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Decision Notice and Finding of No Significant Impact Doc Denny Vegetation Project

**Salmon River Ranger District, Nez Perce National Forest
Northern Region USDA, Forest Service
Idaho County, Idaho**

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DOC DENNY VEGETATION PROJECT
DECISION NOTICE
AND
FINDING OF NO SIGNIFICANT EFFECT
SALMON RIVER RANGER DISTRICT
NEZ PERCE NATIONAL FOREST
NORTHERN REGION, USDA FOREST SERVICE

AUGUST 2013

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I. DECISION SUMMARY

This Decision Notice (DN) and Finding of no significant impact (FONSI) document my decision and rationale for implementing the Doc Denny Project. I have decided to implement Alternative 2 as described in the Doc Denny Vegetation Project Environmental Assessment (EA) issued September 5, 2012. The Selected Alternative will implement forest management activities on 1,026 acres within the Doc Denny project area about ten miles southeast of Grangeville, Idaho.

The 4280-acre project area is generally in the lower portion of the Mill Creek watershed from its confluence with the South Fork Clearwater River to the confluence of Merton Creek in Idaho County, Idaho (about 10 air miles southeast of Grangeville, Idaho). The project area is located in Township 28 North, Range 4 East, Sections 4, 5, 8, 9, 16, 17, 18, 19, 20, 29, 30, 31, and 32 and T29N, Range 4 East, Section 27, 28, 33, and 34, Boise Meridian. Primary access to the area is provided by Highway 14 and Forest Service Roads 279, 9449, 9450, and 9485.

II. PROJECT BACKGROUND

The Doc Denny analysis area was evaluated in the South Fork Clearwater River Subbasin Assessment. Landscape features in Lower Mill Creek Ecological Reporting Unit, such as vegetation patch size, structure, and composition are currently outside the natural range of variability historically occurring in the area (USDA-FS 1998). Proposed activities would help bring those elements closer to their natural range. The proportion of fire-climax species, such as ponderosa pine and western larch, are currently underrepresented and far below their expected range.

Most of the analysis area supports dense stands of mature timber where individual tree growth has slowed due to high stocking levels and subsequent competition, making them at risk for insect and disease infestations. Age-class distribution is skewed toward older age classes, and species composition is weighted toward species that are more susceptible to insect and disease.

Lodgepole pine dominates the overstory where stand-replacing fires have occurred. Grand fir and Douglas fir dominate the overstory where stand-replacing fires have not occurred. Ponderosa pine and western larch occur incidentally in the project area. Advanced root disease is beginning to cause extensive mortality in these mixed-conifer stands.

The Nez Perce National Forest Plan identifies the majority of this area as Management Area (MA) 12. Primary goals for this MA are to manage for timber production and other multiple uses on a sustained yield basis. The existing stand conditions present a challenge to meet concurrent goals including maintaining mature forest canopy, promoting early seral fire tolerant trees species, enhancing resiliency to disturbances, preventing fuel accumulation over time, providing for valuable habitat structures, and providing an appropriate level of timber productivity.

III. PURPOSE AND NEED FOR ACTION

Resource management opportunities for the project area are based upon existing landscape conditions, applicable Nez Perce Forest Plan management direction (FP, III-37-39) and desired future objectives and goals for the area.

There are two purposes of the Doc Denny project:

- To manage vegetation toward desired forest conditions by maintaining ecosystem health and productivity.
- Provide long-term sustained timber yield to help satisfy demands for timber.

Action is required to maintain forest health and promote resilient ecosystems by managing towards more characteristic landscape level vegetation patterns, structure, patch size, fuel loading and species composition.

IV. DECISION

After careful consideration of analyses, applicable laws, and public comments, I have decided to implement Alternative 2, as described in the Doc Denny EA.

This decision is based on information contained in the project record, including the EA and the effects analysis described in Chapter 3, the resource specialist reports, the management requirements of the applicable laws and policies, the mitigation measures and design features described below and the comments received during the public involvement process for this project.

Alternative 2 will implement the following management activities, design features, and monitoring activities.

Management Activities

- Commercially thin approximately 197 acres of over stocked stands.
- Pre-commercial thin about 40 acres to promote tree growth and stand health.
- Overstory removal followed by pre-commercial thinning on about 13 acres to remove mistletoe infected overstory western larch and promote tree growth of understory trees.
- Combination of commercial and pre-commercial thinning on 12 acres to promote tree growth and stand health.
- Regeneration harvest approximately 763 acres to modify forest stand age class and species composition.
- Construct approximately 3.4 miles of temporary roads for access to units and decommission after use.
- Improve 16 road miles needed to access harvest units, this includes replacing two culverts.
- Decommission 1.2 miles of road no longer needed for forest management, this includes removing six culverts.

- Prescribed fire and jackpot burning will be used to treat activity fuels.

Design Features

The design features, monitoring measures and Best Management Practices (BMP's) described below will be implemented as part of my decision. The effectiveness of each measure is also included, where applicable.

1. PACFISH Riparian Buffers: No-harvest buffers will be required (300 feet on either side of fish-bearing streams; 150 feet on non-fish bearing perennial streams and wetlands less than 1 acre; and 100 feet on intermittent streams, wetlands greater than 1 acre, landslides, and landslide prone areas). Unit layout will include referring to the US Fish and Wildlife Service draft wetlands inventory map to ensure potential riparian habitat conservation areas (RHCAs) are reviewed and buffered appropriately. All vegetation and woody debris will be left intact in these areas.

Effectiveness: All management activities since 1995 have implemented PACFISH riparian habitat conservation areas (RHCAs) and best management practices (BMPs) in order to eliminate or reduce impacts to riparian areas and streams. PACFISH buffers are expected to furnish sediment filtering and erosion control, as well as maintain shade and potential sources of large woody debris. Field reviews show that heavily vegetated buffers prevent sediment from reaching streams. Preliminary monitoring results from the PACFISH/INFISH Biological Opinion (PIBO) monitoring across the Upper Columbia River Basin also indicate overall improving trends in stream habitat.

2. Halt ground-disturbing activities if cultural resources are discovered until an Archaeologist can properly evaluate and document the resources in compliance with 36 CFR 800. This will be carried out through the contract and contract administration or inspection.

Effectiveness: Moderate, based on SA/COR recognition of resource and contact with Heritage Personnel.

3. Signs will be placed on Roads #9451, #9450, and #9449 to inform the public of timber harvest activity.
4. Trail #319 in Unit 25 will be protected from harvest activities.
5. Notify local snowmobile clubs prior to plowing any portion of Road #9485 (Milner Trail).
6. Road #9449 decommissioning will be constructed to meet ATV/motorcycle trail standards less than less than 50 inches.
7. Machine trails for timber harvest and fuel treatments will be designed to minimize the area of detrimental soil effects- displacement, ruts, compaction, puddling, platy structure, and burn severity disturbance (Froehlich and McNabb, 1983). Activity will be designed to stay below 15 percent disturbance of the treatment area. Existing skid trails and landings will be utilized where other resources are not compromised by designating skid trails, reusing skid trails by machines

used for piling, and placing slash on existing skid trails where possible to overlap detrimental effects rather than extending the footprint.

8. Skid trails and landings in all units will be scarified following timber harvest to improve soil productivity and meet soil quality standards. Actions may include decompaction placing slash, woody material, and/or duff over exposed soil.
9. Prescriptions for regeneration harvest units identify retention of coarse woody material appropriate to the site for nutrient cycling, maintaining soil moisture, and other soil physical and biological properties (timber sale contract provision C6.406#). Regional guidance for organic matter (USDA FS, 1999) recommends following guidelines, such as retaining coarse (greater than 3 inches diameter) woody material to maintain soil productivity (Graham et al., 1994). Says the same as first sentence but with references Drier (Douglas-fir, grand fir and ponderosa pine) habitat types have wood retention requirements of 7-15 tons. Coarse woody material helps to reduce surface erosion in the short term and breaks down into soil in the long term. Snags or other trees felled for safety reasons may be left in the unit.
10. Follow PACFISH buffers in high mass wasting potential and landslide prone areas. Appendix D includes maps of these high mass wasting potential and landslide prone areas requiring field verification. All landslide prone terrain identified during field layout will be excluded from harvest or disturbance and provided with a 100-foot no-harvest buffer, as defined in PACFISH. Unit 13 (12 acres) will retain approximately 50% of the available canopy to protect soils.
11. Where needed to provide additional soil nutrients and erosion protection, live tops may be retained or returned to the units for long-term site productivity (Graham et al. 1999). If tops are returned to the units, only existing skid trails will be used for dispersal.
12. Activity slash may be left over winter in areas to support nutrient cycling, organic matter inputs, and surface erosion protection for soil stability and productivity (Graham et al. 1999).
13. Pile and burn slash on existing skid trails to overlap detrimental soil disturbance on already disturbed areas to minimize new soil impacts (Korb 2004).
14. Fuels treatments will be designed in the project burn plan to provide a low-severity mosaic burn with little to no detrimental soil disturbance (Neary et al., 2008).
15. Best Management Practices (BMPs) found in Rules Pertaining to the Idaho Forest Practices Act Title 38, Chapter 13, Idaho Code, and Soil and Water Conservation Practices Handbook 2509.22 will be applied to prevent and/or reduce non-point source pollution from timber management and road construction.

Effectiveness: The Nez Perce National Forest is combining with the Clearwater National Forest (CNF). Survey results from the CNF from 2004 through 2009 indicate BMP implementation and effectiveness rates of 98% or greater. The Nez Perce National Forest uses the same BMPs as the CNF, therefore the effectiveness of the BMPs are expected to be similar.

16. The proposed culvert upgrade and new culvert installation on Road #9449 will be sized to meet or exceed natural bankfull channel width and designed to pass a 100 year flow event. Culverts will be placed at natural stream grade to accommodate sediment, debris, and water transport.
17. Road #76820 decommissioning will require restoration of two stream channels to appropriate dimension, pattern, and profile. All required permits shall be secured prior to implementation (e.g. stream alteration, 404). Cattle will be excluded from the decommissioned areas for at least one growing season to allow for the establishment of effective ground cover.
18. Temporary road locations will predominantly be located on gentle slopes, over existing templates, and in areas where excavation would be minimized. Out-sloped drainage is preferred where feasible and when safety and discharge to water bodies are not at risk. Temporary roads shall avoid crossing wetlands.
19. The following mitigation measures will be applied to proposed temporary roads with stream crossings (See maps in Appendix C).
 - a. Vegetation removal within 150 feet on either side of any non-fish bearing live stream will be kept to the minimum necessary to facilitate access.
 - b. Trees required to be cut for the road right-of-way within 150 feet on either side of any non-fish bearing live stream should be felled and left on site. Skidding would be limited to the shortest length needed to move material out of the road right-of-way. Downed trees will be used as needed for woody material placement on disturbed soil and in the stream when the road is decommissioned.
 - c. Sediment input would be minimized by using sediment barriers and prohibiting construction during wet conditions for both installation and removal of temporary stream crossings. Approaches to water crossings shall receive appropriate BMPs to minimize the length of road drainage and to mitigate runoff. Temporary crossing structures shall span the channel bankfull width, and if needed during spring runoff will be able to pass a 100 year flood event. Stream channels impacted by construction activity will be restored to their natural dimension, pattern, and profile as soon as practical.
 - d. On-site field evaluation may be required for the Mill Creek tributary temporary road crossing adjacent to Unit 8 (lowest section) and the Markham Creek tributary between Units 18 and 16 due to presence of steep slopes and channel profile.
20. All temporary roads will be closed to the public and decommissioned following use. If, for unforeseen reasons, a temporary road must overwinter, it would be put into a stable condition consisting of out sloping, water barring, and/or seeding or mulching, as specified in the contract. Decommissioning will consist of recontouring the road prism including all cut and fill slopes to natural ground contour or as close as practicable. In addition, from 7 to 15 tons per acre of clearing or logging slash, stumps or other woody debris shall be placed and scattered uniformly on top of the recontoured corridor. Cattle will be discouraged from the decommissioned area for at least one growing season to provide for establishment of effective ground cover.

21. As necessary, desirable vegetation will be promptly established on all disturbed areas, using native and non-native plant species as approved by the Forest botanist.
22. All named plant cultivars used in revegetation will be certified blue-tagged. All non-certified seed shall be tested by a certified seed laboratory using the all-state noxious weed list. Documentation of seed inspection tests will be provided to the contract administrator. All straw and mulch will be certified as free of noxious weed seed.
23. Remove all mud, soil and plant parts from all off-road equipment before moving into the project area to limit spread of weeds. This applies to all off road equipment associated with management in the project area, but, does not apply to service or hauling vehicles that stay on the roadway, and traveling frequently in and out of the project area. Cleaning will occur at a designated location.
Effectiveness: Moderate, since it will not be possible to restrict all non-sale related traffic from entering the sale area.
24. If goshawks are located in or near project activities, the forest wildlife biologist will be notified and appropriate protection measures, including buffering nests and applicable timing restrictions implemented.
25. Existing public access restrictions will be maintained on all roads during implementation.
26. Utilize the Northern Region Snag Management Protocol (USDA Forest Service 2000) and the Risk Assessment Reserve Tree Guide when implementing silvicultural treatments.
27. Harvest activities will not occur in MA20 or other old growth habitats.

Monitoring Requirements

The Doc Denny Project will include the following monitoring activities.

Invasive Plant Species:

Implementation monitoring will be conducted to ensure design features are being implemented properly.

This monitoring may include the following:

1. Complete and document inspections for weed sources on equipment required to be cleaned according to forest standards.
2. Plant seed, straw, and/or mulch shall be certified and documented.

Effectiveness monitoring will be conducted to determine if design features achieve their desired objectives. This monitoring may include the following:

1. Post management monitoring to identify changes in noxious weed populations and adapt future weed management actions.
2. A documented increase in invasive weeds would trigger Integrated Weed Management (IWM; FSH 2080), development and implementation of a management plan; and future design features

and burn plans will be adjusted, as necessary, following coordination with District/Forest weed coordinators.

PACFISH Compliance:

The Doc Denny project would be available for PACFISH compliance monitoring. This monitoring will be conducted annually by the Forest Fisheries Biologist in conjunction with BMP audits. Monitoring shall be conducted on randomly selected treatment areas throughout the Forest. Results will be reported in the annual Nez Perce-Clearwater National Forest Monitoring and Evaluation Report. Both implementation and effectiveness of treatments will be monitored.

Vegetation Treatments:

This monitoring will determine if vegetation treatments were conducted in locations identified on project maps and if they were conducted according to proposed silvicultural prescriptions. Contract administration personnel would make regular assessments on progress of project implementation. Implemented conditions will be compared with desired project outcomes and objectives.

V. RATIONALE FOR THE DECISION

My decision on this project was based on how well the management actions analyzed in the EA address the purposes and needs of the project, and consid

eration of issues that were raised during the scoping process and the comment period on the EA. I considered Forest Plan and Record of Decision standards and guidance for the project area, and took into account competing interests and values of the public.

I have reviewed the alternatives analyzed in detail (EA pages 8-12) and project design measures (EA pages 14-17), and have found that they are responsive to the issues and concerns as well as purpose and need for action. The issues (EA, pages 4-6) were developed based on public comments and an interdisciplinary review of existing conditions in the project area. The purpose and need for action (EA, pages 2-3) is consistent with the goals and objectives of the Forest Plan. I also reviewed project area conditions and recommendations in the South Fork Clearwater River Subbasin Assessment (USDA-FS 1998). I find the purpose and need to be supported by the scientific information found in these documents.

To ensure that an adequate range of alternatives was considered, I reviewed six alternatives to the proposed action, two in detail. I reviewed public comments from the scoping period as well as those that were received for the EA. The interdisciplinary team (IDT) considered all public comments that were received when developing the EA (project file). I find that the range of alternatives considered was thorough and complete. Issues raised during the scoping process are appropriately considered and addressed through project design and development of mitigation measures.

In summary, environmental effects to overall ecosystem health are determined to be neutral or beneficial in this analysis (EA, Chapter 3), with potentially detrimental effects mitigated through project design measures described on pages 3 through 6 of this document. Alternative 2 was designed to respond to the

purpose and need described in Chapter 1 of the EA, to comply with Forest Plan direction and regulatory framework.

Meeting the Purpose and Need

I have selected Alternative 2 over the other alternatives because it best meets the Purpose and Need for action while being responsive to public comments and other agency concerns (EA, pages 2-6; Decision Notice, Appendix B; and project file, comment letters).

The environment in the project area can be improved and moved toward desired conditions as a result of this project. Specifically, Alternative 2 best meets the purposes and needs because:

- Vegetation treatments will reduce forest competition and stocking levels, restoring forest ecosystem processes to more closely match historical structure, function, diversity, and dynamics (EA, page 7).
- Treatments will increase western larch and ponderosa pine cover types, which will trend this area toward long-term improved forest health and increased resiliency to fire, insects and disease (EA, page 87,88).
- Pre-commercial thinning will accelerate tree growth and vigor and improve the health of early seral stands (EA, page 9).
- 16 miles of road improvement activities will reduce sediment production by routing runoff from the road surface and away from stream crossings and water resources. Installation of two culvert on Road 9449 will reduce risk of mass failure (EA, pages 9, 52).
- Decommissioning of Road 76820 (0.7 miles), will eliminate two at-risk road-stream crossings. Road to trail conversion of Road 9449 (1.1 miles) will reduce the risk of potential stream diversion and catastrophic failure of this road segment (EA, page 53).
- Modifying age class distribution will promote long-term sustainable yield of forest products and contribute to community stability and employment.

Consideration of Issues and Concerns

Issues were generated internally by the Interdisciplinary Team (IDT), and externally, through public comments. I sought involvement of all interested individuals, business, organizations and county, state and federal agencies and the Nez Perce Tribe to define the issues, concerns, mitigations and treatment options. The interdisciplinary team designed the project to minimize effects on resources. I used unresolved issues to develop the range of alternatives, while site-specific project design features alleviated others.

Some issues were raised and discussed in the EA (pages 4-6), but were not evaluated in detail because the alternatives already mitigated the issue (such as noxious weed treatments, cultural concerns, obliteration of skid trails, log landings and temporary roads). Discussion of other issues, such as impacts to water quality, aquatic habitat conditions, soil productivity, recreation, and cumulative impacts were carried through the analysis for all alternatives.

Issues, such as tribal treaty rights or impacts to air quality are not affected by the proposal or are decided by law or policy. Issues such as inclusion of additional road decommissioning and watershed improvement activities were not addressed because they are not pertinent to this proposal. The Doc Denny Vegetation Project specifically addresses deteriorating forest health and vegetative conditions in the area. This project will decommission about 1.2 miles of system road not needed for long-term management and remove six culverts, which will provide watershed benefits. In addition, one culvert would be installed and one undersized culvert on Road #9449 would be replaced further reducing sediment delivery to streams. Approximately 16 miles of road reconstruction and maintenance required for proposed log hauling will also reduce sediment production and connectivity of roads at streams crossings routing runoff from the road surface and away from water resources. Project impacts to water quality and fisheries resources were analyzed.

The Forest Service recognizes the importance of the Mill Creek watershed to the Nez Perce Tribe as a productive steelhead stream. Over the last decade, the Forest has worked in partnership with the Nez Perce Tribe to address problem road-stream crossings in the South Fork Clearwater River basin, which covers the Mill Creek watershed. Seven road crossings have been removed and five have been upgraded in the project area. Upgrades for two trail stream-crossings (Trails 313 and 385) and for three road-stream crossings (2 on Black George Creek and 1 on Hunt Creek) in the Mill Creek watershed are foreseeable. These projects will continue to provide long-term watershed benefits to Mill Creek.

I believe the issues and concerns identified through the scoping and planning process were fully addressed during alternative development and analysis.

Consideration of Public and Other Agency Comments

A summary of the comments received for the Doc Denny proposal, and my response to those comments, is attached to this document as Appendix B. The original comment letters and all other comments received are included in the project file.

The formal scoping period for this project ended in April 2011. Comments received during the scoping period were used to develop the issues and alternatives that were included in the NEPA document, and to ensure that those issues and alternatives were adequately analyzed.

The comment period for the EA ended on October 5, 2012. I considered submitted comments when making my Decision, and I find that the selected alternative responds to the issues and concerns brought forward by the public and other agencies.

Forest Plan Consistency and Regulatory Compliance

I have reviewed the Forest Plan as amended (16 U.S.C. 1604(i)), the Forest Plan Final Environmental Impact Statement, and the Forest Plan Record of Decision. Implementing Alternative 2 is consistent with the intent of the Forest Plan's long term goals and objectives listed on pages II-1 through II-8. The project conforms to land and resource management plan standards (pages II-15 through II-27) and incorporates appropriate land and resource management plan guidelines for desired conditions described in the plan (pages II-13 through II-15).

This decision to implement Alternative 2 is consistent with applicable statutory laws, policies, and regulations (EA, Chapter 4) including:

- National Forest Management Act (NFMA) and implementing regulations in 36 CFR 219, and 16 U.S.C. 1604
- National Environmental Policy Act of 1969 (NEPA) and Council on Environmental Quality (CEQ) implementing regulations under 40 CFR 1500-1508
- National Historic Preservation Act (NHPA) and implementing regulations under 36 CFR 800
- Clean Water Act (Federal Water Pollution Control Act) together with implementing regulations under 40 CFR 130
- Endangered Species Act of 1973, as amended (P.L. 96-159 1531 c) (ESA) and implementing regulations pursuant to 50 CFR 402.06 and 40 CFR 1502.25
- Clean Air Act (CAA) and implementing regulations in 40 CFR 50
- Environmental Justice (Executive Order 12898)
- Floodplains and Wetlands (Executive Orders 11988 & 11990)

The Forest Plan (FP, III-1 through III-67) provides area specific standards and guidelines. Management emphasis for MA 12 is to manage for timber production and other multiple uses on a sustained yield basis (III-37-39).

Alternative 2 will comply with Forest Plan direction for MA 12. This alternative will trend the area toward long-term improved forest health and increased resiliency to fire, insects and disease by treating mountain pine beetle infested lodgepole pine, and grand fir and Douglas-fir experiencing mortality from root rot. This alternative will maintain and/or establish ponderosa pine and western larch on the landscape. It will improve forest health by shifting species composition and structure toward desired conditions, making stands more resistant and resilient to change agents such as insects and disease. It will provide wood products for local industries.

Alternative 2 is designed to achieve management objectives while ensuring that no adverse effects on fish or fish habitat will occur. This alternative complies with all Forest Plan water standards and guidelines, as amended by PACFISH (FP I-2, III-38; water quality report, project file).

There will be no adverse effects on Threatened, Endangered or Sensitive species. Habitat will be maintained for all indigenous wildlife species. Snag, riparian and old growth habitat will be protected through project design and implementation of site-specific mitigations and BMPs (DN, Appendix A, EA Chapter 3, Appendix C). Alternative 2 does not treat any old growth and will not affect mature or old growth forest habitats. Old Growth Analysis Unit (OGAA) 116 exceeds the Forest Plan standard of 5% old growth for the OGAU. The Forest-wide 10% objective will continue to be met.

Alternative 2 will maintain soil productivity and minimize any irreversible impacts to the soils resource (FP, Goal 18). The project is consistent with Nez Perce Forest Plan soil objectives to not significantly impair the long-term productivity of the soil or produce unacceptable levels of sedimentation resulting from soil erosion. The project is consistent with Soil Standards 1, 2 and 3 (FP, II-22). Analysis determined, and the project was designed to ensure that a minimum of 80 percent of an activity area shall

not be detrimentally compacted, displaced, or puddled upon completion of activities. Alternative 2 will control erosion, compaction, displacement and mass erosion through compliance with road, harvest, and post-harvest prescribed burning design criteria and mitigation measures, and timber sale administration during project implementation as described in this document. Design and mitigation measures will minimize detrimental disturbance with the objective of ensuring that activity areas meet Forest Plan soil standards upon completion of the planned activities. Monitoring requirements were established to verify compliance (DN, pages 3-6).

Alternative 2 will also meet Regional Guidelines and Regional Soil Quality policy (FSM 2554.03), which is to design new activities that do not create detrimental soil conditions on more than 15 percent of an activity area. In areas where less than 15 percent detrimental soil conditions exist from prior activities, the cumulative detrimental effect of the current activity following project implementation and restoration must not exceed 15 percent. In areas where more than 15 percent detrimental soil conditions exist from prior activities, the cumulative detrimental effects from project implementation and restoration should not exceed the conditions prior to the planned activity and should move toward a net improvement in soil quality. At least 85 percent of an activity area must have soil that is in satisfactory condition. Doc Denny project activities will treat detrimental impacted areas and provide for soil restoration to improve conditions (EA, page 68).

Consistent with Forest Plan Goal 11 to locate, protect and interpret significant prehistoric, historic and cultural resources, an appropriate heritage resource survey has been conducted for the project area. All known sites within the project area have been evaluated and protection measures are in place for those sites that could potentially be affected. The Idaho State Historic Preservation office has concurred with all evaluations and protection measures.

VI. ALTERNATIVES CONSIDERED

Two action alternatives and a no action alternative were analyzed in detail. Additionally, I considered three other alternatives that were not analyzed in detail for reasons described below. This provided a reasonable range of alternatives as required in 40 CFR 1502.14(a). I selected Alternative 2 after considering how each alternative would respond to the purpose and need identified for the Doc Denny project, to manage vegetation toward desired forest conditions by maintaining ecosystem health and productivity and to provide long-term sustained timber yield to help satisfy demands for timber as outlined in the Forest Plan (USFS 1987, II-1). I considered how each alternative would respond to the issues used to develop design criteria and/or mitigation and issues carried through the analysis. I also considered the potential direct, indirect and cumulative effects of resources, such as vegetation, water quality, fisheries, soils, wildlife, recreation and cultural resources for each of the alternatives. Specialist reports in the Doc Denny project file include analysis that is more detailed. I find that the range of alternatives considered accurately reflects the issues raised during the scoping process and is thorough and complete. The features that I considered when making my Decision are briefly discussed below for each alternative.

Alternative 1: No Action

This alternative provided a baseline for comparison of environmental consequences of the proposed action to the existing condition and is a management option that could be selected by the Responsible Official. The results of the No Action Alternative would be the current condition as it changes over time due to natural forces. Current management plans would continue to guide management of the project area. Insect and disease mortality would continue, hazardous fuel loadings, Alternative 1 does not meet the purposes and needs for action (EA, pages 2-3).

Alternative 2: Proposed Action (Selected Alternative)

This alternative will fully meet all aspects of the purposes and needs for this project (EA, pages 2-3). Alternative 2 is described in detail in the EA (pages 8-10). This alternative would manage vegetation on approximately 1026 acres with a combination of regeneration and intermediate timber harvest in the Doc Denny analysis area. To support harvest activities, the following road management activities are included: approximately 16 miles of road improvement, 3.4 miles of temporary road construction followed by decommissioning, two culvert installations and/or replacements and six culvert removals. In addition, about 0.7 miles of existing road would be obliterated and converted to a motorized trail (for vehicles under 50 inches wide).

Alternative 3: No Road Construction and Reduced Regeneration Treatment

Alternative 3 is described in detail in the EA (pages 12-13). This alternative was developed to address a concern that proposed temporary road construction and regeneration harvest could impact water and soils and contribute to sediment production; therefore, project activities should be limited to existing roads and units less than 40 acres. This alternative would drop 342 acres of proposed harvest that would be accessed with temporary roads. Under this alternative, forest health would continue to decline in untreated areas, stand densities and fuel loading would continue to increase, insect and disease mortality and species composition would continue to worsen.

Watershed Restoration Only

A watershed restoration only alternative (EA, page 7) was considered in response to a public request for an alternative that included only culvert replacement and/or road decommissioning. This alternative was not considered in detail as it does not meet the purposes and needs for this project. The interdisciplinary team has conducted a roads assessment (project file) which identifies potential roads for decommissioning. This alternative would support local communities at a much reduced level when compared to other action alternatives. Additionally, the Forest Plan allocates the majority of this project area to MA 12, with the goal of sustained production of wood products. Existing watershed conditions do not preclude timber harvest. Both action alternatives include culvert replacements related to road reconstruction.

Intermediate Harvest Treatment

A request to change regeneration harvest to intermediate harvest was received. After preliminary analysis and discussion, it was eliminated from further study. This alternative would not move vegetation toward desired conditions as discussed in the purpose and need for this project.

Regeneration harvesting is proposed due to extensive root disease in the project area. Commercial thinning and other methods of partial cutting or intermediate harvesting would make infected residual trees susceptible to wind-throw and fuel loading would be increased. Additionally, intermediate harvest activities are known to worsen root disease infection. Existing mixed conifer stands are dominated primarily by grand fir and Douglas-fir which are high risk for root diseases, Indian paint fungus, and fir engraver beetle. Localized areas contain heavy fuel loading from ongoing mortality in stands that had been densely stocked with mature trees. By planting tree species less susceptible to root disease (western larch and ponderosa pine), future stands may exhibit growth and vigor not attainable by current species composition.

Commercial thinning would satisfy demands for timber, but age-class distribution, species composition, and sustainable timber yield would not be optimized. Ecosystem health and productivity would diminish because of root disease, old age, and culmination of mean annual increment in all stands proposed for regeneration harvest. The Forest Plan recommends implementing actions to reduce timber losses due to insects and diseases, when compatible with overall management direction. Control actions would generally be aimed at reducing risk of infestations through silvicultural treatments in high and moderate risk stands.

Additional Road Decommissioning

A request for an alternative to include more road decommissioning was received. The interdisciplinary team conducted a roads assessment (see Project File) which identified potential roads for decommissioning. Roads identified for decommissioning were included in the proposal, therefore an additional alternative to decommission more roads was not developed.

VII. PUBLIC INVOLVEMENT

On May 18, 2011, scoping letters were mailed describing the proposed action, location, and purposes and needs to the Nez Perce Tribe (NPT) and other interested individuals, businesses, organizations and agencies. Since July 2011, the District has included the proposed action in the Forest's Quarterly Schedule of Proposed Actions (http://www.fs.fed.us/nepa/project_content.php?project=35908).

We received ten letters in response to our request for scoping comments. The interdisciplinary team (IDT) used the comments to identify the issues described in the EA (pages 3-4). To address these issues, the IDT considered the alternatives described above and developed design features (EA, pages 10-12).

On July 22, 2011 and April 18, 2012, Team Leaders presented this project to tribal staff members for comment. Comments received from the NPT watershed division were considered and included during final project design. Copies of the Doc Denny EA were mailed to individuals who had provided comments during the 30-day scoping period and the Nez Perce Tribe on August 30, 2012. A legal notice requesting public comments appeared in the Lewiston Tribune on September 5, 2012. We received seven comment letters during the 30-day EA comment period (Appendix A). I considered all of the public comments that were submitted in reaching my decision to select Alternative 2.

The IDT used the comments received from the public and other agencies to formulate the issues to be addressed in the EA. To address these issues, the IDT created the alternatives described above.

VIII. FINDING OF NO SIGNIFICANT IMPACT

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

Context

The setting of the project is in an intensively managed roaded area. The resources affected by the proposal are described in the EA. The Selected Alternative is consistent with the management direction, standards and guidelines outlined in the Nez Perce Forest Plan. Local issues were identified through the scoping process and considered in alternative development and analysis. The project area is limited in size and the activities are limited in duration. Effects are local in nature and not likely to significantly affect regional or national resources.

Intensity

I have determined the following with regard to the intensity of this project as identified in 40 CFR 1508.27.

