.

The EA was mailed for 30-day public comment on April 22, 2005, to 10 individuals, organizations and/or agencies (Project Record, Volume 1, Documents 29 and 30). A legal ad requesting comment on the EA appeared in the *Spokesman-Review* newspaper on April 23, 2005 (Project Record, Volume 1, Document 31). Three letters, representing the comments of eight organizations were received by the end of the comment period (Project Record, Volume 1, Documents 32, 33, and 34). Commenters expressed concern with our identified purpose and need for the amendment; the range of alternatives considered; the continued necessity of providing measurable protection to water quality through a quantitative, threshold type standard; and concern regarding monitoring and the efficacy of the INFISH direction. I have considered all the comments received in arriving at my decision and I have responded to the comments contained in these letters. My responses are contained in Appendix B of this document.

2. Responsiveness to the Issues

a) Need for a Quantitative Sediment Standard in the IPNF Forest Plan

Commenters had expressed a concern that if the proposed action were to be implemented, the Forest Service would not meet its NFMA responsibilities because our ability to monitor and assess the effects from sediment to water quality and fish habitat would be impaired.

There is no difference with respect to the effects of either Alternative A or B (EA, pp. 32-33).

Under either alternative, I would not be allowed to approve a project that results in a degradation of aquatic habitat, due to the INFISH direction existing in the forest plan (EA pp. 28 and 32). Therefore, while under Alternative A, fry emergence direction, in theory, allows for projects significantly degrading aquatic habitat to proceed, provided state water quality laws are not violated, in reality such projects would be precluded from implementation by INFISH direction (Project Record, Volume 3, Document 2, pp. A-1 to A-18).

At the project level, under either alternative detailed analysis of direct, indirect, and cumulative effects (including effects from sediment) to aquatic resources would continue to be analyzed as required under the National Environment Policy Act, including effects to beneficial uses such as aquatic biota and salmonid spawning. Findings of consistency with the Clean Water Act, the National Forest Management Act, and the Endangered Species Act will continue as required (EA p. 32 and 33).

The EA concluded that implementation of the selected alternative will result in no direct, indirect, or cumulative effects to fish species or their habitat (EA p. 33). Because this is a programmatic decision, which does not prescribe site-specific activities on the ground, there are no direct environmental consequences as a result of the amendment (EA, p 8). There will also be no indirect effects from implementing this decision. The EA concluded that due to the performance-based direction in INFISH, and protections provided by other policies, laws, and direction, there would be no indirect effects to forest resources, including water quality, fish and other aquatic biota and their habitat from implementing the selected alternative (p. 33). Because there are no direct or indirect effects, there will also be no cumulative effects from the implementation of the selected alternative (EA p. 33).

With either alternative there is expected to be no change in our ability to monitor and assess effects to fish habitat and water quality (EA, p. 19). There is no difference in the predicted effects between the two alternatives because based on our past monitoring activities and other research as documented in the EA (pp. 24-27), the information generated from fry emergence monitoring, which would be undertaken with Alternative A will not tell us either accurately or precisely if we are achieving 80 percent fry emergence success (EA p. 32). This would then lead us to implement the protocol outlined in Appendix I of the forest plan, which is basically the NEPA process (i.e. describing the existing condition, analyzing the projects effects on aquatic resources in detail, and reporting the findings to the decision-maker). While a field determination of fry emergence success would be generated with this alternative, the information would not necessarily be accurate or precise (EA, pp. 24-27).

There will be no effect on viability of native and desired non-native fish species from implementation of my selected alternative because of the protections provided by INFISH and existing policies, laws and direction (EA, p. 33). The fry emergence direction permitted degradation of aquatic habitat to occur as long as state water quality standards were not violated (USDA 1987b, p. I-2). Existing direction in the IPNF Forest Plan for water quality states that management activities will comply with state water quality standards (USDA 1987b, p. II-33). Therefore, contrary to assertions, the fry emergence direction does not provide any additional protections for fish and water quality than what will continue to exist in the forest plan as a result of implementing this amendment (see EA Appendix A).

Commenters were concerned that without a threshold standard, the Forest Service would not know when cumulative effects from management activities had gone too far and as a result, the Forest Service could end up degrading streams and aquatic habitat. However, by implementing INFISH there should not be continued degradation of these systems occurring. As I have previously stated, INFISH was designed to prevent project activities from degrading riparian and aquatic systems, and instead to allow riparian and stream systems to restore themselves (EA, p. 28). A summary of forested streamside research over the

last ten years supports the science used to establish INFISH, with no known new science that contradicts the science used to develop the INFISH strategy (EA, p. 28).

Comments received from the Idaho Department of Fish and Game during scoping support my decision (Project Record, Volume 1, Document 23). The Department supports the proposed amendment, because INFISH direction provides an effective measure to not only protect developing eggs and fry by preventing sediment delivery to streams, but it also protects all life stages by ensuring shade, ample recruitment of large woody debris and avoiding road construction in proximity to streams or where roads pose a threat to watershed health.

V. Other Alternatives Considered

A. Alternatives Not Given Detailed Study

1. Alternative C

We considered an alternative for instream measure of sediment in lieu of fry emergence (EA pp. 16-18). Such a measure would need to provide accurate and verifiable information related to existing levels of fine sediment in streams throughout the forest. As discussed in Chapter 3 of the EA (pp. 25-27), based on numerous physical factors, there is considerable variability in a stream's capability to mobilize and transport fine sediment. These physical factors vary not only from stream to stream within the same basin, but also vary considerably within the same stream. This variability makes it nearly impossible to develop useful universal guidelines or criteria for protecting stream biota based on turbidity and fine sediment.

The EA concluded that sediment cannot provide a quantitative standard for non-point sources under the Clean Water Act or State Water Quality Standards (pp. 26 and 27). Sediment is more appropriately addressed as a performance-based standard, such as Best Management Practices (BMP). Sediment loads can be used as objectives and basis for comparison as well as for validation and effectiveness monitoring, but not for compliance measures. The situation is similar for biological measures related to stream flows and sediment loads from non-point sources in wildland watershed situations.

While the IPNF evaluated other forests that have threshold sediment standards in their forest plans (e.g., Clearwater National Forest and the Challis portion of the Salmon-Challis National Forest), a review of recently revised forest plans demonstrates the trend towards performance-based standards (as opposed to threshold standards) for watershed, riparian, and fisheries habitat (e.g., Sawtooth NF, Payette NF, Boise NF, Dakota-Prairie Grassland, Wasatch-Cache NF, White River NF). None of these revised plans has a threshold standard for sediment (EA, p. 27).

Because of the above enumerated difficulties associated with accurately determining sediment values, an alternative that would replace the fry emergence standard with a similar quantitative threshold sediment standard was not considered to be viable and therefore, not given further detailed study (EA, p. 18).

2. Alternatives Considered in Detail

a) Alternative A – No Action

Analyzing a no-action alternative is a requirement of NEPA at 40 CFR 1508.14(d), and Forest Service planning procedures and provides the baseline for comparison of alternatives. Alternative A would not amend the forest plan; therefore, all existing forest plan objectives, standards, and monitoring requirements pertaining to fry emergence would be retained. Appendix A of the EA contains a list of the current forest plan objectives, standards, guidelines and monitoring requirements related to fish and water quality. Individual site-specific projects would be evaluated consistent with NEPA and NFMA requirements for their consistency with the existing direction found in the 1987 IPNF Forest Plan.

The no-action alternative does include the objectives, standards, guidelines, and monitoring requirements found in the INFISH amendment (see Appendix A).

I did not select this alternative for implementation because it does not address the purpose and need for action as well as did the selected alternative (see Section IV(A) of this document for a detailed discussion of this alternative's achievement of the purpose and need). There was no difference between Alternative A and the selected alternative in the responsiveness to the analysis issue because, except for the fry emergence direction, under either alternative all other forest or above-forest direction would continue, including the objectives, standards, guidelines, and monitoring requirements found in INFISH (EA p. 19).

b) Alternative B – Proposed Action

Alternative B is the alternative that I have selected for implementation. The rationale for its selection has been disclosed in this Decision Notice.

VI. Compliance with Laws and Regulations

Forest Service activities and decisions must comply with many laws. In this section I consider each of the major laws involved in this programmatic level decision.

A. National Forest Management Act

I have reviewed National Forest Management Act (NFMA) direction for management requirements (36 CFR 219.27(a) through (g)). I find that this amendment is in compliance with NFMA (see following section). Specifically, I find that this amendment is not significant, as it does not meet the requirement for a significant amendment as defined in Forest Service Manual (FSM) 1922.5. The selected alternative does not propose any timber management activity that is not in compliance with NFMA nor does it provide management direction that would cause future site-specific projects to conflict with the 36 CFR 219 resource integration and management requirements.

1. NFMA Significance of the Amendment

My decision amends the forest plan for the IPNF to remove existing direction relating to fry emergence success. Forest Service policy permits forest plan amendments resulting from analysis conducted during implementation [36 CFR 219.10(f) and FSM 1922.5]. I have determined these changes are not significant; they are minor adjustments that will not significantly alter the forest-wide environmental impacts disclosed in the IPNF Forest Plan EIS. This determination of non-significance is based on consideration of four factors (as per FSH 1909.12.5):

- 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 Forest Service handbook indicates that the later in the time period, the less significant the change is likely to be. This management direction will be in place until efforts to revise the forest plan are complete. The IPNF Forest Plan is nearing the end of the first planning period. As noted in the EA (p. 8), completion of the revision of the forest plan for the IPNF is expected in one to two years. Therefore, under our current forest plans, this amendment is expected to be in effect for only one to two years. This supports my determination that the proposed changes do not constitute a significant amendment of the forest plans.
- 2) *Size and Location* – The key to location and size is context, or “the relationship of the affected area to the overall planning area”, the smaller the area affected, the less likely the change is to be a significant change in the forest plan.” The planning area is about 2.5 million acres. The amendment is applicable to the entire planning area. Thus, the size of the area projected to be affected during this time period (two years or less) is not small when compared to the total in the

planning area. While this factor alone does not support my determination that the proposed changes do not constitute a significant amendment of the forest plan, it is mitigated to a considerable degree by the timing factor and the effect of the amendment on goals, objectives, and associated outputs.

- 3) *Goals, Objectives, and Associated 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.

The forest plan displays the outputs and services that were projected during the planning horizon. Implementation of the selected alternative will not change any forest plan fishery related goals. Forest plan fishery objectives, standards and monitoring requirements will either be modified or deleted to remove language pertaining to the measurement or monitoring of fry emergence success. Other resource goals, objectives, and associated outputs from the forest plan will not be affected by this amendment. As documented in the EA (pp. 32-33) there will be no effect to aquatic species and their habitat from implementation of this amendment, because other existing direction, which is more protective than the fry emergence direction will remain in the IPNF Forest Plan.

The management direction provided by this amendment, in combination with its timing, does not alter the long-term relationships between the levels of goods and services projected by the forest plans, thereby supporting my determination that the proposed changes do not constitute a significant amendment of the forest plans.

- 4) *Management Prescription* – The management prescription factor involves the determination of (a), “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 (b), “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)]. In this criterion, time remaining in the 15-year planning period and changes in desired future conditions or the anticipated goods and services to be produced are relevant considerations.

