

RECORD OF DECISION

Small-Scale Suction Dredging in Lolo Creek and Moose Creek

Clearwater National Forest
Clearwater and Idaho Counties, Idaho

March 2010

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| Responsible Official: | Rick Brazell Forest Supervisor Clearwater National Forest 12730 U.S. Highway 12 Orofino, ID 83544 |
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Abstract: *This document describes the decision for Small-Scale Suction Dredging in Lolo Creek and Moose Creek. The decision is based on the analysis documented in the Draft (now final) Supplemental Environmental Impact Statement (August 24, 2009) and the Clearwater National Forest Land and Resource Management Plan Final EIS (September 1987).*

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Record of Decision
Small-Scale Suction Dredging in Lolo Creek and Moose Creek
Environmental Impact Statement
Lochsa and North Fork Ranger Districts
USDA Forest Service
Clearwater National Forest
Clearwater and Idaho Counties, Idaho

A. SUMMARY OF DECISION

The Lochsa and North Fork Ranger Districts of the Clearwater National Forest prepared a Draft Supplemental Environmental Impact Statement (SEIS) titled *Small-Scale Suction Dredging in Lolo Creek and Moose Creek*, to analyze the environmental effects of approving a limited number of Plans of Operations for small-scale suction dredging in specified reaches of Lolo and Moose Creeks. Public comments on the SEIS did not disclose any new issues or a need for new analysis. Minor adjustments to the SEIS have been described on an errata sheet. Thus, it is my decision to re-issue the SEIS and publish a brief Final SEIS, containing only Chapter 7 (public involvement) and the Errata, as the final documentation for this project [40 CFR 1503.4 (c)].

Proposed suction dredge mining areas are located in Lolo Creek, 14-17 miles southeast of Pierce, Idaho in portions of T34N, R6E, Section 5 and T35N, R6E, Sections 10, 16, 17, 20, 29 and 32, Clearwater and Idaho counties. They are also located in Moose Creek, 12 miles east of Kelly Forks Work Center in portions of T39N, R11E, Sections 4 and 9, T40N, R11E, Sections 29, 31, 32, 33, Clearwater County, Idaho (see attached map). This Record of Decision documents the decision and rationale for implementing the selected actions in the project area.

It is my decision to implement Alternative 3 as described in the SEIS on pages 2-5 through 2-10.

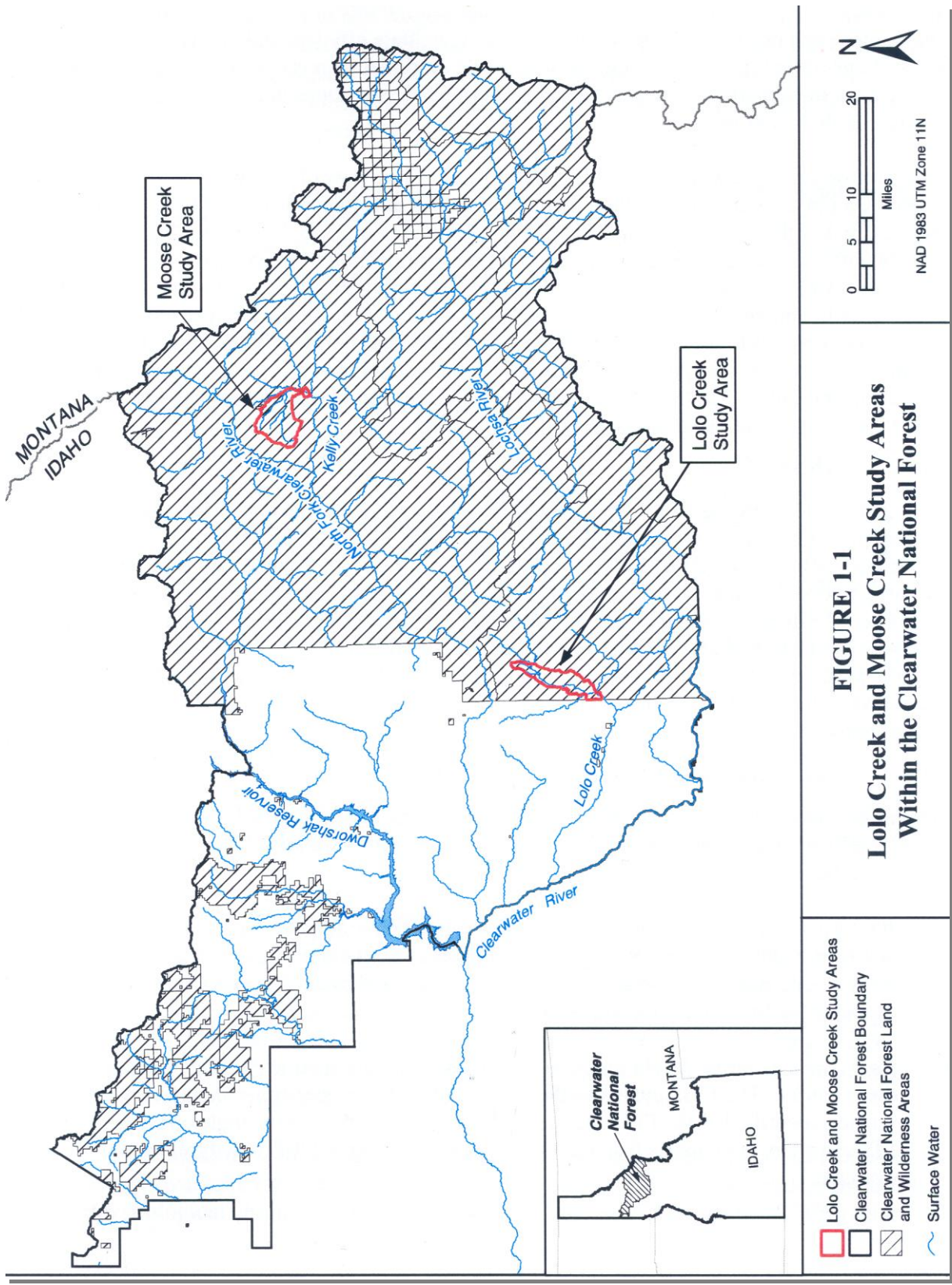
Briefly, this Decision will accomplish the following:

- Allow for the approval of proposed Plans of Operation in specified reaches of Lolo Creek (including Dutchman Creek) and in Moose Creek (including Independence Creek and Deadwood Creek).
- Stabilize and reclaim approximately 950 feet of Lolo Creek along the abandoned Lolo #5 mining claim.
- Require each operator to implement an extensive list of operating conditions, design features, terms and conditions, and mitigation measures, as described in the SEIS and further in this document.

B. PURPOSE AND NEED FOR ACTION

One Purpose statement drove the design of the proposed action (See SEIS – Purpose and Need for the Proposed Action on pages 1-5 through 1-6). It states:

Develop operating conditions and mitigation measures that protect surface resources, including threatened fish species, from impacts of suction dredging.



C. PROPOSED ACTION

The Proposed Action was designed to address specific management needs directly related to the Purpose and Need for Action, but also to integrate other resource values and policy and legal requirements such as water quality, aquatics, wildlife, sensitive plants, recreation, Tribal Treaty Rights, and roadless areas.

The study team identified and described a Proposed Action to achieve the Purpose for Action (See SEIS, pages ES-2 through ES-3 and pages 2-1 through 2-4). This Proposal was identified in the Notice of Intent to prepare an EIS and is briefly described as follows:

- Allow for the approval of proposed Plans of Operation in specified reaches of Lolo Creek (including Dutchman Creek) and Moose Creek (Independence Creek and Deadwood Creek).
- The maximum number of operations approved in any year is 18 for Lolo Creek and 38 for Moose Creek.
- Require each operator to implement an extensive list of operating conditions, design features, terms and conditions, and mitigation measures, as described in the SEIS, pages 2-7 through 2-10.

D. ISSUES

Issues addressed in the analysis flowed directly from the Proposed Action and fell into several categories. Issues addressed through project design or mitigation were used to form the Proposed Action and other Alternatives. Important issues for which environmental consequences must be disclosed were carried through detailed analysis. Issues that were outside the scope, decided by law or policy, or not affected by the proposal were dismissed (See SEIS – Issues discussion on pages 1-9 through 1-13).

Issues used to develop design criteria and/or mitigation:

Effects to Water Quality
Effects to Aquatic Habitat and Species

Other Issues carried through the analysis:

Riparian Wildlife and Plants
Recreational Opportunities and Visual Resources
Effects to Roadless Areas
Effects to Nez Perce Tribe Treaty Rights

Issues dismissed:

Mining Issues
Impacts to Heritage and Cultural Resources

E. ALTERNATIVES NOT CONSIDERED IN DETAIL

During the course of project analysis, alternatives were proposed by study team members and/or reviewers. These alternatives were weighed against the Purpose and Need Statement and Issues to see if they should be carried through detailed analysis and considered for Decision by the Responsible Official. Two alternatives (See SEIS – Alternatives Eliminated from Detailed Consideration on page 2-10) were proposed, weighed and dismissed from detailed study as follows:

Alternative 4 that emphasized withdrawal of special areas from mining.

It was suggested that the Forest Service withdraw all Riparian Habitat Conservation Areas (RHCAs), potentially eligible streams for National Wild and Scenic Rivers, and/or all areas that contain special features. Withdrawn lands are closed to mineral entry under the mining laws. This alternative was not carried forward because it is not consistent with the purpose and need to develop operating conditions that protect surface resources so that the plans of operations can be approved, nor is it in compliance with the 1872 Mining law and Forest Service minerals regulations at 36 CFR 228.4(f).

Furthermore, PACFISH direction does not preclude mining activities in RHCAs, and proposed suction dredging operations do not lie within designated (or recommended) Wild or Scenic Rivers.

Alternative 5 that emphasized operation specific NEPA analyses.