1. *Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.* There are no significant beneficial or adverse impacts on the physical, biological, or social portions of the human environment. The beneficial and adverse impacts of this decision are addressed in Chapter 3 of the EA and the BE/BA (DN, Appendix A). The adverse effects of regeneration harvest and temporary road construction and decommissioning are minor in nature and will not impair land productivity. These impacts are short-term noise, human disturbance to wildlife and short-term soil disturbance that is not expected to cause soil erosion beyond the project area and is expected to primarily remain on-site. Previous harvest in the project area occurred primarily with ground based equipment in the 1970's and 1980's. This project will implement active soil restoration on existing disturbed areas, which will accelerate soil recovery and result in immediate or near term improvements in fundamental soil properties. Long-term impacts are beneficial for forest ecosystem health.
2. *The degree to which the proposed action affects public health or safety.* My decision will have no significant or unacceptable effects on public health or safety, because OSHA safety regulations will be met during implementation and Forest Service inspectors will monitor all aspects of implementation to ensure public safety. Timber purchasers are required to comply with all State and Federal fire requirements and regulations. These types of activities (logging, hauling) have historically occurred on roads and near developed properties in the Doc Denny area without creating public safety or health problems. The risk of effects on public health and safety during project implementation are low. The selected alternative will reduce the potential for, and intensity of, subsequent wildfire and increase the chance for fire suppression strategy and tactics to be successful.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.* There will be no significant effects on unique characteristics of the area because of protection measures integrated into the design of the project (DN, pages 2 through 6) and based on the discussion of effects found in the EA, Chapter 3. None of the alternatives enters any roadless areas and do not impact any parklands, prime farmlands, ecologically critical areas or wild and scenic rivers. There are no adverse effects to wetlands within the affected area due to avoidance and other design criteria. The project archeologist surveyed the areas of potential effects and determined, with concurrence from the Idaho State Historic Preservation Office, there will be no effect to any cultural resources (DN, page 3, design feature 2).
4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.* The effects of the project are limited to the Doc Denny project area. While some people have disagreed with certain parts of the project, no person has provided evidence that the environmental effects of the project have been wrongly predicted; therefore, the effects are not controversial. I believe we have addressed the known significant biological, social, and economic issues sufficiently to avoid scientific controversy over the scope and intensity of effects. Based upon reports and discussions with professional resource specialists, there is agreement by my staff and other professionals and agencies consulted about the effects and conclusions identified in the analysis. I conclude that the effects of this project do not represent a controversial impact upon the quality of the human environment, provided the design features outlined in the EA are implemented.
5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.* The actions described in this Decision are not new. The Forest Service has a long history of implementing these activities on this and other areas of the Nez Perce National Forest. These actions have been applied elsewhere on similar soil and vegetation types. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risk. Chapter 3 of the EA discloses the direct, indirect and cumulative effects of the selected actions. Pertinent scientific literature has been reviewed and incorporated into the analysis process and the technical analyses conducted for determinations on the impacts to the resources are supportable with use of accepted techniques, reliable data, and professional judgment.
6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.* The action is not likely to establish a precedent for future actions with significant effects because it conforms to all existing Forest Plan direction and is applicable only to the project area. Any future proposals for this area will be subject to NEPA requirements and will require a new Decision.
7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.* These actions are not related to other actions that, when combined, will have significant impacts. Cumulative effects are documented in Chapter 3 of the EA. There is no off-site soil erosion, impacts to the overall watershed or changes to forest vegetation that will be cumulative to impacts from other activities. Effects to wildlife habitat are described in detail in Chapter 3 of the EA. They are generally minor, and do not cause significant effects when considered with other activities in the general area.

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.* Field surveys have identified no scientific, cultural, or historic resources in the area that will be adversely affected by this Decision. All known heritage resource sites have been identified in the project area and will be avoided.
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 of 1973.* This Decision Notice includes the Biological Evaluation and Biological Assessment documenting potential effects of the selected actions on plant and animal populations and their habitats. These can be found in Appendix A along with the USFWS and NOAA Fisheries letters of concurrence.
10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.* Applicable laws and regulations were considered in the EA (see EA, page 6). The Selected Alternative is also consistent with the Nez Perce Forest Plan (See EA, page 2). There is no conflict with any Federal or State or local laws.

IX. FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

I have determined that my decision is consistent with the laws, regulations, and agency policies related to this project. The following summarizes findings required by major environmental laws. Compliance with other laws, regulations, and policies are listed in various sections of the EA, the Project Record, and the Forest Plan.

Watershed and Fisheries Resources Regulatory Framework

All Federal and State laws and regulations applicable to water quality will be applied to the Doc Denny Project. These include 36 CFR 219.27, the Clean Water Act, the Nez Perce National Forest Plan including PACFISH Riparian Management objectives (RMO) and Riparian Habitat Conservation Areas (RHCAs) and Idaho State Water Quality Standards, Idaho Forest Practices Act, Idaho Stream Channel Protection Act, Idaho Best Management Practices (BMPs) and Executive orders 1198 and 11990 regarding Floodplain and Wetland management.

Idaho State Water Quality Standards do not specifically designate beneficial uses in Mill Creek: therefore, standards for cold water aquatic life and primary or secondary contact recreation apply (IDAPA 58.01.02; sec.101). This project will not have a substantial effect on stream temperatures or turbidity levels.

The South Clearwater River Subbasin Assessment and Total Maximum Daily Loads (TMDLs) address water quality limited streams listed under section 303(d) of the Clean Water Act (IDEQ et al. 2004). Total Maximum Daily Loads (TMDLs) have been developed for the South Fork Clearwater River for water temperature and sediment. For the temperature TMDLs, canopy density targets apply to Mill Creek and its mapped tributaries; however, no specific sediment TMDL allocations apply to these tributaries. The Doc Denny Project will comply with these TMDLs.

Section 404 of the Clean Water Act requires permits to dredge or fill within waters of the United States. The US Army Corps of Engineers administers these provisions. Culvert removal and replacement activities proposed under this project will require authorization under Section 404 before project implementation.

Authorization with the Idaho Department of Water Resources under the Stream Channel Protection Act will also be obtained before implementation of proposed culvert removal and replacement.

On December 12, 2012, the EPA revised the stormwater regulations to clarify that a National Pollution Discharge Elimination System (NPDES) permit is not required for stormwater discharges from logging roads (40 CFR Part 122; Fed. Reg. Vol. 77, No. 236). NPDES permits for the Doc Denny Project are not required at this time. Under Section 402 of the Clean Water Act, should it be determined that a National Pollution Discharge Elimination System (NPDES) permit is required for this project to address storm water discharges from logging roads, the Forest Service will comply with any applicable NPDES permitting requirements.

Endangered Species Act

I have reviewed the Biological Evaluation and Biological Assessment (Appendix A) for this project and the Interdisciplinary Team Wildlife Biologist has surveyed the area.

The most recent U.S. Fish and Wildlife Service threatened and endangered species list for the Nez Perce National Forest, Idaho County, (dated November 28, 2012) includes Canada lynx, steelhead trout, bull trout, Snake River fall Chinook Salmon and Spalding's catchfly and MacFarlane's four o'clock. The effects analysis determined that the project is not likely to adversely affect Canada lynx, bull trout, and steelhead trout and there will be no effect to fall Chinook salmon.

More specifically, there will be no effect to fall Chinook salmon and Chinook salmon essential fish habitat because there are no occurrences, suitable habitat or designated critical habitat for this species in the project area. This project "may affect but not likely to adversely affect" bull trout or steelhead trout because it could result in minor amounts of sediment being delivered locally in project area streams as the result of temporary road construction and stream crossing upgrades. Implementation of PACFISH buffers and project design features such as location of temporary roads away from fish-bearing streams will reduce the risk of project generated sediment. Long term declines in sediment yield and reduced risk of failures at the two crossings proposed for upgrade would be expected.

This project "may affect, not likely to adversely affect" Canada lynx based on compliance with the standards and guides described in the Northern Rockies Lynx Management Direction Record of Decision (NRLMD ROD), March 2007. Lynx are unlikely to be present in the project area during implementation and they are considered to generally tolerant of human presence and activities. Because there is no evidence of resident or breeding lynx on the Forest, the project is not likely to adversely affect lynx denning or reproductive behavior. There will be no effect to Spalding's catchfly and MacFarlane's four o'clock because known locations are well separated from the project area and no suitable habitat is present.

The U.S. Department of Interior, Fish and Wildlife Service published a proposed rule for the North American wolverine on Monday, February 4, 2013 in the Federal Register (Vo. 78, No.23). In reviewing

the proposed rule and the activities proposed in the Doc Denny project, *the proposed federal action associated with the Doc Denny project is **NOT likely to jeopardize the continued existence of the wolverine***. The threat to wolverine is loss of habitats with persistent snow cover as a result of climate change and increasing temperatures. The proposed rule found that dispersed recreational activities, infrastructure development, transportation corridors, and land management activities do not pose a threat to wolverines. Thus, the land management activities in the Doc Denny project are not considered a threat to wolverine.

The effects analysis was documented in the Biological Assessment/Biological Evaluation which was completed for listed and sensitive fish species, concurrent with Section 7 consultation with the US Fish and Wildlife Service and National Oceanic and Atmospheric Administration (NOAA) Fisheries as required under the ESA.

Northern Rockies Lynx Management Direction

The U.S. Fish and Wildlife Service listed Canada lynx as a threatened species under the Endangered Species Act (ESA) in March 2000. In February 2009, the FWS designated revised critical habitat in Montana, Wyoming, Idaho and Washington and other states [50 CFR Part 17, Volume 74 (No. 36), Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx; Final Rule, 2009]. Critical habitat was not designated on the Nez Perce National Forest (74 FR 8616 8702 and USDI Fish and Wildlife Service 2009).

The current habitat status for Nez Perce Forest is unoccupied, yet there are historical and anecdotal observations of lynx across the forest. Due to the unconfirmed status of lynx on the Nez Perce NF, the US Fish and Wildlife Service (FWS) sent a letter addressed to the Forest Supervisor, Rick Brazell on December 10, 2012 stating, “There is consensus that transient lynx may be present on the NPNF, at least occasionally”. The FWS stated that a Biological Assessment (BA) should be prepared and informal consultation would need to be completed with FWS if a determination of a “May Affect, but Not Likely to Adversely Affect” determination was reached for NPNF projects. FWS also clarified that this does not change the NPNF status as ‘unoccupied’, but further lynx surveys are needed to determine occupancy and any analysis for a BA should be focused on analyzing the project and its impacts on transient (not resident or breeding) lynx. The NPNF coordinated with the John Squires, from the Rocky Mountain Research Station to conduct lynx surveys in the winter of 2013. These surveys were completed February - March of 2013 according to RMRS protocols. No lynx were detected.

The Doc Denny Project is consistent with applicable objectives and guidelines as described in the EA. A determination of May Affect, not Likely To Adversely Affect is based on compliance with the standards and guides described in the Northern Rockies Lynx Management Direction Record of Decision (NRLMD ROD), March 2007.

Clean Air Act

The Clean Air Act provides the framework for national, state and local efforts to protect air quality. The Nez Perce National Forest is party to the North Idaho Smoke Management memorandum of Agreement (MOA), which establishes procedures to regulate the amount of smoke produced by prescribed fire (Montana Airshed Group, 2004) and ensure compliance with the National Ambient Air Quality Standards

(NAAQS) issued by the Environmental Protection Agency (EPA). EPA is the federal agency charged with enforcing the Clean Air Act.

The Doc Denny Project lies within Montana/Idaho Airshed 13; air quality complies with National Ambient Air Quality Standards (NAAQS). The closest non-attainment areas include portions of Missoula County, Montana (approximately 120 air miles to the northeast), Boise (approximately 125 miles to the south), and Sandpoint, Idaho (approximately 170 air miles to the north, respectively). The Selway-Bitterroot Wilderness, 40 air miles to the northeast, and the Hells Canyon National Recreation Area, 25 air miles to the southwest, are the closest Class I areas to the Adams Camp project area. All post-harvest site preparation and fuel reduction treatments would be conducted according to the requirements of the Montana/North Idaho Smoke Management Unit guidelines.

National Historic Preservation Act

This project complies with the regulations implementing the National Historic Preservation Act of 1966, as amended. The Forest Service has completed cultural resource surveys in areas potentially affected by proposed actions. In accordance with the Act, the findings of the inventory were submitted to the Idaho State Historic Preservation Officer and the Nez Perce Tribal Historic Preservation Officer for review and comment and concurrence with cultural resource findings was obtained. If heritage values are identified during project implementation, they will be protected according to provisions of State and Federal law. All eligible sites will be avoided. Design and mitigation measures are included to assure project activities do not adversely affect sites.

Environmental Justice

Based on experience with similar projects on the Salmon River Ranger District and Nez Perce National Forest, the Selected Alternative will not affect minority groups, women, or civil rights. Based on the analysis, all action alternatives comply with Executive Order 12898. Timber harvesting and future timber yields contribute to the timber supply for the wood products industry and ultimately, consumers of wood products. This project is expected to provide job opportunities in local communities. Some of these communities include minority populations that may benefit from the economic effects. Small or minority owned businesses will have the opportunity to compete for the work.

National Forest Management Act

On April 9, 2012, the Department of Agriculture issued a final planning rule for National Forest system land management planning (2012 Rule) 77 FR 68 [21162-21276]). None of the requirements of the 2012 Rule apply to projects and activities on the Nez Perce Clearwater National Forest as the Nez Perce Forest Plan was developed under a prior planning rule (36 CFR 219.17(c)). Furthermore, the 2012 Rule explains, “[The 2012 Rule] supersedes any prior planning regulation. No obligations remain under any prior planning regulation, except those that are specifically included in a unit’s existing plan. Existing plans will remain in effect until revised” (36 CFR 219.17).

The National Forest Management Act and accompanying regulations require that specific findings be documented at the project level. These findings are as follows:

A. Forest Plan Consistency: NFMA requires that projects and activities be consistent with the governing Forest Plan (16 USC 1604(i)).

I have evaluated the alternatives and compared them to the Forest Plan standards, goals and objectives within the Doc Denny project area. I have determined that the Selected Alternative will meet Forest Plan standards, and will contribute toward reaching Forest Plan goals and objectives as described in the EA, page 2. Alternative 2 will comply with Forest Plan direction for MA 12 to manage for timber projection and other multiple uses on a sustained yield basis. Proposed treatments will trend this area toward long-term improved forest health and increased resiliency to fire, insects and disease. It will establish ponderosa pine and western larch on the landscape.

Alternative 2 is consistent with the requirements for vegetative manipulation found at 36 CFR 219.11. The action will contribute to meeting the multiple-use goals established for the area without undue effect on soil, water, or other resources (16 USC 1604 (g)(3)(B)).

B. Other NFMA consistency requirements (findings): The record clearly supports that this Decision is consistent with the following NFMA provisions.

- 1. Suitability for Timber Production (16 USC 1604(k)):** No timber harvest, other than salvage sales or sales to protect other multiple use values, shall occur on lands not suitable for timber production (16 USC 1604(k)). Guidelines for determining suitability are found in the Forest Service Handbook 2409.13. Proposed harvest units are within the productive habitat types as described in Cooper et al. 1991. An analysis of suitability for resource management was completed and no harvest or burning is proposed on unsuitable lands in the Doc Denny project area.
- 2. Timber Harvest on National Forest Lands (16 USC 1604(g)(3)(E):** *A Responsible Official may authorize site-specific projects and activities to harvest timber on National Forest System lands only where:*
 - a. Soil, slope, or other watershed conditions will not be irreversibly damaged (16 USC 1604(g)(3)(E)(i)).*

The effects of the Selected Alternative are disclosed in Chapter 3 of the EA. I find that harvest unit locations, silvicultural systems, riparian protection, logging technology, and post-harvest activities, in relationship with the soil and water conservation practices planned, will minimize impairment of site productivity and ensure conservation of soil and water resources. The Selected Alternative will protect the organic matter, soil porosity, and topsoil through the use of BMP's and design features. Localized and limited losses may occur on landings, skid trails, temporary roads, or where the soil is affected by fire. However, over the majority of the unit and the landscape, the processes that contribute to productive soils will be preserved. Applicable BMP's and design features (EA, page 14-17) assure that no irreversible damage to the watershed or stream channel considerations will occur.

- b. There is assurance that the lands can be adequately restocked within five years after final regeneration harvest (16 USC 1604(g)(3)(E)(ii)).*

All regeneration harvested stands will be site prepared and planted with long-lived early seral species as required by the silvicultural prescription. Survival examinations will be completed at 1, 3 and 5 years to

document regeneration success. Assurance is given that all suited lands in Alternative 2 will be adequately restocked within five years after final harvest based upon past professional experience and review of regeneration status reports.

- c. Protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat (16 USC 1604(g)(3)(E)(iii)).*

Alternative 2 will implement PACFISH standards and guidelines, BMP's and project design and mitigation measures to maintain water quality, channel conditions and fish habitat. Because of PACFISH buffer retention, there is no change to stream shading or temperature. There is minimal to no effect on sediment due to well vegetated buffers. All current (instream) and future (riparian) wood is retained.

- d. The harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber (16 USC 1604(g)(3)(E)(iv)).*

For this project, treatments and harvesting systems were selected to appropriately balance treatment efficiency with minimizing resource impacts.

3. Clearcutting and Even-aged Management (16 USC 1604(g)(3)(F): *Insure that clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate an even aged stand of timber will be used as a cutting method on National Forest System lands only where:*

- a. For clearcutting, it is determined to be the optimum method, and for other such cuts it is determined to be appropriate, to meet the objectives and requirements of the relevant land management plan (16 USC 1604(g)(3)(F)(i)).*

The silviculturist has determined that the regeneration harvest proposed for this project is appropriate due to high mortality and low growth rates. These even aged harvest prescriptions will create structure and composition similar to natural successional processes for these habitat types. All proposed treatments meet objectives and requirements of the Forest Plan.

- b. The interdisciplinary review as determined by the Secretary has been completed and the potential environmental, biological, esthetic, engineering, and economic impacts on each advertised sale area have been assessed, as well as the consistency of the sale with the multiple use of the general area (16 USC 1604(g)(3)(F)(ii)).*
- c. Cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain (16 USC 1604(g)(3)(F)(iii)).*
- d. Cuts are carried out according to the maximum size limit requirements for areas to be cut during one harvest operation, provided, that such limits shall not apply to the size of areas harvested as a result of natural catastrophic conditions such as fire, insect and disease attack, or windstorm (FSM R1 supplement 2400-2001-2 2471.1, 16 USC 1604(g)(3)(F)(iv)).*

e. Such cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and esthetic resources, and the regeneration of the timber resource (16 USC 1604(g)(3)(F)(v)).

Alternative 2 will implement regeneration treatments in primarily in culminated stands with extensive insect and disease mortality. Retention areas were designed to minimize mortality during site preparation activities. Reforestation will be accomplished through planting of mostly fire tolerant western larch and ponderosa pine. Site indicators and previous experience in this area indicate that reforestation will be accomplished within five years of harvest.

Alternative 2 is consistent with the National Forest Management Act, which provides that timber harvest and other silvicultural practices shall be used to prevent damaging population increases of forest pest organisms, and that treatments shall not make stands susceptible to pest caused damage levels inconsistent with management objectives. In the Doc Denny Project area, harvest methods will retain available and healthy western larch and ponderosa pine, promote regeneration of these fire tolerant species, and provide social and economic benefits. Harvest will also reduce potential losses attributed to insects and disease and stand competition, while increasing vegetation resiliency. All proposed treatments meet Forest Plan objectives and requirements.

- 4. Openings larger than 40 Acres:** Direction in Forest Service Manual 2400, Chapter 70, Section 2471.1 states that the size of openings created by even-aged silvicultural treatments in the Northern Rockies will normally be 40 acres or less, with certain exceptions. One of those exceptions includes catastrophic events such as fire, windstorms, or insect and disease attacks. In these cases, the 40-acre limitation may be exceeded without 60-day public review and without Regional Forester approval, provided the public is notified and the environmental analysis supports the decision. Openings up to 60 acres are also exempt from public review and Regional Forester approval in several instances, including where groups of dwarf mistletoe- or root disease-infected trees need to be incorporated into the created opening to avoid infection of susceptible conifer reproduction, and their inclusion cannot be achieved by centering the created opening over the area of infection. The initial scoping-letter documentation of the proposed creation of these openings constitutes public notification.

Alternative 2 would create openings larger than 40 acres. Stocking levels of trees in these openings would range from zero trees to as many as thirty trees per acre, depending on tree species and condition of individual trees. Snags and green-tree replacements would remain where available. All of these openings have been precipitated by the action of catastrophic events, in this case, root disease. The units themselves range in size from 40 to 150 acres in size.

Root disease is moderate to severe in most of the project area. Root disease openings will continue to coalesce in the most damaged parts of the stands, becoming perpetually-open hardwood shrub fields or densely-stocked clusters of advanced regeneration. Most of the conifer regeneration will be grand fir, Douglas-fir, and Engelmann spruce, because conditions for western larch or pine regeneration will not be created by disease alone. The only practical means to manage root pathogens is a shift of species composition to resistant species (Hagle 2000, pp. 5-8). The proposed harvest units in the Doc Denny project area are planned for regeneration with root-disease-resistant species. Stands dominated by ponderosa pine and western larch can be expected to yield the highest production and suffer the fewest disease or insect problems in the future. Given the extent of root disease in the project area, openings

larger than 40 acres are warranted. Public review and Regional-approval documents are in the project record, satisfying Forest Service Manual direction (USDA 2002a).

5. Stands of trees are harvested according to requirements for culmination of mean annual increment of growth (16 USC 1604(m)).

All stands proposed for harvest are within the 95% of culmination of mean annual increment.

6. Construction of temporary roadways in connection with timber contracts, and other permits or leases: *Unless the necessity for a permanent road is set forth in the forest development road system plan, any road constructed on land of the National Forest System in connection with a timber contract or other permit or lease shall be designed with the goal of reestablishing vegetative cover on the roadway and areas where the vegetative cover has been disturbed by the construction of the road, within ten years after the termination of the contract, permit, or lease either through artificial or natural means. Such action shall be taken unless it is later determined that the road is needed for use as a part of the National Forest Transportation System (16 USC 1608(b)).*

The IDT completed a transportation plan, including a roads analysis for the Doc Denny Project area. It analyzed current and future transportation needs. Alternative 2 will construct only temporary roads and they will be obliterated after use. Road reconstruction, maintenance and culvert replacement proposed under the Selected Alternative are consistent with and meet the intent of NFMA road requirements.

7. Standards of roadway construction: *Roads constructed on National Forest System lands shall be designed to standards appropriate for the intended uses, considering safety, cost of transportation, and impacts on land and resources (16 USC 1608(c)).*

The Selected Alternative will construct only temporary roads and decommission them after use as described in the design features on pages 4-6 of this document.

National Environmental Policy Act

National Environmental Policy Act (NEPA) provisions have been followed as required in 40 CFR 1500. The proposed actions comply with the intent and requirements of NEPA. The EA analyzes a reasonable range of alternatives, including a No Action Alternative. It also discloses the expected effects of each alternative and discusses the identified issues and concerns. This Decision Notice describes the actions I have selected and my rationale for making these Decisions.

Travel Management Rule (November 2, 2005)

The National Travel Rule requires each National Forest to formally designate those roads, trails, and areas where summer motorized travel is permitted and to show them on a Motor Vehicle Use Map (MVUM). Once the rule is implemented, motorized travel will be permitted only on the roads, trails, and areas shown on the MVUM. The DRAMVU FEIS and ROD are expected to be released in 2014. Depending on the alternative selected in the FEIS/ROD, the DRAMVU project decision would: eliminate cross country travel on the Nez Perce National Forest by permitting motorized use on designated roads and trails, except snowmobiles; implement seasonal closures on some roads and trails in Management Area 16

(Elk and Deer Winter Range) and 21 (Moose Winter Range), and other areas; add up to five new trail connectors to create loop opportunities; identify motorized access for dispersed camping from roads and trails; eliminate motorized use on some roads and trails to minimize resource damage, reduce conflicts and provide a full array of recreation opportunities.

Within the Doc Denny project area, the DRAMVU decision would:

- Authorize a motorized (vehicles \leq 50" width) connector trail segment from the end of Road 9449 to Road 9450

The Doc Denny Project, by meeting Forest Plan standards, moving forest resources toward the goals and objectives described in the Forest plan, and complying with all state and federal regulations will minimize effects on Forest resources.

X. BEST AVAILABLE SCIENCE

I am confident that the analysis of this project was conducted using the best available science. My conclusion is based on a review of the record that shows my staff conducted a thorough review of relevant scientific information, considered responsible opposing views, and acknowledged incomplete or unavailable information, scientific uncertainty, and risk. Please refer to the specialist reports in the project file for specific discussions of the science and methods used for analysis and for literature reviewed and referenced.

XI. IMPLEMENTATION DATE

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, five business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the fifteenth business day following the date of the last appeal disposition.

XII. ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

This decision is subject to appeal pursuant to 36 CFR 215.11. A written 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 dates or timeframe information provided by any other source.

Paper appeals must be submitted to:

USDA Forest Service, Northern Region

Or

USDA Forest Service, Northern Region

ATTN: Appeal Deciding Officer
P.O. Box 7669
Missoula, MT 59807

ATNN: Appeal Deciding Officer
200 East Broadway
Missoula, MT 59802

Office hours: 7:30 am to 4:00 pm,
excluding holidays

Electronic appeals must be submitted to: appeals-northern-regional-office@fs.fed.us

Faxed appeals must be submitted to: (406) 329-3411 (FAX)

In electronic appeals, the subject line should contain the name of the project (Doc Denny Vegetation Project) being appealed. An automated response will confirm your electronic appeal has been received. Electronic appeals must be submitted as an e-mail message or in plain text (.txt), Word (.doc or .docx), or Rich Text Format (.rtf) formats.

Individuals or organizations who submitted comments during the comment period specified at 215.6 may appeal this decision. It is the appellant's responsibility to provide sufficient project-specific 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 requirements 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 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 will 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.usda.gov/goto/r1/appeal-meetings>

XIII. CONTACT

For additional information concerning this decision or the Forest Service appeal process, contact Ed Koberstein, Project Team Leader at the Salmon River Ranger Station, 304 Slate Creek Road Whitebird, Idaho 83554, phone (208) 839-2100 or by email at ekoberstein@fs.fed.us.



fs RICK BRAZELL
Forest Supervisor
Nez Perce-Clearwater National Forests

August 20, 2013

Date

APPENDIX A: Biological Assessment and Biological Evaluation

**BIOLOGICAL ASSESSMENT/BIOLOGICAL EVALUATION
FOR
DOC DENNY VEGETATION MANAGEMENT PROJECT**

ENDANGERED SPECIES ACT LISTED FISH

Snake River Fall Chinook Salmon (*Oncorhynchus tshawytscha*)

Snake River Steelhead Trout (*Oncorhynchus mykiss*)

Columbia River Bull Trout (*Salvelinus confluentus*)

REGION 1 SENSITIVE SPECIES

Spring Chinook Salmon (*Oncorhynchus tshawytscha*)

Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*)

Interior Redband Trout (*Oncorhynchus mykiss gairdneri*)

Pacific Lamprey (*Entosphenus tridentatus*)

Western Pearlshell Mussel (*Margaritifera falcata*)

Reviewed by:

/s/ Mark Craig

Acting District Ranger Salmon River Ranger District

Nez Perce – Clearwater National Forest

Date: March 26, 2013

Prepared by:

/s/ Katherine L. Thompson

Nez Perce – Clearwater National Forest Fisheries Biologist

Date: March 22, 2013

I. Introduction

This biological assessment addresses the effects of the Doc Denny Vegetation Management project on ESA-listed fish species, Forest Service Region 1 sensitive aquatic species, and stream habitat, designated critical habitat, and essential fish habitat as defined by the Magnuson – Stevens Act.

The Endangered Species Act of 1973 directs federal agencies to conserve threatened and endangered species and ensure that federal actions authorized, funded, and carried out are not likely to jeopardize their continued existing or result in the destruction or adverse modification of critical habitat. The action area used to evaluate the effects of the project includes the portion of the Mill Creek watershed and Dry Gulch in the project area boundary (see Map), and mainstem Mill Creek downstream of Merton Creek. The South Fork Clearwater River is not included because it would not be affected.

ESA listed fish species potentially affected by the project include Snake River fall chinook salmon, Snake River steelhead trout, and Columbia River bull trout. While Snake River spring/summer chinook salmon are listed under ESA, spring chinook salmon in the Clearwater River basin, including the South Fork Clearwater River, are excluded. U.S. Forest Service designated as sensitive in Region 1 that are not ESA listed in the South Fork Clearwater include spring chinook salmon, westslope cutthroat trout, interior redband trout, Pacific lamprey, and western pearlshell mussel.

II. Project Description

Purpose and Need: The primary purposes of the proposed action are to provide long-term sustained timber yield to help satisfy demands for timber as outlined in the Forest Plan and to manage vegetation toward the Forest Plan desired forest conditions by maintaining ecosystem health and productivity as defined by Forest Plan goals, objectives, and standards. This would be accomplished through vegetation and transportation management. Proposed management was designed to comply with Forest Plan direction for all resources and would only occur on Forest Service land. The Doc Denny project would alter timber stand and site characteristics such as stocking and species composition in order to maintain or improve the health of the stands. Proposed harvest would regenerate mature and over-mature stands and maintain ponderosa pine and western larch.

This action is needed to maintain healthy forests by managing for forest vegetative conditions that are more resilient to insects, disease, and fire and to improve forest health and tree vigor. This can be accomplished by: a) reducing tree density to allow for increased tree vigor by reducing competition; b) changing age class distribution to promote a long-term sustainable yield of forest products; c) focusing on a tree species mix to retain the largest, most healthy trees while reducing the lodgepole pine, grand fir, and Douglas fir components; c) minimizing insect and disease risk by retaining and planting tree species less susceptible to insect infestations and disease; and d) using prescribed fire to reduce activity generated fuels.

There is a desire to provide forest products to support local communities as directed by the Nez Perce National Forest Plan. Harvesting mature stands and regenerating them with young, healthy seral trees

would help create and maintain long-term sustainable yields of forest products. Proposed forest management would contribute to community stability and employment.

Project Proposal: The project would manage vegetation on approximately 1,026 acres with a combination of regeneration and intermediate (commercial and pre-commercial thinning) timber harvest in the Doc Denny project area. To support the harvest activities, the following road management activities are included: about 16 miles of road improvement, about 3.4 miles of temporary road construction followed by decommissioning, two culvert installations and/or replacements, and six culvert removals. In addition, about 1.0 mile of existing road would be decommissioned and converted to a motorized trail (<50 inches wide).

The project would be expected to last 5 years after a decision is signed.

The project meets the purpose and need by implementing the following activities:

1. Regeneration Harvest:

- a. 620 acres of clearcut with reserves. About five to 50 trees per acre (average 15 trees per acre) would be retained in 22 treated areas.
- b. 131 acres of seed tree harvest. About nineteen to 40 trees per acre (average 26 trees per acre) would be retained in six treated areas.
- c. 12 acres of shelterwood harvest. About 23 trees per acre would be retained.

2. Commercial Thinning: About 197 acres of dense forested stands would be commercially thinned. These activities would improve growing conditions for uncut trees. The treatments would reduce stand densities and canopy closure by 25% to 40% leaving 110 to 220 trees per acre with variable spacing favoring the largest and healthiest western larch, ponderosa pine, Douglas fir, and grand fir. We would retain 17-33 tons per acre (averaging about 25 tons per acre) of large woody material (>3" DBH). Tractor skidding and cable yarding systems would be used to move trees to landings. Implementation would occur over three to five years.

3. Pre-commercial Thinning: Small diameter trees (<8" DBH) would be removed on about 40 acres favoring early seral species (ponderosa pine and western larch). Approximately 200-300 trees per acre (variable spacing) would remain following treatment. These treatments are done by hand and no heavy equipment would be used. Implementation would occur within five years.

4. **Commercial Thinning followed by Pre-commercial Thinning:** This 12 acre stand has 10-14" DBH lodgepole pine and western larch in the overstory. The overstory would be commercially thinned to remove dead and dying lodgepole pine and mistletoe infected western larch leaving 100-150 trees per acre. If necessary, the stand would be pre-commercially thinned, as described above, after overstory thinning.
5. **Overstory Removal followed by Pre-commercial Thinning:** Mistletoe infected western larch (<12" DBH) would be removed to protect regenerating western larch from mistletoe infection on about 13 acres. If necessary, this stand would be pre-commercially thinned, as described above, after overstory removal.
6. **Fuels Treatment (960 acres):** Post-harvest fuels treatment in commercially thinned and regeneration harvest units would be treated using broadcast burning or jackpot burning. Jackpot burning would occur in lodgepole pine and Engelmann spruce stands. Post-harvest fuels treatment would limit mortality of retained trees. All necessary procedures related to air quality would be followed. Burning would typically occur in the fall or spring, when weather and environmental conditions would allow resource objectives to be met. Hand ignition would be used. Fire severities would be low to moderate. Implementation would occur over five to seven years.
7. **Temporary Road Construction Followed by Decommissioning (3.4 miles):** Most temporary roads would be located on lower gradient slopes over existing templates and in areas where excavation would be minimized. Two segments of temporary roads cross streams. Specific design criteria and mitigation have been developed for these crossings (see Chapter 2) to minimize sediment delivery to streams. Temporary roads would be used and decommissioned within five years.
8. **Road Improvement:** Improve 16 miles of road. Road improvement includes standard road maintenance, such as road blading, brushing, cleaning culverts, removing small cut slope failure, applying rock in wet areas, removing obstruction such as trees and rocks, maintaining culverts. One culvert would be installed and one undersized culvert on Road #9449 would be replaced. These activities would be conducted according to guidelines and design criteria contained in the Forests' Programmatic Road Maintenance Biological Assessment. One culvert would be installed and one undersized culvert on Road #9449 would be replaced in 1st order, perennial streams that do not contain fish. The closest fish-

bearing areas to these culvert sites are over ½ miles away. Road improvement is expected to reduce sediment delivery to streams.