The change in direction is applicable to the entire planning area. The amendment will remain in effect until the forest plan is revised (expected to be within 1 to 2 years). Thus, the change and effects are short-term regarding application to future decisions throughout the planning area; thereby supporting my determination that the proposed changes do not constitute a significant amendment of the forest plan.

The amendments will remove inconsistent and redundant management direction (EA, p. 6) currently found within the forest plan. Retaining the fry emergence standard and attempting to predict compliance with the standard in project level analysis will lead to a large degree of uncertainty in the analysis and a need to explain why an inadequate and unmeasurable standard is being retained. It is also likely to lead to public confusion regarding the standard, the associated NEPA analysis of the standard, and hence the project as well (EA, p. 32). The desired future condition and land allocation of the current forest plan will not change. As I have discussed in “goals, objectives, and outputs”, the long-term levels of goods and services projected in the current plan will not be changed by the proposed management direction over the next one to two years. This information supports my determination that the proposed change does not constitute a significant amendment of the forest plan.

Finding

On the basis of the information and analysis contained in the EA and all other information available as summarized above, it is my determination that adoption of the management direction reflected in my decision does not result in a significant amendment to the existing forest plan. Though the area covered by this amendment amounts to the entire land base of the forest; goals, objectives, and associated outputs will not be altered from existing levels. Therefore, the *timing factor* substantially mitigates the potential effects the *size factor* could have upon the *goals, objectives and associated outputs* factor.

This decision is programmatic and does not supercede any direction currently in the forest plans that protects air quality, water quality, cultural resources, farm lands (prime or unique), floodplains, wetlands, Native American religious concerns, environmental justice, hazardous or solid wastes, water quality, wild and scenic rivers, migratory birds, and wilderness.

2. Forest Plan Consistency

This amendment will not change the basic purpose and need of the respective forest plan, nor will it change the goals originally established in the forest plan. The changes to the objective and forest-wide standards for fisheries are consistent with the overall direction for fisheries found in the forest plan. The intent of the amendment is to remove inconsistent and redundant management direction that pertains to fry emergence success (EA, p. 6). Because of the limited application of the fry emergence models and their unreliability, and the inability to determine fry emergence success in the field due to high variability affected by multiple natural and human-caused factors, the Forest Service is not be able to state with any degree of certainty whether measures of fry emergence success are accurate or precise.

The selected alternative is consistent with the forest plan as amended by the Inland Native Fish Strategy (INFISH) in 1995. INFISH is designed to protect riparian values and aquatic resources. The selected alternative will not affect the current direction for protecting aquatic resources as provided in the forest plans because the INFISH direction is more protective of aquatic species and their habitat than is the fry emergence direction (EA, p. 28). Continued monitoring of the effectiveness of INFISH will be done as part of the Terms and Conditions in the US Fish and Wildlife Service Biological Opinion on effects to bull trout from continued implementation of USFS LRMPs and BLM RMPs, as amended by PACFISH and INFISH (Project Record, Volume 4, Document 1). I find that this amendment is consistent with the forest plan's goals and objectives.

B. Endangered Species Act

The purposes of ESA are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved and to provide for the conservation of such endangered species and threatened species. Section 7(a)(1) of the Act requires federal agencies to carry out programs for the conservation of listed species. In addition, ESA requires federal agencies to insure that any agency action does not jeopardize the continued existence of the species [ESA Section 7(a)(2)]. ESA also requires the USFWS and Forest Service, respectively, to base the biological opinion and subsequent agency action on the use of best scientific and commercially available data [16 U.S.C. 1536(a)(2)].

In accordance with Section 7(c) of the Act, USFWS identified the listed and proposed threatened or endangered species that may be present on the forest. A biological assessment and a biological evaluation have been prepared for this proposal. The biological assessment and biological evaluation are included in Appendix C of this document. The conclusions of the biological assessment are that the selected alternative will have *no effect* to bull trout, Kootenai River white sturgeon, , gray wolf, woodland

caribou, bald eagle, grizzly bear, Canada lynx, water howellia, and Spalding's catchfly (Project Record, Volume 1, Documents 40, 41, 42).

For sensitive species, the conclusions were that there will be *no impact* to any sensitive species from implementation of the selected alternative (Project Record, Volume 1, Documents 40, 41, and 43).

My decision complies with the findings of the biological assessment and the Endangered Species Act.

C. Clean Water Act and State Water Quality Standards

Implementation of this amendment is expected to maintain water quality and satisfy all state (Idaho, Washington, and Montana) water quality requirements. I base this finding on the analysis, standards and guidelines contained in the forest plan after implementation of this amendment, and the application of best management practices (BMPs) specifically designed to protect water quality.

The forest plan was amended by INFISH in 1995 and contains standards and guidelines that apply to all RHCAs and to projects and activities in areas outside RHCAs that are identified through NEPA analysis as potentially degrading RHCAs. Actions that potentially reduce habitat quality, whether existing conditions are better or worse than objective values, are inconsistent with the purposes of INFISH (EA, p. 28). A summary of forested streamside research over the last 10 years supports the science used to establish INFISH, with no known new science that contradicts the science used to develop the INFISH strategy (EA, p. 28).

D. National Environmental Policy Act

The requirements of NEPA, as specified in 40 CFR 1500, have been fully applied through this planning effort. The EA and DN and the comprehensive analysis and public involvement steps, which they incorporate, comply with the letter and intent of NEPA. The EA analyzes a reasonable range of alternatives, including no-action, and discloses the expected environmental impacts of each alternative within the context of identified issues. The DN describes the selected alternative I have chosen to implement and my rationale for making this decision.

E. Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of their program, policies, and activities on minority populations and low-income populations.

Based on the analysis presented, I have concluded that there will be no disproportionate effects on minority or low-income populations from implementation of the selected alternative. As documented in the EA (pp. 32-33), implementation of the selected alternative will not have any direct, indirect, or cumulative effects to aquatic species or their habitat. Therefore, there is no risk of adverse environmental effects from land management activities on fish habitat and subsistence resources from implementation of the selected alternative.

Based upon the analysis, I find my decision will not adversely affect human health or minority and low-income populations. There has been ample opportunity for participation in the analysis process and the implementation of this project will not subject anyone to discrimination because of their race, color, or national origin.

VII. Finding of No Significant Impact

After thorough consideration of the EA, Appendices, and the comments received, I have determined that the selected alternative will not significantly affect the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). I have determined that these actions are not a major federal action, individually or cumulatively. The actions proposed in the selected alternative, Alternative B, both short and long term, are not significant. Thus, an environmental impact statement is not necessary. I base my finding on the following:

A. Context

The selected alternative has a local context by amending management direction for fish to an estimated 2.5 million acres of National Forest System lands within the Idaho Panhandle National Forests. Implementation of the amendment does not pose the potential for significant short or long-term effects because of the amendment's short duration (one to two years) and the absence of direct, indirect, and cumulative effects (EA, p. 32-33).

B. Intensity

1. Impacts may be both beneficial and adverse. A significant effect may exist even if, on balance, effects are believed to be beneficial. The EA shows that the selected alternative removes inconsistent and redundant management direction that pertains to fry emergence success (EA, p. 6). Eliminating the direction from the forest plan pertaining to fry emergence will not have a significant impact on aquatic species or their habitat because the fry emergence direction as written is not feasible to implement, does not provide for accurate or precise information, and is inconsistent with existing INFISH direction (EA, pp 24-28, 32-33).

2. The degree of effects on public health or safety. The amendment will not affect public health or safety. There are no known direct, indirect, or cumulative effects from implementation of the amendment (EA, pp. 32-33).

3. Unique characteristics of the geographic area, such as proximity to historic or cultural resources, parklands, prime farms, wetlands, wild and scenic rivers or ecologically critical areas. There will be no significant effects on unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. This is a programmatic amendment to the forest plan (EA, p. 3) that does not authorize ground-disturbing activities. As documented in the EA, there are no known direct, indirect, or cumulative effects anticipated from implementation of this amendment (EA, pp. 32-33).

4. The degree to which the effects on the quality of the human environment are not likely to be highly controversial. Controversy as described here is a dispute among the scientific community about the effects of the amendment, not controversy over the proposal itself. There is no controversy because there is no substantial dispute among the scientific community as to the effect of the Federal action on aquatic species and habitat (EA, pp. 23-28, 32-33). None of the comments received substantially refute the conclusions reached disclosed in the EA (see Project Record, Volume 1, Document 27 and Appendix B of this document) and the Forest Service is not aware of any additional pertinent scientific research beyond what has already been examined (see Project Record, Volume 1, Documents 21, 33, and 34; Volumes 2, 3, and 4).

5. The degree to which the possible effects on the environment are highly uncertain or involve unique or unknown risk. Some forests have threshold standards in their forest plans. However, a review of recently revised forest plans demonstrates the trend towards performance-based standards for watershed, riparian, and fisheries habitat (EA, p. 27). INFISH is performance-based direction that has

been in effect since 1995 (Project Record, Volume 3, Document 2). INFISH has led to improvement in the condition of aquatic resources by offering greater protections to riparian areas (EA, p. 22). The EA indicates that effects are not uncertain and do not involve unique or unknown risks (pp. 32-33).

6. The degree to which the action may establish a precedent for future actions with significant effects or presents a decision in principle about future consideration. The action will not establish precedent for future actions with significant effects nor does it represent a decision in principle about a future consideration. The amendment makes minor changes to the forest plan's fisheries objectives, standards, and monitoring requirements. The amendment removes inconsistent and redundant management direction that pertains to fry emergence success (EA, p. 6). Eliminating this direction from the forest plan is not expected to have any direct, indirect, or cumulative impacts to aquatic species and their habitat because all other forest plan management direction for fisheries and water quality will remain in effect, including INFISH management direction (EA, pp. 32-33 and Appendix A). Therefore, as described in the EA (pp. 32-33), elimination of the fry emergence direction will not change current management practices.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. There are no cumulative impacts from implementing the selected alternative (EA, p. 33). The selected alternative merely removes direction from the forest plan, which is inconsistent and redundant with existing INFISH direction (EA, pp. 4-7, 27-28, and 32). The fry emergence direction is also not feasible to implement because it does not provide for accurate or precise information (EA, pp. 24-27).

8. The degree to which the action may adversely affect districts, sites, highways, structures or objects listed in or eligible for listing in the National register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. This is a programmatic amendment to the forest plan (EA, p. 3) that does not authorize ground-disturbing activities that could affect historic places. The action also will not cause loss or destruction of significant scientific, cultural, or historical resources for the same reason.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act. The action will not adversely affect any endangered or threatened species or critical habitat as defined under the Endangered Species Act. A biological assessment has been prepared for this proposal. The conclusions of the biological assessment are that the selected alternative will have *no effect* to bull trout, Kootenai River white sturgeon, gray wolf, woodland caribou, bald eagle, grizzly bear, Canada lynx, water howellia, and Spalding's catchfly (Project Record, Volume 1, Documents 40, 41, 42).

10. Whether the action threatens a violation of Federal, State, or local law, or requirements imposed for the protection of the environment. The selected alternative will not violate any Federal, State, or local law, or requirement imposed for the protection of the environment. The selected alternative is consistent with the Endangered Species Act and the Clean Water Act (DN, pp 14-15 and EA p. 33).