It was argued that the Forest Service should conduct an environmental analysis for each small-scale suction dredging operation, which would require cumulative consideration of all other suction dredging activities, as they are similar actions. The SEIS evaluated the impacts of multiple operations and considered all the impacts that a series of operation-specific NEPA analyses would evaluate. Since CEQ regulations require that similar, connected and cumulative actions be considered during analysis, it is appropriate to analyze all suction dredging operations under one EIS.

F. ALTERNATIVES CONSIDERED IN DETAIL

This analysis examined three alternatives, the No Action Alternative and two action alternatives. (Maps of the action alternatives are attached.)

Alternative 1 – No Action

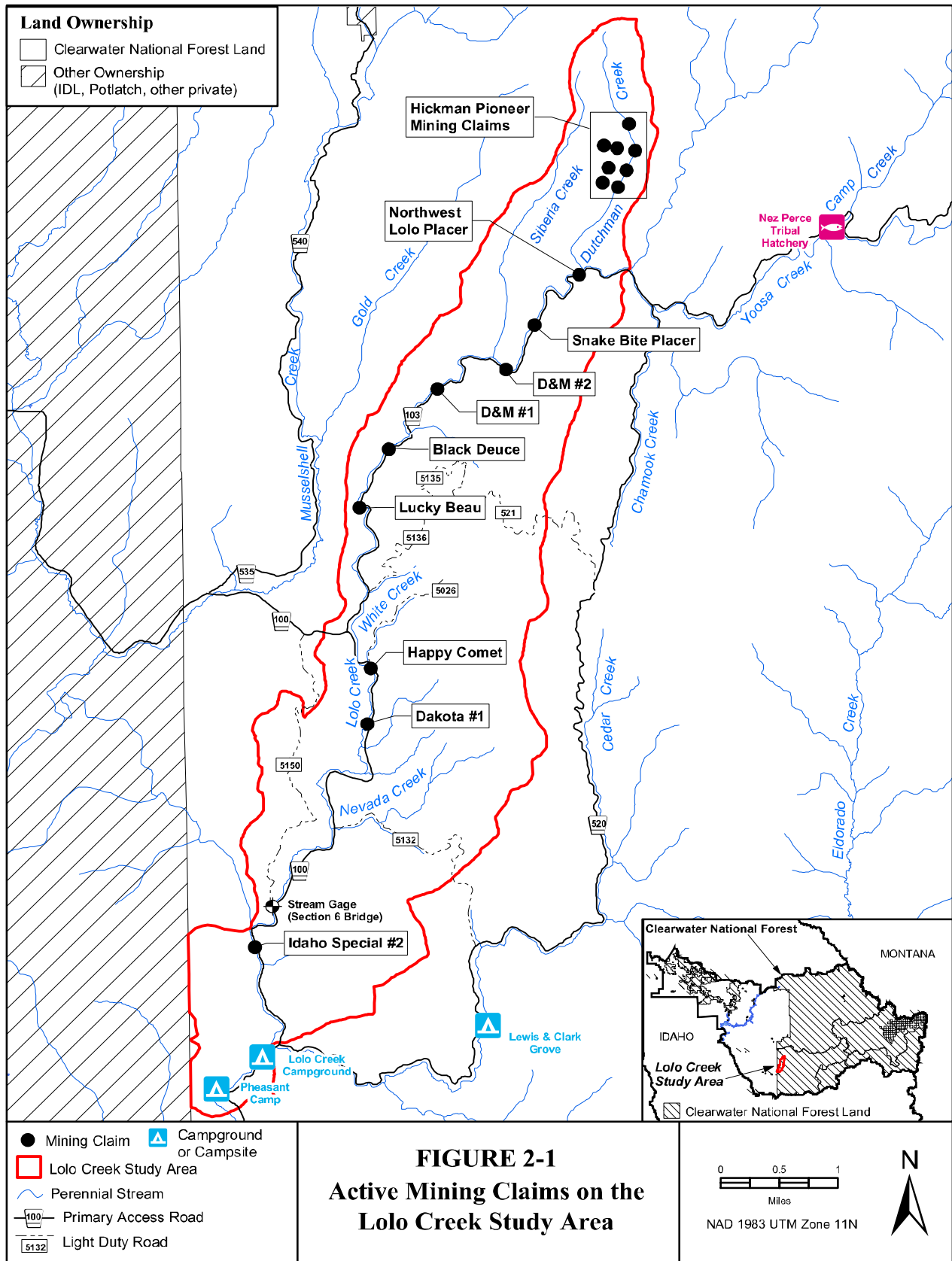
For this analysis the No Action Alternative is defined as not approving proposed Plans of Operation for suction dredging in Lolo Creek and Moose Creek. As such, this alternative would not comply with the Mining Law of 1872 and would violate Forest Service regulations described in 36 CFR 228(a). However, consistent with [40 CFR 1506.2(d)], this alternative provides a comparable environmental baseline against which to evaluate effects of the action alternatives. Choosing the No Action Alternative would not preclude future management proposals.