In addition, the action would include maintenance and improvements to haul roads on 9449, 9450, 9451, 9485, 76820, and 76822, portions of which are outside the Project Area. Work items may include template reshaping or blading, slump removal in ditches and catch basins, installation of new ditches and drivable dips, new culvert installation, culvert removal and replacement, spot pit-run aggregate, crushed aggregate replacement, and brushing. These actions are intended to reduce potential sediment effects from log truck traffic, in addition to facilitating log haul.

9. **Road Reconstruction followed by Decommissioning:** Road #76820 (0.7 miles) would require brushing, blading, and establishing proper drainage to reduce the risk of erosion. One log culvert would be temporarily replaced in a 1st order tributary to Markham Creek. This stream may be perennial at the crossing site but is not known to contain fish. The nearest known fish presence is over ¼ mile downstream. This road would be decommissioned following use.

10. **Road Decommissioning:** Decommission about 1.1 miles of system road not needed for long-term management. Road decommissioning practices vary depending on the road condition, landtypes the road is on, and proximity to fish bearing streams. These roads would be recontoured as close as practicable to the original slope. Six culverts along 0.4 miles of Road #9449 would be removed. Culvert removal would reduce risk of sediment delivery to streams by reducing erosion caused by potential culvert blockage. One of these culverts is 36 inches in diameter and under approximately 20 feet of fill that has been identified as a high risk culvert, and five culverts are cross drains or ditch relief culverts. The stream at the 36-inch culvert may be perennial but does not contain fish. The nearest known fish presence is over ½ mile downstream. The other culvert removals involve streams that are not perennial. This road would be converted to a motorized trail (<50 inches wide).

Mitigation/Design Criteria Relevant to Soils, Watershed, and Fisheries:

28. PACFISH Riparian Buffers: No-harvest buffers would be implemented in the project area (300 feet on either side of fish-bearing streams; 150' on non-fish bearing perennial streams and wetlands > 1 acre; and 100' on intermittent streams, wetlands < 1 acre, landslides, and landslide prone areas). Unit layout would include referring to the USFWS draft wetlands inventory map to ensure potential RHCAs are reviewed and buffered appropriately. All vegetation and woody debris would be left intact in these areas.

29. Landslide prone areas are considered Category 4 Riparian Habitat Conservations Areas (RHCAs), defined in PACFISH. All field-verified landslide prone areas would be excluded from timber harvest, 100-foot no-cut buffers would be applied around the perimeter of the area, and machinery would be excluded from the buffer and the area.
30. Machine trails for timber harvest and fuel treatments would be designed to minimize the area of detrimental soil effects- displacement, ruts, compaction, puddling, platy structure, and burn severity disturbance (Froehlich and McNabb, 1983). Activity would be designed to stay below 15 percent disturbance of the treatment area. Existing skid trails and landings would be utilized where other resources are not compromised. Methods include designation of skid trails, reuse of skid trails by machines used for piling, and placement of slash of existing skid trails where possible to overlap detrimental effects rather than extending the footprint.
31. Skid trails and landings in all units would be scarified following use for timber harvest in order to improve soil productivity and meet soil quality standards. Actions would include scarifying and placing slash, woody material, and/or duff over exposed soil.
32. Prescriptions for regeneration harvest units are to retain coarse woody material appropriate to the site for nutrient cycling, maintaining soil moisture, and other soil physical and biological properties after all unit activities. Regional guidance for organic matter (USDA FS, 1999) recommends following guidelines, such as retaining coarse (> 3" diameter) woody material to maintain soil productivity (Graham et al., 1994). Drier (Douglas-fir, grand fir and ponderosa pine) habitat types have wood retention requirements of 7-15 tons. Coarse woody material helps to reduce surface erosion in the short term and breaks down into soil in the long term. Snags or other trees felled for safety reasons would be left in the unit.
33. PACFISH standards and guidelines would be applied in areas of high mass wasting potential and landslide prone areas – Units 8 (43 acres), 10 (6 acres), 13 (3 acres), 29 (5 acres). Not all of the mapped areas were high mass wasting or landslide prone when field verified; the portions of the mapped concern areas to receive buffers can be identified by slumps and scarps with pistol butted trees. All landslide prone terrain identified during field layout of temporary roads and timber harvest units would be excluded from harvest or disturbance and provided with a 100-foot no-harvest buffer, as defined in PACFISH. Unit 13 (12 acres) would retain 50% of the trees to protect soils.
34. Live tops would be retained or returned to all units. This small diameter organic material, in addition to current down large woody material, would be left for long-term site productivity (Graham et al. 1999). If tops are returned to the units, only existing skid trails would be used.

35. Overwinter harvest-produced slash to support nutrient cycling, organic matter inputs and surface erosion protection, which would contribute to soil stability and productivity (Graham et al. 1999).
36. Pile and burn slash on existing skid trails to overlap detrimental soil disturbance on already disturbed areas to minimize new soil impacts (Korb 2004).
37. Underburning and slash/burn treatments would be designed in the project burn plan to provide a low-severity mosaic burn with little to no detrimental soil disturbance of soil resources (Neary et al., 2008).
38. Best Management Practices (BMPs) found in Rules Pertaining to the Idaho Forest Practices Act Title 38, Chapter 13, Idaho Code, and Soil and Water Conservation Practices Handbook 2509.22 would be applied to prevent and/or reduce non-point source pollution from timber management and road construction in the project area. These BMPs are incorporated by reference.
39. The proposed culvert upgrade and new culvert installation on Road #9449 would be sized to meet or exceed natural bankfull channel width and designed to pass a 100 year flow event. The culverts would be placed at natural stream grade to accommodate sediment, debris and water transport.
40. Road #76820 decommissioning would require restoration of two stream channels to appropriate dimension, pattern, and profile. All required permits would be secured prior to implementation (e.g. stream alteration, 404). Exclusion of cattle would be required from the decommissioned area for at least one growing season to allow for the establishment of effective ground cover. Rehabilitated stream channel sites may require additional protection measures.
41. On the section of the 9449 Road that is proposed to be decommissioned into a motorized trail, removal of a culvert at 1 stream crossing is proposed, turning this crossing into a motorized ford. Approaches to this ford would be hardened, and guidelines and design criteria from the Forest's Programmatic Trail Maintenance Biological Assessment would be applied to minimize sediment introduction.
42. Temporary road locations would predominantly be located on gentle slopes, over existing templates, and in areas where excavation would be minimized. Out-sloped drainage is preferred where feasible and when safety and discharge to water bodies are not at risk. Temporary roads shall avoid crossing wetlands.
43. Design Measures for Temporary Roads with stream crossings:

- e. Vegetation removal within 150 feet on either side of any live stream would be kept to the minimum necessary to facilitate access.
 - f. Any trees required to be cut down in the road right-of-way within 150 feet on either side of any live stream would be felled and left on site. Skidding would be limited to the shortest length needed to move the tree out of the road right-of-way. Downed trees would be used as needed for woody material placement on disturbed soil and in the stream when the road is decommissioned.
 - g. Sediment input would be minimized by using sediment barriers and prohibiting construction during wet conditions for both installation and removal of temporary stream crossings. Approaches to water crossings would receive appropriate BMPs to minimize the length of road drainage and to mitigate runoff. Temporary crossing structures would span the channel bankfull width, and if needed during spring runoff would be able to pass a 100 year flood event. Stream channels impacted by construction activity would be restored to their natural dimension, pattern, and profile as soon as possible.
 - h. Markham Creek tributary that lies between Units 18 and 16 - Temporary specified construction involving on-site evaluation by a road engineer and watershed specialist would be required due to the presence of steep slopes and a stream crossing.
 - i. Unnamed Mill Creek tributary adjacent to Unit 8 (lowest section) - On-site evaluation by a watershed specialist would be required for the stream crossing design.
44. All temporary roads would be closed to the public and decommissioned following use. If, for unforeseen reasons, a temporary road has to overwinter, it would be put into a stable condition consisting of out sloping, water barring, and/or seeding or mulching, as specified in the contract. Decommissioning would consist of recontouring the road prism including all cut and fill slopes to natural ground contour. In addition, from 10 to 20 tons per acre of clearing or logging slash, stumps or other woody debris shall be placed and scattered uniformly on the top of the recontoured corridor. Exclusion of cattle would be required from the decommissioned areas for at least one growing season to allow for the establishment of effective ground cover.
45. Any firelines constructed to control post-harvest broadcast burning would be located outside of RHCAs and rehabilitated to minimize erosion, according to design criteria in the Forest's Programmatic Fire Management Biological Assessment.
46. Instream work, including culvert replacement and removal, would be timed such that it occurred during low stream flows. There are no steelhead, chinook salmon, or other salmonid species present at the crossing sites.

Monitoring/Reporting: 4 reaches in mainstem Mill Creek and 1 in the lower reach of Markham Creek have been established during stream surveys conducted in 2011, with locations marked in the field with metal tags on trees and recorded using GPS. Cobble embeddedness measurements were taken (15 hoops in each), and Wolman pebble counts conducted. Other data were collected as well (e.g. bankfull width and depths, wetter widths and depths, and number of large woody debris). These reaches would be re-measured following all harvest and road construction to determine if changes in deposited sediment occurred. Re-measurements of these reaches in Mill Creek would be incorporated into the Forest's long term monitoring program because of the level of activity proposed in this watershed (Doc Denny, Adams, and Hungry Ridge).

III. Identification of ESA Listed Fish Species and Designated Critical Habitat

Snake River Fall Chinook Salmon (*Oncorhynchus tshawytscha*)

Status and Distribution: Snake River fall chinook salmon were listed as a threatened species under the Endangered Species Act on May 22, 1992 (Federal Register Vol. 57, 14653).

In the Clearwater basin, fall chinook salmon spawn and rear in the mainstem Clearwater River, mainly below the mouth of the North Fork Clearwater River. Spawning is facilitated by constant water temperatures from cold water releases from Dworshak Reservoir. Spawning occurs upstream of the North Fork Clearwater, however, in the mainstem Clearwater and lower reaches of the South Fork Clearwater River. Increasing fall chinook returns to the South Fork Clearwater River have been influenced by hatchery supplementation of smolts acclimated at a facility operated by the Nez Perce Tribe. This facility is located about 5 miles upstream from the confluence of the South Fork with the Middle Fork Clearwater.

Fall chinook spawning and rearing have not been documented in the South Fork Clearwater River in the vicinity of Mill Creek or in Mill Creek itself.

Critical Habitat: Designated critical habitat for fall chinook salmon in the Clearwater basin is located from its confluence with the Snake River upstream to Greer, Idaho, including mainstem reaches only.

Snake River Steelhead Trout (*Oncorhynchus mykiss gairdneri*)

Status and Distribution: Steelhead trout are the anadromous form of redband trout and are found throughout the Clearwater Basin, including the South Fork Clearwater subbasin and Mill Creek. Although classified as the same species, the term "steelhead" generally refers to the anadromous form, while "redband trout" refers to the stream resident form that does not migrate to the ocean (Behnke, 1992). The Snake River Distinct Population Segment (DPS) includes the anadromous form only and is currently listed as threatened under the Endangered Species Act (Federal Register Vol. 1 No 3, 2006). The

steelhead that spawn and rear in the South Fork Clearwater River and Mill Creek are included in this DPS. The resident form is not included, although it is included as a Region 1 sensitive species.

Steelhead trout have been observed spawning and rearing in mainstem Mill Creek from the mouth upstream through reaches adjacent to the project area. It is highly unlikely spawning or rearing occurs in tributaries in the project area because of small stream size and very steep gradients, and no steelhead have been observed in these streams.

Critical Habitat: Critical habitat has been designated for the Snake River DPS and includes the South Fork Clearwater River and Mill Creek from its mouth upstream to the headwaters. There are no stream reaches within the project area designated as critical habitat for steelhead trout.

Columbia River Bull Trout (*Salvelinus confluentus*)

Status and Distribution: Bull trout are present throughout the Clearwater River basin, including the South Fork, and spawn and rear in many tributaries. Bull trout in the South Fork Clearwater subbasin are included in the Columbia River DPS, which was listed as threatened in 1998.

The Clearwater River has been designated as a recovery unit by the U.S. Fish and Wildlife Service for this DPS. Within each recovery unit, bull trout core areas were identified, as well as local populations and potential local populations. A local population is defined as a group of bull trout using spawning and rearing habitat in stream complexes where there is a high probability of mating among these same individuals. A potential local population is defined as a population that may inhabit a stream complex but sufficient data are lacking. Mill Creek was identified as supporting a potential local bull trout population in 2002 (USDI-FWS 2002 *draft*).

Critical Habitat: Critical habitat for bull trout was designated most recently on October 10, 2010 (Federal Register Vol. 75, No. 200) and includes the section of Mill Creek from its mouth upstream to the mouth of Merton Creek. There are no stream reaches in the project area that are designated as critical habitat for bull trout.

Spring Chinook Salmon (*Oncorhynchus tshawytscha*)

Status and Distribution: Spring chinook salmon in the Clearwater basin are not listed under the ESA but are included as a USFS Region 1 sensitive species. Spring chinook salmon spawn and rear in most of the larger tributaries on the Nez Perce National Forest that are accessible, particularly in lower gradient reaches.

Both adult and juvenile chinook salmon have been observed in Mill Creek, although the most recent surveys conducted in 2011 did not result in any observations of juvenile salmon. Survey reaches were either snorkeled or electrofished. Observations of juvenile salmon were made in the early to mid 1990s, however, with distribution extending upstream of Merton Creek (USDA-FS 1996). Several adult chinook salmon were observed in 2010 and 2011, however. It is likely Mill Creek currently supports limited

spawning and rearing by salmon, but as the number of adult returns increases, more juvenile and adult fish will be expected to be present.

Critical Habitat: Since spring chinook salmon are not listed under the ESA in the Clearwater basin, no critical habitat has been designated.

Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*)

Status and Distribution: Westslope cutthroat trout are a Forest Service sensitive species in Region 1 and have been considered for listing under the ESA. They are not currently listed, but a recent litigation history exists over the U.S. Fish and Wildlife Service's conclusions regarding listing. They have been designated a species of special concern by the State of Idaho.

Stream surveys conducted across the Nez Perce National Forest indicate cutthroat trout are widely distributed throughout most streams on the Forest. Key spawning and rearing areas are generally located upstream of the distribution of anadromous fish in lower order stream reaches. Numerous streams that are inaccessible to anadromous fish are occupied exclusively by cutthroat trout.

Westslope cutthroat trout have been documented in Mill Creek, following a similar pattern of distribution as described above. Within areas potentially affected by the project, westslope cutthroat trout are present in the lower reaches of Markham Creek and 1 unnamed tributary. They have also been documented in mainstem Mill Creek adjacent to the project area but not in large numbers.

Critical Habitat: Since westslope cutthroat trout are not listed under the ESA, no critical habitat has been designated.

Interior Redband Trout (*Oncorhynchus mykiss*)

Status and Distribution: Interior redband trout are a Forest Service sensitive species in Region 1. In the Clearwater River basin, redband trout are the resident form of *O. mykiss*. The anadromous form only is listed under the ESA. Most populations of *O. mykiss* in the Clearwater basin accessible to anadromous fish are composed of both resident and migratory forms (Behnke, 1992). We have assumed a portion of the *O. mykiss* individuals observed in Mill Creek are resident redband trout. Interior redband trout are therefore assumed to be present in project area streams.

Critical Habitat: Since interior redband trout are not listed under the ESA, no critical habitat has been designated.

Pacific Lamprey (*Entosphenus tridentatus*)

Status and Distribution: Surveys were conducted for juvenile lampreys by Idaho Department of Fish and Game personnel throughout the South Fork Clearwater subbasin, including Mill Creek, in the early 2000s (Cochnauer and Claire, 2004). Juvenile lampreys were found in the mainstem South Fork Clearwater

River and in Red River but not in other tributaries. Pacific lampreys have not been observed anywhere in Mill Creek.

Similar to salmon and steelhead, Pacific lampreys follow an anadromous life history strategy, with adults migrating upriver and spawning in fresh water, after spending a period of time in the ocean. Juveniles rear in stream and river substrates for up to 7 years. Species abundance and distribution in upper Columbia River tributaries, including the Snake River, has declined precipitously over the past 40 years.

Critical Habitat: Since this species is not listed under the ESA, no critical habitat has been designated.

Western Pearlshell Mussel (*Margaritifera falcate*)

Status and Distribution: Western pearlshell mussels are not listed under the Endangered Species Act but were added as a sensitive species in Region 1 of the U.S. Forest Service in 2010. The species appears to be declining across its range, including areas in the mainstem Snake and Columbia Rivers (Nedeau et al. 2009). Populations of mussels are known to exist across the Nez Perce National Forest, usually in rivers (e.g. mainstem Selway and South Fork Clearwater) and the lower reaches of larger tributaries (e.g. American River and Red River). Comprehensive survey and monitoring on the NPNF are proposed in the future for this species. Mussels have not been observed anywhere in Mill Creek, and suitable habitat is not present in the project area because streams are too small.

Critical Habitat: Since this species is not listed under the Endangered Species Act, there has been no designation of critical habitat.

IV. Baseline Conditions

Baseline conditions in Mill Creek were assessed in 1999 following the listing of steelhead and bull trout under the ESA (USDA-FS 1999) and then again in 2010 following the event that occurred in Big Canyon Creek and subsequent consultation on proposed instream restoration.

In 1999, matrix indicators that were rated Low included width/depth ratio, temperature, cobble embeddedness, and pool frequency. Table 1 below summarizes select watershed condition indicators.

Table 1. Existing Condition of Select Watershed Condition Indicators in the Mill Creek Watershed

	Mill Creek Watersheds				Dry Gulch
	Upper Mill Creek	Merton Creek	Lower Mill Creek	Big Canyon Creek	
Watershed Condition					
Watershed Acres	13,071	1,699	5,879	2,575	630
Miles of Road	46.5	6.4	16.7	12.9	7.7
Total Road Density (mi/mi ²)	2.3	2.4	1.8	3.2	7.7
Miles of Streamside Roads	9.2	3.2	2.4	4.5	3.1
Streamside Road Density (mi/mi ²)	1.8	3.3	1.3	4.4	12.3
Road-Stream Crossings	12	7	14	7	4
Water Quality					
Base Sediment Yield (tons/yr)	23	22	31	39	24
Sediment yield (% over base)	1%	1%	<1%	2%	3%
Forest Plan Allowed Sediment yield (% over base)	45	60	35	35	60
Watershed Entries					
Over the past 10 years	0	1	0	0	0
Forest Plan Allowed Entries in a 10 year period	2	3	2	2	3
Water Quantity/Yield					
ECA (% of watershed area)	7%	8%	8%	17%	15%

Nez Perce National Forest personnel conducted snorkel and electrofishing surveys in specific areas throughout Mill Creek in 2010 and 2011, to determine presence/absence and compare to snorkel data collected in the 1990s.

Summary of fish presence and observed fish densities are summarized below.

Table 2. Summary of Fish Data

Stream Name/Prescription Watershed	1990, 1991 Hungry Mill EIS Data	2010, 2011 Field Data
Mill Creek/Big Canyon	Steelhead trout: 14 fish/100 m ² Spring chinook salmon: documented present Westslope cutthroat trout: present Bull trout – 1 fish observed	Steelhead trout: 0.5 – 2.4 fish/100 m ² 3 adult chinook salmon observed, no juveniles
Mill Creek/Lower Mill	Steelhead trout : 29 fish/100 m ² Spring chinook salmon: present Westslope cutthroat trout: present	Steelhead trout: 7fish/100 m ² Westslope cutthroat trout: 0.3 fish/100 m ²
Markham Creek/Lower Mill	Not surveyed	Steelhead trout: 8 juveniles observed in very lowest reach in 100 m
Unnamed Doc Denny Trib. #1/Big Canyon	Not surveyed	Westslope cutthroat trout: 8.3 fish/100 m ²
Unnamed Doc Denny Trib. #2/Lower Mill	Not surveyed	No Fish
Unnamed Doc Denny Trib. #3/Lower Mill	Not surveyed	No Fish
Dry Gulch/Dry Gulch	Not surveyed for fish	Not surveyed/too steep to support fish

¹As defined in Espinosa 1992.

Fish have not been observed in Dry Gulch Creek because it is too small and too steep. In addition, there is little or no access by fish from the South Fork Clearwater River.

In the context of the lower South Fork Clearwater subbasin, Mill Creek provides important spawning and rearing habitat for steelhead trout and westslope cutthroat trout (USDA-FS 1998). It provides some spawning and rearing habitat for chinook salmon as well. There are no known spawning areas for bull trout, and bull trout have not been observed spawning. Three juvenile bull trout were observed, however, in the lower reaches of Mill Creek during snorkel surveys in 2008, and 1 was observed in 2009. Adult and subadult bull trout probably use mainstem Mill Creek for foraging and thermal refuge.

Adult steelhead trout have been observed spawning in the lower 4 miles of Mill Creek, in most years (K. Thompson, pers. observations). Since juvenile steelhead trout have been documented well upstream of the lower 4 miles, spawning probably occurs throughout Mill Creek.

Several adult chinook salmon were observed in the lower 3 miles of Mill Creek in 2011, and juvenile salmon were documented in the early 1990s. Although juvenile salmon were not observed in sample reaches in 2011, it is possible they were present elsewhere. Mill Creek is probably used for spawning by a small number of salmon each year.

Spawning populations of westslope cutthroat trout are known to exist within the Mill Creek drainage, generally in the tributaries upstream of the Doc Denny project area such as Camp, Merton, Black George, and Hunt Creeks.

Road construction, timber harvest, livestock grazing, private land development, and various forms of recreation have affected stream and riparian conditions in Mill Creek. Road #309 extends up the valley bottom of Mill Creek about three miles and is immediately adjacent to the stream, with numerous bridge crossings. A flood/debris torrent event in 2008 scoured out Big Canyon Creek and delivered large amounts of material to mainstem Mill Creek, resulting in areas of aggradation downstream of this event. It also delivered large amounts of woody debris. A channel restoration project was completed in 2011. This project was designed and implemented to address changes to the stream channel from this 2008 event.

Upstream of the project area, livestock grazing has been identified as a factor affecting fish habitat in Mill Creek (USDA-FS 1996 Hungry Mill EIS). Meadow areas have been fenced to prevent livestock access to sensitive stream reaches, and in most cases stream and riparian conditions have improved over the past 2 decades, although fence maintenance has been an ongoing issue.

Because the main pathway of effect of the Doc Denny project is increased sediment that could be moved downstream into occupied habitat, substrate data in occupied habitat were obtained to assess the existing condition. We measured cobble embeddedness using the Skille and King (1978) method within 15-20 randomly located hoops in pre-determined response reaches. We also conducted Wolman pebble counts in these reaches to provide estimates of percent surface fines. "Response reaches" were not randomly selected but were selected subjectively in areas where changes in habitat would be expected to occur in greater frequency and magnitude than non-response reaches.

Substrate data are summarized below.

Table 3. Mill Creek 2011 Substrate Data Summary

Stream Name/Prescription Watershed	Cobble Embeddedness RMO, 1995 LRMP Biological Opinion	Mean Weighted Cobble Embeddedness Measured % n = 15 – 20 at each site	% Surface Fines Objective 1995 LRMP Biological Opinion	Surface Fines Measured %
Mill Creek/Big Canyon	<30	20	<20	10.5
Mill Creek/Lower Mill below Markham Cr	<30	12	<20	14.7
Mill Creek/Lower Mill above Markham Creek	<30	12	<20	5.8
Markham Creek/Lower Mill Creek	<30	No data	<20	37

Data were also collected related to select PACFISH Riparian Management Objectives (RMOs). These data are summarized below.

Table 4. Existing Condition of Select PACFISH Riparian Management Objectives (RMOs)

PACFISH RMO	Objective	1990 Big Canyon	2011 Big Canyon	1990 Lower Mill	2011 Lower Mill
Pools/Mile	56	2 - 27	No data	2 - 6	No data
# Pieces Large Woody Debris/Mile	>20	11	22	11	15
Wetted Width: Depth Ratio	<10	25	17	28	15
Bank Stability	>80 percent of banks stable	>90 Percent Stable	No Data	>90 Percent Stable	No Data

Stream survey data from both 1990 and 2011 suggest some PACFISH RMOs are met and some aren't. In the case of large woody debris, wetted width:depth ratio, and bank stability, data suggest conditions may have improved between 1990 and 2011.

Because the project would not affect pools, large woody debris, width:depth ratio, and bank stability, these variables were not included as indicators.

Stream conditions were also assessed in the field in 2010 within and immediately downstream of the project area. Streams, including Markham Creek and 3 of the larger unnamed streams, were reviewed by a fisheries biologist. Roads within the project area were reviewed as well.

Some sources of sediment were noted, particularly in Markham Creek, and relatively high levels of surface fines were measured in one pebble count 30 meters upstream of the mouth. Livestock trailing and trampling appeared to have affected streambank condition and width:depth ratio in roughly six areas, with some areas on private lands. Effects to streambanks have probably resulted in increased sediment delivery to Markham Creek and deposited sediment in the lower reach. In the above table, the 2 areas where substrate measurements were taken in Lower Mill Creek were located adjacent to the mouth of Markham Creek, one upstream and one downstream. Although there is no difference between the cobble embeddedness measurements, pebble count data indicates percent surface fines is greater in the sampled area downstream of Markham Creek than the area upstream, suggesting that sediment from Markham Creek may have been routed downstream into Mill Creek. Surface fines in Mill Creek were still less than the sediment RMO, however.

Within the project area, specific areas on roads and stream crossings were identified as possible sources of sediment, as was unmanaged off-road vehicle use.

V. Direct and Indirect Effects

This section describes the potential effects of the action from possible changes in sediment yield and deposited sediment (see subheading below). This effect pathway was addressed because it is potentially affected by the project. ESA-listed fish and designated critical habitat do not occur in tributaries to Mill Creek where project activities are proposed, but they are found downstream of these activities in main

Mill Creek and the very lowest reach of Markham Creek. Increases in sediment yield could result in local increases that could be routed downstream into occupied habitat in Mill Creek and/or the very lowest reaches of tributaries.

Other components of stream habitat that are typically addressed for vegetation management projects include water temperature, large woody debris, and Equivalent Clearcut Area (ECA), which is a surrogate for changes in water yield. Water temperature and large woody debris would not be affected by the project because vegetation management activities are not proposed within Riparian Habitat Conservation Areas (RHCAs). Although a limited amount of tree cutting may occur within RHCAs occur at 2 temporary road crossings (to allow for the road right-of-way), a design criterion requiring that any trees needed to be felled would be left on site and not removed has been incorporated into the proposed action. These crossings are proposed in streams that do not contain fish and are well upstream of occupied habitat. Because of their small size, they would have limited or no ability to route pieces of large wood downstream to occupied habitat. In addition, any loss of shade would be minimal and not expected to affect temperature, either locally or downstream, because trees would be left on site and used to stabilize soil and/or placed in or across the stream when the temporary road is decommissioned.

Therefore, changes in stream temperature are not expected, and amount of woody debris available to fall into occupied habitat and designated critical habitat would not change. Total large woody debris in RHCAs would not change in any stream.

Equivalent Clearcut Area (ECA): Changes in Equivalent Clearcut Area (ECA) could result in increased water yield, resulting in changes to the stream channel and fish habitat. The ECA metric is most relevant at the HUC 6 scale (10 to 40 thousand acres). The proposed action would not result in ECA's that approach research recognized levels of concern in the Mill Creek watershed (i.e. they remain at or below 20 percent) (Gerhardt 2000).

Table 5. Percent Equivalent Clearcut Area, by Alternative, for prescription Watersheds

	Lower Mill Creek	Mill Creek Watershed	Dry Gulch
Existing (% ECA)	8	9	15
Proposed Action (% ECA)	20	12	16

Increase in ECA in the Lower Mill Creek prescription watershed would increase above the 15 percent threshold identified as a concern in the 1995 LRMP Biological Opinions and the Clearwater Matrix of Pathways and Indicators. Lower Mill Creek, however, is not a "true" watershed because includes only a portion of the Mill Creek watershed and mainstem Mill Creek itself. ECA in the Mill Creek watershed as a whole would increase only 3 percent and remain under the 15 percent threshold.

Peak flow effects, if any, are unlikely to affect channel stability because of inherently stable channel forms (i.e. high gradient cascade and step pool) found in small tributaries nearest to proposed harvest units, and the likelihood of potential effects diminishing as basin size increases (Grant et al 2008).

Since there are no vegetation harvest treatments or temporary road construction activities proposed along streams or within streamside riparian habitat conservation areas (RHCAs), direct effects are not expected as a result of timber harvest activities in either action alternative.

Deposited Sediment: Short-term indirect effects to the deposited sediment indicator are possible from temporary increases in sediment yield associated with timber harvest, temporary road construction, road reconditioning, and road decommissioning. Increases in sediment yield for these activities were modeled by NEZSED. Peak sediment yields are modeled in NEZSED as if all the activities occur in one year, although in reality, this would not be the case since activities would occur over a time period of 5 years. Based on modeling results, sediment yield would return to pre-project levels within this 5 year time period, and since road decommissioning is proposed, long term sediment yield would be less than the existing condition.

Results of NEZSED modeling are depicted below in Table 6.

Table 6. NEZSED Modeled Sediment Yield

		Lower Mill Creek	Mill Creek Watershed*	Dry Gulch
Base Sediment Yield (tons/year)		31	970	24
Sediment yield (% over base)	Existing	<1	1	3
	Proposed Action	13	4	3
Forest Plan Allowed Sediment yield (% over base)		35	35	60

* Sediment yield for Mill Creek is calculated for the entire watershed/ analysis area.

Peak sediment yields predicted by NEZSED were used to predict changes in stream channel substrate using the FISHSED model. In this case, changes in cobble embeddedness were modeled.

For the proposed action, changes in cobble embeddedness, summer rearing capacity, and winter rearing capacity were modeled in the Lower Mill prescription watershed. Dry Gulch was not included because it does not contain fish. The "Mill Creek watershed" numbers indicated below in Table 7 were derived from NEZSED modeling activities in the entire Mill Creek watershed. Existing CE was measured in mainstem Mill Creek in 2011. Modeled changes in cobble embeddedness, summer rearing capacity, and winter rearing capacity were compared to the existing condition. Where differences equal or exceed 10 percent, measurable changes in habitat may occur as a result of implementation of the alternative, although it is important to note the limitations of this model and interpret the results accordingly. For the purposes of this analysis, percent change between the existing condition and predicted increases or decreases was calculated as described in the model.

The following table displays predicted changes in cobble embeddedness as a result of increased peak sediment yields from the NEZSED model in the 2 fish-bearing prescription watersheds potentially affected by the project.

Table 7. Predicted Changes in Cobble Embeddedness (CE), summer rearing capacity, and winter rearing capacity, as modeled by FISHSED

Watershed Name	Existing CE (%)	Predicted CE (%)	Existing Summer Rearing (%)	Predicted Summer Rearing (%)	Existing Winter Rearing (%)	Predicted Winter Rearing (%)
Lower Mill	12	13.2	99	99	73	71
Mill Creek Watershed	20	20.4	98	97	59	59

The preceding table indicates zero to minor changes between the existing condition and the proposed action. All predictions are below the 10 percent threshold where measurable changes would be expected to occur in stream substrates (Stowell et al. 1983). Based on these results, changes in deposited sediment, summer rearing capacity, and winter rearing capacity would not be expected to change in mainstem Mill Creek from modeled activities.

Roads: Table 8 below displays pre-project and post-project road densities.

Table 8. Road Density and Streamside Road Density by Prescription Watershed

	Lower Mill Creek	Dry Gulch
Total Road Density (mi/mi²)		
Existing	1.8	7.7
Post-project	1.7	
Streamside Road Density (mi/mi²)		
Existing	1.3	12.3
Post-project	1.2	

Decreasing road density, in particular the decommissioning of Rd 76820, would reduce long-term fine sediment delivery, reduce the risk of mass failure (2 crossings at risk surveyed), and restore surface infiltration and shallow ground water flow paths through de-compaction and revegetation of the road prism. As mature vegetation establishes over time, additional benefits are expected for stream shading, large woody material recruitment, and nutrient resources. The greatest benefits are typically realized along segments of roads considered streamside, as these segments would directly influence water resources.

In the 5-year implementation period of the project, road decommissioning, including road to trail conversion, would result in localized sediment production and delivery as culverts are removed and stream channels are restored. Design criteria would provide controls on erosion and sediment production during these activities. Most sites where these effects would be expected to occur are in low order, in some cases intermittent, fishless streams within the project area. Foltz and Yanosek (2005) and Foltz et al. (2006, 2007) found that increases in turbidity generated by road decommissioning and culvert replacements returned to pre-disturbance levels roughly 800 meters downstream of the disturbance. For this project, all the culverts sites and the road decommissioning are at least 800 meters upstream of the nearest habitat occupied by steelhead and bull trout and designated critical habitat for these species. Therefore, steelhead and bull trout and designated critical habitat would not be expected to be affected by increases in turbidity. Mitigation and design criteria would be expected to minimize local sediment delivery to streams.