VIII. Implementation

This amendment will become effective seven calendar days following publication of the legal notice of this decision in the newspaper of record identified in the following section (*Review and Appeal Opportunities*).

IX. Review and Appeal Opportunities

This decision is subject to appeal pursuant to 36 CFR 217. A written Appeal must be submitted within 45 days following publication of the notice of this decision in the following newspaper: *Spokesman Review*, Spokane, Washington. Send appeals to:

USDA Forest Service, Northern Region
Attn: Appeals Deciding Officer
P.O. Box 7669
Missoula, MT 59807

It is the responsibility of those who appeal a decision to provide sufficient written evidence and rationale to show why my decision should be changed or reversed. Appeals must meet the content requirements of 36 CFR 217.9, which state:

- The document is a Notice of Appeal filed pursuant to 36 CFR part 217;
- List the name, address, and telephone number of the appellant;
- Identify the decision about which the requester objects;
- Identify the document in which the decision is contained by title and subject, date of the decision, and name and title of the Responsible Official(s);
- Identify specifically that portion of the decision or decision document to which the requester objects;
- State the reasons for objecting, including issues of fact, law, regulation, or policy, and, if applicable, specifically how the decision violates law, regulation, or policy; and,
- Identify the specific change(s) in the decision that the appellant seeks.

For additional information concerning this decision, please contact: Karl Dekome, 3815 Schreiber Way, Coeur d'Alene, ID 83815. Additionally, the EA and Decision Notice/Finding of No Significant Impact are available on the IPNF website at <http://www.fs.fed.us/ipnf/eco/manage/nepa/index.html>.

for 

RANOTTA K. MCNAIR
Forest Supervisor
Idaho Panhandle National Forests

6-2-05
Date

Appendix A

Forest Plan Objectives, Standards, Guidelines, and Monitoring Requirements related to Fisheries and Water

Fisheries Objectives and Standards

Objectives (IPNF Forest Plan p. II-7):

The Idaho Panhandle National Forests will be managed to maintain and improve fish habitat capacities in order to achieve cooperative goals with the State Fish and Game Department and to comply with state water quality standards.

Fishery and timber riparian management activities will be coordinated in order to maximize the contribution of riparian vegetation to aquatic habitats. An annual program of direct habitat improvement work will be pursued. Several unroaded stream and river segments will be managed as low public access areas to maintain a diversity of fishing experiences on the Forest.

Standards (IPNF Forest Plan pp. II-29 to II-31):

Standard 3: The stream and river segments listed below will be managed as low access fishing opportunities to maintain a diversity of fishing experiences for the public and to protect sensitive fish populations. Special road management provisions will be used to accomplish this objective.

Low Access Fishing Streams

LNF Clearwater River (downstream of Mowich Cr.)	Foehl Cr.
Canyon Cr. (Avery R.D.)	Declaration Cr.
Sawtooth Cr.	Marie Cr.
Long Canyon Cr.	Blacktail Cr.
Upper Priest River	FW Slate Cr.
Upper Coeur d'Alene (between Tepee and Martin)	Marble Cr. (upstream of Hobo Cr.)
Independence Cr.	Clear Cr.
St. Joe River (between Red Ives and Heller Cr.)	Siwash Cr.
Freezout Cr.	Black Prince Cr.
WF Big Cr.	Skookum Cr.
EF Big Cr.	MF Big Cr.

Standard 4: Provide fish passage to suitable habitat areas, by designing road crossings of streams to allow fish passage or removing in-stream migration barriers.

Standard 5: Utilize data from stream, river, and lake inventories to prepare fishery prescriptions that coordinate fishery resource needs with other resource activities. Pursue fish habitat improvement projects to improve habitat carrying capacities on selected streams.

Standard 6: Coordinate management activities with water resource concerns as described in MA 16, and Appendix O.

Water Objectives and Standards

Objectives (IPNF Forest Plan p. II-9):

Fry Emergence Amendment

Management activities will comply with state water quality standards. This will be accomplished through the use of the Best Management Practices. The outcome of these best management practices will be monitored to determine their effectiveness. Water quality that is below Forest standards will be improved through restoration projects and through the scheduling of timber harvest and road building activities where appropriate.

Lands within public water systems, as identified on the Management Area Map, will be managed for multiple-uses within the water quality standards for public water supplies.

The application of appropriate conservation practices will ensure that the quality of individual water bodies will not be significantly affected by sediment production.

Standards (IPNF Forest Plan pp. II-33):

Standard 1: Management activities on Forest lands will not significantly impair the long-term productivity of the water resource and ensure that state water quality standards will be met or exceeded.

Standard 2: Maintain concentrations of total sediment or chemical constituents within State standards.

Standard 3: Implement project level standards and guidelines for water quality contained in the Best Management Practices (Appendix S), including those defined by State regulation or agreement between the State and Forest Service such as:

- a. Idaho Forest Practices Rules
- b. Rules and Regulations and Minimum Standards for Stream Channel Alterations.
- c. Best Management Practices for Road Activities.

Standard 4: Cooperate with the states to determine necessary instream flows for various uses. Instream flows should be maintained by acquiring water rights or reservations.

Standard 5: Manage public water system plans for multiple use by balancing present and future resources with public water supply needs. Project plans for activities in public water systems will be reviewed by the water users and the State.

Streams not defined as public water systems, but used by individuals for such purposes, will be managed to the standards stated below or to the fisheries standards whichever is applicable.

Standard 6: Activities within non-fishery drainages, including first and second order streams, will be planned and executed to maintain existing biota. Maintenance of existing biota will be defined as maintaining the physical integrity of these streams. Best Management Practices (Appendix S), Appendix O, and riparian guidelines will be used to accomplish this objective.

Standard 7: It is the intent of this plan that models be used as a tool to approximate the effects of National Forest activities on water quality values. The models will be used in conjunction with field data, monitoring results, continuing research and professional judgment, to further refine estimated effects and to make recommendations.

Fry Emergence Amendment

Monitoring Requirements for Fish and Water (IPNF Forest Plan, pp. IV-11 and IV-12):

G-2	Validate R1/R4 model	11 streams	Annually	Annually	Actual more than plus or minus 20% of model prediction, adjust model
G-3	Validate fish habitat trends	Stream surveys	Annually	5 years	A declining trend in habitat quality
G-4	Fish population trends – cutthroat trout	Cooperative with Idaho Fish and Game	2 years	2 years	Downward trend

INFISH Monitoring Requirements [from the Bull Trout Biological Opinion (USDI 1998)]

Through interagency coordination, develop stratified monitoring plans (e.g. at the watershed or subbasin scales) to evaluate impacts of management actions to bull trout. The management program areas to address and a schedule for their development will be agreed to by the interagency team. The plans should address, at a minimum, both compliance and effectiveness monitoring.

- a. Develop these plans by subbasin, through use of an interagency group, to maximize the utility of monitoring information through a coordinated effort and a defensible sampling design. The interagency groups should establish objectives for the monitoring plans in accordance with PACFISH and INFISH.
- b. Goals for the monitoring plans should include maximizing the effectiveness of limited monitoring funds, identifying appropriate scales and levels of monitoring necessary to determine if management actions are meeting PACFISH and INFISH direction, allowing for flexibility as funding and activities change and identifying how monitoring results should be used to make management adjustments.
- c. Fully implement the monitoring plans by ensuring monitoring schedules are developed and implemented, with agreement between the USFS, BLM and the Service. If these mutually agreed upon schedules cannot be followed, an alternative approach will be developed and agreed to by the interagency group.

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 (RHCA's, described below) or that degrade RHCA's 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 RHCA's. 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 analysis 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 (RHCA) 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 RHCA's 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 RHCA's and to projects and activities in areas outside RHCA's that are identified through NEPA analysis as potentially degrading RHCA's. The combination of the standards and guidelines for RHCA's 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 tralling, 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 be 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 commentators 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.*

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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-lev-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/Wildfire Vegetative Community	Riparian and stream-adjacent sites	Harvesting, Thinning, Prescribed Burning	Prevent catastrophic wildfires. Return RHCA's 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.

Appendix B

Appendix B

Response to Comments

This appendix responds to comments received from the public during the 30-day pre-decisional Environmental Assessment (EA) comment period. The forest received three letters during the pre-decisional comment period.

A public involvement plan was prepared for this project and is located in the project record (Volume 1, Document 3).

Public Participation Opportunities

This project has appeared on the Forest's NEPA Schedule of Proposed Actions (SOPA) since April of 2005. The initial scoping letter was mailed out to the public on March 22, 2005, to those individuals and organizations on the forest's SOPA mailing list (see Project Record Volume 1, Document 5). On April 22, 2005, the Fry Emergence Amendment EA was mailed out for comment. Approximately 10 letters, emails, or telephone calls were received during the entire analysis period.

List of Respondents to the EA

Jonathan Oppenheimer – Idaho Conservation League [PR Volume 1, Document 32]

Mike Mihelich – Kootenai Environmental Alliance and on behalf of the Selkirk Conservation Alliance, and The Lands Council [PR Volume 1, Document 33]

Jeff Juel – The Ecology Center and on behalf of The Lands Council, Friends of the Clearwater, Idaho Sporting Congress, and Alliance for the Wild Rockies [[PR Volume 1, Document 34]

Response to Comments

Purpose and Need

It does not appear that the elimination of the Fry Emergence Standard would achieve the stated purpose and need for the amendment. In fact, the purpose and need is unclear. Is the purpose to eliminate accountability for water quality, or is it to find an alternative standard to ensure that basic environmental laws are being adhered to. [32]

***Response:** The purpose and need for the proposal is identified on pages 6 and 7 of the EA. The need is to remove direction from the forest plan that does not contribute as well as does the existing INFISH direction towards meeting forest plan goals for providing sufficient aquatic habitat in support of maintaining diverse and viable populations of fish species across the forest. Fry emergence is not measurable with any degree of accuracy due to the limited application of the fry emergence models, their unreliability, and the inability to determine fry emergence success in the field due to high variability affected by multiple natural and human-caused factors (EA pp. 24-27). In addition, the fry emergence standard allows for potentially significant degradation of aquatic habitat to occur. Therefore, it does not provide accountability for water quality as the commenter suggests. The allowance for degradation is contrary to the intent of INFISH, which was designed to provide a means for passive restoration of degraded aquatic habitat. As discussed on page 33 of the EA, implementation of the proposed action would not result in direct, indirect, or cumulative effect*

because of the performance-based direction of INFISH, and protections provided by other policies, laws, and direction.