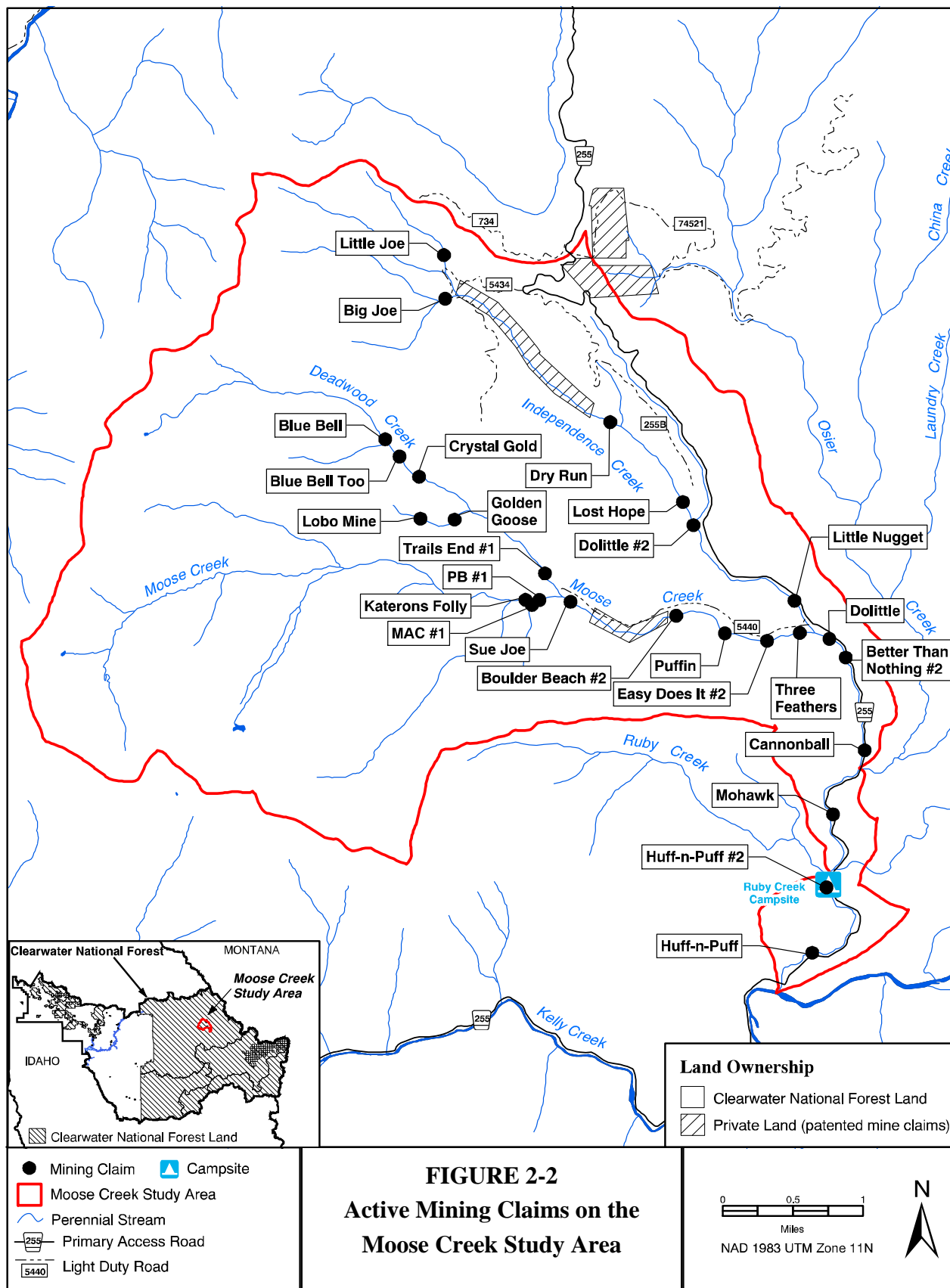
Alternative 2 – Proposed Action

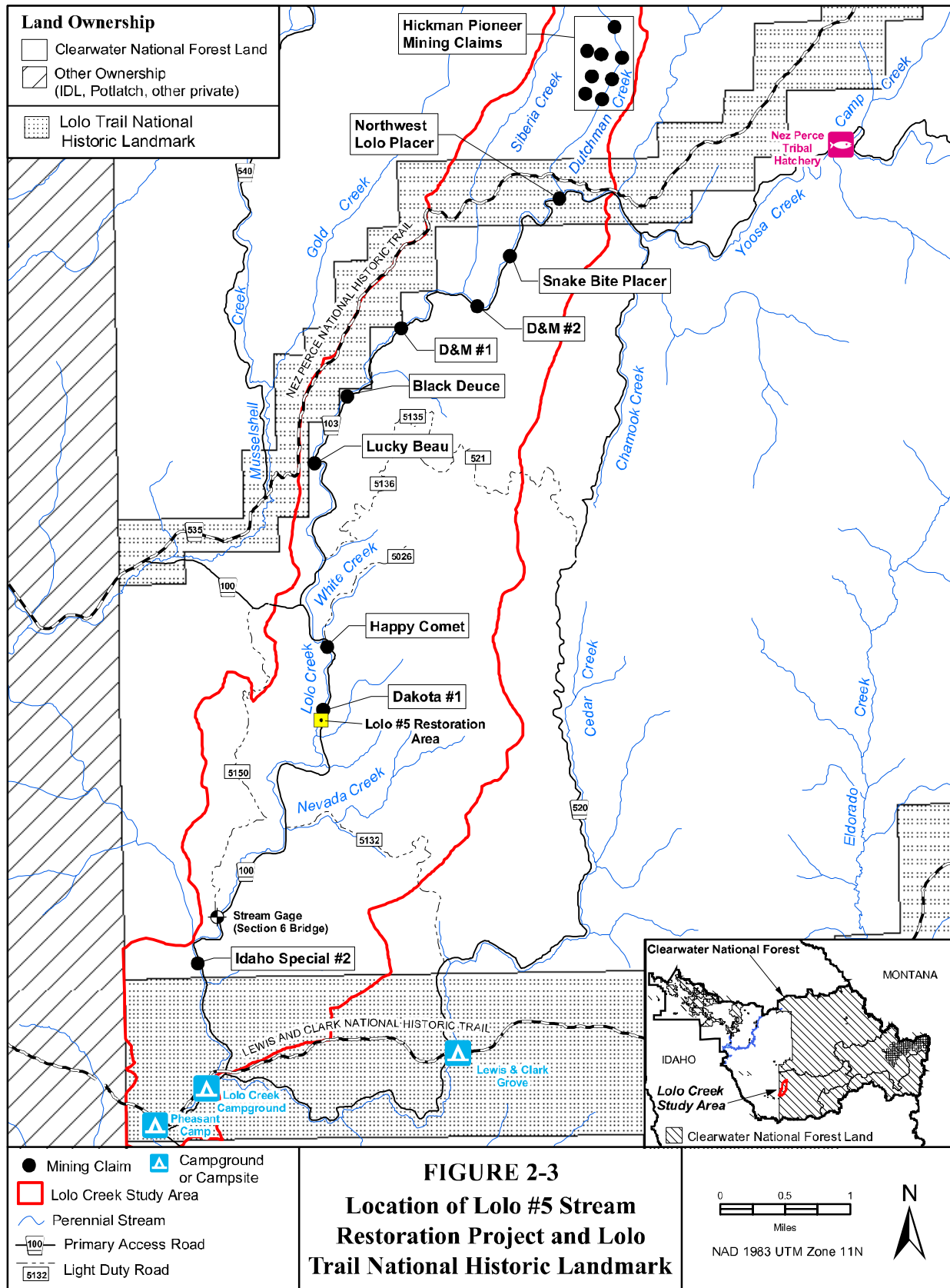
This alternative would allow for the approval of proposed Plans of Operation in specified reaches of Lolo Creek (including Dutchman Creek) and Moose Creek (including Independence Creek and Deadwood Creek). The maximum number of operations approved in any year would be 18 for Lolo Creek and 38 for Moose Creek (refer to Figures 2-1 and 2-2).

Alternative 3 – Suction Dredging & Stream Improvements (Preferred Alternative in the SEIS)

This alternative is the same as Alternative 2, except that it includes a stream improvement project. The stream improvement project involves bank stabilization and reclamation of the abandoned Lolo #5 mining claim on Lolo Creek (refer to Figures 2-2 and 2-3).







G. ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Title 40 CFR Section 1505.2(b) states that in preparing an EIS and agency shall: “identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable.” The environmentally preferable alternative is that alternative that best satisfies section 101 of NEPA. This section of law does not mandate that no impacts will occur, but it does indicate that the agency should carefully balance the different possible actions in order to best “fulfill the responsibilities of each generation as trustee of the environment.”

Some might suggest that Alternative 1 (no action) should be the environmentally preferable alternative, since it would create no new disturbances. However, Alternative 1 is contrary to Forest Service regulations found at 36 CFR 228(a) that require approval of mining operating plans that develop measures minimizing impacts to surface resources and satisfy State and Federal permitting requirements.

For this analysis, I have identified Alternative 3 as the environmentally preferable alternative because it includes a stream restoration project and has an extensive list of operating conditions, design features, terms and conditions, and mitigation measures aimed at protecting the historic, cultural and natural resources within the Lolo Creek and Moose Creek project areas.

H. DECISION

As the Forest Supervisor, I am the Responsible Official for this decision. Based on the analysis documented in the Draft SEIS and the project file, I have made the decision to implement Alternative 3, as follows:

The selected alternative would allow for the approval of proposed Plans of Operation in specified reaches of Lolo Creek (including Dutchman Creek) and Moose Creek (including Independence Creek and Deadwood Creek). The Plans of Operations include specified design features described below. These were derived from public comments, government-to-government consultation with the Nez Perce Tribe, and consultation with other government agencies.

Endangered Species Act consultation was completed for all proposed activities. The maximum number of operations approved in any year under this analysis is 18 for Lolo Creek and 38 for Moose Creek. These numbers correspond with the maximums listed in the USFWS and NOAA Biological Opinions. Proposed operations that do not meet the specified operating conditions, design features and mitigation measures would require re-initiation of consultation with USFWS and/or NOAA and a separate environmental analysis. The active mining claims and areas in which plans of operations may be approved are shown above in Figure 2-3 for Lolo Creek and Figure 2-2 for Moose Creek.

This alternative also includes a stream improvement project that was developed from internal concerns regarding chronic streambank and water quality impacts from the Lolo #5 abandoned mine site in Lolo Creek. The stream improvement project involves bank stabilization and reclamation of the abandoned Lolo #5 mining claim on Lolo Creek (see Figure 2-3). Lolo #5 was placer mined by backhoes and dozers in the late 1970s, and the site was never reclaimed. The overburden and placer tailings, bermed along the west bank of the creek, have remained unstable and continue to be a major contributor of fine sediment to the stream system (Clearwater BioStudies, 1999a). The mitigation project would stabilize and reclaim approximately 950 feet of Lolo Creek and would include the following components:

- Remove and/or recontour sediment producing overburden and tailings berm.
- Armor, and revegetate with native species as needed to provide a stable non-erodable stream bank along the west bank of Lolo Creek.

- Recontour and revegetate as needed existing overburden and tailings stockpiles away from existing emergent wetlands.

The restoration project would not take place during critical salmonid spawning or migration periods and would follow all appropriate construction Best Management Practices (IDL, 1992) to control erosion and minimize short-term impacts due to construction.

Operating Conditions, Design Features, Terms and Conditions, and Mitigation Measures

The selected alternative includes the following operating conditions, design features and mitigation measures. These measures include Idaho Department of Water Resources (2007) BMPs for suction dredging, NMFS (2009) and U.S. Fish and Wildlife Service (2008) non-discretionary reasonable and prudent measures to avoid or minimize take.

1. Operations will occur only within the wetted perimeter below the ordinary high water line during a dredge season extending from July 1 (July 15 – Lolo Creek) through August 15.
2. Before dredge mining begins, operators must submit a Plan of Operations to the Forest Service that includes all of these operating conditions, design features, and mitigation measures, and specifies the location, approximate amount of surface area they plan to dredge, and likely dates of operation. The operating plan will be used to establish channel-monitoring sites, and is not intended to constrain the timing and location of dredge operations.
3. Prior to dredging, operators must meet with a Forest Service fisheries biologist who will inspect the proposed dredge sites. No dredging will be allowed in areas of known bull trout (or steelhead, in the case of Lolo Creek) spawning or in areas identified as spawning habitat. Miners will also avoid identified Lolo Creek lamprey spawning areas.
4. The suction dredge will have a nozzle diameter of 5 inches or less and a horsepower rating of 15 horsepower or less.
5. Pump intakes must be covered with 3/32-mesh screen.
6. Dredge sites must be located in areas of large substrate not preferred for spawning steelhead trout and bull trout, and operators are required to conduct all dredge mining 50 feet or more from identified spawning areas.
7. Dredging operations must take place during daylight hours.
8. Dredging must be conducted in a manner so as to prevent the undercutting and destabilization of stream banks, and may not otherwise disturb streambanks.
9. If streambanks are disturbed in any way, they must be restored to the original contour and re-vegetated with native species at the end of the dredging season.
10. Camping areas, paths, and other disturbed sites that are located along stream banks and that are associated with dredge operations must be re-vegetated or otherwise restored to their original conditions at the end of the dredge season.
11. Operators must cease activities during wet periods when project activities are causing excessive ground disturbance (visible ground disturbance due to soil saturation) or excessive damage (muddying/rutting) to roads.
12. Dredges must not operate in such a way that the current or the discharge from the sluice is directed into the bank in a way that causes erosion or destruction of the natural form of the channel, that undercuts the bank, or that widens the channel.