In the case of temporary road construction, most temporary road segments would be located on lower gradient slopes over existing templates and in areas where excavation would be minimized. Two segments of temporary roads, however, involve stream crossings. Specific design criteria and mitigation have been developed for these crossings. These design criteria and mitigation would be expected to minimize sediment delivery to streams. Similar to road decommissioning, the location of these crossings is greater than 800 meters from the nearest occupied habitat, and therefore, effects from increased turbidity are not expected.

Markham Creek, with headwaters in the project area where logging and temporary road construction are proposed, presents a situation of some concern. Although not present in the project area, juvenile steelhead trout were observed in the lowest 100 meters of stream. This section of stream is probably used for rearing only as no spawning habitat is present. Sediment sources were identified in Markham Creek, particularly on private land, which is grazed heavily. The private land is located between the project area, and both areas are upstream of the section of stream where juvenile steelhead were observed. Any sediment produced by the project could result in cumulative effects when combined with sediment from grazing on private land (see additional discussion below under ESA Cumulative Effects).

Decommissioning of an existing road, however, is proposed under this project, including several at-risk crossings in Markham Creek. In addition, a crossing structure is proposed to be installed that would reduce impacts from an existing road crossing. The project would therefore result in possible temporary increases in sediment locally in Markham Creek upstream of the stream reach occupied by steelhead trout at least ¼ mile, but a long term reduction in both chronic sediment yield and risk of road crossing failures would also occur. When combined with the effects of a reasonably foreseeable project (Eastside Allotments), improvement from grazing effects that are a presumed outcome, would further result in reduced sediment effects.

In general, road decommissioning would reduce road related chronic sediment and result in decreased risk of stream crossing and cut and fillslope failures. In addition, decommissioning would restore surface infiltration and shallow ground water flow paths through de-compaction and revegetation of the road prism. As mature vegetation establishes over time, additional benefits are expected for stream shading, large woody material recruitment, and nutrient resources. Decommissioning proposed under this project

would eliminate 2 at-risk road-stream crossings. Road to trail conversion at the end of Road 9449 would greatly reduce the risk of potential stream diversion and catastrophic failure of this road segment. Short term increases in sediment yield from road decommissioning was included in NEZSED modeling.

Road/Stream Crossings: The project would reduce the number of road-stream crossings in the Lower Mill Creek watershed with the decommissioning of Rd 76820 (Table 9). The number of road-stream crossings would remain unchanged in the Dry Gulch watershed.

Table 9. Number of Road-Stream Crossings by Prescription Watershed

	Lower Mill Creek	Dry Gulch
Existing	14	4
Post-project	12	

With a reduction in road-stream crossings, additional emphasis is placed on the connectivity of natural watercourses. Restored stream channels would exhibit the dimension, pattern and profile reflective of natural processes at work within their watersheds. They should achieve the characteristics of: (1) accessing their floodplains; (2) maintaining local water tables; and (3) transporting and depositing natural sediment loads.

Additional benefits would be realized with the removal of an undersized culvert and conversion to a drivable ford with road to trail conversion at the end of Rd 9449. The stream crossing here was surveyed in 2009 and determined to be at risk of mass failure. By removing the undersized culvert, potential stream diversion and catastrophic failure of this road segment is greatly reduced. Since the culvert is not located in designated critical habitat, and it is located over ¼ miles away from the nearest critical habitat and habitat occupied by steelhead and bull trout, no short term adverse effects are expected.

Five additional cross drain culverts are present in this section of road. Additional benefits are realized through the removal of these cross drain culverts, because new trail BMPs at these locations would disperse runoff and further reduce the potential of delivery to the adjacent stream.

Road improvements for proposed haul use, primarily in the Lower Mill Creek watershed, would implement BMPs at multiple stream crossings and cross drains. This work includes the installation of a new culvert along Rd 9449. Road maintenance is beneficial for water quality because runoff is routed off of roads and away from water resources.

Over the course of implementing the project, which is expected to last 5 years, road-stream crossing work, including road to trail conversion, would result in localized sediment production and delivery as culverts are removed and stream channels are restored. BMP upgrades would also result in localized sediment production and delivery at stream crossings. Design criteria will provide controls on erosion and sediment production during these activities. These effects are expected to be limited to the implementation period and not result in any persistent (> 5 years) sediment effects.

VI. ESA Cumulative Effects

The Endangered Species Act defines cumulative effects as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation".

The Mill Creek watershed contains 684 acres of private lands. Of these private lands, 273 acres are located in the Lower Mill prescription watershed, and 69 acres are located in the Dry Gulch watershed. An additional 342 acres are located in the Big Canyon and Upper Mill prescription watersheds. About 278 acres of private land in the Big Canyon watershed was logged in 2004, as a clearcut with reserves with ground-based logging. Some of this acreage was subsequently subdivided into smaller parcels.

The private acres in the Lower Mill prescription watershed are adjacent to the project area. A large portion of the acreage is meadow. Actions that are reasonably certain to occur on this private land include domestic livestock grazing. Existing impacts were noted in Markham Creek during reconnaissance stream surveys in 2010 (G. Seloske, per. comm.), particularly on private land. Since livestock on this private land are associated with the Hungry Mill Allotment, update of the management plan for this allotment would be included in the upcoming Eastside Allotments NEPA, which would be included in a future consultation. In the meantime, grazing on private land is contributing to degraded stream conditions in Markham Creek.

VII. Effects to Primary Constituent Elements – Designated Critical Habitat for *O. mykiss* (Snake River steelhead DPS)

(1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.

The proposed action could result in minor amounts of sediment being delivered to streams locally, and sediment modeling predicts increases in sediment yield, but these increases are not at a magnitude where measurable increases in deposited sediment in steelhead spawning habitat would occur and would therefore be below levels where detrimental effects would occur. Implementation of PACFISH and additional design criteria are expected to substantially reduce the level of effect. Any increases in sediment yield would be temporary. Substrate data collected in 2011 suggest current levels of deposited sediment in Mill Creek are very low.

Changes in water temperature and large woody debris are not expected because no harvest in RHCAs is proposed.

(2) Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

The proposed action could result in minor amounts of sediment being delivered to streams locally, and sediment modeling predicts increases in sediment yield, but these increases are not at a magnitude where measurable increases in deposited sediment in steelhead rearing habitat would occur and would therefore be below levels that would result in adverse effects to invertebrate production, reduction in pool volume, or reduction of interstitial space needed by juvenile steelhead for rearing. Sediment sources were identified in Markham Creek, however, and relatively high levels of surface fines were measured in Markham Creek where juvenile steelhead trout were observed. Any increases in sediment yield would be temporary, and long term reductions in sediment yield would be expected to result in lower levels of deposited sediment in Markham Creek.

Substrate data collected in 2011 suggest current levels of deposited sediment in Mill Creek are very low.

Changes in shade, overhanging large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, and undercut banks are not expected because no harvest in RHCAs is proposed.

(3) *Freshwater migration corridors* free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

Migration corridors for steelhead trout would not be affected by this project.

VIII. Effects to Primary Constituent Elements – Designated Critical Habitat for *Salvelinus confluentus* (Columbia River bull trout DPS)

Effects to bull trout critical habitat primary constituent elements are summarized below in the following table.

Table 10. Primary Constituent Elements for Columbia River Bull Trout Designated Critical Habitat

	Primary Constituent Elements (PCEs)	Associated Habitat Indicators	Environmental Baseline Present or Absent	Effects of the Actions (Restore, Maintain, or Degrade)
1	Springs, seeps, groundwater sources, and subsurface water connectivity (hyporehic flows) to contribute to water quality and quantity and provide thermal refugia.	Flood plain connectivity, changes in peak/base flows, cobble embeddedness, road density, streambank stability, chemical contamination/nutrients	Present	Maintain
2	Migration habitats with	Temperature, sediment,	Present	Maintain

	Primary Constituent Elements (PCEs)	Associated Habitat Indicators	Environmental Baseline Present or Absent	Effects of the Actions (Restore, Maintain, or Degrade)
	minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.	chemical contamination/nutrients, physical barriers, peak/base flow, width/depth ratio, refugia		
3	An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.	Floodplain connectivity, riparian vegetation condition, pool frequency and quality, cobble embeddedness, temperature, chemical contaminants and nutrients	Present	Maintain
4	Complex river, stream, lake, reservoir, and marine shoreline aquatic environments and processes with features such as large wood, side channels, pools, undercut banks and un-embedded substrates, to provide a variety of depths, gradients, velocities, and structure.	Large woody debris, pool frequency and quality, width/depth ratio, off-channel habitat, streambank stability, riparian vegetation condition, floodplain connectivity, disturbance history and regime, refugia	Present	Maintain

	Primary Constituent Elements (PCEs)	Associated Habitat Indicators	Environmental Baseline Present or Absent	Effects of the Actions (Restore, Maintain, or Degrade)
5	<p>Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures that exceed the upper end of this range. Specific temperatures within this range will vary depending on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shade, such as that provided by riparian habitat; and local groundwater influence.</p>	<p>Temperature, refugia, pool frequency and quality, width/depth ratio, change in peak/base flows, streambank stability, floodplain connectivity, road density</p>	<p>Present</p>	<p>Maintain</p>
6	<p>In spawning and rearing areas, substrate of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount of fine sediment, generally ranging in size from silt to coarse sand, embedded in larger substrates, is characteristic of these conditions. The size and amounts of fine sediment suitable to bull trout will likely vary from system to system.</p>	<p>Sediment, cobble embeddedness, large woody debris, pool frequency and quality, streambank stability</p>	<p>Absent – Spawning Present – Rearing</p>	<p>Maintain - , and sediment modeling predicts increases in sediment yield, but these increases are not at a magnitude where measurable increases in deposited sediment in bull trout habitat would occur and would therefore be below levels that would</p>

	Primary Constituent Elements (PCEs)	Associated Habitat Indicators	Environmental Baseline Present or Absent	Effects of the Actions (Restore, Maintain, or Degrade)
				result in adverse effects to invertebrate production, reduction in pool volume, or reduction of interstitial space.
7	A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, minimal flow departures from a natural hydrograph.	Peak/base flow, road density, riparian vegetation condition, floodplain connectivity,	Present	Maintain
8	Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.	Floodplain connectivity, peak/base flow, temperature, sediment, chemical contaminant and nutrients	Present	Maintain
9	Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.	Physical barriers	Absent	Maintain

Maintain ratings for bull trout PCEs are generally based on full implementation of PACFISH and no or immeasurable increases in deposited sediment in designated critical habitat.

IX. Determination of Effect

A. Essential Fish Habitat

Essential Fish Habitat (EFH) is designated for chinook and coho salmon in the South Fork Clearwater subbasin. In accordance with applicable requirements of section 305(b) of the Magnuson-Stevens Act and it implementing regulations (50 CFR Part 600.920), the Forest needs to evaluate potential effects of the proposed project within the South Fork Clearwater River and Mill Creek to 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 South Fork Clearwater River and Mill Creek.

Effects of Proposed Action: Generally, the project is expected to have minimal to nonexistent effects on salmon habitat in Mill Creek and the South Fork Clearwater River. Although the project would result in short term increases in sediment yield in the project area, this sediment is not of a magnitude that it would result in measurable increases in sediment in Mill Creek or the South Fork Clearwater River. The project would not affect large woody debris recruitment, stream temperature, or other PACFISH RMOs in Mill Creek or the South Fork Clearwater River. This conclusion is based on implementation of PACFISH and proximity of the project to the nearest EFH.

Therefore, the determination for the proposed Doc Denny project is that the proposed activities **would not adversely affect EFH for spring chinook and coho salmon.**

B. ESA Listed and Sensitive Fish Species

1. Determinations

The determinations of effect for each TES fish species are included in the table below.

Table 11. Determination of Effect for TES Fish Species and Designated Critical Habitat

Species – ESA Listed	Determination
Snake River Steelhead Trout	May Affect, Not Likely to Adversely Affect
Columbia River Bull	May Affect, Not Likely to Adversely Affect

Species – ESA Listed	Determination
Trout	
Snake River Fall Chinook Salmon	No Effect
Species – Region 1 Sensitive	Determination - Species
Spring Chinook Salmon	May Impact Individuals, But Not Likely to Cause Loss of Viability or Lead to ESA Listing
Westslope Cutthroat Trout	May Impact Individuals, But Not Likely to Cause Loss of Viability or Lead to ESA Listing
Interior Redband Trout	May Impact Individuals, But Not Likely to Cause Loss of Viability or Lead to ESA Listing
Pacific Lamprey	No Effect
Western Pearlshell Mussel	No Effect

2. Determination Rationale

ESA Listed Fish Species

Snake River Steelhead Trout and Designated Critical Habitat

The determination for steelhead trout is May Affect, Not Likely to Adversely Affect. This determination is based on potential indirect effects to habitat occupied by juvenile steelhead trout in the lower reaches of Markham Creek and Mill Creek. The project would be expected to result in a short term increase in sediment yield. This increase is not expected to result in measurable increases in deposited sediment in areas occupied by steelhead trout, and implementation of road decommissioning and stream crossing upgrades in the project area would result in a long term decline in chronic sediment sources and risk of future crossing failures.

This reduction combined with improved management of the Hungry Mill Allotment and livestock on private land, which is anticipated to occur under implementation of the Eastside Allotments NEPA, would be expected to result in long term improvement in cumulative sediment conditions in Markham Creek.

Suspended sediment would no adversely affect steelhead because the distance between the activities causing the increases in suspended sediment and the closest stream reach supporting steelhead is greater than the distance suspended sediment is likely to travel before settling out of suspension (800+ meters).

No other effects pathways were identified. PACFISH RMO's would be maintained over the short and long term. Increases in ECA would not result in the Mill Creek watershed exceeding the 15 percent threshold and would not be expected to result in water yield effects.

Columbia River Bull Trout and Designated Critical Habitat

The determination for Columbia River bull trout is May Affect, Not Likely to Adversely Affect for possible indirect effects to bull trout critical habitat in Mill Creek. It is highly unlikely that individual bull trout would be affected by the project since they are not present in streams in the project area. The determination for designated critical habitat is May Affect, Not Likely to Adversely Affect.

The determination rationale for effects to critical habitat is the same as the rationale for steelhead trout.

Snake River Fall Chinook Salmon Designated Critical Habitat

The Snake River fall chinook salmon ESU and designated critical habitat are found within the mainstem Clearwater River, downstream from Mill Creek and the South Fork Clearwater River. Fall chinook salmon do not spawn or rear in Mill Creek. Nez Perce Tribal hatchery supplementation via a satellite acclimation facility in the South Fork Clearwater River downstream of Forest Service lands has been occurring for the past 5 years, and recent increases in adult returns and spawning activity by fall chinook has been documented in the lowest reaches of the river.

The determination for fall chinook salmon and designated critical habitat in the Clearwater River is No Effect due to the proximity of the project.

Region 1 Forest Service Sensitive Aquatic Species

Spring Chinook Salmon

As previously discussed, spring chinook salmon in the Clearwater basin are not listed under the Endangered Species Act. They are, however, a Region 1 sensitive species. The determination for spring chinook salmon in the Clearwater basin for this project is May Impact Individuals, But Not Likely to Cause Loss of Viability or Lead to ESA Listing.

Westslope Cutthroat Trout

Westslope cutthroat trout are a Region 1 sensitive species. They are the most widely distributed salmonid species on the NPNF and are present at the lower reaches of 2 unnamed tributaries to Mill Creek downstream of the project area, as well as mainstem Mill Creek itself. The determination for westslope cutthroat trout for this project is May Impact Individuals, But Not Likely to Cause Loss of Viability or Lead to ESA Listing.

This determination is based on increases in short-term sediment yield, which is expected to result in no or immeasurable increases in sediment in stream reaches occupied by westslope cutthroat trout.

Interior Redband Trout

As previously discussed, interior redband trout are the resident form of *Oncorhynchus mykiss* and are a Region 1 sensitive fish species. The determination for interior redband trout for this project is May Impact Individuals, But Not Likely to Cause Loss of Viability or Lead to ESA Listing.

This determination is based on increases in short-term sediment yield, which is expected to result in no or immeasurable increases in sediment in stream reaches occupied by westslope cutthroat trout.

Pacific Lamprey

Pacific lamprey is a Region 1 sensitive fish species and a State of Idaho endangered species. They are rare across the NPNF, and populations have been documented in just a few locations. Pacific lamprey are not known to occur in the Mill Creek watershed. Therefore, the determination for this species is No Effect.

Western Pearlshell Mussel

Western pearlshell mussel is a Region 1 sensitive aquatic species. Mussels have not been observed in the Mill Creek watershed, and there is no suitable habitat for mussels in streams in the project area. Therefore, the determination for this species is No Effect.

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**Doc Denny Project
Biological Assessment**

Canada Lynx

**Salmon River Ranger District
Nez Perce National Forest**

March 8, 2013

Prepared by:

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Introduction

Federal land management agencies must consult on any action that may affect a federally listed species, which includes threatened, endangered, or proposed species. Threatened, endangered, and proposed species are managed under the authority of the Federal Endangered Species Act (PL 93-205, as amended) and the National Forest Management Act (PL 94-588). Section 7(c) (1) of the Act requires a Biological Assessment be performed if a listed species and/or critical habitat may be present in the action area (USDI Fish and Wildlife Service 1998). The Biological Assessment ensures the agency's early involvement and increases the chance for resolution during informal consultation. Under provisions of the Endangered Species Act (ESA), Federal agencies shall use their authorities to carry out programs for the conservation of listed species, and shall insure any action authorized, funded or implemented by the agency is not likely to: (1) jeopardize the continued existence of threatened or endangered species; or (2) result in the destruction of or adverse modification of critical habitat (16 USC 1536). One purpose of the Biological Assessment is to help make the determination of whether the action is a No Effect (NE), May Affect, but Not Likely to Adversely Affect (NLAA), or Likely to Adversely Affect (LAA) to listed species and critical habitat (USDI Fish and Wildlife Service 1998).

Legal and Administrative Frame

Federally listed threatened and endangered species are those plant and animal species formally listed by the USDI Fish and Wildlife Service (USFWS) under authority of the Endangered Species Act of 1973, as amended. An endangered species is defined as one, which is "in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as one "that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range..." (Endangered Species Act of 1973, as amended).

Analysis Area and Project Description

The Salmon River Ranger District is proposing the Doc Denny Project on Nez Perce National Forest Land in the South Fork Clearwater drainage. The 4280-acre project area is generally in the western portion of the Mill Creek watershed from its confluence with the South Fork Clearwater River to the confluence of Merton Creek in Idaho County, Idaho (about 10 air miles southeast of Grangeville, Idaho). The project area is located in Township 28 North, Range 4 East, Sections 4, 5, 8, 9, 16, 17, 18, 19, 20, 29, 30, 31, and 32 and T29N, Range 4 East, Section 27, 28, 33, and 34, Boise Meridian. Primary access to the area is provided by Highway 14 and Forest Service Roads 279, 9449, 9450, and 9485 (Map 1).

Purpose and Need: The primary purposes of the proposed action are to provide long-term sustained timber yield to help satisfy demands for timber as outlined in the Forest Plan and to manage vegetation toward the Forest Plan desired forest conditions by maintaining ecosystem health and productivity as defined by Forest Plan goals, objectives, and standards. This would be accomplished through vegetation and transportation management. Proposed management was designed to comply with Forest Plan direction for all resources and would only occur on Forest Service land. The Doc Denny project would alter timber stand and site characteristics such as stocking and species composition in order to maintain or improve the health of the stands. Proposed harvest would regenerate mature and over-mature stands and maintain ponderosa pine and western larch.

This action is needed to maintain healthy forests by managing for forest vegetative conditions that are more resilient to insects, disease, and fire and to improve forest health and tree vigor. This can be accomplished by: a) reducing tree density to allow for increased tree vigor by reducing competition; b) changing age class distribution to promote a long-term sustainable yield of forest products; c) focusing on a tree species mix to retain the largest, most healthy trees while reducing the lodgepole pine, grand fir, and Douglas fir components; c) minimizing insect and disease risk by retaining and planting tree species less susceptible to insect infestations and disease; and d) using prescribed fire to reduce activity generated fuels.

There is a desire to provide forest products to support local communities as directed by the Nez Perce National Forest Plan. Harvesting mature stands and regenerating them with young, healthy seral trees would help create and maintain long-term sustainable yields of forest products. Proposed forest management would contribute to community stability and employment.

Project Proposal: The project would manage vegetation on approximately 1,026 acres with a combination of regeneration and intermediate (commercial and pre-commercial thinning) timber harvest in the Doc Denny project area. To support the harvest activities, the following road management activities are included: about 16 miles of road improvement, about 3.4 miles of temporary road construction followed by decommissioning, two culvert installations and/or replacements, and six culvert removals. In addition, about 1.0 mile of existing road would be decommissioned and converted to a motorized trail (<50 inches wide).

The project would be expected to last 5 years after a decision is signed.

The project meets the purpose and need by implementing the following activities:

1. Regeneration Harvest:

- a. 620 acres of clearcut with reserves. About five to 50 trees per acre (average 15 trees per acre) would be retained in 22 treated areas.
- b. 131 acres of seed tree harvest. About nineteen to 40 trees per acre (average 26 trees per acre) would be retained in six treated areas.
- c. 12 acres of shelterwood harvest. About 23 trees per acre would be retained.

2. Commercial Thinning: About 197 acres of dense forested stands would be commercially thinned. These activities would improve growing conditions for uncut trees. The treatments would reduce stand densities and canopy closure by 25% to 40% leaving 110 to 220 trees per acre with variable spacing favoring the largest and healthiest western larch, ponderosa pine, Douglas fir, and grand fir. We would retain 17-33 tons per acre (averaging about 25 tons per acre) of large woody material (>3" DBH). Tractor skidding and cable yarding systems would be used to move trees to landings. Implementation would occur over three to five years.

3. Pre-commercial Thinning: Small diameter trees (<8" DBH) would be removed on about 40 acres favoring early seral species (ponderosa pine and western larch). Approximately 200-300 trees per acre (variable spacing) would remain following treatment. These treatments are done by hand and no heavy equipment would be used. Implementation would occur within five years.

- 4. Commercial Thinning followed by Pre-commercial Thinning:** This 12 acre stand has 10-14" DBH lodgepole pine and western larch in the overstory. The overstory would be commercially thinned to remove dead and dying lodgepole pine and mistletoe infected western larch leaving 100-150 trees per acre. If necessary, the stand would be pre-commercially thinned, as described above, after overstory thinning.
- 5. Overstory Removal followed by Pre-commercial Thinning:** Mistletoe infected western larch (<12" DBH) would be removed to protect regenerating western larch from mistletoe infection on about 13 acres. If necessary, this stand would be pre-commercially thinned, as described above, after overstory removal.
- 6. Fuels Treatment (960 acres):** Post-harvest fuels treatment in commercially thinned and regeneration harvest units would be treated using broadcast burning or jackpot burning. Jackpot burning would occur in lodgepole pine and Engelmann spruce stands. Post-harvest fuels treatment would limit mortality of retained trees. All necessary procedures related to air quality would be followed. Burning would typically occur in the fall or spring, when weather and environmental conditions would allow resource objectives to be met. Hand ignition would be used. Fire severities would be low to moderate. Implementation would occur over five to seven years.
- 7. Temporary Road Construction Followed by Decommissioning (3.4 miles):** Most temporary roads would be located on lower gradient slopes over existing templates and in areas where excavation would be minimized. Two segments of temporary roads cross streams. Specific design criteria and mitigation have been developed for these crossings (see Chapter 2) to minimize sediment delivery to streams. Temporary roads would be used and decommissioned within five years.
- 8. Road Improvement:** Improve 16 miles of road. Road improvement includes standard road maintenance, such as road blading, brushing, cleaning culverts, removing small cut slope failure, applying rock in wet areas, removing obstruction such as trees and rocks, maintaining culverts. One culvert would be installed and one undersized culvert on Road #9449 would be replaced. These activities would be conducted according to guidelines and design criteria contained in the Forests' Programmatic Road Maintenance Biological Assessment. One culvert would be installed and one undersized culvert on Road #9449 would be replaced in 1st order, perennial streams that do not contain fish. The closest fish-bearing areas to these culvert sites are over ½ miles away. Road improvement is expected to reduce sediment delivery to streams.

In addition, the action would include maintenance and improvements to haul roads on 9449, 9450, 9451, 9485, 76820, and 76822, portions of which are outside the Project Area. Work items may include template reshaping or blading, slump removal in ditches and catch basins, installation of new ditches and drivable dips, new culvert installation, culvert removal and replacement, spot pit-run aggregate, crushed

aggregate replacement, and brushing. These actions are intended to reduce potential sediment effects from log truck traffic, in addition to facilitating log haul.

- 9. Road Reconstruction followed by Decommissioning:** Road #76820 (0.7 miles) would require brushing, blading, and establishing proper drainage to reduce the risk of erosion. One log culvert would be temporarily replaced in a 1st order tributary to Markham Creek. This stream may be perennial at the crossing site but is not known to contain fish. The nearest known fish presence is over ¼ mile downstream. This road would be decommissioned following use.

Road Decommissioning: Decommission about 1.1 miles of system road not needed for long-term management. Road decommissioning practices vary depending on the road condition, landtypes the road is on, and proximity to fish bearing streams. These roads would be recontoured as close as practicable to the original slope. Six culverts along 0.4 miles of Road #9449 would be removed. Culvert removal would reduce risk of sediment delivery to streams by reducing erosion caused by potential culvert blockage. One of these culverts is 36 inches in diameter and under approximately 20 feet of fill that has been identified as a high risk culvert, and five culverts are cross drains or ditch relief culverts. The stream at the 36-inch culvert may be perennial but does not contain fish. The nearest known fish presence is over ½ mile downstream. The other culvert removals involve streams that are not perennial. This road would be converted to a motorized trail (<50 inches wide).

Design Features

The design features, monitoring measures and Best Management Practices (BMP's) described below will be implemented as part of the decision.

1. PACFISH Riparian Buffers: No-harvest buffers will be required (300 feet on either side of fish-bearing streams; 150 feet on non-fish bearing perennial streams and wetlands greater than 1 acre; and 100 feet on intermittent streams, wetlands less than 1 acre, landslides, and landslide prone areas). Unit layout will include referring to the US Fish and Wildlife Service draft wetlands inventory map to ensure potential riparian habitat conservation areas (RHCAs) are reviewed and buffered appropriately. All vegetation and woody debris will be left intact in these areas.
2. Landslide prone areas are considered Category 4 Riparian Habitat Conservations Areas (RHCAs), defined in PACFISH. All field-verified landslide prone areas would be excluded from timber harvest, 100-foot no-cut buffers would be applied around the perimeter of the area, and machinery would be excluded from the buffer and the area.
3. Halt ground-disturbing activities if cultural resources are discovered until an Archaeologist can properly evaluate and document the resources in compliance with 36 CFR 800. This will be carried out through the contract and contract administration or inspection.
4. Signs will be placed on Roads #9451, #9450, and #9449 to inform the public of timber harvest activity.
5. Trail #319 in Unit 25 will be protected from harvest activities.

6. Notify local snowmobile clubs prior to plowing any portion of Road #9485 (Milner Trail).
7. Road #9449 decommissioning will be constructed to meet ATV/motorcycle trail standards less than less than 50 inches.
8. Machine trails for timber harvest and fuel treatments will be designed to minimize the area of detrimental soil effects- displacement, ruts, compaction, puddling, platy structure, and burn severity disturbance (Froehlich and McNabb, 1983). Activity will be designed to stay below 15 percent disturbance of the treatment area. Existing skid trails and landings will be utilized where other resources are not compromised by designating skid trails, reusing skid trails by machines used for piling, and placing slash on existing skid trails where possible to overlap detrimental effects rather than extending the footprint.
9. Skid trails and landings in all units will be scarified following timber harvest to improve soil productivity and meet soil quality standards. Actions may include scarifying and placing slash, woody material, and/or duff over exposed soil.
10. Prescriptions for regeneration harvest units are to retain coarse woody material appropriate to the site for nutrient cycling, maintaining soil moisture, and other soil physical and biological properties after all unit activities (timber sale contract clause C6.406#). Regional guidance for organic matter (USDA FS, 1999) recommends following guidelines, such as retaining coarse (greater than 3 inches diameter) woody material to maintain soil productivity (Graham et al., 1994). Drier (Douglas-fir, grand fir and ponderosa pine) habitat types have wood retention requirements of 7-15 tons. Coarse woody material helps to reduce surface erosion in the short term and breaks down into soil in the long term. Snags or other trees felled for safety reasons may be left in the unit.
11. PACFISH standards and guidelines would be applied in areas of high mass wasting potential and landslide prone areas – Units 8 (43 acres), 10 (6 acres), 13 (3 acres), 29 (5 acres). Not all of the mapped areas were high mass wasting or landslide prone when field verified; the portions of the mapped concern areas to receive buffers can be identified by slumps and scarps with pistol butted trees. Appendix D includes maps of these high mass wasting potential and landslide prone areas requiring field verification. All landslide prone terrain identified during field layout of temporary roads and timber harvest units will be excluded from harvest or disturbance and provided with a 100-foot no-harvest buffer, as defined in PACFISH. Unit 13 (12 acres) will retain 50% of the trees to protect soils.
12. Live tops would be retained or returned to all units. This small diameter organic material, in addition to current down large woody material, would be left for long-term site productivity (Graham et al. 1999). If tops are returned to the units, only existing skid trails would be used.
13. Overwinter harvest-produced slash to support nutrient cycling, organic matter inputs and surface erosion protection, which would contribute to soil stability and productivity (Graham et al. 1999).

14. Underburning and slash/burn treatments would be designed in the project burn plan to provide a low-severity mosaic burn with little to no detrimental soil disturbance of soil resources (Neary et al., 2008).
15. Fuels treatments will be designed in the project burn plan to provide a low-severity mosaic burn with little to no detrimental soil disturbance (Neary et al., 2008).
16. Best Management Practices (BMPs) found in Rules Pertaining to the Idaho Forest Practices Act Title 38, Chapter 13, Idaho Code, and Soil and Water Conservation Practices Handbook 2509.22 will be applied to prevent and/or reduce non-point source pollution from timber management and road construction. These BMPs are incorporated by reference.
17. The proposed culvert upgrade and new culvert installation on Road #9449 will be sized to meet or exceed natural bankfull channel width and designed to pass a 100 year flow event. Culverts will be placed at natural stream grade to accommodate sediment, debris, and water transport.
18. Road #76820 decommissioning will require restoration of two stream channels to appropriate dimension, pattern, and profile. All required permits shall be secured prior to implementation (e.g. stream alteration, 404). Cattle would be discouraged from the decommissioned area for at least one growing season to allow for the establishment of effective ground cover. Rehabilitated stream channel sites may require additional protection measures.
19. On the section of the 9449 Road that is proposed to be decommissioned into a motorized trail, removal of a culvert at 1 stream crossing is proposed, turning this crossing into a motorized ford. Approaches to this ford would be hardened, and guidelines and design criteria from the Forest's Programmatic Trail Maintenance Biological Assessment would be applied to minimize sediment introduction.
20. Temporary road locations will predominantly be located on gentle slopes, over existing templates, and in areas where excavation would be minimized. Out-sloped drainage is preferred where feasible and when safety and discharge to water bodies are not at risk. Temporary roads shall avoid crossing wetlands.
21. Design Measures for Temporary Roads with stream crossings:
 - j. Vegetation removal within 150 feet on either side of any live stream would be kept to the minimum necessary to facilitate access.
 - k. Any trees required to be cut down in the road right-of-way within 150 feet on either side of any live stream would be felled and left on site. Skidding would be limited to the shortest length needed to move the tree out of the road right-of-way. Downed trees would be used as needed for woody material placement on disturbed soil and in the stream when the road is decommissioned.
 - l. Sediment input would be minimized by using sediment barriers and prohibiting construction during wet conditions for both installation and removal of temporary stream crossings. Approaches to water crossings would receive appropriate BMPs to minimize the length of road drainage and to mitigate runoff. Temporary

crossing structures would span the channel bankfull width, and if needed during spring runoff would be able to pass a 100 year flood event. Stream channels impacted by construction activity would be restored to their natural dimension, pattern, and profile as soon as possible.