So many of the premises upon which the Forest Service (FS) bases its alleged “need” to amend the fry emergence provisions of the IPNF Forest Plan are wrong and misleading. The EA states that the current fry emergence objectives, standards, and monitoring requirements allow more damage (from, FS logging and road building activities) than if they were removed from the Forest Plan. This is most laughable, given the timing of this proposal relating to the fact that the FS has just withdrawn at least three major timber sales because of the outcome of the *Lands Council v. Powell* case—timber sales that would further damage streams that FS activities have already significantly damaged. Yet we are to believe that the FS is concerned that the current fry emergence objectives, standards, and monitoring requirements are too lenient? [34]

Response: *As documented in the EA (pp. 24-27), forest plan monitoring and other independent research have shown that fry emergence models give highly variable results, have limited application, and do not reliably predict the effects of stream sedimentation on fry emergence success. As identified in the purpose and need for the proposal (EA pp. 6-7), the recent 9th Circuit finding that the INFISH standards and guidelines and fry emergence standard are not in conflict would require the Forest Service to determine, based on monitoring data, if the fry emergence standard is being achieved. Because of the model’s lack of reliability, the Forest Service would not be able to state with any degree of certainty whether measures of fry emergence success are accurate or precise. As a result, there was a need to amend the forest plan to address the lack of high quality information provided by the fry emergence model.*

The fry emergence standard does allow for potentially significant degradation of aquatic habitat to occur (EA p. 24) and therefore, it is more lenient than the INFISH direction currently within the forest plan. The allowance for degradation is contrary to the intent of INFISH, which was designed to provide a means for passive restoration of degraded aquatic habitat. Instead of allowing some acceptable level of effects on riparian and aquatic systems, its goal is to protect those resources from detrimental effects (EA, pp. 27-28).

Given the ongoing revision of the 1987 IPNF Forest Plan, the Idaho Conservation League questions the propriety of carrying out such a significant amendment, and directing significant resources to such an effort at this time. Instead of carrying out this amendment, perhaps the IPNF would be better served by focusing on accurate and scientifically defensible standards and guidelines to be incorporated into a revised Forest Plan for the IPNF. [32]

We believe it’s a waste of taxpayer dollars to be going through this exercise when the Forest Plan will be revised quite soon. The funds could be put to far better use obliterating roads and removing other human-caused impediments to natural watershed recovery. [34]

Response: *As documented in the EA (pp. 12-13) and the Decision Notice and Finding of No Significant Impact (pp. 12-14 and 15-17), this amendment is not significant in nature, from either an NFMA or NEPA perspective. As discussed in the EA (p. 5-6), the IPNF had not been attempting to measure or implement the fry emergence standard since the passage of the INFISH amendments in 1995, because it was the Forest Service’s position that the INFISH standards and guidelines amended into the forest plan in 1995 superceded the fry emergence direction because it offered more protection for aquatic species and their habitat. The recent 9th Circuit decision that the two standards do not conflict would require the Forest Service to demonstrate compliance with the fry emergence standard in the continuing implementation of the 1987 forest plan. Because of the difficulties of accurately determining fry emergence success, there is a need to amend the IPNF*

Forest Plan to address the fry emergence objectives, standards and monitoring requirements during the interim one to two years before the revised IPNF Forest Plan is developed (EA, p. 6-8).

Alternatives

The discussion related to the lack of accuracy related to fry emergence contradicts findings from past projects and offers no alternative measures that would be more accurate, or acceptable to the IPNF. This is a critical omission. Many measurable standards and thresholds are difficult to measure. If you maintain that fry emergence is not reliable, propose one that is, that achieves the same protection of commonly-held resources. [32]

Response: *The difficulties of accurately ascertaining fry emergence success were documented in the 1989 Forest Plan Monitoring and Evaluation Report (Project Record, Volume 2, Document 2, p. 14). The report noted that “After examining the data, it is apparent that the relationship between sampled intergravel fines/embeddedness parameters and the amount of timber harvest and roading in a watershed (from the IPNF sediment model) is weak. Although the general trend is for higher levels of intergravel fine sediment and embeddedness in the developed watersheds, there is a lot of scatter and variability observed. We are unable to report on the emergence success levels or trends in relation to the 80 percent standard from this monitoring effort.”*

The goal of the forest plan for fisheries resources is to provide sufficient habitat for the purposes of maintaining diverse and viable populations of fish species across the forest (EA, p. 3). The fry emergence standard does not contribute to this forest plan goal because it allows for potentially significant degradation of aquatic habitat to occur from project level activities (EA, p. 5). Therefore, goals of the 1987 forest plan would not be achieved by the Forest Service if we were to propose a standard similar to/as protective as the fry emergence standard. The fry emergence standard potentially allowed for degradation beyond the 20 percent amount stated in the forest plan (p. II-29,) if the line officer decision was to approve a project after reviewing its effects on fish and water resources and as long as the State agreed that the project did not violate state water quality standards (Forest Plan Appendix I – see EA Appendix B). This allowance of long-term reduction in productivity is less protective than INFISH, which requires long-term maintenance or improvement (EA, p. 28).

The proposed action would remove direction from the forest plan pertaining to fry emergence. However, all other existing fisheries and water quality direction would be retained in the plan, including INFISH direction and the requirement that State water quality standards will be met or exceeded (EA, pp. 14-16 and Appendix A).

The EA discussed the difficulties associated with detecting change through sediment monitoring, including the variability of stream gage data with respect to sediment (pp. 25-27). This large and wide range of variability for the hydrologic parameters would be amplified when they are related to sediment disposition over time at a site, since they would only explain a part of the variability of sediment deposition. When variability of biological responses is factored in, the variability is exaggerated even more (EA, p. 26). For these reasons, the EA concluded that sediment cannot provide an appropriate quantitative standard for non-point sources under the Clean Water Act or State Water Quality Standards. Sediment is best addressed through performance-based standards, such as BMPs or INFISH (EA, p. 26).

The lack of alternatives in the EA is a major shortcoming and one that appears to violate NEPA. [32]

Response: *FSH 1909.15, Chapter 14, requires “based on the results of scoping and the determination of issues to be analyzed in detail, develop and consider all reasonable alternatives to the proposed action. As established in case law interpreting the National Environmental Policy Act, the phrase ‘all reasonable alternatives’ has not been interpreted to require that an infinite or unreasonable number of alternatives be analyzed...”*

Comments received from scoping indicated that a quantitative threshold standard for should be retained in the forest plan because an amended forest plan applying INFISH alone would not provide the same level of protection for maintaining viable fish populations across the forest as with the fry emergence success standard included (EA, p. 11). As documented in the EA, the objectives, standards, guidelines and monitoring requirements for fisheries and water quality that would be retained in the forest plan, if the proposed amendment were implemented, is direction that can be monitored and provides for an equal level of protection for fish and their habitat, when compared to the existing forest plan direction (p. 11, 32-33). The interdisciplinary team based this conclusion on the forest monitoring efforts done to date (Project Record, Volume 2, Documents 2 and 3) and other scientific research indicating that fry emergence models do not give accurate or precise results (EA, p. 24-25). Therefore, the interdisciplinary team was not able to identify any unresolved conflicts concerning alternative uses of available resources because aquatic species and their habitat would be unaffected by the proposed action (EA, p. 11 and 32-33).

An alternative was considered but dismissed from detailed consideration that would have replaced the fry emergence standard with a similar quantitative threshold measure for sediment (EA, p. 16). This alternative was not feasible and not given detailed considered because of difficulties associated with accurately determining sediment values (EA, pp. 17-18). The EA considered a reasonable range of alternatives.

If fry emergence is deleted from the 1987 IPNF Forest Plan, an alternative measure for instream measurement must be implemented in its place. As discussed previously, INFISH fails to provide for the same level of detail, analysis and monitoring. The Ninth Circuit opinion on Iron-Honey clearly finds as such. As a result, in order to fully comply with NFMA, Idaho State Law, and other components of the 1987 IPNF Forest Plan, it is essential that water quality is provided measurable protection in order to ensure that ongoing activities do not unacceptably impact water and fishery resources. [32]

Response: *Alternative C proposed to replace the fry emergence standard with a similar quantitative threshold measure for sediment. This alternative was not given detailed consideration because of difficulties associated with accurately determining sediment values (EA, p. 18). On the IPNF monitoring has shown large amounts of variability in stream gage data. The variability at a site typically has exceeded 100 percent and variability of sediment measurements and annual load determinations have been even more profound. Suspended sediment coefficients of variations have ranged between 150 and 1,400 percent between measurements for a station and 85 to 165 percent between years. This large and wide range of variability for hydrologic parameters is amplified when related to sediment disposition over time and when biological responses, such as fry emergence are factored in (EA, p. 18). For these reasons, sediment cannot provide a quantitative standard for non-point sources under the Clean Water Act or State Water Quality Standards (EA, p. 18). Sediment is more appropriately addressed as a performance-based standard (EA, p. 18).*

The goal of the forest plan for fisheries resources is to provide sufficient habitat for the purposes of maintaining diverse and viable populations of fish species across the forest (EA, p. 3). The fry emergence standard does not contribute to this forest plan goal because it allows for degradation of aquatic habitat (potentially significant) occurring from project level activities (EA, p. 5). Contrary to 9th circuit court opinion in Iron-Honey, the fry emergence direction does not require corrective

actions if the 80 percent fry emergence success threshold is not met. The fry emergence standard potentially allowed for degradation beyond the 20 percent amount stated in the forest plan (p. II-29,) if the line officer decision was to approve a project after reviewing its effects on fish and water resources and as long as the State agreed that the project did not violate state water quality standards (Forest Plan Appendix I – see EA Appendix B). This allowance of long-term reduction in productivity is less protective than INFISH, which requires long-term maintenance or improvement of habitat (EA, p. 28).

The fry emergence standard has not contributed to measurable protection of water quality and fishery resources. As discussed in the EA (pp. 4, 6-7, 24-25), forest monitoring data and independent research have shown that fry emergence models give highly variable results, often have limited application and do not reliably predict the effects of stream sedimentation on fry emergence success. If the Forest Service cannot accurately and reliably measure/predict fry emergence success, we cannot state with any degree of certainty, whether the model information supports consistency findings with forest plan fish standards, i.e. providing measurable protection in order to ensure that ongoing activities do not unacceptably impact water and fishery resources. Water quality direction in the forest plan currently requires that the forest meet or exceed state water quality standards (see EA, Appendix B). This direction would remain in the plan under either alternative.

Unlike the fry emergence monitoring element (EA, Appendix A, p. A-5), the INFISH direction, which would remain in the forest plan under either alternative, is direction that can be monitored (EA, p. 31). Three objectives of INFISH monitoring are:

- 1) Determine whether key biological and physical attributes, processes, and functions of upland, riparian, and aquatic systems are being degraded, maintained, or restored across the PIBO landscape¹.*
- 2) a) Determine the direction and rate of change in riparian and aquatic habitats over time as a function of management practices.
b) Determine whether riparian and aquatic habitat conditions at integrator reaches are reflective of conditions throughout the watershed.*
- 3) Determine whether specific Key Management Practices (KMPs) for livestock grazing are effective in maintaining or restoring riparian structure and function.*

The IPNF should evaluate other Forest Plans in the nation, which provide for measurable standards of water quality and should evaluate a number of these to find a suitable replacement, if necessary [32]

Response: *Some forests have threshold sediment standards in their forest plans (e.g., Clearwater NF, Challis NF); however, a review of recently revised forest plans demonstrates the trend towards performance-based standards for watershed, riparian, and fisheries habitat (e.g., Sawtooth NF, Payette NF, Boise NF, Dakota-Prairieland NF, Wasatch-Cache NF, White River NF). None of these revised plans has a threshold standard for sediment (EA, p. 27).*

Allow us to suggest that in order to gain public trust, the IPNF discard industrial logging as a management option. That would be a reasonable part of any alternative for amending the Forest Plan in regards to addressing declining fisheries, since logging and associated road building activities—far more than anything other activities—have caused the most damage to the IPNF watersheds. [34]

¹ PIBO is an acronym for PACFISH and INFISH Biological Opinions; the PIBO landscape refers the federal lands in the Upper Columbia River Basin that are covered under the PACFISH and INFISH strategies.