13. Operators must not undermine, excavate, or remove any stable woody debris or boulders that extend from the bank into the channel. This will prevent destabilization of streambanks and the stream channel.
14. Operators must not remove, relocate, or disturb stable in-stream woody debris or boulders greater than 12 inches in diameter, unless it was determined during the pre-mining site review that the predominate substrate was 12 inches and retaining larger boulders would be more beneficial to that particular reach. This design feature will prevent the destabilization of the stream channel and assure that potential fish habitat would not be disturbed.
15. The operator will not remove any large down or standing woody debris or trees for firewood within one tree length of the stream.
16. Operators will not move cobbles in the stream course to the extent that the deepest and fastest portion of the stream channel (i.e., the thalweg) is altered or moved.
17. No mechanized equipment will be operated below the mean high water mark except for the dredge itself and any life support system necessary to operate the dredge. No mechanized equipment other than the suction dredge will be used for conducting operations.
18. Dredging must not dam the stream channel.
19. Dredges must not operate in the gravel bar areas at the tails of pools.
20. Dredges must not operate in such a way that fine sediment from the dredge discharge blankets gravel bars.
21. Operators must visually monitor the stream for 150 feet downstream of the dredging operation. If noticeable turbidity is observed downstream, the operation must cease immediately or decrease in intensity until no increase in turbidity is observed 150 feet downstream.
22. Shallow areas must be restored to their original grade each day and natural pools may not be filled. Tailings must be redistributed to avoid creating unstable spawning gravels.
23. All dredge piles must be dispersed and backfill all dredge holes before moving to a new dredge location and by the end of the operating season, no later than August 15.
24. Dredging operations must shut down immediately if any sick, injured, or dead specimen of a threatened or endangered species is found. The finder must notify the Vancouver Field Office of NOAA Law Enforcement at (360) 418-4246 for steelhead trout, or USFWS Division of Law Enforcement at (208) 378-5333 for bull trout. The finder must take care in handling sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition. The finder must also ensure that evidence intrinsic to the specimen is not disturbed unnecessarily. In addition, if any fish eggs are excavated or if destruction of redds is observed, operators must contact the CNF and receive authorization to proceed prior to resuming operations. Operators must record the date, time, location, and possible cause of fish injury or death.
25. Operators must maintain a minimum spacing of at least 150 linear feet of stream channel between suction dredging operations.
26. Gasoline and other petroleum products must be stored in spill-proof containers at a location that minimizes the opportunity for accidental spillage.
27. The suction dredge must be checked for leaks, and all leaks repaired, prior to the start of operations each day. The fuel container used for refueling must contain less fuel than the amount needed to fill the tank. The suction dredge must be anchored to the stream bank when refueling in the water, so that fuel does not need to be carried out into the stream. Unless the

dredge has a detachable fuel tank, operators may transfer no more than one (1) gallon of fuel at a time during refilling. Operators must use a funnel while pouring, and place an absorbent material such as a towel under the fuel tank to catch any spillage from refueling operations. A spill kit must be available in case of accidental spills. Soil contaminated by spilled petroleum products, must be excavated to the depth of saturation and removed from the National Forest for proper disposal.

28. Operators will not entrain, mobilize, or disperse any mercury discovered during mining operations. Operators must cease operations and notify the Forest Service if mercury is encountered in dredged material. Operators must not use mercury, cyanide, or any other hazardous or refined substance to recover or concentrate gold.
29. All human waste must be kept more than 200 feet away from any live water. All refuse from dredging activities must be packed out and disposed of properly.
30. Operators must obtain all Idaho and Federal permits including the Environmental Protection Agency's NPDES permit, the Corps of Engineers/State of Idaho's joint 404/ Permit to Alter a Stream Channel, and State 401 certification. Operators must also comply with all additional conditions or measures stipulated in the permits, and must comply with the State of Idaho's Placer Mining - Best Management Practices (IDWR, 2004).
31. Heritage resource surveys were conducted in compliance with the National Historic Preservations Act, and various sites were identified in the area. If additional heritage resources are found during the implementation of the project, project activities are to cease. The Forest Archaeologist will be notified, and an assessment will be made regarding the effect of continued activities on the newly identified heritage resource.
32. To prevent the threat of aquatic invasive species, Suction dredges, tools used while dredging, and associated equipment must be thoroughly cleaned with a Pressure washer and dried at least 5 days prior to use on the National Forest.

Monitoring

The selected alternative includes the following monitoring and reporting requirements. These are based on the reasonable and prudent measures in the 2008-2009 Biological Opinions, and will be reported to the USFWS and NOAA.

1. Prior to July 1, an interagency field trip will be held to review the mining sites with local miners to determine if any additional mitigation or terms and conditions will be needed to avoid impacts to listed species. In addition to the Level One team members, representatives from the Idaho Department of Fish and Game, Idaho Department of Water Resources, and Nez Perce Tribe will be invited to attend (USFS 2008a and 2008b).
2. The Forest Service will review all proposed suction dredge plans of operations prior to approving the proposed action. The Forest Service will determine if the extent and effects of the action are consistent with the BA (USFS 2008b), and if not, the Forest Service will reinitiate consultation immediately.
3. The Forest Service will require each operator include a written statement listing and accepting all mitigation and terms and conditions as part of their Plan of Operations prior to approving implementation of their suction dredging operation.
4. The Forest Service will visit each dredge site at least five times between July 1 (July 15 for Lolo Creek) and August 15, or more often if problems occur, to monitor dredge activity, and effects of the mining on fish and fish habitat.

5. The Forest Service will monitor potential changes in channel morphology as a result of mining through specific measures specified in the Biological Opinion.
6. Upon notice by an operator under item 24 above of dead or injured threatened or endangered species, or if eggs are excavated, the Forest Service will consult with NOAA Law Enforcement Office in the Vancouver Field Office or USFWS Division of Law Enforcement, prior to authorizing a resumption of dredging.
7. The Forest Service will provide an annual monitoring report to USFWS within 90 days of the end of the dredging season, and to NOAA by November 30 that describes operator compliance with suction dredging rules, the amount of stream area mined at each site, a photo of the mined area, and details about stream bank disturbance and re-vegetation, if any.
8. The Forest Service will provide NOAA and USFWS with an update of pre-season monitoring no later than June 15, and a report on post-season monitoring progress no later than September 15.
9. At the end of the operating season, no later than September 15, the operator must provide CNF a description of the actual location(s) of the operation, the surface areas dredged, and the number of days operated.

I. RATIONALE FOR MY DECISION

The rationale I used for selecting Alternative 3 was based on; (1) how well it met the purpose and need for the action; and (2) how well it responds to public comment and the issues, while adhering to Forest Plan direction and other legal mandates. I believe Alternative 3 does this best in the following ways:

1. How the Selected Alternative responds to the Purpose and Need

Both Alternatives 2 and 3 meet the purpose to “develop operating conditions and mitigations measures that protect surface resources, including threatened fish species, from impacts of suction dredging.” Each allow the Forest to efficiently fulfill the requirement in 36 CFR 228.4(f) for conducting environmental analyses on mining plans of operations and developing reasonable measures to protect surface resources on National Forest System lands. This in turn allows the Forest Service to approve a limited number of proposed Plans of Operation, with no further environmental analysis, in specified reaches of Lolo Creek and Moose Creek, provided the operator agrees to list of terms and conditions described in the above section, plus fulfill all State and Federal permitting requirements. But, Alternative 3 goes a step further by including a stream improvement project that will stabilize and reclaim the stream bank along the abandoned Lolo #5 mining claim on Lolo Creek. This action also makes Alternative 3 the environmentally preferable alternative.

In contrast, Alternative 1 (No Action) would: (1) not meet the purpose and need; (2) not comply with the Mining Law of 1872; and (3) violate Forest Service regulations described in 36 CFR 228(a).

2. How the Selected Alternative Responds to Public Comment and the Issues

Public scoping and consultation with the Nez Perce tribe began in March 2003, when scoping letters explaining the proposal were released to the public, other agencies, and the Nez Perce Tribe. In February and September 2004, Forest Service representatives met with Nez Perce Tribal fisheries, watershed, and wildlife specialists to discuss the project. The Record of Decision, issued in December 2006, was appealed and subsequently withdrawn in favor of preparing a supplemental EIS.

A Draft SEIS was released for public comment in August 2009. Comments were received from two environmental groups and the EPA. Each comment and our response are displayed in the Final SEIS (Chapter 7 and Errata) that accompanies this document. The following table displays the estimated effects of the selected alternative for each issue:

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| Resource Issue |
| Summary of Effects (based on issue indicators) |
| Water Quality – Effects on sediment and turbidity. |
| <p>The selected alternative would cause a slight increase in sediment from terrestrial sources at Lolo #5 mine, but a long term reduction over time. Existing instream sediment would be moved during mining operations from one location to another, but with no increase in overall sediment.</p> <p>The selected alternative would cause a slight increase in turbidity during the 45 day (30 day for Lolo Creek) operation period, but would not exceed IDEQ state standards.</p> |
| Aquatic Habitat and Species – Effects on sediment, turbidity, pool quality, stream bank stability, spawning gravels, and species mortality. |
| <p>The slight increase in sediment from terrestrial sources at Lolo #5 mine would be of low risk to aquatic species.</p> <p>The slight increase in turbidity may affect feeding, but the risk to aquatic species would be low due to short daily and annual duration of dredging operations.</p> <p>The selected alternative would cause no change to pool quality, since mining is not permitted in large natural pools.</p> <p>There would be long term improvement of bank stability at Lolo #5 mine site, with minimal effects to fish species during reclamation.</p> <p>Suction dredging is not permitted in prime spawning habitat; minimal effects to spawning gravels are expected.</p> <p>The selected alternative would have slight potential for fish mortality and a higher potential for aquatic insects mortality. However, overall mortality would not affect populations.</p> |
| Riparian Wildlife and Plants – Effects on sensitive wildlife and plants. |
| <p>The selected alternative would cause no reduction in wildlife habitat. Species avoidance of habitat caused by disturbance would last during 45 day (30 day for Lolo Creek) season and average 5 hours per day, and is estimated to cause minimal effects to wildlife. The potential for suction dredging to cause mortality to amphibian is low due to the low numbers of animals.</p> <p>The selected alternative would cause no reduction in plant habitat. Although there is potential trampling by miners, the use of existing trails and the low populations of plants should limit effects. Plants are not expected to be affected by the Lolo #5 mine reclamation.</p> |
| Recreational Opportunities – Effects on the area's recreational activities. |
| <p>The selected alternative would have minor impacts to fishing, camping and hiking due to the 45-day (30-day for Lolo Creek) mining season and the small area affected. There would be no impact to hunting opportunities, due to season restrictions. Dredging noise could have minor, limited impacts to users of the Nez Perce Trail near the Lucky Beau claim.</p> |