- m. Markham Creek tributary that lies between Units 18 and 16 - Temporary specified construction involving on-site evaluation by a road engineer and watershed specialist would be required due to the presence of steep slopes and a stream crossing.
 - n. Unnamed Mill Creek tributary adjacent to Unit 8 (lowest section) - On-site evaluation by a watershed specialist would be required for the stream crossing design.
22. All temporary roads will be closed to the public and decommissioned following use. If, for unforeseen reasons, a temporary road must overwinter, it would be put into a stable condition consisting of out sloping, water barring, and/or seeding or mulching, as specified in the contract. Decommissioning will consist of recontouring the road prism including all cut and fill slopes to natural ground contour or as close as practicable. In addition, from 7 to 15 tons per acre of clearing or logging slash, stumps or other woody debris shall be placed and scattered uniformly on top of the recontoured corridor. Cattle will be discouraged from the decommissioned area for at least one growing season to provide for establishment of effective ground cover.
 23. As necessary, desirable vegetation will be promptly established on all disturbed areas, using native and non-native plant species as approved by the Forest botanist.
 24. All named plant cultivars used in revegetation will be certified blue-tagged. All non-certified seed shall be tested by a certified seed laboratory using the all-state noxious weed list. Documentation of seed inspection tests will be provided to the contract administrator. All straw and mulch will be certified as free of noxious weed seed.
 25. Remove all mud, soil and plant parts from all off-road equipment before moving into the project area to limit spread of weeds. This applies to all off road equipment associated with management in the project area, but, does not apply to service or hauling vehicles that stay on the roadway, traveling frequently in and out of the project area. Cleaning will occur at a designated location.
 26. If goshawks are located in or near project activities, the forest wildlife biologist will be notified and appropriate protection measures, including buffering nests and applicable timing restrictions implemented.
 27. Existing public access restrictions will be maintained on all roads during implementation.
 28. Utilize the Northern Region Snag Management Protocol (USDA Forest Service 2000) and the Risk Assessment Reserve Tree Guide when implementing silvicultural treatments.
 29. Harvest activities will not occur in MA20 or other old growth habitats.

30. Any firelines constructed to control post-harvest broadcast burning would be located outside of RHCAs and rehabilitated to minimize erosion, according to design criteria in the Forest's Programmatic Fire Management Biological Assessment.
31. Instream work, including culvert replacement and removal, would be timed such that it occurred during low stream flows. There are no steelhead, chinook salmon, or other salmonid species present at the crossing sites.

Vegetation Conditions within the Doc Denny Project Area

Forest composition in the Doc Denny project area has changed over the last century, due primarily to fire exclusion. Shade-intolerant species, mainly ponderosa pine, have decreased, while shade-tolerant species are increasing in the area (USFS 1998). Fewer acres of pure ponderosa pine stands currently exist than would have been anticipated under natural conditions. Canopy layers have increased due to growth of shade-tolerant species underneath and into the lower part of overstory trees.

The southern end of the project area contains decadent lodgepole pine that would have been naturally-regenerated by wildfire. Some lodgepole pine is being replaced by stands of shade-tolerant mixed conifers, which are more susceptible to root disease.

Consultation History with the US Fish and Wildlife Service

Interagency cooperation between the Forest Service (or other federal agency) and the USDI Fish and Wildlife Service (USFWS), regarding proposed, threatened, or endangered species, is described in Section 7 of the Endangered Species Act. Definitions relating to "consultation" and "conference" are given in FSM Supplement 2600-90-6. No previous USFWS consultation has occurred on the Doc Denny Project. This project was presented on February 4, 2012 to the Central Idaho Level 1 team. This team is made up of agency biologists, which include the US Fish and Wildlife Service with the purpose of streamlining consultation on NEPA projects. The team reviewed the project and decided that there is potential for transient lynx to be affected by the project, although the effects are negligible.

The USFWS, Idaho Field Office publishes a list of Threatened, Endangered, Candidate and Proposed Species by county on their website (USDI FWS 2013). The Doc Denny Project occurs in Idaho County and Table 1 displays the species that may occur or have habitat in Idaho County. The county lists also include candidate species which are automatically placed on Region 1 Sensitive species list. Candidate species are considered for further analysis if habitat or species are found in the project area. This Biological Assessment will address terrestrial wildlife species and will only address the **Canada lynx** because the lynx has the potential to occur in the analysis area, or potential to be impacted by the implementation of the proposed federal action. The candidate species were excluded from further analysis. The rationale for excluding the Candidate species is described below. The determination provided for candidate species are for sensitive species, since ESA does not provide determination language for candidate species.

Table 1: Idaho County List

<p>Terrestrial Wildlife: Threatened, Endangered, and Candidate species that occur in Idaho County (List updated on January 16, 2013).</p>
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Idaho County		
Canada lynx	<i>Lynx Canadensis</i>	Threatened
North American wolverine	<i>Gulo gulo</i>	Proposed
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate

North American Wolverine

The U.S. Department of Interior, Fish and Wildlife Service published a proposed rule for the North American wolverine on Monday, February 4, 2013 in the Federal Register (Vo. 78, No.23). In reviewing the proposed rule and the activities proposed in the Doc Denny project, *the proposed federal action associated with the Doc Denny project is NOT likely to jeopardize the continued existence of the wolverine.* The threat to wolverine is loss of habitats with persistent snow cover as a result of climate change and increasing temperatures. The proposed rule found that dispersed recreational activities, infrastructure development, transportation corridors, and land management activities do not pose a threat to wolverines. Thus, the land management activities in the Doc Denny project are not considered a threat to wolverine. Activities associated with the Doc Denny project includes: vegetation management (including prescribed burning to reduce slash in treatment units); temporary road building and decommissioning, and road improvements.

Yellow-billed Cuckoo

The Yellow-billed cuckoo is listed as a Federal candidate by the U.S. Fish and Wildlife Service and so it was automatically placed on the Region 1 sensitive species list. The yellow-billed cuckoo was considered in the Biological Evaluation, but was excluded from the analysis due to, 1) the lack of suitable habitat present in the project area, and 2) the species' distribution is generally found outside of the Nez Perce National Forest boundaries. In western states such as Utah, Texas, New Mexico, Arizona, and California, the yellow-billed cuckoo has been found to prefer desert riparian woodlands comprised of willow-Fremont cottonwoods (*Populus fremontii*). The cuckoo nests in willows, but cottonwoods make up the overstory and are used for foraging. These habitats are not found in the analysis area. Therefore, the yellow-billed cuckoo was excluded from the analysis. Proposed activities would have **no impact** on the yellow-billed cuckoo; therefore it was dropped from detailed study.

Canada Lynx

Northern Rockies Lynx Management Direction

The U.S. Fish and Wildlife Service listed Canada lynx as a threatened species under the Endangered Species Act (ESA) in March 2000. Following the listing, the Forest Service (FS) signed a Lynx Conservation Agreement with the FWS in 2001 to consider the Lynx Conservation Assessment and Strategy (LCAS) during project analysis, and the FS agreed to not proceed with projects that would be "likely to adversely affect" lynx until the plans were amended. The Lynx Conservation Agreement was renewed in 2005 and added the concept of occupied mapped lynx habitat. The FWS issued a Recovery Outline for Canada lynx (USDI FWS 2005) in September 2005 to serve as an interim strategy to guide and encourage recovery efforts until a recovery plan is completed. In 2006, the Lynx Conservation Agreement was amended to define occupied habitat and to list those National Forests that were occupied; it was also extended for 5 years (until 2011), or until all relevant forest plans were revised to provide

guidance necessary to conserve lynx (USDA Forest Service and USDI Fish and Wildlife Service 2006). In March 2007, 18 Forest Plans were amended with the Northern Rockies Lynx Management Direction (NRLMD) Record of Decision (USDA Forest Service 2007 NRLMD ROD, Attachment 1, p. 1). On Forests where plans were not amended, the LCAS still applies.

The special habitat management considerations needed to ensure lynx recovery was described in the Northern Rockies Lynx Management Direction (NRLMD) and on March 23, 2007, the U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion on the effects of the NRLMD (USDI FWS 2007). The Biological Opinion was identified as the first-tier of a consultation framework, with subsequent projects that may affect lynx, as implemented under the amended Forest Plans, being the second tier of consultation. Second-tier opinions would be issued when appropriate.

In their first-tier Biological Opinion, the USFWS was able to analyze the effects of projects with and without adverse effects on lynx. Adverse effects to lynx occur with a significant reduction of snowshoe hare habitat quality or abundance, which is dependent upon project scale. The USFWS provided an incidental take statement for such activities because the Forest Service provided specific estimates on the number of acres that would be impacted under the exceptions and exemptions to the NRLMD standards. The incidental take statement exempted incidental take for those management projects that fell within the parameters of the first tier analysis.

Nez Perce National Forest Application of the NRLMD ROD

The NRLMD Record of Decision (ROD) amended 18 Forests Plans in Region 1. The direction of that decision applies to “*mapped lynx habitat on NFS lands presently occupied¹ by Canada Lynx, as defined by the Amended Lynx Conservation Agreement between the Forest Service and the FWS. When National Forests are designing management actions in unoccupied² mapped lynx habitat they should consider the lynx direction, especially the direction regarding linkage habitat.*” (USDA Forest Service 2007 NRLMD ROD, p. 1). The NRLMD, ROD selected Alternative F, Scenario 2, which states: management direction would be incorporated into all forest plans, but would only apply to occupied habitat. Under Scenario 2, the direction should be “considered” for unoccupied units, but would not have to be followed until such time as lynx occupy the unit. The Nez Perce was considered to be unoccupied based on the best scientific information available at that time of the NRLMD Forest Plan Amendment.

Currently, there are inconsistencies in the status of lynx on the Nez Perce National Forest. The Nez Perce Forest is labeled as unoccupied, yet there are historical and more recent anecdotal observations of lynx across the forest and within the Doc Denny project area. However, these observations are not considered to be “verified” as defined by the Northern Rockies Lynx Management Direction (USDA Forest Service 2007 NRLMD ROD 29; USDA Forest Service 2007 NRLMD Ch1 pg 3, ch 2 pg 99-100, ch 3 pg 142-143; USDA Forest Service and USDI Fish and Wildlife Service 2006 pg 4), nor do anecdotal sightings determine that there is reproduction

¹ For Region 1 – Occupied - All of the Clearwater, Custer, Flathead, Idaho Panhandle, Kootenai, Lolo National Forests and portions of the Custer, Gallatin, Helena, and Lewis and Clark National Forest. For Region 1 – Unoccupied - All of the Beaverhead Deerlodge, Bitterroot, and Nez Perce National Forests and isolated mountain ranges on the Custer, Gallatin, Helena, and Lewis and Clark (NRLMD ROD, Attachment 1, p. 1).

² According to the Lynx Conservation Agreement (USDA FS and USDI FWS 2006), an area is considered occupied when: (1) there are at least 2 verified lynx observations or records since 1999 on the national forest, unless they are verified to be transient individuals; or (2) there is evidence of reproduction on the national forest. (NRLMD ROD, p. 29).

or a resident population. The accuracy of a few of the lynx sightings is reputable because lynx were caught in traps and then verified by the Idaho Department of Fish and Game. These trapped lynx were prior to 1999 and so any lynx documentation prior to 1999 were not considered in designation of a Forest Service Unit being listed as occupied or unoccupied. The accuracy of other sightings may be low due to observer bias in confusing lynx and bobcats. Due to the infrequent nature of lynx observations on the NPNF, there is no evidence to show that there is a resident population or reproduction. The NPNF is committed to conducting winter back-tracking surveys for lynx in 2013.

The Rocky Mountain Research Stations conducted surveys for lynx in 2007 for the Nez Perce National Forest. The surveys were conducted according to established protocols outlined in the NRLMD (Ulizio et al. 2007). The surveys conducted in 2008 (hair snare) and 2009 (winter track surveys) were reduced in size and scope due to snow conditions, limited personnel and limited funding. No lynx were detected during any of these survey efforts (2007, 2008, or 2009).

Due to inconsistencies on the status of lynx on the Nez Perce NF, the US Fish and Wildlife Service (FWS) sent a letter addressed to the Forest Supervisor, Rick Brazell on December 10, 2012 stating that “there is consensus that transient lynx may be present on the NPNF, at least occasionally”. The FWS referenced two pieces of information to come to this conclusion: 1) Ulizio et al. (2007) that noted, “Historical sightings that may have been confirmed may be the result of transient lynx moving through the forest, but the infrequency of such reports suggests lynx are incidental to the area”, and 2) McKelvey et al. (2000) reported “numerous verified historical records from Idaho County”. The letter also stated that, “the issue of lynx occupancy on the NPNF is a separate but related matter that is not the focus of this letter”. Follow-up discussions with FWS occurred on December 17, 2012 with NPNF personnel to assist in clarifying the letter. The FWS stated that a Biological Assessment (BA) should be prepared and informal consultation would need to be completed with FWS if a determination of a “May Affect, but Not Likely to Adversely Affect” determination was reached for NPNF projects. FWS also clarified that this does not change the NPNF status as ‘unoccupied’, but further lynx surveys are needed to determine occupancy and any analysis for a BA should be focused on analyzing the project and its impacts on transient (*not resident or breeding*) lynx. As already stated, NPNF is coordinating with the John Squires, RMRS to conduct lynx surveys in the winter of 2013.

Lynx Critical Habitat

In February 2009, the FWS designated revised critical habitat in Montana, Wyoming, Idaho and Washington and other states [50 CFR Part 17, Volume 74 (No. 36), Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx; Final Rule, 2009]. Under the Critical Habitat Final Rule, Forest Service actions cannot result in destruction or adverse modification of critical habitat (see below). “The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the Primary Constituent Elements to be functionally established) to serve the intended conservation role for the species.” (FR Volume 74 (No. 36), p. 8644). Critical habitat was not designated on the Nez Perce National Forest (74 FR 8616 8702 and USDI Fish and Wildlife Service 2009).

Lynx Life History and Habitat Information

The population distribution, life history, habitat status and recovery objectives for Canada lynx in Region 1 are detailed in Ruggiero et al. (2000), Ruediger et al. (2000), and USDA-FS (2007). The Nez Perce National Forest is recognized as secondary, unoccupied Canada lynx habitat

(USDA FS 2007 NRLMD ROD pages 7, 29; USDA FS 2007 NRLMD summary page 6, Page 4; USDA Forest Service and USDI Fish and Wildlife Service 2006). In the 2005 Lynx Recovery Outline FWS categorized lynx habitat as 1) core areas; 2) secondary areas; and 3) peripheral areas. Core areas have both persistent verified records of lynx occurrence over time and recent evidence of reproduction. The fluctuating nature of lynx population dynamics and the ability of lynx to disperse long distances have resulted in many individual occurrence records outside core areas, without accompanying evidence of historic or current presence of lynx populations. Areas classified as secondary habitat are those with historical records of lynx presence with no record of reproduction; or areas with historical records and no recent surveys that document the presence of lynx and/or reproduction. The 2005 Canada Lynx Recovery Area map identified the Nez Perce National Forest (NPNF) as secondary Canada lynx habitat (USDI Fish and Wildlife Service 2005).

Lynx are associated with relatively high-elevation moist conifer forest. Lynx habitat includes mesic coniferous forests that experience cold, snowy winters and provide a prey base of snowshoe hare. It primarily consists of lodgepole pine, subalpine fir, and Engelmann spruce forests, but may also consist of cedar hemlock forests in northern Idaho (USDA FS 2007 NRLMD ROD p. 12). Lynx typically occur above 4,000 feet elevation in Idaho. Lynx utilize Engelmann spruce, subalpine fir, or lodgepole pine habitats providing a mosaic of forest age classes.

Lynx analysis unit (LAU) delineations and habitat mapping actions directed by the Canada Lynx Conservation Assessment and Strategy (LCAS – Ruediger et al. 2000) have been completed for the entire forest, which includes the project area. This mapping was completed in coordination with the Fish and Wildlife Service (See Appendix B for mapping criteria).

The direct and indirect effects area will be assessed using modeled lynx habitat in the Doc Denny Analysis Area (~4279 acres). The cumulative effects are assessed across the Lynx Analysis Unit (LAU) 2090502, which totals 61,288 acres. Table 2 displays the current estimates for denning, foraging, and unsuitable habitat in the LAUs associated with the Doc Denny project.

a. **Table 2. Lynx Habitat**

LAU Name	LAU Total Acres	Acres of Habitat	Denning Habitat Acres (%)	Foraging Habitat Acres (%)	Unsuitable Habitat Acres (%) ¹
2090502	61,288	26,262	3500 ac (13%)	22,320 ac (85%)	442 ac (2%)

¹ Unsuitable habitat is areas that have had past timber harvest that regenerated forest stand structure at the time of mapping lynx habitat for the forest (2000-2002, updated 2004).

Lynx denning habitat is most often characterized as mature forests in moist or wet habitats. Down logs are important for denning habitat. Forested habitats used for denning are between one and five acres, and are connected by travel corridors through mature forest. These relatively small denning sites are available in the project area. These small sites indicate the importance of managing within stand habitat diversity, snag retention, green tree replacements, and legacy tree retention. At this time, no reproduction of lynx has been documented on the Nez Perce National Forest (NPNF). However, if lynx were to den on the NPNF, Lynx analysis unit (LAU) 2090502 contains about 13% denning habitat and adequately provides for lynx habitat requirements. The habitat features that are selected by lynx for denning are at a site-scale, and may consist of 1-2 large-diameter logs or small-diameter log piles in areas with high horizontal and vertical cover (Squires et al. 2008). As kittens develop, female lynx will move kittens to areas with down woody material, so they can leave kittens unattended while foraging

for prey. In managing for lynx across a large landscape, it is important to have pockets of down woody material interspersed among foraging areas for rearing of kittens, not necessarily large areas of down woody material. Thus, an LAU with 13% of denning habitat would adequately provide for lynx habitat requirements if lynx denned on the NPNF.

Population Trends: Lynx populations occur at naturally low densities and very few museum or trapping records exist for Idaho County (McKelvey et al. 2000). No Canada lynx sighting records has been reported in the Project area (IDFG 2012). One sighting has been recorded within 5 miles of the Analysis Area. The sighting has been reported by someone with unknown ability to correctly identify species (bobcat vs. lynx) and is reasonably dated (1950). Lynx surveys conducted on the Forest in 2007 found no evidence of lynx (Ulizio et al. 2007). At this time and based on new information presented by the FWS (US FWS letter dated December 10, 2012), the Nez Perce National Forest will consider lynx to be occasionally present or transient. This does not suggest that lynx are breeding, denning, or rearing young on the NPNF, but that lynx may move through the NPNF during dispersal events. The NPNF is coordinating with the Rocky Mountain Research Station to conduct lynx surveys in the winter of 2013 following accepted NRLMD protocols to garner a better understanding of the status of lynx on the NPNF.

Baseline or Future Activities

All activities in LAUs 2090502 have been accounted for and have been incorporated into the baseline information (Table 3, Figure 1).

Table 3. Lynx Habitat by LAU in the project area.

LAU	Total Lynx Habitat In LAU (Acres)	Unsuitable Habitat (Acres) (%) ¹	Habitat Changed to Unsuitable - Regeneration harvests associated with the Doc Denny Project (Acres) (%) ²	Regeneration harvest associated with other projects within the past 10 years Acres (%) ³	Total Unsuitable Habitat Percent ⁴
2090502	26,262	442 (2%)	0 (0%)	315 (1%)	3%

¹ These acres are mapped as lynx habitat that do not provide sufficient vegetation to be used by snowshoe hare and lynx (as of 2004 mapping efforts). No additional regeneration harvest allowed if more than 30% of lynx habitat in an LAU is in a stand initiation structural stage that does not provide winter snowshoe hare habitat.

² This is the amount of mapped lynx habitat within the LAU that would change to unsuitable due to proposed timber harvest (regeneration cuts). Harvest activities (commercial thinning) would occur in what is modeled as lynx habitat.

³ This is the amount of lynx habitat within the LAU that has changed to unsuitable due to regeneration harvest that has occurred in the past 10 years. This includes past, ongoing, and proposed projects (Adams and Pigfoot).

⁴ This is total amount of lynx habitat that would be considered to be unsuitable habitat due to past and proposed regeneration harvest. No more than 15% of lynx habitat on NFS lands in an LAU may be changed by regeneration harvest in a 10 year period.

Environmental Consequences

The Northern Rockies Lynx Management Direction established standards and guidelines for the management of lynx. Standards are management requirements used to meet desired conditions. Standards were used in those situations where it was desirable to provide sideboards for project activities. To deviate from a standard, a plan amendment would need to be completed. Guidelines were used for those risk factors that may have possible adverse effects to individual lynx. The NRLMD states, "When National Forests are designating

management actions in unoccupied mapped lynx habitat they should consider the lynx direction..." The direction provided in the NRLMD is applied to lynx habitat at the lynx analysis unit (LAU) scale.

In the following section, the proposed action for the Doc Denny project is evaluated for consistency with the NRLMD Standards for Vegetation (VEG) Management activities and practices from the ROD (USDA FS 2007) and further evaluated in Table 4.

Standard VEG S1 - If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects.

- Currently about 2% percent of LAU 2090502 is in an unsuitable stage and do not provide winter snowshoe hare habitat. These areas were regenerated from past timber harvest.
- Regeneration harvest across approximately 165 acres of lynx habitat would set these stands back to the stand initiation phase, which would not provide winter snowshoe hare habitat for about 30 years. No LAU would exceed the 30% standard for lynx habitat not providing winter snowshoe hare habitat (Table 3).

Standard VEG S2 - Timber management projects shall not regenerate more than 15 percent of lynx habitat on NFS lands in an LAU in a ten-year period.

- Timber management activities will not regenerate more than 15% of lynx habitat in an LAU in a ten-year period. Recent past timber harvest (last 5 years) and current proposed timber harvest activities would regenerate approximately 1% in LAU 2090502 for a total of 3% (Table 3).

Standard VEG S5 - With relatively rare, specific exemptions, pre-commercial thinning will not occur in lynx habitat.

- No pre-commercial thinning is proposed in lynx habitat within the Doc Denny project area.

Standard VEG S6 - With relatively, rare, specific exceptions, vegetation management projects will not reduce snowshoe hare habitat in multi-story or late successional forests. Exception 3 allows for incidental removal during salvage harvest (e.g., removal due to location of skid trails) as long as VEG S1 is met. Currently, VEG S1 is being met in LAU 2090502.

- There are no multi-storied stand conditions within treatment units.

The Action Alternative is consistent with the Northern Rockies Lynx Management Direction. The following analysis will evaluate the direct and indirect effects of the project on 'transient' or 'dispersing' lynx, or more specifically, lynx that may be incidental to the area or present during dispersal events. This analysis focuses on transient lynx since no lynx have been documented breeding on the NPNF. The areas that are not designated as 'core lynx areas' are considered 'peripheral areas', which are important in providing habitat to support lynx during dispersal movements or other periods, which then allow lynx to return to core areas (USDA FS 2007 NRLMD ROD pg. 31-32; US FWS Biological Opinion, p. 59). These peripheral areas have secondary habitat and would include the Nez Perce National Forest. The lynx records in peripheral areas are sporadic and generally correspond to periods following cyclic population highs in Canada (USDA FS 2007 NRLMD ROD pg. 31-32; USDI FWS 2007 Biological Opinion, p. 59). In the Biological Opinion, FWS hypothesized that the peripheral areas may enable successful dispersal of lynx between populations or subpopulations, but the FWS did not have

enough information to clearly define the relative importance of secondary or peripheral areas and indicated that more research was necessary.

It is unlikely that the proposed project would have adverse impacts to transient lynx since the Lynx Conservation Assessment and Strategy (Ruediger *et al.* 2000) described resident lynx as being generally tolerant of humans and their management activities in forested landscapes. There is limited information on how a dispersing lynx reacts to changes in landscape connectivity, but some conclusions can be drawn. Ruggiero *et al.* (2000) reported “Lynx readily move across landscapes fragmented by conventional industrial forestry” and even further, “documented lynx movements have involved crossing open valley bottoms and large rivers”, thus concluding that lynx can move long distances and are capable of these dispersal events. Although existing data was sparse, the data did not indicate that vegetation management or logging has impacted resident lynx or for that matter, transient lynx. It could be inferred that a threshold may be present for resident lynx. The thresholds established within the NRLMD for VEG S1 (30%) or VEG S2 (15%) were likely generated from this type of information. The Doc Denny Action Alternative maintains adequate habitat for a transient lynx and does not exceed the thresholds for VEG S1 or VEG S2, and would have minimal direct or indirect impacts on transient lynx.

In treatment units, habitat connectivity may be disrupted at a local level by regeneration harvest treatments, but overall landscape connectivity would continue to allow lynx movements through this landscape in conjunction with riparian areas and untreated areas in the LAU. The proposed project would not regenerate more than 15% of lynx habitat in LAU 2090502 (Table 2). Lynx winter foraging and denning habitat would be retained across the LAU. In addition, potential future denning substrate would be retained through snag, green tree, and coarse woody debris retention guidelines.

The potential for a transient lynx to be present while implementation is occurring is extremely low. Project related (direct) impacts are considered negligible for transient lynx. Should a transient lynx be present in nearby areas when tree removal takes place, minor short-term disturbance impacts are possible. It could be perceived that lynx may be directly impacted by the noise and commotion created by heavy machinery, if present. Direct effects could be related to disturbance of individuals with lynx avoiding the area during implementation. If disturbance to individuals does occur, it would not significantly interrupt critical life history factors such as foraging for food, due to the difference in activity periods since lynx primarily forage at night or crepuscular periods. Further, given that project sites are localized areas that are mostly in timber management areas, minimal disturbance is anticipated. Overall, the short-term direct impacts are anticipated to be outweighed by the indirect, beneficial impacts to lynx by improving habitat quality over the mid- and long-term as discussed in the following section.

No precommercial thinning would occur in lynx habitat under any alternative and complies with NRLMD VEG S5 (Table 4).

Treating up to 35 acres of lynx habitat would not result in detectable changes in unsuitable habitat within LAU 209502 as less than 1% of the habitat would be treated (Figure 2). Field verification of treatment units found that these stands are made up of Douglas-fir, grand fir, and dead and dying lodgepole pine that would not be available to snowshoe hares in winter.

Although land classified or mapped as lynx habitat would be treated, the proposed project will not considerably reduce suitable conditions for lynx and may actually improve lynx habitat over the mid- and long-term. By cutting the overstory, dead and dying lodgepole pine and thinning around early-seral conifer trees, the understory vegetation, such as grasses, forbs, and shrubs,

may respond to the increased light and change in moisture regime by growing vigorously. The salvage of these stands will regenerate the stands quicker and provide for lynx habitat sooner than if left untreated. In addition, newly regenerated stands will be planted and would provide suitable foraging and cover habitat once these stands mature and grow above the height of the snow depth. The effects are negligible and would not affect the use of the project area to transient lynx. Lynx habitat and habitat connectivity would be maintained within the project and across the LAU in untreated areas and through the retention of intact riparian corridors and late successional and old growth forests.

Though forest roads can change landscape connectivity for many wildlife species, preliminary information suggests lynx do not avoid roads (Ruggiero et al. 2000). After the Lynx Conservation Assessment and Strategy (LCAS) was published in 2000, the FWS published a Clarification of Findings in the Federal Register commonly referred to as the Remand Notice, which stated, “We found no evidence that some activities such as forest roads, pose a threat to lynx” (USDA FS 2007 NRLMD ROD p.3). Lynx-vehicle collisions have been found on paved, high-speed highways with high volumes of traffic (e.g., reintroduced lynx in Colorado and Maine). Forest roads generally have low speeds and are gravel. Permanent road construction is not proposed for this project. Any new temporary roads constructed will be recontoured after use, so a short-term loss of habitat connectivity can be anticipated, but will be restored after project is implemented.

A linkage area is defined in the NRLMD, Record of Decision as “providing connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas, where basins, valleys, or agricultural lands separate blocks of lynx habitat, or where lynx habitat naturally narrows between blocks.” Linkages are designated or officially mapped by the Forest Service and US Fish and Wildlife Service to provide for connectivity across areas that are generally non-forested. The Doc Denny project area does not contain any official linkage areas.

The Doc Denny project does not include any of the following actions:

- expansion of snow compacting activities in lynx habitat;
- promoting recreational use of facilities/developments;
- new permanent roads or increased public access on roads, or mineral, utility or energy projects, and all temporary roads will be decommissioned upon completion of activities; or
- authorize livestock grazing.

Table 4. Doc Denny Project consistency with the Northern Rockies Lynx Management Direction.

Northern Rockies Lynx Management Direction	Is direction applicable to this project and has it been met? Where direction is applicable but has not been met, explain the reason(s).
<p>ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL): The following objectives, standards and guidelines apply to management projects in lynx habitat in lynx analysis units (LAU) and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use.</p>	
<p><u>Standard ALL S1</u> New or expanded permanent developments and vegetation management projects must</p>	<p>No new or expanded developments are</p>

<p align="center">Northern Rockies Lynx Management Direction</p>	<p align="center">Is direction applicable to this project and has it been met? Where direction is applicable but has not been met, explain the reason(s).</p>
<p>maintain habitat connectivity <i>in an LAU and/or linkage area.</i></p>	<p>proposed. Habitat connectivity would be maintained in untreated areas of the LAU.</p>
<p><u>Guideline ALL G1</u> Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways or forest highways across federal land. Methods could include fencing, underpasses or overpasses.</p>	<p>Does not apply to this project.</p>
<p><u>Standard LAU S1</u> <i>Changes in LAU boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.</i></p>	<p>Does not apply to this project.</p>
<p>VEGETATION MANAGEMENT PROJETS (VEG): The following objectives, standards and guidelines apply to vegetation management projects in lynx habitat in lynx analysis units (LAU). With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments like mineral operations, ski runs, roads and the like. None of the objectives, standards, or guidelines apply to linkage areas.</p>	
<p><u>Standard VEG S1 – Stand initiation structural stage limits</u> Standard VEG S1 applies to all vegetation management projects that regenerate timber, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. The Standard: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages limit disturbance in each LAU as follows: If more than 30% of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects.</p>	<p>Lynx habitat in the project area is not in a WUI. Less than 30% of LAU 2090502 is currently in a stand initiation stage (unsuitable) that does not yet provide winter snowshoe hare habitat. The proposed project increases the amount of unsuitable habitat created by regeneration harvest in LAU 2090502 from 1% to 2%.</p>
<p><u>Standard VEG S2 – Limits on regeneration from timber mgmt. projects</u> Standard VEG S2 applies to all vegetation management projects that regenerate timber, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. The Standard: Timber management projects shall not regenerate more than 15% of lynx habitat on NFS lands in an LAU in a ten-year period.</p>	<p>Lynx habitat in the project area does not occur in the WUI. Cumulatively, the proposed project would not regenerate more than 15% of lynx habitat in LAUs 2090502.</p>
<p><u>Guideline VEG G11 – Denning habitat</u> Denning habitat should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees (“jack-strawed” piles). If denning habitat appears to be lacking in the LAU, then projects should be designed to retain some coarse woody debris, piles, or residual trees to provide denning habitat in the future.</p>	<p>Denning habitat is not lacking. Project design measures were developed to retain large down logs (Doc Denny EA: Chapter 2, Design</p>

<p style="text-align: center;">Northern Rockies Lynx Management Direction</p>	<p style="text-align: center;">Is direction applicable to this project and has it been met? Where direction is applicable but has not been met, explain the reason(s).</p>
	<p>Measures).</p>
<p><u>Standard VEG S5 – Precommercial thinning limits</u> Standard VEG S5 applies to all precommercial thinning projects, except for fuel treatment projects that use precommercial thinning as a tool within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest).</p>	<p>Does not apply to the Doc Denny project. No pre-commercial thinning would occur in lynx habitat or in LAUs 2090502.</p>
<p><u>Standard VEG S6 – Multi-storied stands & snowshoe hare horizontal cover</u> Standard VEG S6 applies to all vegetation management projects that regenerate timber, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest).</p> <p>For fuel treatment projects within the WUI see guideline VEG G10. The Standard: Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests may occur only:</p> <ol style="list-style-type: none"> 1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or 2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or 3. For incidental removal during salvage harvest (e.g. removal due to location of skid trails). <p>(NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover [e.g. uneven age management systems could be used to create openings where there is little understory so that new forage can grow]).</p>	<p>There would be no harvest in mature- or late-successional, multi-story hare habitat. Vegetation treatments are not planned in areas with dense horizontal cover.</p>
<p><u>Guideline VEG G1 – Lynx habitat improvement</u> Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat should be near denning habitat.</p>	<p>Regeneration harvest, prescribed burning (site prep), and planting in LAUs 2090502 would provide future winter habitat where it is currently not being provided, and would contribute to the landscape mosaic as early successional forage. Treatment activities would improve future foraging habitat for lynx and snowshoe hares.</p>
<p><u>Guideline VEG G4 – Prescribed Fire</u></p>	<p>Prescribed fire activities</p>

<p style="text-align: center;">Northern Rockies Lynx Management Direction</p>	<p style="text-align: center;">Is direction applicable to this project and has it been met? Where direction is applicable but has not been met, explain the reason(s).</p>
<p>Prescribed fire activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.</p>	<p>are associated with treatment units by reducing slash created by harvest. Prescribed fire associated with site preparation would not create permanent travel routes. No firebreaks are proposed in lynx habitat.</p>
<p><u>Guideline VEG G5 – Habitat for alternate prey species</u> Habitat for alternate prey species, primarily red squirrel, should be provided in each LAU.</p>	<p>Habitat for alternate prey would remain available in mature and old growth forest in the LAUs.</p>
<p><u>Guideline VEG G10 – Fuel treatments in the WUI</u> Fuel treatment projects in the WUI as defined by HFRA should be designed considering standards VEG S1, S2, S5, and S6 to promote lynx conservation.</p>	<p>This guideline is not applicable to this project.</p>

Cumulative Effects

There are no state lands that exist within the LAU and so no cumulative effects are anticipated at this time.