If it's a problem that a line officer could approve a project in watersheds where the numerical standard is violated (EA at 28), then why not get rid of that discretion for the line officer? [34]

Response: *The purpose and need for this proposal is identified on pages 6 and 7 of the EA. A need was identified for amending the IPNF Forest Plan to address the inconsistencies of the existing fry emergence objectives, standards and monitoring requirements with direction provided by the INFISH amendment, ESA, NFMA; as well as the lack of high quality information provided by the fry emergence model. Alternatives that would discard industrial logging as a management option or that would remove line officer discretion to approve and implement site-specific projects that would result in a greater than 20 percent reduction in fry emergence success would not address the purpose and need for action and would not be a viable or feasible alternatives. Under either alternative, the Forest Service would still not be able to state with any degree of certainty whether our site-specific project decisions demonstrate compliance with the standards contained in the forest plan for fry emergence. This results from the limited application of fry emergence models and their unreliability, and inability to determine fry emergence success in the field due to high variability affected by multiple natural and human-caused factors (EA, pp. 23-25).*

The EA identifies other monitoring parameters such as cobble embeddedness, residual pool depths, pool-riffle ratios, and cross-section profiles (EA at 17) that are said to more directly related to designated uses. Why, then, are you not proposing to add such numeric standards, so that you, the scientific community, and the public can more accurately determine the differences between pristine/baseline streams and streams in logged and roaded areas? [34]

Response: *These are all parameters that can be monitored and used to display the differences between reference and current condition. They can also display changes in stream conditions over time. However, developing numeric standards by which one measures a threshold using these parameters is no less problematic than determining a threshold standard for sediment (see EA, page 16-18, Alternatives Not Given Detailed Study, and pages 25-27, Detecting Change through Sediment Monitoring). Streams are variable systems and determining one number or set of numbers as thresholds using these parameters would be arbitrary and indefensible.*

The third paragraph on page 18 fails to disclose “percent of...” percent of what? [34]

Response: *The paragraph states that:*

“The variability of the sediment measurements and annual load determinations is more profound. Suspended sediment CV ranges between 150 and 1,400 percent between measurements for a station and 85 to 165 percent between years. Bedload, which is not related as well to stream flow, ranges up to 600 percent between samples; and over 110 percent between years at a station”

The second sentence refers to percent suspended sediment and the third sentence refers to percent bedload sediment.

We urge the FS to adopt the Forest Restoration Principles and Criteria (DellaSala et al, 2003) as an even better Forest Plan amendment, which would lead to far better project-level decision-making than has historically been the norm on this national forest. [34]

Response: *The DellaSala et al. 2003 paper is more appropriate for the Forest Plan revision process rather than as an amendment. In fact, the concepts discussed in the paper are in line with the discussion and analysis in the current revision process as well as recent project level analyses undertaken by the forest.*

Aquatics

The amendment to the IPNF 1987 Forest Plan applying INFISH does not provide the same level of protection or standards as the fry emergence standard. As such, the emphasis on how INFISH results in similar on-the-ground results relies on faulty logic. INFISH provides a means to reduce the addition of future sediment, whereas the fry emergence standard provides a measurable gauge of the amount of sediment existing in streams and water bodies, and effectively precludes future additions of sediment. [32]

Response:

- *INFISH provides more protection than the fry emergence standard alone. The fry emergence standard allowed for degradation of 20% or more, which can result in a substantial increase in the amount of sediment and decrease in fry emergence success (see page 24, EA, Application of the Fry Emergence Standard, second paragraph). INFISH does not allow any long-term degradation.*
- *INFISH does not result in similar “on-the-ground results” as the fry emergence standard; it provides the protection that the fry emergence standard does not. As discussed in the Environmental Consequences section (pages 32-33), the main reason the results are basically the same between alternatives is because INFISH protections preclude the degradation allowed under the fry emergence standard.*
- *The fry emergence standard does not provide a measurable gauge of sediment existing in streams. The fry emergence standard is based on sediment, but it is not a measure of sediment. Fry emergence success is the ability of fish eggs to survive and hatch to become fry and emerge from the gravels (EA page 4), and fine sediment is one of many factors that can affect success. However, it is not the only factor (see EA, page 24-25, Factors Affecting Fry Emergence Success). Models developed to predict fry emergence success based on fine sediment have been found to be neither precise nor accurate (EA, page 24-25, Factors Affecting Fry Emergence Success).*

Please provide the data that supports the statement in the EA that fine sediment is no longer a major concern on the IPNF. It has seemed over the course of the IPNF’s management of forests in north Idaho, that fine sediments were a problem, due to excessive road construction and logging. If the problem has been fixed, please provide the supporting evidence that indicates as such. [32]

The notion that fine sediments are not a major concern on the IPNF is grossly misleading. If the FS hadn’t so heavily clearcut the watersheds to the point where spring runoff, rain-on-snow and other storm events elevated water yield and therefore bedload sediment and its associated streambed aggradation, stream channel scouring, etc., then it might actually notice that fine sediment would be a problem. Furthermore, not all the geology on the IPNF is the same, a topic the EA ignores. [34]

Response: *The comment is taking the “fine sediment” issue out of context when parsing the complete statement (EA, p. 4). There is no suggestion being made in the EA that fine sediment is not a water quality concern as a potential problem that can develop from operations induced disturbances or even from natural drivers of watershed processes. The statement itself reflects that since fine sediment is, at best, weakly correlated to fry emergence (see EA p. 4); and since fry emergence itself is generally not a limiting factor, then fine sediment is often not the driving factor.*

Indeed, issues related to the delivery and deposition of fine sediment can be a local issue related to water quality and fish habitats in which case it can be analyzed using very specific local data. The extraordinary variability of fine sediment and its dependence of local physical conditions support the

conclusion that it is generally not a major concern at the Forest Plan scale. This conclusion is supported by scoping comments provided by the Idaho Department of Fish and Game (Project Record, Volume 1, Document 23).

Sediment routing, the process by which sediment is transported through the entire hydrologic system is a critical issue. Fry emergence relates directly to sediment routing, as it provides a measure by how sediment is being deposited and transported through stream and river systems. This is especially important where low-gradient streams have a low capability for routing sediment. Because of the importance of this issue, we strongly encourage you to consider it in your analysis, include a discussion in the Final EA, and provide a detailed rationale of how it will be assessed and managed for if the fry emergence standard is deleted. If fry emergence is deleted from the Forest Plan, what measures, or models will be applied to account for the impacts to in-stream sediment? [32]

Response: *Sediment transport, routing, and disposition are indeed important components relating erosion and stream conditions. However, these components are highly variable and, when they need to be assessed, that assessment must be derived for the local situation and primary issues at hand. It is not appropriate or effective at the Forest Plan scale to direct a specific methodology or standard when the local conditions are not known. Various techniques, like WATSED, transport models, pebble counts, surveyed cross-sections, etc., may be used at the project level when necessary. This amendment is placing the emphasis on avoidance of adverse sediment loading by placing controls on management actions that have the potential to contribute to it.*

Related to sediment transport, we have included three scientific papers that detail the role that in-stream sediment plays in salmonid habitat, and which further details the important issue of sediment transport and discharge. The following reports should be discussed in the Final EA and FONSI, if one is issued.

Beechie, T. 2001. *Empirical Predictors of Annual Bed Load Travel Distance, and Implications for Salmonid Habitat Restoration and Protection*. Earth Surface Processes and Landforms 26:1025-1034.

Emmett, WW and MG Wolman. 2001. *Effective Discharge and Gravel-Bed Rivers*. Earth Surface Processes and Landforms 26:1369-1380.

Platts, W et al. 1989. *Changes in Salmon Spawning and Rearing Habitat from Increased Delivery of Fine Sediment to the South Fork Salmon River, Idaho*. Transactions of the American Fisheries Society 118:274-283. [32]

Response: *There is no dispute that instream sediment is an important factor in the quality of salmonid habitat:*

- *“The detrimental effects to fish and their habitat by increases in sediment delivery to streams have been widely observed, studied, and documented (see Waters 1995, Hicks et al. 1991, Everest et al. 1987, Platts et al. 1989, and many others). The effects of fine sediment on reproductive success of salmonid fishes have been studied since the 1920s (Chapman 1988). Research has concluded that fine sediment can reduce the transport of oxygen to eggs, leading to embryo mortality, and can block the movement of fry from spawning beds. Mortality was shown to increase as fines increased.” (EA page 23-24)*
- *“While increases in sediment may only partially explain variability in fry emergence success, fine sediment in streams has been shown to have detrimental effects on aquatic biota and habitat (Hicks et al. 1991). So while fry emergence is not an appropriate and measurable standard there is no question that minimizing the long-term effects of sediments in streams is appropriate. The recognition of the many ways increased sediment levels can affect fish and*

aquatic habitat has led to numerous methodologies to measure and monitor sediment (Bunte and Abt 2001).” (EA page 25);

- *“Increases in sediment can be detrimental to fish and aquatic habitat in many ways; therefore, the goal should be to limit increases in sediment delivery from forest management activities.” (EA page 27)*

The Beechie paper describes a methodology for estimating bedload movement through stream channels by relating annual travel distance to simple basin or channel characteristics. His premise is that traditional estimates of bedload transport (complex equations) are often in error even when calibrated with local data, so he proposes a methodology that is simpler, although potentially no more accurate. His proposed method is for use as a way to determine how quickly sediment moves through a reach to aid with planning restoration activities. This paper was cited in the EA as an example of the many methodologies available for “sampling sediment, substrate, and other indicators of watershed condition (Bunte and Abt 2001, Beechie 2001, Emmett and Wolman 2001)” (EA page 27).

Emmett and Wolman’s paper is also about bedload transport, but concentrates on the relationship between effective discharge (the increment of water discharge that transports the most bedload) and factors affecting the mobility of bed material, and effects on the recurrence interval of flows needed to transport bedload (i.e., bankfull flows). They used data that included Idaho streams. This paper was cited in the EA along with Beechie as another methodology available for indicators of watershed condition.

The Platts et al. paper reports on the changes over 20 years in the South Fork Salmon River from fine sediment resulting from years of road building and logging, and large storm events. After a moratorium on logging in 1965, the stream began to recover. Long-term monitoring of sediment occurred over 20 years and this paper reports on those results. This paper was cited in the EA as an example supporting the statement that increases in sediment delivery to streams causes detrimental effects to fish and their habitat (page 23, EA, The Fry Emergence Standard, History). A more recent paper that follows the long-term sediment monitoring in the South Fork Salmon River is also cited (Nelson et al. 2004) to support that long-term sediment monitoring programs on other forests have been useful in detecting trends in watersheds (page 27, EA).

However, none of these papers offered solutions on developing threshold sediment standards.