| Moose Mountain Roadless Area – Effects on roadless area characteristics. | |
|--|---|
| <ul style="list-style-type: none"> High quality or undisturbed soil, water, and air | During the dredging operation season, impacts to soils would be minimal and would be due to the miners using existing dispersed campsites and trails. The impacts to water would be minimal and would be due to the localized effects of turbidity caused by the suction dredge operation. The effects of engine exhaust would be negligible, causing no effect on air quality. |
| <ul style="list-style-type: none"> Sources of public drinking water | There are no municipal watersheds or other public drinking water sources identified within this roadless area. |
| <ul style="list-style-type: none"> Diversity of plant and animal communities | Potential trampling of plants due to the miner's foot traffic would have minimal effects on sensitive plants and other vegetation. Wildlife would likely avoid suction dredge areas during operation, but the effects would be minimal and of short duration, plus suitable habitat would remain nearby. |
| <ul style="list-style-type: none"> Habitat for TES, proposed, candidate, and sensitive species | Since suction dredging is confined to the wetted perimeter of the stream, impacts to TES and other wildlife would be negligible. No listed wildlife or plants would be affected by the selected alternative. |
| <ul style="list-style-type: none"> Primitive, semi-primitive non-motorized and semi-primitive motorized classes of dispersed recreation | The effects of suction dredging would be minimal and of short duration. Hikers on Trail 690 may see the dredges in Moose Creek, but visual contact and noise would be limited by dense vegetation and topography. |
| <ul style="list-style-type: none"> Reference landscapes | The selected alternative would not visually effect or change the Moose Mountain Roadless Area. Dredging operations would be confined to the wetted perimeter of the stream, and the dredge operator would be required to reclaim the site after the dredging season. |
| <ul style="list-style-type: none"> Natural appearing landscapes with high scenic quality | The selected alternative would have no effect on this roadless characteristic, since dredging operations are confined to the wetted stream perimeter and is obscured by dense vegetation. |
| <ul style="list-style-type: none"> Traditional cultural properties and sacred sites | The selected alternative would have no effect on cultural properties or sacred sites. Mitigation measures are in place to protect such properties or sites, if discovered during operations. |
| <ul style="list-style-type: none"> Other locally identified unique characteristics | There are no locally unique characteristics identified within this roadless area. |
| Nez Perce Tribal Treaty Rights – Effects on fishing, hunting, and gathering (roots and berries). | |
| <p>Based on the effects on aquatic habitat and species (summarized above), the selected alternative should have no effect on Tribal fishing.</p> <p>Although big game will likely avoid dredging areas during operations [5 hours per day for 45 days (30 days for Lolo Creek)], no effect on Tribal hunting is expected, as big game have suitable habitat nearby.</p> <p>There would be no effects on Tribal gathering activities.</p> | |

Except for the continuation of erosion from the unstable stream banks at the abandoned Lolo #5 mine site, Alternative 1 (no action) would have no effect on any of the resource issues. The effects of Alternative 2 would be similar to that of the selected alternative, except that the selected alternative would have a long-term beneficial effect on several of the issues due to the stream bank stabilization and reclamation at the abandoned Lolo #5 mining site. Thus, based on that and the fact that Alternative 1 cannot be implemented under current laws and regulations, I believe the selected alternative best addresses the environmental issues.

J. Consistency with the Forest Plan

The Clearwater Forest Plan (September 1987) provides guidance through its goals, objectives, standards, guidelines and management area direction. The Forest Plan management area for this analysis is M-2 Riparian Areas. The goals for M-2 Riparian Areas is to “manage under the principles of multiple use as areas of special consideration, distinctive values, and integrated with adjacent management areas to the extent that water and other riparian dependent resources are protected,” and “evaluate onsite and cumulative effects of proposed action, resolving significant conflicts in favor of riparian dependent resources (Clearwater Forest Plan, 1987, p. III-69).

Consistency findings have been discussed throughout the SEIS. I have evaluated the selected alternative with Forest Plan goals, objectives, and standards (Clearwater Forest Plan, 1987, p. II-26), and have determined that it meets management direction for all resources including:

1. Aquatics Forest Plan Standards

Standard 8A: *Maintain the integrity and equilibrium of all stream systems in the forest.* (Clearwater Forest Plan, 1987, p. II-27)

Channel stability is expected to be maintained in all project area streams (SEIS, Chapter 4, pgs. 4-1 through 4-3). Mitigation measures developed through consultation with National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) will protect channel stability by minimizing impacts during suction dredging operations (SEIS, Chapter 2, pgs. 2-7 through 2-10).

Standard 8B: *Manage water quality and stream conditions to assure that the National Forest management activities do not cause permanent or long term damage to existing or specified beneficial uses.* (Clearwater Forest Plan, 1987, p. II-27)

Because the selected alternative, in concert with the included mitigation measures, is not expected to significantly affect channel morphology, sediment levels, stream flow regime, riparian conditions, or temperature, small-scale suction dredging operations will not cause permanent or long term damage to any existing beneficial uses (SEIS, Chapter 4, pgs. 4-1 through 4-3; USFS, 2006a and 2006b).

Standard 8C: *Apply Best Management Practices (BMPs) to project activities to ensure water quality standards are met or exceeded* (this also addresses Standard 8K). (Clearwater Forest Plan, 1987, p. II-27 and p. II-29)

The 32 operating conditions, design features, terms and conditions, and mitigation measures listed in Chapter 2 (pgs. 2-7 through 2-9) of the SEIS and in Section H above include all State of Idaho suction dredging BMPs; and NMFS and USFWS conservation, reasonable and prudent measures. All are designed to minimize dredging impacts to threatened fish, their habitat, and to water quality.

Standard 8D: *Manage all waters in the Forest under a basic standard* (appendix K, section B). (Clearwater Forest Plan, 1987, p. II-27 and p. II-29)

The selected alternative will maintain the stability, equilibrium, and function (physical and biological) of all tributary streams as they relate to the beneficial uses of local, downstream, and parent streams. This standard also requires that individual projects identify the beneficial uses and the criteria necessary to protect them. Beneficial uses are described for both Lolo Creek and Moose Creek in Chapter 3 of the SEIS (pgs. 3-1 through 3-3).

Standard 8E: *Manage all watershed systems in the Forest that are considered important for the fishery resource.* (Clearwater Forest Plan, 1987, p. II-27 and p. II-28)

Water quality objectives for area streams are listed in the Forest Plan Appendix K.

The selected alternative will maintain 80% or more of full biological potential (based on cobble embeddedness, pool quality, instream cover, bank cover, bank stability, woody debris, and percent pool habitat) and achieve the Forest Plan objective of high fishable for Lolo, Moose, Independence and Deadwood Creeks (SEIS, Chapter 4, pgs. 4-3 through 4-7).

Standard 8F: *Monitor, analyze, and evaluate water quality within the critical reaches of specified streams, which are generally third or fourth order streams with watersheds ranging from 4 to 40 square miles.* (Clearwater Forest Plan, 1987, p. II-28)

A list of specific streams systems and their standards is in Forest Plan Appendix K, Section C. The monitoring plan is discussed in the SEIS in Chapter 2, pgs. 2-9 through 2-10, and above in Section H.

Standard 8G: *Design, schedule, and implement management practices at the project level that:*

- a. *will maintain water quality and stream conditions that are not likely to cause sustained damage to the biological potential of fish habitat.*
- b. *will not reduce fish habitat productivity in the short term below the assigned standards.*
- c. *will maintain water quality in a condition that is not likely to inhibit recovery of the fish habitat for more than the stated duration; and*
- d. *will require cumulative effects feasibility analysis of projects involving significant vegetation removal, prior to including them on implementation schedules, to ensure that the project, considered with other activities, will not increase water yields or sediment beyond acceptable limits. Also require that this analysis identify any opportunities for mitigating adverse effects on water-related beneficial uses, including capital investments for fish habitat or watershed improvement.*

(Clearwater Forest Plan, 1987, p. II-28)

Since there are negligible adverse effects on channel morphology, sediment levels, stream flow, stream temperature, or riparian areas; there are negligible adverse effects expected on fish habitat (SEIS, Chapter 4, pgs. 4-3 through 4-7).

In addition, activities within management area M2 must meet the following:

Standard C6 Minerals: *Prohibit extraction or disposal of common variety minerals within the normal high water line of any perennial water body.*

(Clearwater Forest Plan, 1987, p. III-71)

The selected alternative will not extract or dispose of common variety minerals within the normal high water line of Lolo Creek, Moose Creek, Independence Creek, or Deadwood Creek.

2. Consistency with the Forest Plan Lawsuit Stipulation of Dismissal

I have reviewed the September 13, 1993, settlement agreement between The Wilderness Society et al., and the Forest Service. I find that the Small-Scale Suction Dredging in Lolo Creek and Moose Creek project complies with the 1993 Settlement Agreement, as follows:

- Suction dredging will result in no measurable increase in sediment production for any of the included streams (SEIS, Chapter 4, pgs. 4-1 through 4-3).
- One known sediment source will be corrected with the stream improvement project described under Alternative 3 (SEIS, Chapter 2, pg. 2-5; and Chapter 4, pg. 4-3).

K. Consistency with other Laws and Regulations

Clean Water Act and Idaho State Water Quality Laws – The selected alternative complies with the Clean Water Act by following all federal, state, interstate and local requirements, administrative authority and process and sanctions, with respect to control and abatement of water pollution. These include 36 CFR 219.27, the Clearwater National Forest Plan, Idaho Suction Dredge Mining Best Management Practices and Stream Alteration standards and criteria, and EPA Oil Pollution Control Regulations. Executive Order 12088 also requires the Forest Service to meet the requirements of the Clean Water Act. These authorities are addressed by the design of the project and by the mitigation measures specifically chosen for implementation with the selected alternative, as described in this document and in the SEIS, Chapter 2, pgs. 2-7 through 2-10.