There are several private land inholdings in LAU 2090502. Activities are unknown but may include private land development, such as the construction of buildings and roads and timber harvest. Non-federal actions are not anticipated to substantively affect the condition of lynx habitat in the LAU nor are they likely to influence transient Canada lynx.

Past and proposed actions accounted with the Doc Denny project are accounted for and discussed under the direct and indirect effects sections above. All past vegetation management projects have been incorporated into Table 3 for the lynx habitat model. Cumulatively, there would be a short-term displacement/disturbance of prey species with the implementation of activities. Trees would be removed that over time would provide denning substrate for lynx. Foraging habitat may increase with the reduction in overstory canopy and the planting of conifers. Access restrictions associated with the reduction of cross country travel associated with the DRAMVU project would help to alleviate the loss of snags and logs taken by firewood gatherers and in some instances improving security. Ongoing permitted cattle grazing is not expected to change lynx habitat conditions. Forest-wide pre-commercial thinning activities would not occur in lynx habitat in LAU 2090502. Watershed restorations are considered to be beneficial overall, particularly road decommissioning by improving wildlife security. Timber management activities associated with the Doc Denny and future Adams and Pigfoot projects would not regenerate more than 15% of lynx habitat in an LAU in a ten-year period (Appendix A - Figure 1, Table 3). Harvest activities from these projects would increase unsuitable habitat in LAU 2090502 by approximately 1%, well below the NRLMD VEG S2 standard (Tables 2 and 3).

The Doc Denny Project would not result in a net increase of groomed or designated over-the-snow routes or snowmobile play areas. Project related impacts are considered to be minor in

terms of the amount of lynx habitat being treated within the LAU and the lack of confirmed sightings in the project area.

The Doc Denny Project is consistent with the standards and guidelines in the Northern Rockies Lynx Management Direction. There appears to be little risk to lynx populations on the Nez Perce National Forest resulting from implementation of the Doc Denny project. The actions taken in the project are fully compatible with recovering lynx and consistent with maintaining habitat.

Existing Canada lynx habitat and snowshoe hare winter habitats are expected to remain available, well distributed and connected, within the LAU due to minimal proposed management. No measurable effects to lynx populations at the Forest or regional scale, or alteration of current population trend, are expected from any of the alternatives based on the widespread availability of suitable habitats across the Forest and Region (USDA FS 2007).

Statement of Findings

The proposed Doc Denny Project is “Not Likely to Adversely Affect” transient Canada lynx and/or its habitat. “This determination is based on:

1. All objectives, standards and guidelines in the 2007 NRLMD would be met.
2. If transient lynx are present, negligible, short-term direct effects may occur related to disturbance (noise and mechanize equipment) during implementation of vegetation treatment. Although treatments are proposed in modeled lynx foraging and denning habitat, the habitat types are relatively dry forest types and not the preferred spruce-fir habitats.
3. Travel habitat would be maintained across the LAU. Lynx, if present, are potentially transient animals traversing across the forest, thus no long-term impacts to individual lynx and their habitat are anticipated.
4. Forest roads generally have low speeds and are gravel, and do not pose a threat to lynx. No permanent road construction is proposed. Any new temporary roads constructed will be re-contoured after use.
5. Lastly, the proposed Federal actions, described under Alternative 2, are not occurring within designated critical habitat, so the project would have no effect on critical habitat.

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Appendix A: Maps and Project Photographs

Map 1 – Vicinity Map

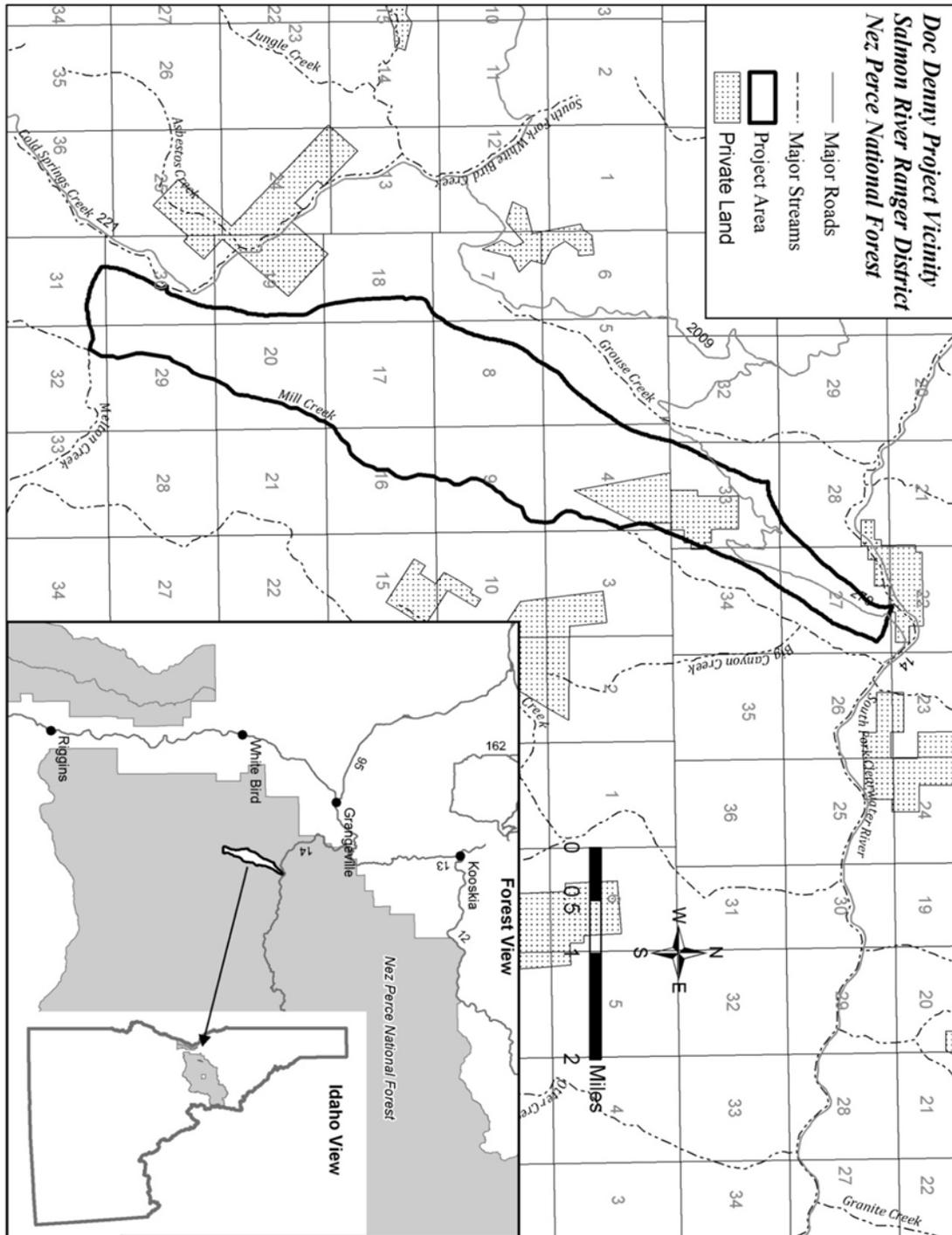


Figure 1 - Lynx Habitat in the Mill Creek LAU

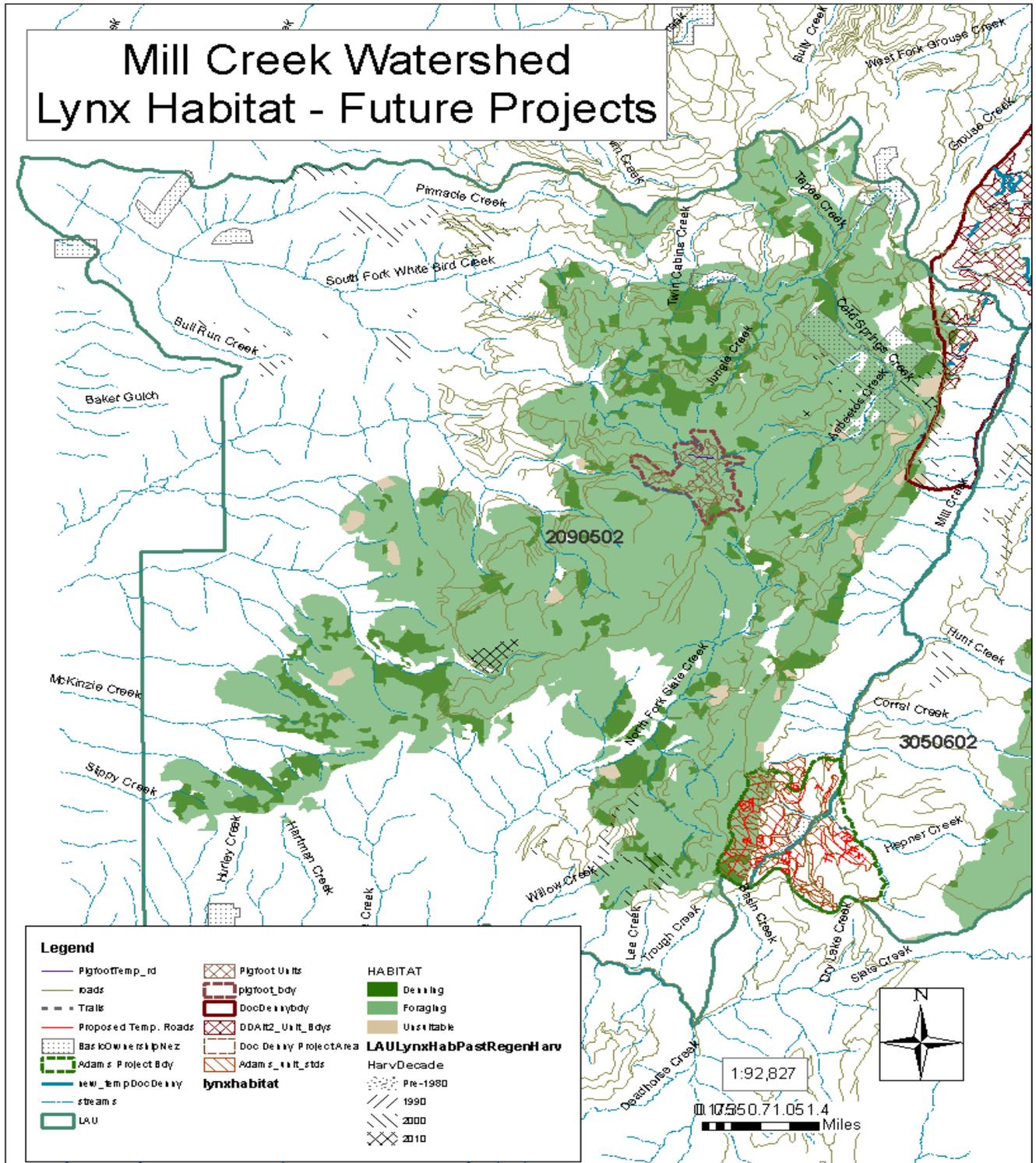


Figure 2 - Doc Denny Project and Lynx Habitat

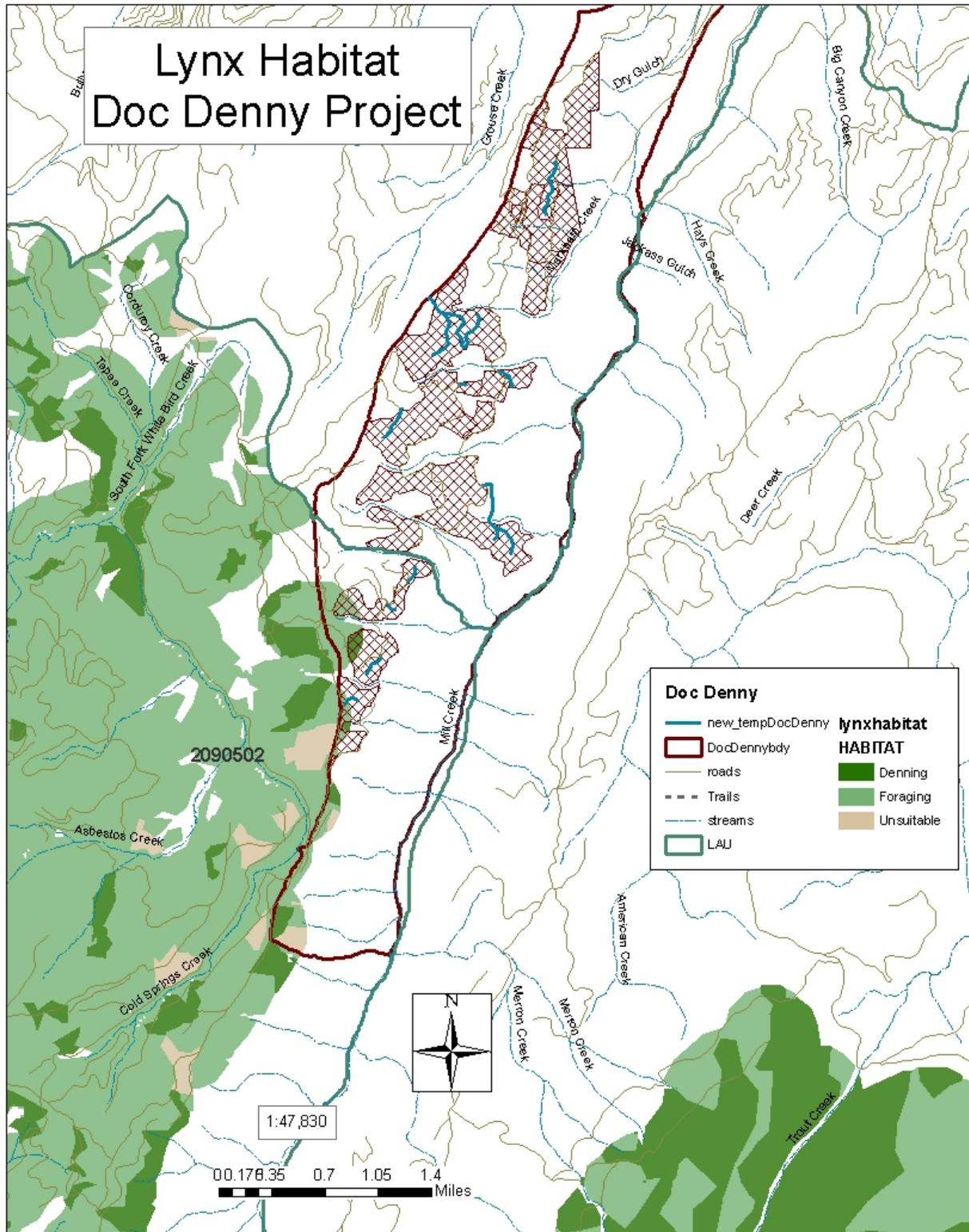


Figure 3 – Unit 26: Stand does not provide for good snowshoe hare habitat (dense horizontal cover) and would not contribute to lynx habitat, nor meet VEG S6 definition of a multi-story stand. Stands consist of Douglas-fir, grand fir, and dead and dying lodgepole pine.



Figure 4 – Unit 27: Stand does not provide for snowshoe hare habitat (dense horizontal cover) and would not contribute to lynx habitat. Stands consist of Douglas-fir, grand fir, and dead and dying lodgepole pine.



Appendix B – Lynx Habitat Mapping Criteria

Lynx Mapping Effort Overview

Lynx habitat was mapped on the Nez Perce National Forest per direction outlined in the Lynx Conservation Assessment and Strategy (2000) and McAllister's August 22, 2000 lynx habitat mapping direction. The Nez Perce National Forest's rationale used in mapping lynx habitat (2001) is as follows.

- 1) Elevations must occur between 4,000 and 7,000 feet.
- 2) **Primary vegetation** will consist of Habitat Type Groups (HTGs) 7 & 8. HTG 7 consists of cool and moist subalpine fir and Engelmann spruce forests with *Clintonia* (queencup beadlily) and *Menziesia* (fools huckleberry) understories. HTG 8 consists of cool and wet subalpine fir and Engelmann spruce forests with *Calamagrostis canadensis* (bluejoint reedgrass) and *Streptopus* (twisted stalk) understories.
- 3) **Secondary vegetation** consists of HTG 4, 5, and 9 that are intermingled or adjacent to primary vegetation. To address the issue of other cool, moist vegetation adjacent and intermingled with primary habitat, the Nez Perce Forest applied a 2-mile radius around primary vegetation as a distance that closely approximates the mean daily travel distance of lynx in Montana (Ruggiero, L. F. et al. 2000:342). HTG 4 is moderately warm and moist grand fir forests with *Asarum* (ginger) and *Clintonia* understories. HTG 5 are moderately cool and moist western red cedar forests with *Asarum* (ginger) and *Clintonia* understories. HTG 9 are cool and moderately dry subalpine fir and lodgepole pine forests with diverse understories of *Xerophyllum tenax* (beargrass) and *Vaccinium* (huckleberry species) understories.
- 4) Isolated areas of primary and secondary vegetation that were less than 5 acres were dropped.
- 5) The above categories were then classified as potential lynx habitat.

The next process was to take the potential lynx habitat and classify to whether it was denning, foraging, or unsuitable habitat. Both PI stratum and SILC data with regards to size class, canopy cover, and existing cover type were used to further refine denning and foraging habitat.

Denning was defined as those areas having >9" dbh lodgepole pine and >14" (PI data) or 21" dbh (SILC data) non-lodgepole pine with a canopy cover of 40% or greater. Primary denning habitat consists of those areas with a northerly aspect and secondary habitat were those with southerly aspects.

Foraging habitat was broken into two categories: 1) primary forage consisting of seedling/sapling/shrub habitats or 2) secondary forage consisting of pole and medium size trees (not including lodgepole pine). Both primary and secondary forage consists of stands that have greater than 40% canopy cover.

Unsuitable habitat are those areas that did not meet the denning or foraging criteria, basically those stands that had less than 40% canopy cover or had a cover type of burned areas, ponderosa pine, or whitebark pine.

Not potential habitat are those areas that are 1) habitat type groups other than mentioned above, 2) those areas of secondary vegetation (HTGs 4, 5, and 9) that are not within the 2 mile buffer around primary subalpine fir/Engelmann spruce habitats, 3) young stands, basically at the stand reinitiation phase, or 4) stands with the correct habitat type group but wrong cover type.

The lynx map was then refined to address minimum size/contiguity of habitat and LAUs with insignificant amount of habitat (10 mi² of primary vegetation). The warmer, dryer habitat conditions within the lower elevations of the Salmon River Canyon, lower Selway, and lower South Fork Clearwater River contained widely scattered, insignificant amounts of lynx habitat (mainly along major drainage divides and high elevation streams) and were well below the 10 square mile of primary and secondary vegetation limitation. These LAUs were discarded or incorporated into neighboring LAUs in the process per the mapping direction (LCAS page 7-4) and the result was the Feb. 21, 2002, final map.

Based on the review of lynx mapping efforts by the Lynx Science Team in 2003, another refinement was made to the Forest's lynx habitat layer. The net changes in lynx habitat mapping which were recommended by the Lynx Science Team visit were:

Old Map (2001)	Updated Map (2003)
Primary Habitat = habitat type groups (HTG) 7, 8	Primary Habitat = HTGs 7, 8, 9
Secondary Habitat = HTGs 4, 5, 9 (within a 2 mile radius of primary habitat)	Secondary Habitat = HTGs 3, 4, 5, 10 (within ¼ mile of primary habitat)
Unsuitable habitat = any stand with <40% canopy	Unsuitable habitat = recent clearcuts up to 15 years post certification and permanent non-forest



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Rick Brazell
Forest Supervisor
Nez Perce-Clearwater National Forest
104 Airport Road
Grangeville, Idaho 83530

APR 09 2013

Subject: Doc Denny Vegetation Management Project—Idaho County, Idaho—
Concurrence

In Reply Refer To: 01EIFW00-2013-I-0179

Dear Mr. Brazell:

This letter transmits the U.S. Fish and Wildlife Service's (Service) concurrence on the effects to species listed under the Endangered Species Act (Act) of 1973 (amended) from the proposed Doc Denny Vegetation Management project, Idaho County, Idaho. In a letter dated March 25, 2013, and received by the Service on March 28, the Nez Perce-Clearwater National Forest (Forest)¹ requested concurrence with the determination, documented in your Biological Assessment (Assessment), that the proposed action is not likely to adversely affect the Canada lynx (*Lynx canadensis*), and the bull trout (*Salvelinus confluentus*) and its critical habitat. The Forest also determined that the project will not jeopardize the continued existence of the North American wolverine (*Gulo gulo luscus*). We acknowledge this no jeopardy determination.

Description of the Proposed Action

The 4,280-acre project area is located generally in the western portion of the Mill Creek watershed from its confluence with the South Fork Clearwater River upstream to the confluence of Merton Creek, about 10 air miles southeast of Grangeville, Idaho.

The proposed project would manage vegetation on approximately 1,026 acres with a combination of 763 acres of regeneration and 263 acres of intermediate (commercial and pre-commercial thinning) timber harvest. The project proposal includes approximately 16 miles of road improvement/maintenance, 3.4 miles of temporary road construction followed by decommissioning, 0.7 mile of road reconstruction followed by decommissioning, two culvert installations and/or replacements, and six culvert removals. In addition, about 1.1 miles of existing road would be decommissioned and converted to a motorized trail restricted to vehicles less than 50 inches wide. Post-

¹ Throughout the rest of this letter we use Forest to refer specifically to the Nez Perce portion of the Nez Perce-Clearwater National Forest.

Rick Brazell, Forest Supervisor
Nez Perce-Clearwater National Forest
Doc Denny

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harvest fuel treatments in commercially thinned and regeneration harvest units would be treated using broadcast or jackpot burning. Jackpot burning would occur in lodgepole pine (*Pinus contorta*) and Engelmann spruce (*Picea engelmannii*) stands.

The project is expected to be completed within 5 years after a decision is signed.

The project proposal includes measures to minimize adverse impacts to natural resources including no timber harvesting in streamside riparian habitat conservation areas (RHCAs) and adherence to the Northern Rockies Lynx Management Direction (NRLMD). A complete project description, including all minimization measures, is included in the Assessment, which is herein incorporated by reference.

Canada Lynx

The Service's concurrence that the proposed project is not likely to adversely affect the Canada lynx is based on the following rationales.

1. Lynx are unlikely to be present in the project area during implementation. The limited survey efforts to date (initiated in 2007) have resulted in no lynx detections² and there have been no recent verified lynx records on the Forest; all available evidence indicates that the Forest is not occupied by resident or reproducing lynx. However, anecdotal sightings (as recent as 2010) and pre-1999 trapping records suggest that transient lynx are occasionally present on the Forest. These lynx are thought to be animals dispersing from Canada during cyclic high population levels. Given the cyclic nature of such dispersal events, the relatively low number of anecdotal sightings of the lynx on the Forest, and the varied level of confidence regarding correctly identifying lynx via visual observations (without the benefit of evidentiary standards to verify lynx presence, the potential exists that many of these anecdotal sightings were actually bobcats (*Lynx rufus*)), the likelihood that a transient lynx would be present during project implementation is very low. In addition, should a transient lynx happen to be present in the vicinity of project activities, there is sufficient adjacent habitat available for lynx to avoid the project area. Furthermore, lynx are considered to be generally tolerant of human presence and activities (Ruediger et al. 2000, p. 1-13).³ Given these considerations, we conclude that the risk of direct effects to lynx from project implementation is discountable.
2. Because there is no evidence of resident or breeding lynx on the Forest, the project is not likely to adversely affect lynx denning or reproductive behavior.
3. One Lynx Analysis Unit (LAU) encompasses the project area: LAU 2090502. Project implementation will not increase the acres of unsuitable lynx habitat in LAU 2090502. The project will meet all NRLMD objectives, standards, and

² The Forest plans to conduct additional lynx surveys in 2013.

³ Ruediger, B., J. Claar, S. Gniadek, B. Holt, L. Lewis, S. Mighton, B. Naney, G. Patton, T. Rinaldi, J. Trick, A. Vandehey, F. Wahl, N. Warren, D. Wenger, and A. Williamson. 2000. Canada Lynx Conservation Assessment and Strategy. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication #R1-00-53, Missoula, MT. 142 pp.

Rick Brazell, Forest Supervisor
Nez Perce-Clearwater National Forest
Doc Denny

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guidelines for vegetation management. Based on these findings, the Service concludes that effects to lynx habitat will be insignificant.

4. By removing the overstory of dead and dying conifers, the project will benefit transient lynx by creating conditions favorable for regenerating snowshoe hare habitat.
5. Decommissioning all temporary roads is likely to benefit the lynx by reducing the potential for humans to directly impact (e.g., through incidental trapping) transient lynx, if present, by eliminating motorized access to suitable lynx habitat. Road maintenance, improvement, and reconstruction will occur on existing roads in the project area. These activities are not expected to significantly affect transient lynx or lynx habitat.
6. Maintaining RHCAs as no harvest zones will continue to provide adequate travel corridors for transient lynx, if present, to move securely through the project area.

Bull Trout

Service concurrence that the project is not likely to adversely affect the bull trout and its critical habitat is based on the following rationales.

1. Bull trout spawning has not been documented in Mill Creek (or any tributaries in the project area), so the risk of the project affecting spawning bull trout is discountable.
2. Recent (2011) fish surveys failed to document any bull trout in the Mill Creek drainage. However, Nez Perce Tribe biologists did report several small bull trout in Mill Creek during snorkel surveys near the confluence with the South Fork Clearwater River in 2008 and 2009. Given that there is connectivity with the South Fork Clearwater River, bull trout presence in or near the project area cannot be precluded, but these occurrences would be rare and sporadic. Due to the low probability of bull trout presence in the action area, the likelihood of the project significantly affecting any individual bull trout is discountable.
3. Project design measures will minimize the potential risks of project impacts (primarily from sediment) to individual bull trout and bull trout habitat. These measures include no harvest PACFISH buffers (including buffering wetlands and landslide prone areas), locating temporary roads in areas where minimal excavation is needed, prohibiting temporary road construction at stream crossing locations during wet periods, and using sediment barriers. Sediment modeling results (using the NEZSED and FISHSED models) presented in the Assessment predict insignificant changes to sediment yield (NEZSED), and summer and winter fish rearing capacity (FISHSED) in affected streams.
4. Mill Creek is designated bull trout critical habitat and provides feeding, migrating, and overwintering habitat from the confluence with the South Fork Clearwater River upstream to the mouth of Merton Creek. The project will have no effect or no significant effects to any of the primary constituent elements (PCEs) of critical habitat. The functionality of the critical habitat in providing for the conservation of bull trout will be maintained.

Rick Brazell, Forest Supervisor
Nez Perce-Clearwater National Forest
Doc Denny

01EIFW00-2013-I-0179

Clean Water Act Requirement

This letter is also intended to address section 7 consultation requirements for the issuance of any project-related permits required under section 404 of the Clean Water Act. Use of this letter to document that the Army Corps of Engineers (COE) has fulfilled its responsibilities under section 7 of the Act is contingent upon the following conditions:

1. The action considered by the COE in their 404 permitting process must be consistent with the proposed project as described in the Assessment such that no detectable difference in the effects of the action on listed species will occur.
2. Any terms applied to the 404 permit must also be consistent with conservation measures and terms and conditions as described in the Assessment and addressed in this letter.

This concludes informal consultation on the proposed action under section 7 of the Act. If the proposal addressed in this letter is modified, environmental conditions change, or additional information becomes available regarding potential effects on listed species, you should verify that your conclusions are still valid.

Thank you for your continued interest in the conservation of threatened and endangered species. Please contact Clay Fletcher at (208) 378-5256 if you have questions concerning this letter.

Sincerely,



for Brian T. Kelly
State Supervisor

cc: NMFS, Moscow (Ries)
IDFG, Lewiston (Hennekey)
COE, Boise (Phillips)
USFS, Grangeville (Clark)
NPT, Lapwai (Lopez)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Northwest Region
 7600 Sand Point Way N.E., Bldg. 1
 Seattle, WA 98115

Refer to NMFS No: 2013/10058

May 15, 2013

Rick Brazell
 Forest Supervisor
 Nez Perce-Clearwater National Forest
 104 Airport Road
 Grangeville, Idaho 83530

Re: Endangered Species Act Section Concurrence Letter and Magnuson-Stevens Essential Fish Habitat Response for the Doc Denny Vegetation Management Project, HUC 1706030511, Idaho County, Idaho (One Project)

Dear Mr. Brazell:

On March 28, 2013, the National Marine Fisheries Service (NMFS) received the Nez Perce-Clearwater National Forest's (NPCNF) request for a written concurrence that the NPCNF's proposed action is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). The proposed action affects the listed Snake River Basin steelhead (*Oncorhynchus mykiss*) distinct population segment and critical habitat for this species. This response to NPCNF's request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.¹

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Act (MSA), including conservation measures and any determination that the NPCNF made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.² In this

¹ Memorandum from D. Robert Lohn, Regional Administrator, to ESA consultation biologists (guidance on informal consultation and preparation of letters of concurrence) (January 30, 2006).

² Memorandum from William T. Hogarth, Acting Administrator for Fisheries, to Regional Administrators (national finding for use of Endangered Species Act section 7 consultation process to complete essential fish habitat consultations) (February 28, 2001).



case, NMFS concluded that the action would not adversely affect EFH. Thus, consultation under the MSA is not required for this action.

This letter is in compliance with section 515 of the Treasury and General Government Appropriations Act of 2001 (Data Quality Act) (44 U.S.C. 3504 (d) (1) and 3516), and underwent pre-dissemination review using standards for utility, integrity and objectivity.

Consultation History

NMFS and the NPCNF discussed this project on numerous occasions via email messages, in-person discussions, and in the North Idaho Level 1 Team meetings:

- October 15, 2012: NMFS received a draft biological assessment (BA) from the NPCNF.
- January 16, 2013: NMFS provided the NPCNF comments on the draft BA and noted that the determination of effects of the action might be not likely to adversely affect listed species and critical habitat if the BA included some additional information explaining why adverse effects would not occur.
- January 26, 2013: NMFS received a revised draft BA addressing NMFS comments on the previous draft.
- February 4, 2013: The details of the proposed action were discussed at the Level 1 meeting to clarify some of the activities. NMFS requested a more specific description of work activities associated with roads and a commitment to perform road maintenance in accordance with the programmatic road maintenance BA design criteria.
- March 6, 2013: NMFS received a revised BA that addressed the comments raised at the February 4, 2013, meeting.
- March 12, 2013: NMFS notified the NPCNF via email that the Level 1 team had reached closure on the BA pending confirmation that a proposed ford would be in a stream that does not support fish and which is not critical habitat.
- May 2, 2013: The NPCNF agreed to an instream work window from July 15 through September 30.

Information in the NPCNF's final BA explains the potential impacts on Snake River Basin steelhead and their designated critical habitat. In the BA, the NPCNF made a not likely to adversely affect determination for the ESA-listed steelhead and critical habitat. The action is consistent with PACFISH and the Land and Resource Management Plan directions, based on NMFS' review of the proposed action and information provided during Level 1 team meetings.

A complete record of this consultation is on file at the Idaho State Habitat Office in Boise, Idaho. The record includes the draft BAs cited above, project area map, NMFS' comments, email correspondence, and the Level 1 Team meeting notes.

Description of the Proposed Action and the Action Area

The primary purpose of the proposed action is to provide a source of commercial timber, and to promote ecosystem health and productivity of the treated areas. The harvest activities would be completed in 5 years and fuel reduction activities might occur up to 2 years later.

The action area consists of all streams potentially affected by the timber harvest and road-related engineering activities. These activities may affect Grouse Creek from the headwaters to the mouth, Mill Creek and unnamed tributaries on the east face of the Mill Creek valley, from the confluence with Merton Creek to the mouth of Mill Creek, and Dry Gulch from the headwaters to the mouth.