The lack of clarity over high-priority watersheds as defined by INFISH vs. high-value streams as defined in the 1987 IPNF Forest Plan should be clarified in the EA for this proposal. Additionally, it is unclear how the fry emergence standard applies to non-INFISH streams, and/or whether all INFISH guidelines and procedures apply to all streams on the IPNF. Clarification of these issues would help the public to fully understand the scope of the current proposal and would assist decisionmakers in making an informed decision. [32]

Response: *This is explained in the EA on pages 28-29 (INFISH Priority Watersheds). In summary:*

- *There are no “non-INFISH streams”. “The INFISH strategy applies to all fish-bearing streams, non-fish-bearing streams, ponds, lakes, reservoirs, seasonally flowing or intermittent streams, wetlands, landslides and landslide-prone areas on the IPNF (USDA 1995), whether or not they are ‘priority’ or ‘high value’” (page 28, EA, INFISH Priority Watersheds).*
- *INFISH standards and guidelines are part of the INFISH strategy and apply to all streams on the IPNF.*

If the amendment to eliminate the fry emergence standard is selected, we strongly encourage you to incorporate a detailed timeline for completing watershed analysis for streams on the IPNF. As detailed in the INFISH Decision Notice and Final EA, watershed analysis is a critical tool to evaluate components of the watershed, to identify restoration needs and to evaluate RMOs and RHCAs. [32]

Response: *We agree that comprehensive analyses at the watershed scale are effective tools to assess risks and set priorities for protection and restoration measures. These analyses themselves are prioritized based on local resources issues related to a watershed, not just a “stream.”*

The proposed amendment to the 1987 IPNF Forest Plan should clearly detail any relationship to MIS or ESA-listed Bull Trout. If population monitoring is the only measure used to gauge populations or habitat, a complete monitoring plan and schedule should be provided to detail the impacts of management related activities. If fry emergence is the only measure for fisheries habitat provided in the 1987 Forest Plan, an alternative measure must be provided to ensure compliance with NFMA and ESA. [32]

Response:

- *The proposed amendment will have no effect to fish, including MIS or listed bull trout, as discussed on page 33 of the EA (Environmental Consequences, Alternative B-Removing the Fry Emergence Standard). A Biological Assessment/Evaluation for federally listed and regionally sensitive fish (including bull trout and cutthroat trout, which are MIS on the IPNF) concluded the amendment will have no effect to these species (Project Record, Volume 1, Document 40).*
- *In addition to the monitoring requirement for “Greater than 80% of potential emergence success” (G-1, page IV-11, USDA 1987), there are monitoring requirements to “Validate fish habitat trends identified in the Forest Plan” through the use of stream surveys and to be reported on every 5 years (G-3, page IV-12, USDA 1987), and to monitor “Fish population trends-cutthroat trout” in cooperation with Idaho Fish and Game to be reported every two years (G-4, page IV-11, USDA 1987). See EA, page 23, Table 5 (Examples of IPNF aquatic resources inventory and monitoring efforts).*

Then there is the already ongoing Forest Plan revision process. The FS has stated that INFISH was to be an “interim” planning strategy, yet it’s clear the strategy wasn’t to be changed until the Forest Plan is revised. And the FS has the INFISH Forest Plan Amendment in its sights for weakening, based upon revisions on other national forests in the range of INFISH and PACFISH. [34]

Response: *Originally, INFISH was intended to be an interim strategy in place for 18 months, until a permanent strategy was developed through the Interior Columbia Basin Ecosystem Management Project (ICBEMP). ICBEMP took longer to complete than was anticipated, and, although a FEIS and proposed decision were published, no Record of Decision was prepared. Since no permanent strategy was forthcoming from ICBEMP, the decision was made to continue INFISH until a permanent strategy could be developed as part of forest plan revisions. This is documented in the Interior Columbia Basin Strategy and associated Interagency Memorandum of Understanding (1/29/03). The following is an excerpt from the Interior Columbia Basin Strategy (page 4):*

“Until administrative unit plans are amended or revised utilizing the ICBEMP Science in this Strategy, management will continue under current plans. This will include interim PACFISH, INFISH direction and applicable consultation and biological opinions, as well as the Eastside Screens for Oregon and Washington National Forests.

- *Upon completion of amendment and revision efforts, revised or amended forest and resource management plans will replace interim PACFISH & INFISH direction and Eastside Screens as appropriate.”*

There is no intent through the KIPZ forest plan revision process to “weaken” INFISH. In the AMS, the Need for Change for Watershed and Aquatic Species includes the need to improve on INFISH by developing direction for watershed restoration. While restoration is encouraged by INFISH, there is no direction or strategy for it . Therefore, “Revision of the Forest Plans presents the opportunity to improve on past efforts (e.g., BMPs, INFISH) and develop further direction for aquatic restoration.” (AMS Technical Report, page 84).

The EA also inaccurately portrays INFISH as not allowing management activities that “contribute to a degradation of aquatic habitat.” Logging and road building severely contribute to a degradation of habitat, especially in watershed those activities have already damaged. If your characterization of INFISH were accurate, none of the logging on the IPNF since INFISH was adopted is legal. [34]

Response: *There is no doubt that logging and road building can degrade aquatic habitat (see Chamberlain et al. 1991, Furniss et al. 1991, many others). This has occurred on the IPNF (IPNF 1992). As described in the EA (p. 28), prior to INFISH, threshold standards and BMPs were relied on to maintain aquatic resources during management activities; however, fish habitat condition was declining, primarily due to timber harvest and road building activities, despite these measures (EA, page 20). INFISH provides protections to riparian and aquatic habitats from effects of human-caused disturbance, including timber harvest and road building.*

Prior to INFISH, the forest relied on the Idaho Forest Practices Act, which is offers far less protection for riparian and aquatic systems. Stream Protection Zones for Class I streams (important for spawning, rearing or migration of fish) under IPA is 75 feet, and commercial timber harvest is allowed in the zone (IDAPA 20.02.01.010(58)(c)). The IPA instructs that, for stream protection, “During and after forest practice operations, stream beds and streamside vegetation shall be protected to leave them in the most natural condition as possible to maintain water quality and aquatic habitat” (IDAPA 20.02.01.030(07)). One way to accomplish this is to, “Carefully remove timber from the Stream Protection Zone in such a way that shading and filtering effects are not destroyed.” (IDAPA 20.02.01.030(07)(e)(iii)).

Under INFISH, the minimum Riparian Habitat Conservation Area (RHCA) for these same streams is at least 300 feet and commercial harvest is prohibited (USDA 1995). RHCAs are areas where riparian-dependent resources receive primary emphasis, and any activities that occur in RHCAs cannot slow the rate of recovery below the near natural rate of recovery if no additional human-caused disturbance was placed on the system (USDA 1995, page A-3, A-4). It is obvious that INFISH offers far more protection for riparian and aquatic resources than the Idaho Forest Practices Act.

INFISH was developed using the best science as a strategy to protect riparian and aquatic systems from further degradation from human-caused activities (including timber harvest and road building). By implementing INFISH the expectation is that the riparian and aquatic systems will be protected and allowed to recover at natural or near-natural rates (the rate of recovery if no additional human-caused disturbance was placed on the system) (USDA 1995). That is the reasonable expectation based on the best science; therefore, the expectation is that by applying INFISH, timber sale projects have not contributed to degradation of aquatic habitat.

If “1987 to present” are the “early years of the planning cycle” (EA at 20) then what are the “later years?” The EA is not making a lot of sense in many ways. [34]

Response: *The planning cycle is defined as “1987 to present” (EA, page 20, footnote #5). The early years would have been the early part of that cycle and are pre-INFISH. The later years include those post INFISH amendment. The planning cycle, though, is a gradation rather than a “pre” versus “post” INFISH. The point is that in the early years there was a greater amount and degree of ground-disturbing activities and less protection for riparian and aquatic species (including fish), where as later there was more protection and less human-caused disturbance, especially logging and road construction. (EA, pages 20-23).*

The INFISH monitoring discussion on page 31 of the EA indicated that 47 6th field HUC watersheds on the IPNF have been sampled from 2000-2004. These watersheds were not listed in the EA. The decision document should include a list of the 47 watersheds. [33]

Response: *This is the list of streams with integrator reaches sampled on the IPNF 2001-2004 (PIBO 2005).*

-
- AMERICAN
 - BALL
 - BOULDER
 - CANUCK
 - MEADOW
 - MYRTLE
 - SPRUCE
 - W.F. SMITH
-
- 4TH OF JULY
 - BRETT
 - BUMBLEBEE
 - COPPER
 - E.F.LOST
 - EMERSON
 - INDEPENDENCE
 - JORDAN
 - LAVERNE
 - LEIBERG
 - NORTH
 - RAMPIKE
 - TRAIL
 - TRIB OF ARMSTRONG
 - W.F. EAGLE
 - W.F. STEAMBOAT
-
- BENTON
 - DUBIUS
 - HUGHES
 - LAMB
 - QUARTZ
 - COCOLALLA
 - GROUSE
 - N.F. GROUSE
 - WEST GOLD
 - BEAN
 - BEAVER
 - BECHTEL
 - BIRD
 - E.F. EMERALD
 - FALLS
 - FOEHL
 - HELLER
 - HUME
 - LITTLE NORTH FORK CLEARWATER
 - MOSQUITO
 - RED IVES
 - SIMMONS

ST. JOE

Since the INFISH strategy applies to all fish-bearing streams and all non-fish bearing streams, seasonally flowing or intermittent streams, apparently there are a number of 303(d) water quality impaired INFISH watersheds that require sediment TMDLs. This is in spite of habitat improvement projects that have been performed for decades on the IPNF, along with the over 1,300 miles of road decommissioning. There should be expert agency comments with high quality information in the decision document describing why there continue to be a large number of impaired water bodies on the IPNF in spite of the INFISH requirements that have been in existence for over 10 years. [33]

***Response:** In most cases, the data and information used to make the “impaired” determinations on stream segments currently listed for sediment predate INFISH. In fact, most impaired segments are the result of a legacy of activities and natural events that occurred decades prior to INFISH. Since the adoption of INFISH and the further development of effective BMPs, as well as watershed restoration activities on the Forests; the State has been recommending delisting several segments.*

The decision document should include a discussion of technical aspects of the INFISH RMOS and RHCAs as they relate to reducing stream temperatures in impaired water bodies on the IPNF that will require temperature TMDLs. [33]

***Response:** The fry emergence standard is not based on temperature and any potential relationship between stream temperature and fry emergence success was not indicated in the 1987 Forest Plan or any supporting documentation, therefore temperature is not discussed in detail. The fry emergence standard is based on sediment. INFISH RMOs and RHCAs and their relationship to sediment are addressed in the EA (pages 27-28, The Inland Native Fish Strategy (INFISH), Sediment and INFISH).*

The EA states (p. 18) the “For these reasons, at least in part, sediment cannot provide quantitative standard for non-point sources under the Clean Water Act or State Water Quality Standards.” Idaho water quality standards at IDAPA 58.01.02.053.01 concerns Aquatic Habitat Parameters and provides for measurements of sediment impacts. In the event INFISH monitoring does not take place and INFISH standards and guidelines are not followed in INFISH watersheds, what assurances are there the INFISH strategy will result in full compliance with Idaho WQS 58.01.02.200.8 and other Idaho WQS? These include IDAPA 58.01.02.050.02b, which requires that existing beneficial uses of the water of the state will be protected. [33]