Clean Water Act Section 402

Section 402 requires that discharges of pollutants from “point sources” be permitted under the National Pollutant Discharge Elimination System (NPDES). Authority to implement the NPDES program may be delegated by EPA to authorized states; in Idaho, however, EPA administers the program and issues all permits. EPA has determined that discharges from suction dredge operations (even small-scale) qualify as point sources and require NPDES permit authorization. In some states, EPA or authorized states have issued a “general” permit to cover multiple small-scale suction dredge operations; no such permit has been issued to date in Idaho, so each suction dredge operation requires an individual NPDES permit. The Forest Service cannot approve proposed plans for operations unless the operator has sought coverage for its discharges under the NPDES program. By requiring the NPDES permit prior to approval of the operating plan, the selected alternative, Alternative 3, will comply with the Clean Water Act Section 402.

Clean Water Act Section 404

Section 404 establishes a program to regulate the discharge of dredged and fill material into the waters of the U.S. This act requires authorization from the Secretary of the Army, acting through the Corps of Engineers, for the discharge of dredged or fill material into all waters of the U.S., including wetlands. The Section 404 program is administered by both the Corps of Engineers and EPA. Corps of Engineers regulations are promulgated as 33 CFR Parts 321-330. In the case of suction dredge operations, tailings (that is, gravel and other overburden from which gold has been recovered) are discharged back into the creeks. The Corps of Engineers has determined that a Section 404 permit will be required for small-scale suction dredging operations in waters closed under the State of Idaho’s One-Stop Recreational Dredging Permit (COE, 2003).

Wetlands are considered “waters of the United States,” and the Section 404 program is the principal means by which wetlands are protected. Under Alternative 3, the preferred alternative, the restoration of Lolo Creek in the Lolo #5 area would have a short-term adverse effect on the existing vegetation and wetlands, but would ultimately increase channel stability and increase the stability and quality of riparian habitat by reducing future damage from high stream flows (SEIS, Chapter 2, Table 2-1). Prior to implementation of the restoration project, the Forest Service will identify and delineate any jurisdictional wetlands in the Lolo #5 project area and comply with any applicable Section 404 requirements.

Executive Order 11990

Executive Order (EO) 11990, *Protection of Wetlands*, encourages federal agencies to take actions to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the

natural and beneficial values of wetlands when undertaking Federal activities and programs. As noted above, there could be a short-term adverse effect on wetlands under the selected alternative, but the long-term effect would be positive (SEIS, Chapter 2, Table 2-1).

Endangered Species Act – As required by the Endangered Species Act, specific habitat needs for Threatened and Endangered species of wildlife and fish in regards to the proposed project were analyzed and documented in separate Biological Assessments for each creek (attached). The Clearwater National Forest consulted with both USFWS and NOAA regarding proposed suction dredging activities.

For Lolo Creek, the Biological Assessment determined that suction dredging was “likely to adversely affect” steelhead trout, but was “not likely to adversely affect” Lolo Creek bull trout. For Moose Creek, the Assessment determined that suction dredging was “likely to adversely affect bull trout”. In their respective Biological Opinions, NOAA (2009) and USFWS (2008a) agreed with the Forest’s determinations. Both agencies further concluded that suction dredging would not jeopardize either species if specific terms and conditions minimizing impacts to streams and minimizing take were adopted.

Environmental Justice – Environmental Justice Executive Order 12898 directs federal agencies to identify and address, as appropriate, disproportionately high and adverse health and environmental impacts on minority and low-income populations. There is no human population in the vicinity of the project sites. The Nez Perce Tribe holds treaty rights for fishing, hunting, and gathering in both Lolo Creek and Moose Creek. The Forest consulted with the Nez Perce regarding the selected alternative. Input from the Tribe and other agencies was used to formulate the design features associated with the selected alternative (refer back to Section H).

Forest Service Surface Use Regulations and Guidelines – Forest Service regulations at 36 CFR Part 228 Subpart A (also known as the *228 Regulations*) set forth rules and procedures for use of the surface of National Forest System lands in connection with mineral operations. The regulations direct the Forest Service to prepare the appropriate level of environmental analysis and documentation when proposed operations may affect surface resources. These regulations also do not allow the Forest Service to deny entry or preempt the miners’ statutory right granted under the 1872 Mining Law. The regulations require the Forest Service to develop mitigation measures to minimize adverse impacts on National Forest resources. The 228 regulations include requirements for reclamation.

The Forest Service Manual §2800 reiterates that the authority to manage the exploration and development of mineral resources within the National Forest System is jointly shared by the Secretaries of Interior (BLM) and Agriculture (Forest Service). The Department of the Interior administers the mining laws, and the Forest Service manages occupancy and use of the land’s surface by persons both on and off mining claims. Section 2800 also discusses specific responsibilities and considerations for dealing with proposed Plans of Operation. It states that the Forest Service should minimize or prevent adverse impacts related or incidental to mining by imposing reasonable conditions that do not materially interfere with operations. Once implemented, the selected alternative will be in compliance with the Forest Service Surface Use Regulations and Guidelines.

Idaho Roadless Rule (36 CFR 294) – This Rule was promulgated on October 16, 2008 and establishes management direction for designated roadless areas in Idaho. A portion of this project lies within the Moose Mountain Roadless Area and is managed under the back country restoration and primitive themes. Under the Rule, nothing shall affect mining activities conducted pursuant to the

General Mining Law of 1872 [36 CFR 294.25(b)]. The effects analysis found small-scale suction dredging to have minimal to no effect on the roadless characteristics within the Moose Mountain Roadless Area. (Refer to SEIS, Chapter 2, page 2-13 and Chapter 4, pages 4-12 through 4-15.)

Mining Law of 1872 - The major Federal law governing the disposition of locatable minerals¹ on Federal lands is the *Mining Law of 1872*, as amended. This law provides citizens of the United States the opportunity to prospect, explore, develop and extract certain valuable mineral deposits on Federal lands that remain open for that purpose. Forest Service compliance with the 1872 Mining Law is nondiscretionary. However, while miners have rights under the 1872 Mining Law, they are legally required to comply with the rules and regulations covering National Forests. They are also required to comply with applicable laws passed since 1872 that have placed additional requirements upon miners.

The lands within the Lolo Creek and Moose Creek study areas are open to prospecting, exploration and location under the 1872 law. The 1872 Mining Law sets general standards and guidelines for mining claim location and provides for possessory right to valuable minerals within the lines of location. The selected alternative, Alternative 3, once implemented, will be in compliance with the Mining Law.

Multiple Use Mining Act of 1955 - This law (16 U.S.C. 612) is known variously as the *Multiple Use Mining Act*, the *Surface Resources and Multiple Use Act*, the *Multiple Use Surface Act*, and the *Multiple Surface Use Mining Act*. The law specifies that unpatented mining claims located after July 23, 1955, may not be used for any purposes other than prospecting, mining or processing operations and uses reasonable incident thereto. That such claims shall be subject to the right of the United States to manage and dispose of vegetative surface resources and to manage other surface resources, and the right of the United States, its permittees, and licensees, to use so much of the surface as may be necessary for such purposes or for access to adjacent land. Once implemented, the selected alternative, Alternative 3, will comply with the Multiple Use Mining Act.

Mining and Mineral Policy Act of 1970 - The *Mining and Mineral Policy Act* (30 U.S.C. 21a) states that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of economically sound mining and minerals industries and the orderly and economic development of domestic mineral resources to help satisfy industrial, security, and environmental needs. Once implemented, the selected alternative, Alternative 3, will comply with the Mining and Mineral Policy Act.

National Environmental Policy Act (NEPA) – This law insures that high quality environmental information is available and disclosed to public officials and citizens before decisions are made and before actions are taken. Scientific analysis and public scrutiny are essential in complying with NEPA requirements. I have met these requirements by using a knowledgeable and skilled interdisciplinary team to develop and analyze the proposed action and alternatives. Public involvement was key in identifying issues and continued throughout preparation of the SEIS. State agencies, special interest groups/organizations, and individuals provided comments to the Draft SEIS. I have considered their comments in reaching my decision. A summary of public comments and our responses is contained in the SEIS, Chapter 7. I find the selected alternative in compliance with the National Environmental Policy Act.

¹ “Locatable” minerals are one of three categories into which minerals on federal lands are classified: locatable, leasable, salable. In general, locatable minerals include both metallic minerals (gold, silver, lead, etc.) and nonmetallic minerals (fluorspar, asbestos, mica, etc.), although several factors influence the category into which a mineral falls under various circumstances. The locatable mineral being sought in the Lolo Creek and Moose Creek study areas is gold.

National Forest Management Act (NFMA) – This Act amended and largely replaced the Forest and Rangeland Renewable Resources Planning Act of 1974. NFMA requires the Forest Service to assess National Forest System lands and develop a management program based on the principles of multiple use and sustained yield. The Forest Service is also required to develop and implement comprehensive Land Use and Resource Management Plans (known as Forest Plans) for each unit in the National Forest System.

The Forest Plan for the Clearwater National Forest (USFS 1987) establishes goals, objectives, and standards for the management of all resources of the Forest, including minerals (pages II-3, II-7, and II-30). Minerals goals, objectives, and standards discuss the need to facilitate the orderly development of mineral commodities and provide for timely, reasonable, effective and economically feasible environmental protections.

The Forest Plan was amended in 1995 for the management of anadromous fish-producing watersheds on Federal Lands in eastern Oregon and Washington, Idaho, and portions of California (PACFISH), and for the management of fish-producing watersheds in eastern Oregon and Washington, Idaho, Western Montana and portions of Nevada (INFISH). PACFISH and INFISH provide guidance and monitoring requirements for minimizing impacts to surface resources, especially in relationship to Riparian Habitat Conservation Areas. The SEIS is consistent with PACFISH and INFISH, and I find the selected alternative and its full complement of actions in compliance with the requirements of NFMA, specifically the Clearwater National Forest Plan.

National Historic Preservation Act (NHPA) - The National Historic Preservation Act of 1966 (as amended) requires that Federal Agencies with direct or indirect jurisdiction over Federal, federally assisted, or federally licensed undertakings to consider the effects of their proposed actions on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The detailed formal process for meeting this requirement is found in Title 36 Chapter 800 of the Code of Federal Regulations (36 CFR 800). This process includes requirements for identification and evaluation of historic properties, assessment and resolution of effects, consultation with the Advisory Council, State Historic Preservation Offices, Tribal governments and others, and coordination with NEPA.