The proposed action consists of the following activities:

1. *Regeneration Harvest:*
 - a. 620 acres of clearcut with reserves. Approximately five to 50 trees per acre (average 15 trees per acre) would be retained in 22 treated areas;
 - b. 131 acres of seed tree harvest. Approximately 19 to 40 trees per acre (average 26 trees per acre) would be retained in six treated areas;
 - c. 12 acres of shelterwood harvest. Approximately 23 trees per acre would be retained.
2. *Commercial Thinning:* Approximately 197 acres of dense forested stands would be commercially thinned to reduce stand densities and canopy closure by 25% to 40%. Approximately 110 to 220 trees per acre favoring the largest and healthiest western larch, ponderosa pine, Douglas fir, and grand fir will be retained with variable spacing. An average of 25 tons per acre of large woody material (>3" diameter at breast height DBH) would be retained. Tractor skidding and cable yarding systems would be used to move trees to landings.
3. *Pre-commercial Thinning:* Small diameter trees (<8" DBH) would be removed on approximately 40 acres favoring early seral species (ponderosa pine and western larch). Approximately 200 to 300 trees per acre (variable spacing) would remain following treatment. These treatments are done by hand and no heavy equipment would be used.
4. *Commercial Thinning followed by Pre-commercial Thinning:* This 12 acre stand has 10 to 14" DBH lodgepole pine and western larch in the overstory. The overstory would be commercially thinned to remove dead and dying lodgepole pine and mistletoe infected

western larch, leaving 100 to 150 trees per acre. If necessary, the stand would be pre-commercially thinned, as described above, after overstory thinning.

5. *Overstory Removal followed by Pre-commercial Thinning:* Mistletoe infected western larch (<12" DBH) would be removed to protect regenerating western larch from mistletoe infection on approximately 13 acres. If necessary, this stand would be pre-commercially thinned, as described above, after overstory removal.
6. *Fuels Treatment (960 acres):* Post-harvest fuels treatment in commercially thinned and regeneration harvest units would be treated using broadcast burning or jackpot burning. Jackpot burning would occur in lodgepole pine and Engelmann spruce stands. Post-harvest fuels treatment would limit mortality of retained trees. Burning would typically occur in the fall or spring, when weather and environmental conditions would allow resource objectives to be met. Hand ignition would be used. Fire severities would be low to moderate.
7. *Temporary Road Construction followed by Decommissioning (3.4 miles):* Most temporary roads would be located on lower gradient slopes over existing templates and in areas where excavation would be minimized. Two segments of temporary roads cross streams that do not contain fish and are well upstream of waters supporting fish. Temporary roads would be used and decommissioned within 5 years.
8. *Road Improvement:* Improve 16 miles of road. Road improvement includes standard road maintenance, such as road blading, brushing, cleaning culverts, removing small cut slope failure, applying rock in wet areas, removing obstruction such as trees and rocks, maintaining culverts. These activities would be conducted according to guidelines and design criteria contained in the Forest's Programmatic Road Maintenance Biological Assessment. One new culvert would be installed and one undersized culvert on Road 9449 would be replaced. Both culverts are located in first-order, perennial streams that do not contain fish. The closest fish-bearing areas to these culvert sites are over 0.5 miles away. Road improvement is expected to reduce sediment delivery to streams.

In addition, the action would include maintenance and improvements to haul roads on 9449, 9450, 9451, 9485, 76820, and 76822. Work items may include template reshaping or blading, slump removal in ditches and catch basins, installation of new ditches and drivable dips, new culvert installation, culvert removal and replacement, spot pit-run aggregate, crushed aggregate replacement, and brushing. These actions are intended to reduce potential sediment effects from log truck traffic, in addition to facilitating log hauling.

9. *Road Reconstruction followed by Decommissioning:* Road 76820 (0.7 miles) would require brushing, blading, and establishing proper drainage to reduce the risk of erosion. One log culvert would be temporarily replaced in a first-order tributary to Markham Creek. This stream may be perennial at the crossing site but is not known to contain fish.

The nearest known fish presence is over 0.25 miles downstream. This road would be decommissioned following use.

10. *Road Decommissioning*: Decommission approximately 1.1 miles of system road not needed for long-term management. Road decommissioning practices vary depending on the road condition, landtypes the road is on, and proximity to fish bearing streams. These roads would be recontoured as close as practicable to the original slope. Six culverts along 0.4 miles of Road 9449 would be removed. Culvert removal would reduce risk of sediment delivery to streams by reducing erosion caused by potential culvert failure. One of these culverts is 36 inches in diameter and under approximately 20 feet of fill that has been identified as a high risk culvert, and five culverts are cross drains or ditch relief culverts. The stream at the 36-inch culvert may be perennial but does not contain fish. The nearest known fish presence is over 0.5 miles downstream. The other culvert removals involve streams that are not perennial. This road would be converted to a motorized trail (<50 inches wide).

Mitigation/Design Criteria Relevant to Soils, Watershed, and Fisheries:

1. The PACFISH Riparian Buffers: No-harvest buffers would be implemented in the project area (300 feet on either side of fish-bearing streams; 150 feet on non-fish bearing perennial streams and wetlands > 1 acre; and 100 feet on intermittent streams, wetlands < 1 acre, landslides, and landslide prone areas). Unit layout would include referring to the U.S. Fish and Wildlife Service draft wetlands inventory map to ensure potential riparian habitat conservation areas (RHCAs) are reviewed and buffered appropriately. All vegetation and woody debris would be left intact in these areas.
2. Landslide prone areas are considered Category 4 RHCAs, defined in PACFISH. All field-verified landslide prone areas would be excluded from timber harvest, 100-foot no-cut buffers would be applied around the perimeter of the area, and machinery would be excluded from the buffer and the area.
3. Machine trails for timber harvest and fuel treatments would be designed to minimize the area of detrimental soil effects- displacement, ruts, compaction, puddling, platy structure, and burn severity disturbance. Activity would be designed to stay below 15% disturbance of the treatment area. Existing skid trails and landings would be utilized where other resources are not compromised. Methods include designation of skid trails, reuse of skid trails by machines used for piling, and placement of slash of existing skid trails where possible to overlap detrimental effects rather than extending the footprint.
4. Skid trails and landings in all units would be scarified following use for timber harvest in order to improve soil productivity and meet soil quality standards. Actions would include scarifying and placing slash, woody material, and/or duff over exposed soil.

5. Prescriptions for regeneration harvest units are to retain coarse woody material appropriate to the site for nutrient cycling, maintaining soil moisture, and other soil physical and biological properties after all unit activities.
6. The PACFISH standards and guidelines would be applied in areas of high mass wasting potential and landslide prone areas – Units 8 (43 acres), 10 (6 acres), 13 (3 acres), 29 (5 acres). Not all of the mapped areas were high mass wasting or landslide prone when field verified; the portions of the mapped concern areas to receive buffers can be identified by slumps and scarps with pistol butted trees. All landslide prone terrain identified during field layout of temporary roads and timber harvest units would be excluded from harvest or disturbance and provided with a 100-foot no-harvest buffer, as defined in PACFISH. Unit 13 (12 acres) would retain 50% of the trees to protect soils.
7. Live tops would be retained or returned to all units. This small diameter organic material, in addition to current down large woody material, would be left for long-term site productivity. If tops are returned to the units, only existing skid trails would be used.
8. Overwinter harvest-produced slash to support nutrient cycling, organic matter inputs and surface erosion protection, which would contribute to soil stability and productivity.
9. Pile and burn slash on existing skid trails to overlap detrimental soil disturbance on already disturbed areas to minimize new soil impacts.
10. Underburning and slash/burn treatments would be designed in the project burn plan to provide a low-severity mosaic burn with little to no detrimental soil disturbance of soil resources.
11. Best Management Practices (BMPs) found in Rules Pertaining to the Idaho Forest Practices Act Title 38, Chapter 13, Idaho Code, and Soil and U.S. Forest Service Water Conservation Practices Handbook 2509.22 would be applied to prevent and/or reduce non-point source pollution from timber management and road construction in the project area.
12. The proposed culvert upgrade and new culvert installation on Road 9449 would be sized to meet or exceed natural bankfull channel width and designed to pass a 100-year flow event. The culverts would be placed at natural stream grade to accommodate sediment, debris, and water transport.
13. Road 76820 decommissioning would require restoration of two stream channels to appropriate dimension, pattern, and profile. Exclusion of cattle would be required from the decommissioned area for at least one growing season to allow for the establishment of effective ground cover. Rehabilitated stream channel sites may require additional protection measures.

14. On the section of the 9449 Road that is proposed to be decommissioned into a motorized trail, removal of a culvert at one stream crossing is proposed, turning this crossing into a motorized ford. Approaches to this ford would be hardened, and guidelines and design criteria from the Forest's Programmatic Trail Maintenance Biological Assessment would be applied to minimize sediment introduction.
15. Temporary road locations would predominantly be located on gentle slopes, over existing templates, and in areas where excavation would be minimized. Out-sloped drainage is preferred where feasible and when safety and discharge to water bodies are not at risk. Temporary roads shall avoid crossing wetlands.
16. Design measures for temporary roads with stream crossings:
 - a. Vegetation removal within 150 feet on either side of any live stream would be kept to the minimum necessary to facilitate access.
 - b. Any trees required to be cut down in the road right-of-way within 150 feet on either side of any live stream would be felled and left on site. Skidding would be limited to the shortest length needed to move the tree out of the road right-of-way. Downed trees would be used as needed for woody material placement on disturbed soil and in the stream when the road is decommissioned.
 - c. Sediment input would be minimized by using sediment barriers and prohibiting construction during wet conditions for both installation and removal of temporary stream crossings. Approaches to water crossings would receive appropriate BMPs to minimize the length of road drainage and to mitigate runoff. Temporary crossing structures would span the channel bankfull width, and would be able to pass a 100-year flood event. Stream channels impacted by construction activity would be restored to their natural dimension, pattern, and profile as soon as possible.
 - d. Markham Creek tributary that lies between Units 18 and 16 would require on-site evaluation by a road engineer and watershed specialist for the temporary road construction near the stream due to the presence of steep slopes and the stream crossing.
 - e. Unnamed Mill Creek tributary adjacent to Unit 8 (lowest section) would require on-site evaluation by a watershed specialist for the stream crossing design.
17. All temporary roads would be closed to the public and decommissioned following use. If a temporary road is left overwinter, it would be put into a stable condition consisting of out-sloping, water-barring, and seeding or mulching. Decommissioning would consist of recontouring the road prism including all cut and fill slopes to natural ground contour. In addition, from 10 to 20 tons per acre of clearing or logging slash, stumps or other woody debris shall be placed and scattered uniformly on the top of the recontoured corridor.

Exclusion of cattle from the decommissioned areas would be required for at least one growing season to allow for the establishment of effective ground cover.

18. Any firelines constructed to control post-harvest broadcast burning would be located outside of RHCAs and rehabilitated to minimize erosion, according to design criteria in the Forest's Programmatic Fire Management Biological Assessment.
19. Instream work, including culvert replacement and removal, would be timed such that it occurred during low stream flows. The BA did not specify any particular dates for the low flow period. The NPCNF and NMFS agreed on an instream work window from July 15 through September 30 via email correspondence on May 2, 2013.

Monitoring/Reporting:

Four sites in mainstem Mill Creek and one site in the lower reach of Markham Creek have been established as monitoring areas during stream surveys conducted in 2011, with locations marked in the field with metal tags on trees and recorded using global positioning system. Cobble embeddedness measurements were taken (15 hoops in each), and Wolman pebble counts conducted. Other data were collected as well (e.g. bankfull width and depths, wetted widths and depths, and number of large woody debris). These reaches would be re-measured following all harvest and road construction to determine if changes in deposited sediment occurred. Re-measurements of these reaches in Mill Creek would be incorporated into the forest's long-term monitoring program because of the level of activity proposed in this watershed (Doc Denny Vegetation Management and Adams Camp Fuels Reduction have undergone section 7 consultation and Hungry Ridge Vegetation Treatment projects are planned in the near future). The Adams Camp Fuels Reduction and Doc Denny Vegetation Management projects are proposed to occur around the same time.

Description of Species and Critical Habitat

The Snake River Basin steelhead (*O. mykiss*) distinct population segment is the only ESA-listed anadromous fish species in the action area. Snake River Basin steelhead were listed on January 5, 2006 (71 FR 834). Critical habitat for Snake River Basin steelhead was designated via final rule on September 2, 2005 (70 FR 52630). Protective regulations for Snake River Basin steelhead were finalized on June 28, 2005 (70 FR 37160). Designated critical habitat in the action area consists of Mill Creek from the confluence with Merton Creek to its mouth. All proposed harvest activities are upstream from critical habitat.

Effects of the Action

For purposes of the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is NLAA listed species or critical habitat is that all of the effects of the

action are expected to be discountable, insignificant, or completely beneficial.³ Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Effects on Critical Habitat

NMFS evaluates the effects of a proposed action on critical habitat by assessing how any changes that might occur in the character of the primary constituent elements (PCEs) of critical habitat in the action area would affect the conservation value of critical habitat throughout the designated area. The PCEs consist of the physical and biological features identified as essential to the conservation of the listed species (Table 1).

Designated critical habitat in the action area consists of the mainstem of Mill Creek, which is downstream from the areas where project activities are proposed. The PCEs in Mill Creek include sites for spawning, rearing, and migration. The PCEs in the portion of Mill Creek affected by the proposed action area have previously been affected by roads, timber harvest, livestock grazing, private land development, and various forms of recreation. Key indicators of PCEs described in the BA show that under existing conditions, sites used for spawning and migration are functioning properly, while indicators for freshwater rearing are mixed. In rearing areas, channel substrate size is functioning properly, but features related to cover appear to be impaired from a reduction in the amount of wood in the stream, reduced pool frequency, and a high width to depth ratio.

In general, the types of activities in the proposed action – timber harvest; prescribed fire; road construction, reconstruction, maintenance, and decommissioning; and culvert replacement or removal – can negatively affect critical habitat through alteration of riparian vegetation, changes in channel morphology at road crossings, effects of increased water yield, increased instream sediment, and the contamination of water from fuels, lubricants, hydraulic fluids, and related chemicals used by machinery. At the same time, road reconstruction, maintenance, and decommissioning; and culvert replacement or removal can also have lasting beneficial effects by reducing sediment. The proposed activities will not affect channel morphology or riparian vegetation along streams designated as critical habitat since no actions are proposed within 150 feet of perennial streams and all activities are at least 0.3 miles from critical habitat. The proposed action will only have a discountable risk of causing water contamination from fuels and other chemicals due to provisions that require refueling, fuel storage, and equipment maintenance to be located in a site where chemicals cannot reach water in the event of a spill.

³ U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered Species Act consultation handbook: procedures for conducting section 7 consultations and conferences. March. Final. P. 3-12.

Table 1. Types of sites and essential physical and biological features designated as PCEs, and the species life stage each PCE supports.

Site	Essential Physical and Biological Features	ESA-listed Species Life Stage
Snake River Basin Steelhead^a		
Freshwater spawning	Water quality, water quantity, and substrate	Spawning, incubation, and larval development
Freshwater rearing	Water quantity & floodplain connectivity to form and maintain physical habitat conditions	Juvenile growth and mobility
	Water quality and forage ^b	Juvenile development
	Natural cover ^c	Juvenile mobility and survival
Freshwater migration	Free of artificial obstructions, water quality and quantity, and natural cover ^c	Juvenile and adult mobility and survival

- a. Additional PCEs pertaining to estuarine, nearshore, and offshore marine areas have also been described for Snake River Basin steelhead. These PCEs will not be affected by the proposed action and have therefore not been described in this letter of concurrence.
- b. Forage includes aquatic invertebrate and fish species that support growth and maturation.
- c. Natural cover includes shade, large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

Sediment created by the proposed activities is likely to have insignificant effects on freshwater spawning and rearing sites in Mill Creek. Sediment modeling described in the BA indicates that the proposed action will increase sediment delivery to Mill Creek while activities take place over a period of 7 years, but the expected increase from the proposed action will not be large enough to create significant changes in the stream substrate characteristics, as indicated by predicted changes in cobble embeddedness (Table 2). Cobble embeddedness is a key indicator of habitat changes that might occur from sediment deposition. Cobble embeddedness measures the average depth that gravels are embedded in finer sediments. In high-quality habitats, gravels have little fine sediment in the voids between gravel particles. Spawning and rearing are unlikely to be impaired by fine sediment deposition when cobble embeddedness is less than 20%. The proposed action would increase cobble embeddedness by 1.2%. When this effect is added to the baseline and to the effects of the Adams Camp Fuels Reduction wildfire protection project that will occur in the same drainage, cobble embeddedness would not exceed 14.2%, which is much below the 20% threshold where adverse effects are likely to occur.

Table 2. Changes in cobble embeddedness.

	CobbleEmbeddedness (%)
Existing	12
Adams Camp	< 1
Doc Denny	1.2
Combined	< 14.2

Timber harvest and prescribed fire are likely to cause an insignificant increase in water yield in the areas where vegetation and ground cover are reduced. Water yield is the amount of runoff that is carried to a stream from its catchment. Mature trees affect water yield by lowering the amount of precipitation that reaches the ground and slowing the rate at which precipitation infiltrates into the soil. Similarly, ground cover provided by pine needles, branches and other organic material also slows or reduces infiltration of water into the soils. Both timber harvest and prescribed fire increase water yield, which can cause streambank erosion and channel instability when peak flows increase beyond the range of flows that have typically occurred in recent decades. The NPCNF has used equivalent clear cut acres (ECA) as a surrogate indicator of water yield, and has found through monitoring that a 20% increase in ECA is the approximate threshold where water yield is likely to cause streambank erosion or channel instability. The ECA in the mainstem Mill Creek drainage is roughly 12% from past activities and natural events, and it will increase by an additional 2% as a result of the proposed action combined with the Adams Camp Fuels Reduction wildfire protection project. A change of this magnitude is unlikely to cause streambank erosion or channel instability in the mainstem of Mill Creek. In smaller face drainages upstream of critical habitat, ECA may become 20% or more. However, the small streams do not carry enough flow to have a significant effect on a stream as large as Mill Creek. Within the smaller tributaries, the increased water yield is unlikely to affect channel stability because of inherently stable channel forms (i.e. high gradient cascade and step pools) that have very coarse materials that are mobilized only by extreme events such as debris flows. The change in water yield from the proposed harvest is still at least one order of magnitude smaller than the flows needed destabilize the stream channels.

Proposed culvert replacements or removals will require excavation of the stream channel and streambank when water is flowing. All culvert-related activities will occur in the headwaters of small tributaries to Mill Creek at locations that are at least 0.3 miles upstream from critical habitat. However, excavation that occurs in flowing water creates unavoidable turbidity that can sometimes affect areas a considerable distance downstream. The amount of turbidity likely to be produced from the culvert-related activities is likely to be insignificant because the streambeds of the headwater streams are composed of coarse materials with little fine sediment. In addition, small streams at low flow (when work will occur) do not have enough energy to carry suspended sediment long distances. Any suspended sediment that remains in a tributary when it reaches Mill Creek will be rapidly dispersed by the much greater discharge in Mill Creek. Consequently, suspended sediment from culvert-related activities is likely to only cause insignificant levels of turbidity in Mill Creek.

One of the culvert removal sites will be converted from a road to a trail with a drivable ford. The primary effect of a stream ford on critical habitat stems from suspended sediment and turbidity that is generated each time a vehicle or stock animal crosses a ford. Potential adverse effects to PCEs from turbidity and suspended sediment at the ford are insignificant because of the reasons described above. In addition, the ford and its approaches will be constructed of coarse rocks that are resistant to erosion.

The effects of the proposed action also include long-term benefits from 1.1 miles of road decommissioning and permanent removal of six culverts. The road decommissioning will permanently reduce the annual amount of sediment delivered to Mill Creek, and the culvert removals will eliminate the risks of mass failures caused by plugged culverts in the sites where the culverts are removed.

Effects on Snake River Basin Steelhead

Within the action area, listed steelhead are likely to occur only in Mill Creek and near the mouth of Markham Creek. Habitat conditions for streams near harvest units and in places where instream work would occur are not suitable for steelhead. The lack of suitable habitat and the fish surveys which are described in the BA indicate that steelhead do not occur until at least 0.25 miles downstream of project activities.

Timber harvest and related road construction, maintenance and reconstruction can potentially affect individual fish through habitat effects described above, or directly affect individual fish through exposure to turbidity or chemical pollutants that spill or wash off of construction machinery. As described above, increases in turbidity, chemical pollutants, and sediment deposition are all likely to be insignificant due to the design criteria described as part of the proposed action. In addition, since steelhead do not occur in the small tributaries where instream work will occur, and since there is at least a 0.25 mile separation from timber harvest units and instream work locations, steelhead will not be exposed to direct effects that might otherwise occur from culvert replacements or removals or use of a stream ford if fish were in the immediate vicinity of the proposed activities.

Conclusion

Based on the analysis above, NMFS concludes that all effects of the proposed action are not likely to adversely affect Snake River Basin steelhead or designated critical habitat. This conclusion is reached after determining that the physical changes to individual steelhead and critical habitat are insignificant, and any direct effects to steelhead that might occur would be insignificant since steelhead do not occur in the vicinity of the areas where instream work would occur.

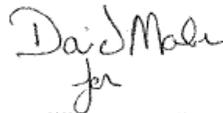
Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Federal agency, or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) New information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified

action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

Please direct questions regarding this letter to Mr. Bob Ries (208) 882-6148.

Sincerely,



William W. Stelle, Jr.
Regional Administrator

cc: R. Holder
R. Hennekey
M. Lopez

cc: Ed Koberstein
Jeff Shinn
Carmy Seloske
Tammy Harding

Appendix B - Response to Comments

The comment period for the Doc Denny EA ended on October 5, 2012. Seven responses were received. The Decision Maker considered comments about the EA when choosing the selected alternative. The selected alternative responds to the issues and concerns brought forward by the public and other agencies.

This document summarizes and paraphrases all comments received for the Doc Denny EA. The original comment letters are included in the project file.

List of Those Who Commented on the EA

Richard Artley, 09/23/2012

Zoanne Anderson, Nez Perce Tribe Watershed Division, 09/21/2012

Idaho Department of Parks and Recreation, Jeff Cook, 10/01/2012

Gary Macfarlane, Friends of the Clearwater, Alliance for the Wild Rockies, Lands Council, 09/29/2012

Jonathan Oppenheimer, Idaho Conservation League, 10/05/2012

Bill Higgins, Idaho Forest Group, 10/04/2012

Daniel Stewart, Idaho Department of Environmental Quality, 09/07/2012

Comments Received and Forest Service Responses

Purpose and Need

1. *The EA states the goal is to increase ponderosa pine, western larch and Douglas fir within the project area. Where in the forest plan is that a desired future condition? Friends of the Clearwater, 09/29/2012*

Response: The Doc Denny EA, page 2, states that the Nez Perce National Forest Plan identifies the majority of this area as Management Area (MA) 12. Primary goals for this MA are to manage for timber production and other multiple uses on a sustained yield basis (NPPF 1987, Chapter 3 page 37). Forest Plan Appendix F states that site-specific prescriptions are formulated within Forest Plan guidance to achieve specific objectives of management areas (Appendix F-1). Vegetative desired conditions for the project area are based on 1987 Forest Plan direction and the most recent science gathered for the 2008 Forest Plan Revision efforts.

In March 1998, the South Fork Clearwater River Landscape Assessment, identified restoration of dry-site (VRUs 3 and 4) ponderosa pine habitats as a High Priority. It further recommended treatment goals and recovery objectives to improve and enhance viability of species associated with dry-site habitats. This critical need is recognized due to an observed loss of open pine stands and bunchgrass communities on dry aspects and an overall loss of diversity in stand structure and the decline of pine and larch composition on more northerly aspects.

2. *We are also disappointed that the project's purpose and need was constricted so narrowly that it effectively precluded consideration of other watershed restoration components. Instead, we encourage the Forest Service to incorporate the need to reduce sediment and improve passage for aquatic species. Idaho Conservation League, 10/05/2012*

Response: Opportunities to improve species habitat and reduce long term sediment delivery within the project area were identified by the interdisciplinary team and incorporated into the project proposed action (EA page 3). Specifically, 16 miles of road maintenance including replacement of two undersized culverts and 1.2 miles of road decommission which includes removal of six culverts. In addition, the Forest has worked in partnership with the Nez Perce Tribe over the last decade to address aquatic functions in the South Fork Clearwater River basin, which covers the Mill Creek watershed.

3. *The Clearwater Basin Collaborative has made significant progress in a static description for a Landscape Assessment, including the Doc Denny project area, and the entire Clearwater Nez Perce National Forest. A common theme is a lack of young forest in many watersheds that indicates forest structure outside of the historical range of variation due to decreased disturbance through fire or mechanical treatments. Certainly, the South Fork of the Clearwater sub-basin stands out as having the most acres of general forest (non-roadless or wilderness) that would indicate a need for thinning or stand replacement disturbance. This area is also a drier portion of the forest where large fires are more probable. Certainly controlled mechanical harvest and prescribed fire are preferable to wildfire in this portion of the forest. Bill Higgins, Idaho Forest Group, 10/04/2012*

Response: This statement accurately reflects landscape treatment objectives and management themes incorporated throughout the project planning and design process. The rationale and justification for project prioritization was based upon recommendations found within the South Fork Landscape Assessment, Nez Perce Forest Plan direction and public input.

Alternatives

4. *We question why the EA failed to consider a range of alternatives. NEPA requires a hard look and an evaluation of a range of alternatives that can accomplish a project's purpose and need. NEPA regulations (40 C.F.R. 1502.14) require that agencies "rigorously explore and objectively evaluate all reasonable alternatives ...". In this instance, the EA only analyzes temp road vs. no temp road alternatives. We feel that additional alternatives should have been considered to fulfill the project's purpose and need. Such an analysis would allow the Forest Service to base its decision on a more complete assessment of the tradeoffs between varying approaches. Idaho Conservation League, 10/05/2012*
5. *There is not an adequate range of alternatives in the EA. Viable options, which would meet part of the purpose and need, are excluded include watershed restoration only, intermediate harvest and more road decommissioning. These include a watershed restoration only project. Similarly, the purpose and need can't be so narrowly defined so that no other options are viable. Friends of the Clearwater, 09/29/2012*

Response: The Agency's Deciding Official has the discretion to determine the project purpose and need. NEPA regulations state the NEPA document shall, "briefly specify the underlying purpose and need to which the agency is responding..." (40 CFR 1502.13)

In response to public comment and the issues analyzed in detail, 6 alternatives were originally considered, providing a reasonable range of alternatives [40 CFR 1502.14(a)]. Some issues were used to develop design criteria and/or mitigation measures while others were carried through the analysis. The Forest Service addressed all concerns and alternatives raised by the public. NEPA does not require an agency to consider alternatives that are infeasible, ineffective, or inconsistent with the

basic objectives for the management of the area. Project design eliminated issues and limited alternatives. Two Action and a No Action alternative were presented in detail. Three other alternatives were considered but not analyzed in detail (EA, pg. 7).

Nez Perce Forest Plan management objectives for MA 12 are to manage for sustainable timber production and other multiple uses. The interdisciplinary team analyzed the need for, and developed activities that would correct existing resource concerns and reduce potential sediment inputs into the aquatic system. A roads analysis completed for this project identified road decommissioning opportunities in the project area. These activities are included in the proposed action (EA, page 3).

6. *Soil stability, erosion hazard and irreversible soil loss are considered in the EA. Why wasn't an alternative developed that didn't affect areas with high erosion hazard (see page 65) or irreversibly affect ash-cap soils? Friends of the Clearwater, 09/29/2012*

Response: The soils analysis in Chapter 3 displays quantifiable change from existing condition. There were insufficient affects to drive additional alternative development. Specific project design criteria (EA, pages 15-17) and mitigation measures will be implemented to address all applicable Forest Plan standards and regional guidance.

7. *We are disappointed that the Forest Service appears unwilling to consider any alternative that doesn't rely primarily on clearcutting to achieve the project's purpose and need. We continue to feel that an alternative silvicultural approach that incorporates elements of variable retention harvest, group selection, prescribed fire and other techniques could achieve the project's purpose and need and better address concerns with impacts to soils, water quality, wildlife and other resources. We also feel that by considering alternative silvicultural approaches, that the EA could address unresolved conflicts over what approaches are appropriate in forests dominated by mixed severity fire regimes. Idaho Conservation League, 10/05/2012*

Response: Given the extensive amount of existing mortality, occurrence of insect and disease, fuel loading and deteriorated condition of stand health, opportunities within the project area for prescribed fire or additional intermediate treatment methods are rather limited. Prescribed fire may be used post-harvest once heavy accumulations of fuels are removed to reduce the likelihood of residual seral species mortality. Design features such as; retention of large overstory species, coarse woody debris, variable residual tree spacing and snag recruitment areas will be incorporated throughout all project treatment areas.

8. *If you decide to select Alternative 2 or 3, as part of the design for the project, we request that you consider retention of more trees in a non-uniform spacing to promote within-stand diversity in both the regeneration, as well as the commercial thinning units. By varying the spacing and retention of clumps of trees; wildlife habitat, ecological function and microclimatic variables can be improved. In addition, we encourage you to maintain some co-dominant, suppressed trees that can often develop into more suitable wildlife trees. We recognize that the purpose of the project is to promote goods and services, however maintaining diversity within the stands is key towards meeting other standards and guidelines consistent with the Forest Plan. Idaho Conservation League, 10/05/2012*

Response: Maintaining structure and diversity in the form of variable tree spacing, large tree retention, recruitment snags, leave islands, etc., are an integral component of the project design features (EA, pages 14-17) and will be applied during final treatment unit layout and implementation.

9. *We also feel that additional consideration should be given to the decommissioning of additional, unneeded roads. The rationale behind dismissal of an additional road decommissioning alternative stated that no additional roads were identified for decommissioning. Given the high road densities in some of these watersheds, we are concerned that not all roads were thoroughly considered. In response, we hereby request a copy of the project-specific Roads Analysis. Idaho Conservation League, 10/05/2012*

Response: The interdisciplinary team conducted a comprehensive roads assessment (see Project File) which evaluated individual system roads or road segments having potential for decommissioning. Roads identified for decommissioning were included in the proposal, all other roads were determined to be necessary for ongoing and future land management, and therefore an additional alternative to decommission additional roads was not developed.

10. *Given that this area is a critical portion of the “roaded front” where multiple use management to provide goods and services and where controlled disturbance through mechanical treatment and prescribed fire are not only appropriate but highly preferred over uncontrolled wildfire, it is critical that you select Alternative 2. Selection of Alternative 3 would give credence to an argument that further reducing our already limited landscape that is open for management is acceptable or preferred due to misguided concerns. Bill Higgins, Idaho Forest Group, 10/04/2012*

11. *Selection of Alternative 2 is more in line with national direction for an accelerated restoration strategy as described by the Chief of the Forest Service. Bill Higgins, Idaho Forest Group, 10/04/2012*

Response: Agreed, this project complies with Nez Perce forest plan direction and national management priorities for ecosystem restoration and multiple use guidelines.

Regulatory Issues

12. *Is it true this project could go on for 7 years (EA page 3)? Isn't that two years beyond the time which site-specific NEPA documents are supposed to be revised, according to the NEPA Handbook? Friends of the Clearwater, 09/29/2012*

Response: Activities including road obliteration, fuels treatments and reforestation require specific conditions to implement, often requiring several seasons after completion of harvest to complete effectively. At any time during the life of a project, if conditions change significantly a review of NEPA sufficiency can be completed and the original decision may be modified. However, a specific timeframe or lifespan for NEPA decisions is not defined.

Cumulative Effects

13. *While it may be technically true that there are no other foreseeable vegetative management activities in the analysis area– the EA fails to consider the other known vegetative management activities planned within the Mill Creek Drainage. This includes the Adams Camp Wildfire Protection Project (currently being publicly scoped) and the Hungry Ridge Project (in the active planning stage – not yet publicly scoped). All of these projects have the potential to cumulatively affect the Mill Creek Watershed. These projects will overlap in space and time should be analyzed together. Zoanne Anderson, Nez Perce Tribe Watershed Division, 09/21/2012*

14. *Why does the cumulative affects analysis for vegetation only include the analysis area and not the Mill Creek watershed? Also, what about other proposed projects in the area including Hungry Ridge and Adams Camp Fire Protection? Given these issues, how can the EA meet NEPA requirements for cumulative impacts analysis? Friends of the Clearwater, 09/29/2012*

Response: The Doc Denny EA disclosed all known information about potential foreseeable projects. The Hungry Ridge Project has not been scoped, NFMA analysis has not been completed and thus, specific activities, the amount or where they would occur is not known. The Hungry Ridge project was not considered when analyzing cumulative impacts for individual resources because not enough information is available about the type, location, timing or extent of potential proposed activities to include them in the analysis.