***Response:** Compliance with Idaho WQS for non-point sources is required by IDAPA 58.01.02.350, application of Best Management Practices. INFISH (Inland Native Fish Strategy) includes a set of practices designed to assure that management actions are implemented such that stream conditions and water quality fully support inland native fish. The Forest Plan provides several mechanisms to monitor the goal of the WQS. The State monitors all the segments they have listed for status and trends related to WQS. And the Idaho Department of Lands monitors forest practices for compliance with the WQS under its authorities in the Forest Practices Rules.*

The decision document should provide expert agency comments that will indicate whether the INFISH strategy allows for any water pollution to the waters of the state, and also indicate whether the INFISH strategy allows for the discharge of any pollutant into the waters of the state. If the INFISH strategy does not allow for any degradation to pristine waters of the state, including Special Resource Waters, the decision document should cite the scientific studies that have shown implementation of INFISH has prevented the degradation of pristine waters. [33]

Response: *INFISH is not a standard per se, but is rather a strategy to protect water quality, stream and watershed conditions, and fish habitat that is necessary to fully support inland native fish. It does not “allow” for any pollution, and does not supercede the States’ water quality standards. Many of the Forests BMP implementation practices, including those associated with INFISH, have been monitored for effectiveness (see Annual Forest Plan Monitoring Reports); and when effectiveness issues are identified, the practices are redesigned per Forest Service policy and the Idaho Forest Practices Rules.*

Monitoring

It is important to note that given the application of the fry emergence standard (as reported in past EAs and monitoring reports) there is little documentation of the difficulties that were revealed in the scoping notice or the Draft EA for this project (i.e. lack of accurate, high quality data). [32]

Response: *Difficulties determining whether 80% fry emergence success was being achieved on the forest, variations in sampling techniques, and high natural variability of sediment were discussed in the 1989 IPNF Forest Plan Monitoring and Evaluation Report, pages 14-15.*

The EA fails to disclose the results of forest-wide monitoring of water quality, fish habitat, and fish population trends since the Forest Plan (with fry emergence) was adopted. It also fails to disclose the IPNF’s Forest Plan monitoring shortcomings and outright failures. [34]

Response:

- *Results of Forest-wide monitoring are reported in the annual Forest Plan monitoring and evaluation reports. The types of water quality, fish habitat, and fish population trend monitoring are listed in Table 5 (page 23) of the EA, and the monitoring reports are incorporated by reference in the same table.*
- *It is unclear what monitoring “shortcomings and outright failures” the commenter is referring to; the IPNF conducts monitoring and reports results at the specified frequency (see Table 5 for a list of Forest Plan monitoring reports) with results from water quality, fish habitat, and fish population trends.*

The EA indicated that it will take three rotations to definitively determine the effectiveness of INFISH strategies. In the event that a second rotation of the monitoring/sampling process in the 47 watersheds is delayed or cancelled, will there be any INFISH monitoring in these watersheds? [33]

Response: *Monitoring the effectiveness of INFISH (and PACFISH) is part of the Terms and Conditions in the Biological Opinion on effects to bull trout from continued implementation of USFS LRMPs and BLM RMPs, as amended by PACFISH and INFISH (Project Record, Volume 4, Document 1). The following is from the BO, pages 96-97 (The BO can be viewed on the web at www.fs.fed.us/r6/fish/ under Documents, Biological Opinions:*

4. *Through interagency coordination, develop stratified monitoring plans (e.g. at the watershed or subbasin scales) to evaluate impacts of management actions to bull trout. The management program areas to address and a schedule for their development will be agreed to by the interagency team. The plans should address, at a minimum, both compliance and effectiveness monitoring.*
 - a. *Develop these plans by subbasin, through use of an interagency group, to maximize the utility of monitoring information through a coordinated effort and a*

defensible sampling design. The interagency groups should establish objectives for the monitoring plans in accordance with PACFISH and INFISH.

Goals for the monitoring plans should include maximizing the effectiveness of limited monitoring funds, identifying appropriate scales and levels of monitoring necessary to determine if management actions are meeting PACFISH and INFISH direction, allowing for flexibility as funding and activities change, and identifying how monitoring results should be used to make management adjustments.

Fully implement the monitoring plans by ensuring monitoring schedules are developed and implemented, with agreement between the USFS, BLM and the Service. If these mutually agreed upon schedules can not be followed, an alternative approach will be developed and agreed to by the interagency group.

Continuing effectiveness monitoring is a legal requirement under the BO.

Incidentally, “47” is not the final number of streams to be monitored on the IPNF; that is the number that have been monitored through 2004. Additional reaches from 6th Code HUCs are still being added.

It appears that data collected from the sampling in the 47 watersheds has not resulted in any INFISH effectiveness reports. The decision document should describe the INFISH monitoring data and monitoring results acquired by IPNF water quality specialists that indicate timber sale projects in INFISH watersheds have not contributed to any degradation of aquatic habitat. The INFISH data and reports should include analysis that show the timber sale projects are consistent with IPNF Forest Plan fish and water quality requirements, and are also consistent with CWA and Idaho Water Quality Standards. [33]

Response: *The PIBO Effectiveness Monitoring Program Staff compiles an Annual Summary Report that contains the results of all data collected. The two most recent reports are cited in the EA and are included in the project file (PIBO 2004, PIBO 2005). The PIBO group also annually provides the complete dataset of all the PIBO data collected across the PACFISH/INFISH landscape. The group has also published many papers associated with the PIBO effort. Some of these papers are cited in the EA (Archer et al. 2004, Kershner et al. 2004, Olsen et al. in press, Roper et al. 2002). Information, data, and literature provided by the PIBO group is available on the web at www.fs.fed.us/biology/fishecology/emp/.*

As stated in the EA (page 31, INFISH Monitoring), it will take two rotations to determine trend and three rotations to definitively determine the effectiveness of INFISH. However, the PIBO monitoring effort also includes “sentinel” sites that are sampled annually. Monitoring of the sentinel sites will help determine the rate and direction of change in managed and reference watersheds. This information will allow better estimates in projecting how long it will take for the expected changes from management to occur. There are approximately 50 sentinel sites across the PACFISH/INFISH landscape, two of which are on the IPNF (Hughes Creek and Lamb Creek).

Implementation monitoring answers the question, “Did we do what we said we were going to do?”; in other words, did we implement the activity correctly?. As it relates to INFISH, this type of monitoring could include things like: Were the correct RHCAs applied on the ground? Were all applicable standards and guidelines followed? Effectiveness monitoring answers the question, “Was what we did effective? Did it accomplish what we expected?” The PIBO effort is effectiveness monitoring. INFISH was developed using the best science as a strategy to protect riparian and

aquatic systems from further degradation from human-caused activities. By implementing INFISH the expectation is that the riparian and aquatic systems will be protected and allowed to recover at natural or near-natural rates (the rate of recovery if no additional human-caused disturbance was placed on the system) (USDA 1995). That is the reasonable expectation based on the best science; therefore, the expectation is that by applying INFISH, timber sale projects have not contributed to degradation of aquatic habitat. The “proving” of this is what the effectiveness monitoring is designed to do.

Implementation monitoring of INFISH has taken place on the IPNF. The RHCA boundaries of every unit on the Priest Lake RD for the Douglas-fir Beetle Project was verified on the ground and documented by an aquatics crew after the unit boundaries were marked. Spot-checking of other projects has also occurred.

Long-term stream hydrology monitoring stations have been established throughout the forest. The decision document should include information that will indicate whether there are flow gages and automated sediment samplers in any of the 47 watersheds mentioned on page 31. [33]

Response: *The established automated stream gages maintained by the forest are only a part of a Forest-wide water quality and hydrology monitoring network. Of the 47 (actually 53) sub-watersheds monitored to-date using the PIBO protocols, six of those watersheds currently have active stream gages operational: Smith Creek, North Fork Grouse Creek, Boulder Creek, Little NF Clearwater River, Bird Creek, and the St. Joe River (two locations). Sediment data is available for at least portions of the periods of record at each of those gage sites. Several others of the listed watersheds have supplemental or legacy information that has been gathered by the forest.*

Best Management Practices

The EA suggests Best Management Practices (BMPs) would assist project-level decision-making to protect fish habitat. BMPs are inadequate measures, at best. BMPs simply cannot be relied upon as the method of maintaining viable populations when their previous use has not insured adequate population distribution as NFMA requires.. Beschta et al. (2004) state:

It is perhaps widely accepted that “best management practices” (BMPs) can reduce damage to aquatic environments from roads. Time trends in aquatic habitat indicators indicate, however, that BMPs fail to protect salmonid habitats from cumulative degradation by roads and logging (Espinosa et al. 1997.) Ziemer and Lisle (1993) note a lack of reliable data showing that BMPs are cumulatively effective in protecting aquatic resources from damage. [34]

Response: *The EA does not dispute that BMPs alone are not enough to protect aquatic resources from damage. The EA states that, under the original forest plan, BMPs were applied to ensure that watersheds and aquatic resources were “maintained” during forest management activities. It also states that despite threshold standards and BMPs, the condition of fish habitat on the forest was declining, primarily due to timber harvest and road building activities (IPNF 1992) (EA, page 20).*

BMPs are a way to minimize and/or mitigate effects. It is recognized that application of BMPs alone are not enough (including in the EA; see above). As stated in Reeves et al. (1995), “Past and many present approaches to management of freshwater habitats of anadromous salmonids have focused on mitigating losses rather than preventing them. This strategy has generally not been successful.”

Fry Emergence Amendment Decision Notice and Finding of No Significant Impact

INFISH is designed to protect riparian and aquatic resources and prevent degradation from human-caused disturbance, rather than mitigating or minimizing the effects. However, BMPs have their place and are important in conjunction with the protections provided by INFISH.

Appendix C



File Code: 2670
Route To:

Date: May 31, 2005

Subject: Fry Emergence Amendment Fisheries Biological Assessment/Evaluation

To: Ranotta K. McNair, Forest Supervisor

The U. S. Fish and Wildlife Service (USFWS) lists two fish species that occur, potentially occur, and/or habitat exists within the Kaniksu portion of the Idaho Panhandle National Forests as endangered or threatened under the Endangered Species Act (ESA) of 1973 (Biannual Forest Wide Species List: FWS 1-9-99-SP-158; March 10, 1999). The Kootenai River population of the white sturgeon (*Acipenser transmontanus*) is listed as "endangered" (Federal Register, Volume 59, No. 171, September 6, 1994) and the Columbia River Distinct Population Segment of bull trout (*Salvelinus confluentus*) is listed as "threatened" (Federal Register, Volume 63, No. 111, June 10, 1998). Three additional fish species are listed as "species of concern" by USFWS and as "sensitive" by the Regional Forester.

The purpose of this document is to analyze the effects of the proposed project, described below, on these five fish species. It was prepared in accordance with Section 7(c) of ESA, and manual direction to review all Forest Service activities to ensure that such activities do not contribute to a downward trend in population numbers or density of sensitive species and/or a downward trend in habitat capability, either of which might ultimately result in the need for federal listing (FSM 2672.1 and 2672.4).

Summary of Activity

Proposed Action:

The Forest Service is proposing to amend the IPNF Forest Plan by removing from the forest plan or modifying the following sections that pertain to fry emergence:

- 1) Forest plan objectives for fisheries (p. II-7): The following sentences would be removed:

Sedimentation arising from land management activities will be managed so that in forest fisheries streams the objective is to maintain 80 percent of fry emergence success as measured from pristine conditions. Appendix I details the analysis process.