The Forest identified cultural resources included in (or eligible for inclusion in) the National Register of Historic Places (NRHP) that are located in or near the project area and determined that suction dredging would not adversely affect known NRHP-eligible heritage resources in the study areas. The Forest initiated contact with the Nez Perce Tribe to identify potential traditional cultural resource concerns in the study area, and has received concurrence from the State Historic Preservation Office.

Organic Administration Act of 1897 - This act affirms the public's right to enter, search for, and develop mineral resources on lands open for mineral entry, and authorizes the Forest Service to approve and regulate all activities related to prospecting, exploring, and developing mineral resources. Once implemented, the selected alternative, Alternative 3, will be in compliance with the Organic Administration Act.

L. Appeal Provisions and Implementation

This decision is subject to appeal pursuant to 36 CFR 215. A written Notice of Appeal must be postmarked or received within 45 days following the publication date of the legal notice of this decision in the Lewiston Tribune, Lewiston, Idaho. It is the responsibility of the appellant to ensure their appeal is received in a timely manner. The publication date of the legal notice of the decision in the Lewiston Tribune is the *exclusive* means for calculating the time to file an appeal. Appellants should not rely on date or timeframe information provided by any other source.

Paper appeals must be submitted to:

USDA Forest Service, Northern Region
Federal Building, 200 Broadway
ATTN: Appeal Deciding Officer
P.O. Box 7669
Missoula, MT 59807
FAX: (406) 329-3411
Business Hours: 7:30 AM to 4:00 PM (Mountain Time)

Electronic appeals must be submitted to:

appeals-northern-regional-office@fs.fed.us

In electronic appeals, the subject line should contain the name of the project (Small-Scale Suction Dredging) being appealed. An automated response will confirm your electronic appeal has been received. Electronic appeals must be submitted in MS Word, Word Perfect, or Rich Text Format (RTF).

The appellant must have submitted comments during the 45-day comment period of the Draft SEIS, and it is the appellant's responsibility to provide sufficient project- or activity-specific evidence and rationale, focusing on the decision, to show why my decision should be reversed. The appeal must be filed with the Appeal Deciding Officer in writing. At a minimum, the appeal must meet the content requirement of 36 CFR 215.14, and include the following information:

- The appellant's name and address, with a telephone number, if available;
- A signature, or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
- When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;
- The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
- The regulation under which the appeal is being filed, when there is an option to appeal under either 36 CFR 215 or 36 CFR 251, subpart C;

- Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
- Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
- Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; and
- How the appellant believes the decision specifically violates law, regulation, or policy.

If an appeal is received on this project, there may be informal resolution meetings and/or conference calls between the Responsible Official and the appellant. These discussions would take place within 15 days after the closing date for filing an appeal. All such meetings are open to the public. If you are interested in attending any informal resolution discussions, please contact the Responsible Official or monitor the following website for postings about current appeals in the Northern Region of the Forest Service: http://www.fs.fed.us/r1/projects/appeal_index.shtml.

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

M. Contact Person

Detailed records of the environmental analysis are available for public review at the North Fork Ranger District, Orofino, Idaho. For further information on this decision, contact:

Douglas Gober
North Fork District Ranger
12730 Hwy 12
Orofino, ID 83544
(208) 476-4541

or George Harbaugh
Interdisciplinary Team Leader
Lochsa Ranger District
(208) 935-4260

/s/ Rick Brazell
RICK BRAZELL
Forest Supervisor

3-9-10
Date

Attachment 1

Biological Assessment Summaries.

Included in this appendix are the Biological Assessment (BA) summaries for Lolo Creek and Moose Creek. Complete BAs for each are filed in the project record.

I. Lolo Creek Summary

A. Introduction

The Endangered Species Act of 1973 directs federal agencies to conserve Endangered and Threatened Species and to ensure that federal actions authorized, funded, and carried out are not likely to jeopardize their continued existence or result in the destruction or adverse modification of critical habitat. In response to Section 7(c) of the Endangered Species Act and Forest Service Manual (FSM) 2670, this BA displayed the potential effects of eighteen suction dredging operations upon Threatened and Endangered Species that are known or may occur in the Lolo Creek area.

The U.S. Fish and Wildlife Service (USFWS) species list of December 3, 2007, (from Bi-annual Forest-wide Species List, File #103.0000, 2008-SL-0070), identified two endangered, five threatened species under ESA within North Central Idaho. The following species were included in the list: gray wolf (E:XN), sockeye salmon (E), fall chinook salmon (T), spring chinook salmon (T), steelhead trout (T), bull trout (T), Canada lynx (T). Two of the fish species, sockeye salmon and spring Chinook salmon were not listed within the Clearwater National Forest (specifically the Clearwater River and Palouse River subbasins); therefore these species were not discussed as ESA species in the BA.

B. Determinations²

1. Lynx (*Lynx canadensis*)

Existing Condition: The lynx is also a wide-ranging predator that could use the project area on occasion. Nellis (1989) estimated that most home ranges fell between 5 and 20 square miles, but home ranges up to 94 square miles have been reported. Ruggiero (1994) reported the lynx "... occurs primarily in the boreal forest of Alaska and Canada, but its range extends south into the northern portions of the western mountains, where environmental conditions at high elevations support boreal forest habitats similar to those found in northern regions." The project area does support boreal forest habitat conditions, and the likelihood of use by the lynx is low.

The Idaho Fish and Game Department has no records (historical or otherwise of reliable) lynx sightings in Clearwater County. Ruggiero's (1994) observations and Fish and Game records of lynx distribution both concur with Koehler's observation that most lynx use occurs further north and along the Montana/Idaho divide.

Determination: In summary, the project area has very few historical and current observations and it is not within suitable lynx habitat, therefore, suction dredging would have **no effect** on lynx or its habitat.

2. Fall Chinook Salmon (*Oncorhynchus tshawytscha*)

² The original BA listed gray wolf, which has since been removed from the list of Endangered and Threatened Wildlife by the Fish and Wildlife Service. Gray wolf is now a sensitive specie, and small-scale suction dredging would have "no impact" on gray wolf.

Existing Condition: No historical records or current documentation of fall chinook salmon spawning or rearing within the Lolo Creek watershed are available. The mouth of the Lolo Creek on the mainstem of the Clearwater River is the upstream boundary of designated critical habitat for fall chinook. Current data suggests that fall chinook salmon may have a historic distribution only up to the Lochsa River. The majority if not all of the fall chinook salmon spawning documented over the last 13 years has occurred within the designated critical habitat reaches of the Clearwater River, mostly downstream of the North Fork Clearwater River. Some limited spawning has been observed in the reach around Orofino Creek, the area near the Lolo Creek confluence and upstream of the critical habitat near the confluence of the South Fork Clearwater River. These are assumed sporadic and not considered viable/natural sustaining populations (due to natural constraints regarding rearing habitat, water temperatures during incubation and early rearing).

Determination: Due to the absence of fall chinook salmon spawning within the Lolo Creek direct impacts to fall chinook salmon spawning and rearing are nonexistent. Due to the small scale of the dredging operations operating at anyone time, the small areas being disturbed, and the mitigation measures mandated under the permit process, any substrate changes caused by suction dredging would be localized and not measurable downstream of the project area. No effects to the mainstem Clearwater River are expected. Therefore suction dredging in the Lolo Creek drainage would have **no effect** on recovery of fall Chinook salmon in the Clearwater River subbasin.

3. Steelhead Trout (*Oncorhynchus mykiss*)

Existing Population Condition in Lolo Creek: The Lolo Creek drainage produces very few steelhead trout due to overall low adult escapement and habitat conditions. Steelhead trout production is most likely a combination of wild/natural and hatchery production as adult and juvenile plantings have occurred over the past 20 years. Juvenile steelhead rearing has been documented and spawning has been observed in the upper mainstem of Lolo Creek. The overall number of redds observed has been relatively low. Very little spawning has been observed in the Musselshell Creek drainage, presumably due to fine textured substrates in the alluvial meadow systems of that drainage. Although steelhead habitat is available in the Eldorado Creek drainage, natural-returning steelhead trout have only been observed a few times. The Eldorado Falls may still present a partial migration barrier during various streams flows.

Determination: The suction dredging activities will avoid impacts to adult spawning, egg incubation and fry emergence because dredging operations would occur after July 15 when steelhead juveniles have emerged from the substrate. Due to the mitigation measures of avoiding mining activities in potential spawning areas, the potential effects of entrainment of juvenile steelhead trout (age 0+) via suction dredging are considered insignificant and discountable. Suction dredging may have short-term minimal impacts on individual steelhead trout due to an increase in turbidity, localized increases in sedimentation, and fish movements during project implementation. However, due to the presence of juvenile steelhead (age 0+ to 2+ fish) within the mining area, the direct effects to individual steelhead trout and habitats cannot be considered negligible. Therefore, the determination for the suction dredging activities in the Lolo Creek drainage is **may affect, likely to adversely affect** steelhead trout and their continued existence in the Lolo Creek drainage. The proposed suction dredging may have short-term adverse effects to proposed steelhead trout critical habitat in the Lolo Creek drainage, but because it is limited in scope, both spatially and temporally, is **not likely to destroy or adversely modify that habitat**.

4. Bull Trout (*Salvelinus confluentus*)

Existing Population Condition in Lolo Creek: Westslope cutthroat trout is the dominant fish species in the headwater streams, with strong populations of brook trout in the Musselshell Creek drainage a few scattered populations in the Yoosa Creek drainage. The Lolo Creek drainage was probably within the historical range of bull trout, but the populations have since reduced to a few individuals. Between 1974 and 2007, very few bull trout have been observed through fish population monitoring via snorkeling and electrofishing surveys in the Lolo Creek drainage. The State of Idaho (1998) reported in the “Lower Clearwater River Bull Trout Problem Assessment” that several bull trout have been observed in the mainstem of Lolo Creek between 1987 and 1994. USFWS, BLM, IDFG and Nez Perce Tribe monitoring efforts have observed individual bull trout during snorkeling surveys in the mainstem Lolo Creek and/or monitoring the Nez Perce Tribe’s juvenile trapping facility (upstream of Eldorado Creek) in 1987, 1990, 1993-1995, 1998-2000, and 2003-2004. In these years, a total of 19 bull trout were observed. No observations of bull trout have been documented by these agencies or the Forest during monitoring activities in 1996-1997, 2001-2002 and 2005-2007. Bull trout have not been observed in the Eldorado Creek, Musselshell Creek or Yoosa Creek drainages; the extent of bull trout spawning/production is assumed very low to nonexistent. Habitat conditions and warmer temperature regimes limit bull trout production in the Lolo Creek drainage. See Appendix F for the Matrix of Pathways and Indicators for Lolo Creek.

Overall, the fish population data does not indicate any bull trout spawning and early rearing in the Lolo Creek drainage. However, fish population surveys over the past 22 years have documented juvenile bull trout at a few sampling sites throughout the mainstem Lolo Creek (Table 1). A summary of the available fish population data shows that between 1985 and 2007, a total of 642 snorkel stations were surveyed within the mainstem Lolo Creek and bull trout juveniles or sub-adults were observed at nine monitoring sites (Table 1). The probability of finding bull trout in the tributary streams is very minimal as no occurrences of bull trout were documented at the 363 monitoring sites.

Determination: The suction dredging activities will avoid impacts to adult spawning, egg incubation and fry emergence because dredging operations would occur before August 15 when bull trout spawn and eggs are within the substrate. Due to absence of potential spawning within the mining areas and immediately upstream (primarily due to high water temperatures during the spawning season), the potential for early rearing of age 0+ to 2+ juveniles within the mainstem Lolo Creek is very unlikely. Therefore, the potential effects of entrainment of juvenile bull trout via suction dredging are considered insignificant and discountable. Due to the small scale of the dredging operations operating at any time, the small areas being disturbed, the low numbers of bull trout suspected in the mining areas, and the mitigation measures mandated under the permit process, it is very unlikely that mining operations will have any direct or indirect impacts on the smaller juvenile bull trout. Any instream sediment redistributed by suction dredging activities would be localized at the mining sites; downstream impacts are not expected to be measurable. Suction dredging activities may have short-term minimal impacts on individual bull trout (adult and larger juveniles) that are migrating through the project area; primarily due to an increase in turbidity, localized increases in sedimentation, and fish movements during project implementation. However, due to the low numbers of bull trout suspected in the mining areas, these impacts are expected to be insignificant and discountable. Therefore, the determination for the suction dredging activities in the Lolo Creek drainage is **may affect, not likely to adversely affect** bull trout and their continued existence in the Lolo Creek drainage. The proposed suction dredging may have short-term adverse effects to potential bull trout critical habitat in Lolo Creek, but because it is limited in scope, both spatially and temporally, is **not likely to destroy or adversely modify that habitat**.

5. Essential Fish Habitat

In accordance with applicable requirements of section 305(b) of the Magnuson-Stevens Act and its implementing regulations (50 CFR Part 600.920), the Forest needs to evaluate potential effects of the suction dredging activities within the Lolo Creek drainage on Essential Fish Habitat. Spring chinook salmon are not listed under ESA within the Clearwater River basin, but spring Chinook salmon production (naturally and hatchery supplemented) occurs in the Lolo Creek drainage. All the proposed dredge sites are located within spring Chinook salmon habitat. Generally, the proposed suction dredging operations are expected to have low to moderate effects on salmon habitat in the mainstem Lolo Creek.

Re-introduction of coho salmon has been undertaken by the Nez Perce Tribe in tributaries of the mainstem Clearwater River, including the Lolo Creek drainage. Historically, coho most likely inhabited tributaries in the lower Clearwater River Basin including some in the lower Lochsa River subbasin.

Since designated critical habitat for Snake River steelhead trout in the Lolo Creek drainage is identical to the area designated as EFH for Chinook salmon, the EFH analysis, potential adverse effects on designated critical habitat for ESA-listed species and EFH MSA-managed species are considered to be functionally equivalent. Effects on salmon EFH (spring Chinook and coho salmon) would be the same as those described for steelhead trout and bull trout within the biological assessment.

Determination: The suction dredging activities will avoid impacts to adult spawning, egg incubation and fry emergence because dredging operations would occur before August 15 when the majority of spring Chinook salmon start spawning. The mitigation measure of terminating suction dredging whenever spawning occurs within 50 feet downstream will avoid effects to earlier spawning fish. Suction dredging activities may have short-term minimal impacts on individual spring Chinook salmon due to an increase in turbidity, localized increases in sedimentation, and fish movements during project implementation. These impacts are expected to be minimal, but the effects cannot be considered negligible. Therefore, the determination for the suction dredging activities in the Lolo Creek drainage is **may affect, not likely to adversely affect** spring Chinook salmon and their continued existence in the Lolo Creek drainage.

II. Moose Creek Summary

A. Introduction

This BA addressed potential effects to designated Threatened and Endangered Species from proposed suction dredging activities within the Moose Creek drainage. Potential and current mining areas are located primarily in the mainstem Moose Creek, Deadwood Creek, and Independence Creek drainages, within Clearwater County, Idaho. Currently, about 38 claimants could file notices of intent to the Forest requesting to operate in any one year.

The U.S. Fish and Wildlife Service (USFWS) species list of December 3, 2007, (from Quarterly Species List Update, File #103.0000, 2008-SL-0070), identified two endangered, five threatened species under ESA within North Central Idaho. The following species were included in the list: gray wolf (E:YN), sockeye salmon (E), fall chinook salmon (T), spring chinook salmon (T), steelhead trout (T), bull trout (T), Canada lynx (T). Two of the fish species, sockeye salmon and spring Chinook salmon were not listed within the Clearwater National Forest (specifically the Clearwater River and Palouse River subbasins); therefore these species were not be discussed as ESA species in this BA.

B. Determinations

1. Lynx (*Lynx canadensis*)

Existing Condition: The lynx is also a wide-ranging predator that could use the project area on occasion. Nellis (1989) estimated that most home ranges fell between 5 and 20 square miles, but home ranges up to 94 square miles have been reported. Ruggiero (1994) reported the lynx "... occurs primarily in the boreal forest of Alaska and Canada, but its range extends south into the northern portions of the western mountains, where environmental conditions at high elevations support boreal forest habitats similar to those found in northern regions." The project area does support boreal forest habitat conditions, and the likelihood of use by the lynx is low.

The IDFG has no records (historical or otherwise of reliable) lynx sightings in Clearwater County. Ruggiero's (1994) observations and Fish and Game records of lynx distribution both concur with Koehler's observation that most lynx use occurs further north and along the Montana/Idaho divide.

Determination: In summary, the project area has very few historical and current observations and it is on the edge of the range for the lynx, therefore, suction dredging would have **no effect** on lynx or its habitat.

2. Fall Chinook Salmon (*Oncorhynchus tshawytscha*)

Existing Condition: The proposed suction dredging areas within the Moose Creek drainage is located over 100 miles upstream of Dworshak Dam; the dam is a complete migration barrier to anadromous fish. Consequently, no critical habitat for this species occurs within the Clearwater National Forest. Under the ESA, the Forest Service must assess cumulative impacts from federally authorized or funded projects on the Clearwater National Forest to fall populations in both the lower Clearwater River and Palouse River below the falls.

Determination: Any sediment produced by suction dredging would not be measurable in the mainstems of Kelly Creek and upper North Fork Clearwater River and nonexistent downstream of the Dworshak Dam. Therefore, suction dredging in the Moose Creek would have **no effect** on fall Chinook salmon.

3. Steelhead Trout (*Oncorhynchus mykiss*)

Existing Condition: Present distribution includes the Salmon River and Clearwater River subbasins. The proposed suction dredging areas within the Moose Creek drainage is located over 100 miles upstream of Dworshak Dam; the dam is a complete migration barrier to anadromous and inland fish. The effects of instream recreational dredging primarily involve changes in substrate, spawning and rearing habitat for salmonids.

Determination: Any sediment produced by suction dredging would not be measurable in the mainstems of Kelly Creek and upper North Fork Clearwater River and nonexistent downstream of the Dworshak Dam. Therefore, suction dredging in Moose Creek would have **no effect** on steelhead trout.

4. Bull Trout (*Salvelinus confluentus*)

Population Status: Past and ongoing fish population monitoring surveys within the Moose Creek drainage indicates that bull trout are present, but in relatively low numbers.

Determination: The suction dredging activities will avoid impacts to adult spawning, egg incubation and fry emergence because dredging operations would occur after before August 15 when bull trout spawn and eggs are within the substrate. Potential effects of entrainment of juvenile bull trout via suction dredging are considered insignificant and discountable. During 2000-2001 mining seasons, the infrequent sightings of bull trout during previous fish population surveys in the Moose Creek drainage led to a “may affect, not likely to adversely affect” determination. However, fish population and spawning surveys during the 2000-2001 have found adult spawners in the drainage and spawning activity in Osier Creek. In addition, bull trout spawning have been documented in the Osier Creek drainage during 2002 and 2003 and within the Moose Creek and Swamp Creek drainages in 2005. Therefore, suction dredging activities may have short-term minimal impacts on individual bull trout due to an increase in turbidity, localized increases in sedimentation, and fish movements during project implementation. These impacts are expected to be minimal, but the effects cannot be considered negligible. Therefore, the determination for the suction dredging in the Moose Creek drainage is **may affect, likely to adversely affect** bull trout and their continued existence in the Moose Creek drainage. The proposed suction dredging may have short-term adverse effects to potential bull trout critical habitat in the Moose Creek drainage, but because it is limited in scope, both spatially and temporally, is **not likely to destroy or adversely modify that habitat**.