- 2) Forest plan standards for fisheries (p. II-29): Standard #1 for fish, which reads as follows, would be removed:

Activities on National Forest lands will be planned and executed to maintain existing water uses. Maintain is defined as "limiting effects from National Forest activities to maintain at least 80 percent of fry emergence success in identified fishery streams." The percent is measured from pristine conditions. Current methodology will not detect an impact of less than 20 percent. During the life of the plan, new technologies may permit



more precise assessments; however, the goal of this standard will remain as "to maintain 80 percent of fry emergence success.

3) Forest plan standards for fisheries (p. II-30): Standard #2 for fish would be removed in its entirety:

Streams providing spawning and rearing habitat, which are considered critical to the maintenance of river and lake populations of special concern, will be managed at a standard higher than the 80 percent standard. Monitoring will be needed to detect this higher standard. The high value streams are: (see the alternatives discussion for a list of high value streams listed in the forest plan).

4) Forest plan standards for fisheries (p. II-31): Standard #6 would be modified to delete the reference to Appendix I.

5) Table IV-2 of the forest plan (p. IV-11), which pertains to forest plan monitoring requirements would be modified to delete monitoring item G-1 – *Greater than 80% of potential emergence success.*

6) *Appendix I* would be removed from the forest plan.

The Inland Native Fish Strategy (INFISH) amended the IPNF Forest Plan in 1995 and will remain in the Plan.

Analysis of Effects

Species	Habitat Present	Habitat Absent	Species Present	Species Absent	Cumulative Effects
<i>Endangered:</i>					
White sturgeon <i>Acipenser transmontanus</i>	x		x		None
<i>Threatened:</i>					
Bull trout <i>Salvelinus confluentus</i>	x		x		None
<i>Sensitive/Species of Concern:</i>					
Burbot <i>Lota lota</i>	x		x		None
Interior redband trout <i>Oncorhynchus mykiss gairdneri</i>	x				None
Westslope cutthroat trout <i>Oncorhynchus clarki lewisi</i>	x		x		None

Further explanations for above table: White sturgeon and burbot are found in the main Kootenai River. Interior redband trout are known to occur in the Kootenai River system in some tributaries. Bull trout and westslope cutthroat trout are distributed in rivers and tributaries across the IPNF.

Determination of Effects and Rationale

1. Direct Effects:

The proposed action represents programmatic decisions and therefore will have no direct effects on forest resources, including water quality, fish and other aquatic biota, and their habitat.

2. Indirect Effects:

There would be no indirect effects to fish from implementing this alternative. Due to the performance-based direction in INFISH, and protections provided by other policies, laws, and direction, there will be no indirect effects to forest resources, including water quality, fish and other aquatic biota, and their habitat. There will be no effect on viability of native and desired non-native fish species because of the provided protections and the continuing restoration activities on the IPNF.

At the forest level, there would be no requirement to monitor trends in fry emergence success. All other forest or above-forest level monitoring such as INFISH implementation and effectiveness monitoring, IPNF forest sediment monitoring, and other aquatic habitat and species inventory and monitoring (see Table 5 in the Fry Emergence Amendment EA, page 23) will not be affected and are expected to continue.

At the project level, INFISH direction will remain in place. INFISH standards and guidelines will continue to be applied to projects and activities. Additional protections provided by the Clean Water Act, including the State's Antidegradation Policy and TMDLs, the Endangered Species Act, and other policies, laws, and direction will remain. Removal of Appendix I will have no effect because the process described (detailed description of the existing condition, analysis of effects of the project on aquatic resources, and reporting findings to the decision-maker) is required by NEPA. Detailed analysis of direct, indirect, and cumulative effects (including effects of sediment) of proposed activities on aquatic resources will continue as required by NEPA, including effects to beneficial uses such as aquatic biota and salmonid spawning. Findings of consistency with the Clean Water Act, NFMA, and Endangered Species Act will continue as required by NEPA.

There will be no effect to any federally listed threatened or endangered or regionally sensitive fish species from this amendment.

3. Cumulative Effects

There will be no cumulative effects from this alternative because there are no direct or indirect effects.

Mandatory Conservation Requirements

The determination is based on the continued implementation of the INFISH strategy.

Prepared by: 
Shanda Fallau Dekome
Forest Fisheries Biologist

Date: 5/31/05

**Biological Evaluation/Assessment
Wildlife Species
Forest Plan Amendment for Fry Emergence**

This Biological Evaluation and Assessment (BE/BA) documents the rationale and determination of effects from implementing the new Forest Plan Fry Emergence Amendment.

Proposed Action

The Forest Service is proposing to amend the IPNF Forest Plan by removing from the forest plan or modifying the following sections that pertain to fry emergence:

- 1) Forest plan objectives for fisheries (p. II-7): The following sentences would be removed:

Sedimentation arising from land management activities will be managed so that in forest fisheries streams the objective is to maintain 80 percent of fry emergence success as measured from pristine conditions. Appendix I details the analysis process.

- 2) Forest plan standards for fisheries (p. II-29): Standard #1 for fish, which reads as follows, would be removed:

Activities on National Forest lands will be planned and executed to maintain existing water uses. Maintain is defined as "limiting effects from National Forest activities to maintain at least 80 percent of fry emergence success in identified fishery streams." The percent is measured from pristine conditions. Current methodology will not detect an impact of less than 20 percent. During the life of the plan, new technologies may permit more precise assessments; however, the goal of this standard will remain as "to maintain 80 percent of fry emergence success.

- 3) Forest plan standards for fisheries (p. II-30): Standard #2 for fish would be removed in its entirety:

Streams providing spawning and rearing habitat, which are considered critical to the maintenance of river and lake populations of special concern, will be managed at a standard higher than the 80 percent standard. Monitoring will be needed to detect this higher standard. The high value streams are: (see the alternatives discussion for a list of high value streams listed in the forest plan).

- 4) Forest plan standards for fisheries (p. II-31): Standard #6 would be modified to delete the reference to Appendix I.

5) Table IV-2 of the forest plan (p. IV-11), which pertains to forest plan monitoring requirements would be modified to delete monitoring item G-1 – *Greater than 80% of potential emergence success.*

- 6) *Appendix I* would be removed from the forest plan.

Sensitive, Threatened and Endangered Species

The following table displays the Sensitive, Threatened and Endangered (TES) wildlife species that may occur on the IPNF National Forests. The table documents the analysis of potential impacts and the determination of effects. Based on the programmatic nature of the Amendment, the lack of any connection or relevance to most TES wildlife and therefore the negligible potential for effects to wildlife, the table and the information displayed therein provides an appropriate level of documentation of the analysis and determination of potential effects.

Sensitive Species	NI	MIH	WIFV	BI	Rationale/ Comments
American peregrine falcon (<i>Falco peregrinus anatum</i>)	X				No suitable habitat present, species not present. No Impact to species viability.
Black swift (<i>Cypseloides niger</i>)	X				No suitable habitat affected. No Impact to species viability
Common loon (<i>Gavia immer</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Flammulated owl (<i>Otus flammeolus</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Harlequin duck (<i>Histrionicus histrionicus</i>)	X				No suitable habitat affected. No impact to species viability
Pygmy nuthatch (<i>Sitta pygmaea</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Fisher (<i>Martes pennanti</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Fringed myotis (<i>Myotis thysanodes</i>)	X				No suitable habitat present, species not present. No Impact to species viability
North American wolverine (<i>Gulo gulo luscus</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Northern bog lemming (<i>Synaptomys borealis</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Coeur d'Alene salamander (<i>Plethodon idahoensis</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Western toad (<i>Bufo boreas</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Black-backed Woodpecker (<i>Picoides arcticus</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Northern goshawk (<i>Accipiter gentilis</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Endangered	X				
Gray Wolf (<i>Canis lupis</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Woodland Caribou (<i>Rangifer tarandus caribou</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Threatened	X				
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Canada Lynx (<i>Lynx Canadensis</i>)	X				No suitable habitat present, species not present. No Impact to species viability
Black bear (<i>Ursus arctos</i>)	X				No suitable habitat present, species not present. No Impact to species viability

- NI = No Impact
MIH = May Impact Individuals Or Habitat, But Will Not Likely Contribute To A Trend Towards Federal Listing Or Loss Of Viability To The Population Or Species
WIFV = Will Impact Individuals Or Habitat With A Consequence That The Action May Contribute To A Trend Towards Federal Listing Or Cause A Loss Of Viability To The Population Or Species
BI = Beneficial Impact

Robert M Ralph

WILDLIFE BIOLOGIST:

5-31-05

DATE

**NORTHERN REGION
BIOLOGICAL ASSESSMENT FOR
THREATENED AND ENDANGERED PLANT SPECIES
SUMMARY OF CONCLUSION OF EFFECTS***

Project Name: Forest Plan Amendment for Fry Emergence

Project Description: The Forest Service is proposing to amend the IPNF Forest Plan by removing from the forest plan or modifying the following sections that pertain to fry emergence. The Inland Native Fish Strategy (USDA 1995) amendment would remain in place in the Forest Plan.

1) Forest plan objectives for fisheries (p. II-7): The following sentences would be removed:

Sedimentation arising from land management activities will be managed so that in forest fisheries streams the objective is to maintain 80 percent of fry emergence success as measured from pristine conditions. Appendix I details the analysis process.

2) Forest plan standards for fisheries (p. II-29): Standard #1 for fish, which reads as follows, would be removed:

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Streams providing spawning and rearing habitat, which are considered critical to the maintenance of river and lake populations of special concern, will be managed at a standard higher than the 80 percent standard. Monitoring will be needed to detect this higher standard. The high value streams are: (see the alternatives discussion for a list of high value streams listed in the forest plan).

4) Forest plan standards for fisheries (p. II-31): Standard #6 would be modified to delete the reference to Appendix I.

5) Table IV-2 of the forest plan (p. IV-11), which pertains to forest plan monitoring requirements would be modified to delete monitoring item G-1 – *Greater than 80% of potential emergence success.*

6) *Appendix I* would be removed from the forest plan.

Species	No Effect	Not Likely to Adversely Affect	May Affect - Likely to Adversely Affect	Beneficial Effect
1. Water howellia (<i>Howellia aquatilis</i>) (T)	X			
2. Spaldings catchfly (<i>Silene spaldingii</i>) (T)	X			

* This list is based on U.S. Fish and Wildlife Service Threatened and Endangered species letter to the IPNF of March 4, 2005, FWS-1-9-05-0154.

(T) = Threatened species
(E) = Endangered species

Comments: The No Effect determination for Threatened plants was based on an assessment of potential habitats and occurrence records for these species. There are no Endangered plants listed for the IPNF. There are no documented occurrences of either of the above listed Threatened plant species on the Idaho Panhandle National Forests, although suitable habitat is suspected to occur.

The proposed action would have "no effect" on Threatened plant habitat or any documented Threatened plant occurrence(s) because amendment of the Forest Plan as proposed would not result in any habitat disturbance. Threatened and Endangered plants would continue to be analyzed on a project by project basis, with field surveys and appropriate mitigation as needed.

References:

USDA Forest Service. 1995. Inland Native Fish Strategy Environmental Assessment. USDA, Forest Service Intermountain, Northern, and Pacific Regions.

Prepared by: Valerie Goodnow
Botanist

Date: June 1, 2005