15. *The Forest Service is not adequately disclosing and analyzing the potential cumulative impacts within the Mill Creek Watershed. This may lead to habitat degradation and harm to listed ESA species and treaty resources. Zoanne Anderson, Nez Perce Tribe Watershed Division, 09/21/2012*

Response: Cumulative effects to watershed resources, including cumulative effects to TES fish and watershed conditions associated with Treaty resources, are discussed on pages 54 - 56 of the Watershed section in the EA, and pages 41 - 43 in the Fisheries section. A Biological Assessment and Evaluation were completed, and Section 7 Endangered Species Act consultation was completed for the preferred alternative to address effects to threatened fish species, including cumulative effects.

Economics

16. *What are the economic costs of this sale versus the benefits to all US citizens? The EA does not indicate whether the sale is a net positive or negative in terms of the US Treasury. The value attributed to the sale includes private interest revenue, not revenue to the US Taxpayer. Also, it does not appear that the analysis costs were attributed to either action alternative as they were to the no-action alternative. Please explain this apparent inconsistency? Friends of the Clearwater, 09/29/2012*

17. *The Nez Perce Clearwater Forest(s) is not doing calculations consistently between different projects. For example: neither Middle Bugs (Middle Bugs EA pg. 108) nor Iron Mountain (Iron Mountain EA pg. 35) includes NEPA analysis costs in their present net value calculations. The Forest(s) should be consistent from project to project. Zoanne Anderson, Nez Perce Tribe Watershed Division, 09/21/2012*

Response: The present net value (EA Table 3-1, page 25) indicates a positive discounted cash flow associated with current economic model assumptions. Empirical costs versus benefits analysis is also summarized in the economic report (EA Table 3-2, page 25) including residual project value for each alternative. The forest does not require the use of a standardized economic template. It will be considered for future projects. The deciding official has the authority to choose No Action therefore the sunk costs of NEPA planning are displayed in each alternative for comparison purposes only. Derived benefits to all US citizens are beyond the project scale and precision of current financial models.

Recreation

18. *Our staff requests an additional design feature. If winter logging is required, then it should be stopped after December 15th. Stopping the winter logging after this date, would minimize the impacts to the Milner Trail. The Forest Service should not plow the road until after the grooming season is over, typically by April 15th. Idaho Department of Parks and Recreation, Jeff Cook, 10/01/2012*

Response: As stated in Doc Denny Environmental Assessment, Recreation section, page 29. Road 9485 (Milner Trail) would have limited access in the summer and fall months for ATV use and potentially limit snowmobiles in the winter months if winter logging is permitted. Winter snowmobiling on the groomed segment of this road would not be available; however, an alternate currently exists as part of the groomed snowmobile trail system on Road 221 which parallels Road 9485. If winter hauling/logging is allowed on Road 9485 (Milner Trail) there is also a project design feature common to Alternatives 2 and 3 under the Recreation section on page 14, which states; Notify local snowmobile clubs prior to plowing any portion of Road #9485 (Milner Trail).

TES Plants

19. *The EA notes that activities may impact eight species (Table 3-26. Pg. 78), two of which have known populations in the area. How many MI determinations does it take to register a cumulative effect on any given plant species? Similarly, there is no cumulative impact analysis different than the direct impact analysis. Friends of the Clearwater, 09/29/2012*

Response: Cumulative effects to rare plant species are discussed starting on page 78 of the EA. As stated in the EA, no known occurrences will be affected by this project (page 76-77), thus there are no known cumulative effects to any known populations associated with this project. The analysis identifies that there may be cumulative effects to the suitable habitats of the rare species that are known to occur or that potentially occur in the project area. The cumulative effects section lists past, present and foreseeable activities that potentially affect the species or their habitat and describes changes in the level of these activities through time to give overall trends of the effects on the habitat (page 79). The relative comparison of cumulative effects to habitat by alternative is provided (page 79-80). Additional ongoing and foreseeable activities not proposed as components of this project, but having potential to affect rare plant habitat with project activities are reviewed at the end of the cumulative effects section on page 80.

Vegetation

20. *One of the persistent myths in the EA is that logging is needed to turn the area to a supposedly more natural condition. This is based, in part, upon an assumption that drier forest types historically had frequent but low intensity fires and that hot, stand-replacing fires in those types are unnatural. These assumptions have been refuted by recent peer-reviewed research. Friends of the Clearwater, 09/29/2012*

Response: There are numerous documented correlations between fire tolerant seral species such as ponderosa pine or western larch and dependence upon fire as a disturbance agent necessary for regeneration, one of the most widely referenced by forest managers being Mimicking Nature's Fire – Restoring Fire Prone Forests in the West, by Stephen Arno and Carl Fiedler (Island Press, 2005). Dry forest stands typically experienced frequent, low intensity wildland fire with relatively infrequent

occurrences of high severity fire. However, given current fuel loading conditions, stand replacement fires are becoming more common causing concerns for total loss of dry forest species and their associated habitats. This implies an elevated need for additional focused treatments designed to preserve or promote long term species viability.

Soils

21. *The soil analysis admits problems with various analysis methods, and that honesty is refreshing. That does bring to light the question of whether the analysis methods are adequate to meet regional soil standards? Are they? Also, the EA states that soil standards would be exceeded on four or five units, prior to mitigation. All of these units are currently meeting the soil standard. How can these units go forth and still meet the regional soil direction? Friends of the Clearwater, 09/29/2012*

Response: Region 1 Soil Quality Standards will be met in all units. The simple summation of Estimated Project DSD with Existing DSD does not equate cumulative DSD due to an overlap in space that is addressed with the mitigations. The calculations should read: Cumulative DSD = Current DSD + Activity DSD – Mitigations. Activity DSD = Temporary Road DSD + Harvest Activity DSD

22. *Nowhere does the EA detail what mitigation activities will be included as an essential component of any alternative. The closest the EA comes is when it states, "Potential soil restoration opportunities throughout the project area were evaluated..." Instead, we urge you to commit to specific soil restoration activities and describe these in the final EA. Idaho Conservation League, 10/05/2012*

Response: Specific activities are described in mitigation measure 8 on page 15 of the EA – scarifying of skid trails and landings, placement of slash, woody material and/or duff. Restoration requirements for temporary roads are described in mitigation measure 20 on page 17 of the EA.

Effectiveness of treatments: A local soil study (Lloyd et al. 2010) observed improved infiltration rates and soil bulk densities on decommissioned roads recover to values similar to never-roaded areas at 1, 5, and 10 yrs following decommissioning. In this same study and timeframe, soil organic matter, total carbon and nitrogen pools and processes increased to levels similar to never-roaded surfaces. The Clearwater Forest Plan Monitoring Report (2009) stated road decommissioning monitoring on the Forest across a wide range of sites has documented an increase in vegetative cover from 18% the year after decommissioning to 64% at 10 years after decommissioning. Skid trail and road decommissioning following reuse would also improve slope stability, decrease long-term erosion. Previous harvest in the Doc Denny project area occurred primarily with ground-based equipment in the 70s and 80s. The active soil restoration on existing disturbed areas proposed for the Doc Denny project is expected to accelerate soil recovery and result in immediate or near-term (approx. 1-5 years) improvements in fundamental soil properties (i.e. bulk density, infiltration rates, soil organic matter, carbon, nitrogen) and provide support for continued long-term recovery of soil functions and productivity.

Cultural Resources

23. *The EA notes that past surveys associated with other timber sales have been done. Are those surveys, one which is over 30 years old, adequate for this project? Were the cutting units,*

proposed road locations and other development surveyed during those previous surveys? Will any new surveys be done? Friends of the Clearwater, 09/29/2012

Response: A current survey for the Doc Denny project was conducted by archaeologists from the NPNF. These surveys were performed as directed by our Heritage Resource Site Identification Strategy (SIS). The SIS is a guide that helps us determine where and how much field review is needed for a given project. The field inventory is conducted to determine if historic properties (cultural properties/sites that may be eligible for listing in the National Register of Historic Places) may be affected by the proposed action of said project. Factors including land forms, distance to water, slope, areas of known cultural sites, etc. are all used to help determine where archaeological inventory (surveys) will be performed.

For the current project, archaeological field inventory was performed within 13 of the proposed project units across the project area, including areas where temp roads were proposed. The current survey reviewed approximately 26% of the project area. The EA indicated that there were 3 previous cultural resource surveys in the general Doc Denny Project vicinity. These previous surveys were not used to supplement the current survey do to limited overlap of project treatment areas.

Two previously documented sites were present within the currently proposed Doc Denny project area. Both of these resources are trails. Those segments of trail within the Doc Denny treatment areas are not significant as they have been modified through previous timber harvest activities including road building. Because these segments of the trails are not significant through the loss of integrity, sense of feeling, and construction, no mitigation measures are needed at these locations. During the current survey, no new cultural sites were located.

The project description, results, and determination of effect on cultural properties was compiled in a report that was submitted to the Idaho SHPO (State Historic Preservation Office) for their consultation and concurrence. SHPO concurred implementation of the Doc Denny project would have “no adverse effect” on cultural resources and could proceed as planned. The SHPO concurred with this finding on April 2, 2012.

Water Quality and Fisheries

24. The EA notes (EA pg.31) that the Big Canyon watershed is included in the analysis as it is the pour point into Mill Creek, although no activities are planned for that area. How does that affect the watershed analysis in the EA? Doesn't diluting the impact analysis by adding a watershed that won't be affected skew the direct impact analysis? Friends of the Clearwater, 09/29/2012

Response: Big Canyon watershed was included as it applicable to defining the parameters of the watershed analysis and provides relative indicator baseline data for that portion of Mill Creek downstream from the Doc Denny project area. Watersheds are analyzed regardless of proposed activities, as they define the overall watershed condition and potential for cumulative impacts.

25. The EA notes (EA pg. 32) some surveys or inventories were done in 2010 and 2011, though it appears they looked at different fish habitat parameters. However, the EA then notes (EA pg. 32) that "Estimates of existing cobble embeddedness" were made. Does that mean there is no or little current monitoring data on cobble embeddedness? The EA later notes (EA pg. 33) data were collected in the 1990s and 2011. Were any data collected in 2010? Did the recent surveys use the same protocols as the earlier baseline surveys? Friends of the Clearwater, 09/29/2012

Response: The estimate of mean cobble embeddedness in mainstem Mill Creek, which was used to model changes in substrate condition using FISHSED, was obtained from measurements of cobble embeddedness taken in 3 response reaches in 2011. These data are included in the project file. This was not the same survey protocol used in the 1990s surveys. The 1990s surveys were basinwide inventories, in which cobble embeddedness was visually estimated and then summarized across the entire prescription watershed. The 2011 data are physical measurements including estimates of variance among the sampled sites; they are therefore far more robust than visual estimates and form the foundation for future monitoring efforts. There is currently no long term stream substrate monitoring data in Mill Creek that has been collected continuously in the same sites, using the same protocols.

Physical measurements of stream conditions were not made in 2010. Spot electrofishing was conducted in the small tributaries flowing from the project area into Mill Creek to determine if fish were present or not. These streams were also walked by a fisheries biologist, and stream and channel observations were recorded in photographs and as written notes, also available in the project file.

26. The EA claims fish habitat parameters related to stream and riparian conditions have improved over the past 2 decades (pg. 33). Has consistent monitoring data been collected that show this is the case? The EA is not clear on this point (see pages 33-35). We ask this question because the actual fish data show a decline in numbers for listed steelhead trout. There are no data for other species to make a comparison with the possible exception of bull trout in Mill Creek--one was observed in 1990-1991 and none in 2010 and 2011 (page 35). Friends of the Clearwater, 09/29/2012

Response: Pages 33 – 35 summarize inventory data collected in the early 1990s and more recent data and observations from 2010 and 2011. There are no “claims” made that stream and riparian conditions have improved over the past 2 decades, just a review of available data that suggest conditions may have improved, but additional monitoring data are needed to describe definitive trends. This discussion is on page 41.

The fish data are included in the EA to indicate presence/absence only. There are not enough data points to speak to trend in fish populations in Mill Creek. In 2011, bull trout were not observed during snorkel surveys conducted by Forest Service personnel. Nez Perce Tribal personnel have observed bull trout downstream of where the Forest Service surveys were conducted, closer to the mouth of Mill Creek, and these observations were referenced in the Biological Assessment/Evaluation. The EA summarizes the situation related to bull trout presence on Mill Creek on page 35 of the EA.

27. The EA states the data suggest an upward trend in fish habitat parameters (pg. 33) but the fish numbers show a decline. The EA is very questionable in its analysis of cumulative impacts (see above) and that may have something to do with fish declines. Friends of the Clearwater, 09/29/2012

Response: No conclusions regarding trend of fish in Mill Creek were made in the draft EA and indeed, conclusions should not be made based on the available data. The fish data are included in the EA to indicate presence/absence only. There are not enough data points to speak to trend in fish populations in Mill Creek. In addition, the basinwide data that were collected in the early 1990s summarized snorkel data collected within entire prescription watersheds. The data from 2010 and 2011 were taken from individual reaches. These two types of data cannot be compared with any

statistical validity, therefore concluding definitively that fish numbers have declined, increased, or remained the same based on such a comparison would be erroneous.

This is why interpretation of habitat trends was worded as such in the EA: “The data collected in the early 1990s were part of comprehensive basinwide surveys, with data summarized across all surveyed reaches. Locations for the data collected in 2011 were chosen based on their potential as response reaches, or areas of the stream that would be most likely to show increases in sediment. Only two points in time are included. Data should be interpreted with these considerations, and a statistical comparison cannot be made. The data do suggest no increases in sediment conditions in mainstem Mill Creek and that conditions may have improved, particularly in Lower Mill. Additional monitoring data are needed to describe any definitive trends” (EA, page 41).

28. *The EA states (pg. 40) no lampreys are in the area yet the South Fork is traditional lamprey habitat. Furthermore, the Nez Perce Tribe has been implementing a recovery program in a tributary of the South Fork. Given this, how can a no effect determination be made? Friends of the Clearwater, 09/29/2012*

Response: Discussion of Pacific lampreys indicates they are not found in Mill Creek. This conclusion is based comprehensive lamprey surveys in the South Fork Clearwater subbasin conducted by Cochnauer and Claire (2004). Distribution of Pacific lampreys is discussed in greater detail in the Biological Assessment/Evaluation for this project. In short, it documents that lampreys have only been found in the mainstem South Fork Clearwater River and Red River. Surveys for lampreys were also conducted in Newsome Creek and Crooked River in 2012 by Forest Service personnel, but they were not found, even though adult lampreys have reportedly been introduced into Newsome Creek. Newsome Creek is well upstream of Mill Creek, and it is not possible that this watershed could be affected by activities in Mill Creek.

Since there is no pathway of effect for lampreys to be affected in the South Fork Clearwater River (i.e. no measurable sediment temperature effects to the South Fork Clearwater River; see page 40 of EA), it was concluded that lampreys would not be affected.

29. *The EA does not project much increase in sediment from logging activities, yet it also notes that many roads are found within RHCAs. As such, effect from logging, including hauling, can be amplified. Does the project area meet all water forest plan water quality standards, including fish and water standards found in Appendix A of the forest plan? Friends of the Clearwater, 09/29/2012*

Response: Point of clarification: Appendix A of the Nez Perce Forest Plan contains Sediment Yield GUIDELINES and Fish/Water Quality OBJECTIVES. It does not contain standards.

Compliance with Appendix A of the Nez Perce Forest Plan is included on page 134 of the EA

30. *Were any other types of analyses done to estimate impacts, such as sediment, in the EA? Friends of the Clearwater, 09/29/2012*

Response: Yes, please refer to the water quality analysis section on page 44 of the EA.

31. *The Forest Service apparently has taken no action to survey for this designated Region 1 Forest Sensitive Species that is important to the ecosystem and the Nez Perce Tribe. Without proper*

survey, the determination of “no impact” cannot be made. The actions proposed in this activity along with other actions taken in the Mill Creek watershed may cumulatively impact and harm Lamprey. Zoanne Anderson, Nez Perce Tribe Watershed Division, 09/21/2012

Response: The “No Impact” determination for lamprey was based on comprehensive lamprey surveys conducted by Cochnauer and Claire (2004). In addition, electrofishing surveys were conducted in 2010 in tributaries to Mill Creek flowing from the project area. If juvenile lampreys had been present, they likely would have been observed during these surveys. During habitat and snorkel surveys in Mill Creek in 2011, no areas suitable for juvenile lampreys were noted in surveyed reaches. Forest Service personnel have conducted extensive surveys for lampreys in the Selway River and spot surveys for lampreys in the Lochsa River, Newsome Creek, Crooked River, American River, and Red River above the old ranger station. Lampreys were documented at numerous sites in both the Selway and Lochsa Rivers. Habitats in which juvenile lampreys were found included sand deposits on the margins of the river in areas with no or very low water velocity. These observations are similar to those made by Cochnauer and Claire (2004).

These were the types of habitat crews looked for during the 2011 surveys. They did not document this type of habitat in their survey reaches in Mill Creek.

Cumulative effects to streams and fish habitat for this project have been addressed in conjunction with other reasonably foreseeable actions in the Mill Creek watershed.

32. *Approved best management practices that may apply to your project include “Rules Pertaining to the Idaho Forest Practices Act” IDAPA 20.02.92; “Stream Channel Alteration Rules” IDAPA 37.03.07; and “Rules Governing Exploration and Surface Mining in Idaho,” IDAPA 20.03.01. Daniel Stewart, Idaho DEQ Watershed Monitoring Coordinator, 09/07/2012*

Response: In addition to above, specialized design features were developed for the project and are discussed in the EA, pages 14-17.

33. *DEQ requests that USFS plan and implement projects with design criteria and mitigation measures that incorporate all applicable PACFISH standards. Daniel Stewart, Idaho DEQ Watershed Monitoring Coordinator, 09/07/2012*

Response: Amendment 20 of the Nez Perce Forest Plan PACFISH standards and guidelines is applicable for all project activities (EA Table 4-4, page 135). These have been included into the final project design criteria (EA, pages 14-17) and will be adhered to during implementation.

34. *We are concerned that the EA indicates that on-site field evaluation of the temporary road stream crossings has not yet occurred. Based on the concerns associated with roads and road construction (especially on sensitive land types and within RHCAs), we are confused as to why on-site field evaluation hasn't yet occurred. Idaho Conservation League, 10/05/2012*

Response: Analyses determined these roads could be built and still meet forest plan standards for the project area. Additional site-specific evaluations by the hydrologist may be required to determine best location for an intermittent stream crossing if needed. Temporary roads would be built, used and decommissioned immediately following harvest activities. Roads will be closed to the public and erosion control measures installed if a temporary road is in place overwinter (EA, pages 15-17).

Range

35. *The EA mentions there would be impacts from grazing, but fails to quantify them. The EA presents no monitoring information on livestock grazing impacts of water quality, fish habitat, and other wildlife species, among others. How can a decision maker make a decision absent solid analysis? Friends of the Clearwater, 09/29/2012*

Response: Effects from permitted livestock grazing are localized and include stream bank instability with resultant sediment introduction/changes in channel form and reduced water infiltration rates in areas where soils are compacted. Grazing activities are located primarily in the Upper Mill and Lower Mill portions of the watershed, and livestock grazing has been identified as a potential sediment source in the Markham Creek area. Meadow areas of concern along mainstem Mill Creek and Merton Creek are monitored and excluded with riparian fencing as part of current grazing management efforts. Additional efforts to correct localized grazing impacts in the Mill Creek watershed are occurring under a concurrent analysis, the Eastside Allotment Management Planning Project. Analysis for the Eastside Allotment Management Project is ongoing, and would likely result in additional BMPs to address any localized grazing impact (EA, page 42). Livestock grazing data has been recorded periodically over the last twenty years for the Mill Creek allotments.

Wildlife

36. *The Forest is using inconsistent standards when it comes to analyzing Lynx habitat within the same Forest. Why is there inconsistency? Zoanne Anderson, Nez Perce Tribe Watershed Division, 09/21/2012*

37. *The lynx analysis states that the Nez Perce National Forest does not need to consult with the US Fish and Wildlife Service because the Nez Perce National Forest is unoccupied. However, that finding is based upon a lack of surveys, which apparently have not been done. Furthermore, the anecdotal reports of lynx on the Nez Perce National Forest are largely from Forest Service professionals. To confuse matters even more, the cover letter for the EA states this is the Nez Perce-Clearwater National Forests. Friends of the Clearwater, 09/29/2012*

Response: Under ESA, when a species may be present and the project may affect that species, consultation is required. However, lynx are not a listed species under ESA for the Nez Perce National Forest; the forest is unoccupied, the forest is secondary habitat, and the forest is not required to consult with USFWS regarding lynx and project level activities (NRLMD ROD pages 7, 29; NRLMD summary page 6, Page 4 WhitePaper_Consultation_Canada_Lynx_5_Oct06.doc). Given this circumstance, compliance with Section 7 (a)(2) of the Endangered Species Act is not required for lynx under this circumstance.

The Nez Perce Forest is labeled as unoccupied, yet there are historical and more recent anecdotal observations of lynx across the forest. However, these observations are not considered to be “verified” as defined by the Northern Rockies Lynx Management Direction (USDA Forest Service 2007 NRLMD ROD pg. 29; NRLMD FEIS 2007 Ch1 pg. 3, ch. 2 pg. 99-100, ch. 3 pg. 142-143; USDA Forest Service and USDI Fish and Wildlife Service 2006 pg 4), nor do anecdotal sightings determine that there is reproduction or a resident population. The accuracy of a few of the lynx sightings is reputable because lynx were caught in traps and then verified by the Idaho Department of Fish and Game. These trapped lynx were prior to 1999 and so any lynx documentation prior to 1999 was not considered in designation of a unit being listed as occupied or unoccupied. The accuracy of other sightings may be low due to observer bias in confusing lynx and bobcats. Due to the infrequent

nature of lynx observations on the NPNF, there is no evidence to show that there is a resident population or reproduction.

The FWS sent a letter to Forest Supervisor, Rick Brazell on December 10, 2012 stating that “there is consensus that transient lynx may be present on the NPNF, at least occasionally”. The FWS referenced two pieces of information to come to this conclusion: 1) Ulizio et al. (2007) that noted, “Historical sightings that may have been confirmed may be the result of transient lynx moving through the forest, but the infrequency of such reports suggests lynx are incidental to the area”, and 2) McKelvey et al. (2000) reported “numerous verified historical records from Idaho County”. The letter also stated that, “the issue of lynx occupancy on the NPNF is a separate but related matter that is not the focus of this letter”. Follow-up discussions with FWS occurred on December 17, 2012 with NPNF personnel to assist in clarifying the letter. The FWS stated that a Biological Assessment (BA) should be prepared and informal consultation would need to be completed with FWS if a determination of a “May Affect, but Not Likely to Adversely Affect” determination was reached for NPNF projects. FWS also clarified that this does not change the NPNF status as ‘unoccupied’, but further lynx surveys are needed to determine occupancy and any analysis for a BA should be focused on analyzing the project and its impacts on transient (not resident or breeding) lynx. A Biological Assessment has been prepared for this project.

The Rocky Mountain Research Stations conducted surveys for lynx in 2007 for the Nez Perce National Forest. The surveys were conducted according to established protocols outlined in the NRLMD (Ulizio et al. 2007). The surveys conducted in 2008 (hair snare) and 2009 (winter track surveys) were reduced in size and scope due to snow conditions, limited personnel and limited funding. No lynx were detected during any of these survey efforts (2007, 2008, or 2009). The Nez Perce Forest is committed and is currently in the process of conducting lynx surveys according to protocol this winter. This is consistent with conducting the surveys at 5-year intervals.

The Doc Denny EA (pgs. 93-94) and wildlife report concluded that the project would “Not Likely to Adversely Affect” the lynx because treating up to 35 acres of lynx habitat would not result in detectable changes in unsuitable habitat within LAU 209502 as less than 1% of the habitat would be treated. A BA was also prepared and concurrence on the NLAA determination has been received from the Fish and Wildlife Service.

The proposed administrative combination of the Clearwater NF and the Nez Perce National Forests has no bearing on the “occupied” or “unoccupied” status of lynx on either Forest. The proposal to administratively combine Forests and what is in the address block of formal letters is an administrative process and is irrelevant to the Doc Denny project decision or analysis. The proposal to merge the two forests is an administrative action and is not associated with specific ecological processes or habitat effects related to lynx. The NRLMD determined the status of lynx for the Nez Perce National Forest and the Doc Denny project is consistent with the NRLMD and the science associated with that decision.

38. It should also be noted that the FWS has lost a number of court cases regarding lynx and their habitat, including a recent case dealing with critical habitat. Thus, the lynx analysis in the EA seems incomplete to comply with the Endangered Species Act. Friends of the Clearwater, 09/29/2012

Response: Critical habitat was not designated on the Nez Perce National Forest (74 FR 8616 8702 and USDI Fish and Wildlife Service 2009). The proposed Federal actions are not occurring within designated critical habitat, so the project would have no effect on critical habitat.

39. *Since the project is in ponderosa pine habitat (see the EA's vegetation section), why were pygmy nuthatches excluded from analysis? What monitoring data are there for the MI and TES species listed; ringneck snake, flammulated owl, black-backed woodpecker, fisher, goshawk, pileated woodpecker, American marten. Friends of the Clearwater, 09/29/2012*

Response: The pygmy nuthatch has strong and almost exclusive preference for ponderosa pine habitat, especially older, open (<70% canopy coverage) habitats. The pygmy nuthatch was excluded from detailed study because the project area does not contain stands of pure ponderosa pine. The majority of the stands in the project area are composed of mixed conifer species with remnants of ponderosa pine. A few stands on the lower end of the project area consist of a mixture of ponderosa pine/Douglas-fir with grand fir coming up in the understory. These drier mixed conifer stands are not considered to be suitable pygmy nuthatch habitat and therefore, was dismissed for further consideration.

The FP states that Forest Service is to “Monitor population levels of all Management Indicator Species on the Forest” (FP page II-18). Population levels will be monitored and evaluated as described in the Forest Plan Monitoring Requirements (Chapter V of the Forest Plan). Numerous survey and monitoring efforts have been conducted on the Nez Perce National Forest since the approval of the Forest Plan. These monitoring efforts have been reported in the past ‘Nez Perce National Forest Monitoring and Evaluation Report’ (latest 2003-2004). Surveys and monitoring efforts over the years have been reduced in size and scope due to limited personnel and funding. Incidental sightings of wildlife species within the project area or from across the forest from field reviews are also recorded. The Nez Perce National Forest has also cooperated in the Regional survey efforts for land birds, flammulated owls, black-backed woodpeckers, bats, lynx, fisher and goshawk over the past decade.

The EA and specialist reports address the effects to management indicator species and TES species and has determined that habitat on the Nez Perce Forest is more than sufficient to contribute to viable populations of management indicator species and sensitive species (Samson 2006).

40. *It should be noted that a significant percentage of the habitat of the latter five species would be negatively affected under each of the action alternatives. How can species persistence be assured absent monitoring information when anywhere from 25 to 33 percent of the habitat is negatively affected? Friends of the Clearwater, 09/29/2012*

Response: The FP states that Forest Service is to “Monitor population levels of all Management Indicator Species on the Forest” (FP pg II-18). Population levels have been and will continue to be monitored and evaluated as described in the Forest Plan Monitoring Requirements (Chapter V of the 1987 Forest Plan). Numerous survey and monitoring efforts have been conducted on the Nez Perce National Forest since the approval of the Forest Plan. These monitoring efforts have been reported in the past ‘Nez Perce National Forest Monitoring and Evaluation Report’ (latest 2003-2004). Surveys and monitoring efforts over the years have been reduced in size and scope due to limited personnel and funding. Incidental sightings of wildlife species within the project area or from across the forest from field reviews are also recorded. The Nez Perce National Forest has also cooperated in the Regional survey efforts for land birds, flammulated owls, bats, lynx, fisher and goshawk over the past decade.

The Doc Denny EA and wildlife report concluded that the project would modify or reduce species habitat by converting older age class lodgepole pine and mixed conifer habitats to younger age classes, especially in regeneration harvest units. Based on the work by Samson (2006), it has determined that habitat on the Nez Perce Forest is more than sufficient to contribute to the viable populations of the latter five management indicator species and sensitive species (black-backed woodpecker, fisher, goshawk, pileated woodpecker and American marten).

Opposing Science

41. *Brazell, you claim that 620 acres of clearcut will “maintain or improve health of the stands.” My attachments contain statements made by about 290 well-respected Ph.D. scientists spelling out how logging and road construction significantly degrade the natural resources in the forest. Richard Artley, 09/23/12*
42. *Please include these opposing view source documents in the References section of the final EA. When describing the environmental effects of the timber sale activities to the countless natural resources in the project area please cite the resource damage described in the source documents contained in the attachments. Richard Artley, 09/23/12*
43. *It violates the law to give the public a skewed (one sided) description of the environmental effects of a proposed project as you have done in this preliminary EA. Richard Artley, 09/23/12*
44. *Supervisor Brazell, if you reject any of the literature in the attachments to this comment letter because it’s not site specific then you must not include literature in the References section of the final EA that is not site-specific to the Doc Denny project. Richard Artley, 09/23/12*
45. *The opposing views quoted in Attachment #1 were authored and/or signed by 237 different unbiased Ph.D. biological scientists with no connection to the USDA. Does it surprise you that about 83% of the source documents listed in the References section of this pre-decisional EA that drove the project are authored by USDA employees with financial incentives to portray logging as ecosystem-friendly? Intelligent Americans will immediately detect bias towards logging in the References. Richard Artley, 09/23/12*
46. *The opposing views quoted in Attachment #4 were authored and/or signed by 52 different unbiased Ph.D. biological scientists with no connection to the USDA. They indicate that road construction inflicts more resource damage than any logging-related activity. Richard Artley, 09/23/12*

Response: Consideration was given to the literature submitted by the public. The EA, Appendix F lists all scientific literature used and referenced in this document. The Decision Notice/FONSI, Appendix C also describes how literature submitted by the public was considered and why some literature is inapplicable to this project.

Appendix C –Consideration of Science and Literature Submitted by the Public

Members of the Doc Denny Vegetation Project interdisciplinary team are considered proficient in their field of study by way of academic achievement, agency training, years of professional experience, and in some cases, certification programs. In addition, each team specialist has cited numerous scientific studies and literature used to support discussions and conclusions made in this project's analysis (refer to References). The public referenced other literature and scientific studies during the EA comment period. Some of this literature consisted of opinion pieces, editorials, articles, press releases, testimony, quotations, or stories from news outlets. Many are not scientific, peer reviewed studies or literature. Peer review as well as the strength and specificity of the relationship between ideas, data and inference distinguish scientific insights from opinion.

All applicable science was considered, as required by law, regulation and policy. The citations contained in the comment letters were evaluated for applicability to this project proposal, and the findings discussed below.

<i>Cited Literature</i>	<i>How was it considered</i>	<i>Rationale/Comments</i>
Al-jabber, Jabber M. 2003 Habitat Fragmentation: Effects and Implications http://faculty.ksu.edu.sa/a/Documents/Habitat%20Fragmentation%20Effects%20and%20Implication.pdf	Not used	Mr. Arley states that timber harvest activities damage natural forest resources and cited this document which contains pictures showing logging damage. Samson 1997, states "Recent experimental evidence suggests habitat fragmentation in ecosystems with a high natural disturbance has little effect on species survival rates owing to the adaptation of natural disturbance regimes." Estill (1996) and Samson recommend not addressing the issue of fragmentation at the project level.
Anderson, P.G. 1996. "Sediment generation from forestry operations and associated effects on aquatic ecosystems" Proceedings of the Forest-Fish Conference: Land Management Practices Affecting Aquatic Ecosystems, May 1-4, 1996, Calgary, Alberta. http://www.alliance-pipeline.com/contentfiles/45_Sediment generation.pdf	Not used; Consistent with other science used	This document is consistent with other science used in the Doc Denny project to develop design features to minimize sediment. This article discusses the effects of logging and roads on aquatic habitats, particularly in relation to sediment delivery to streams. The article recommends measures to limit effects. These are similar to those used for the project including INFISH buffers, undersized or damaged culvert replacements, installation of additional culverts to drain roadside ditches away from streams, the decommissioning of unnecessary roads, and using appropriate yarding systems to minimize soil disturbance.
Applying Ecological Principles to Management of the U.S. National Forests Issues in Ecology Number 6 Spring 2000 http://www.watertalk.org/wawa/ecosci.html Found at: http://www.esa.org/science_resources/issues/FileEnglish/issue6.pdf Roland, 1993; Rothman and Roland, 1998; Kouki, McCullough and Marshall, 1997; Bellinger, Ravlin and McManus, 1989	This document is applicable and consistent with literature used in the analysis	This article identified major ecological considerations that should be incorporated in sound forest management policy and their potential impacts on current practice. The Doc Denny project would maintain structural diversity by retaining trees and large woody debris on harvest sites that more closely mimic natural processes. The project would implement INFISH buffers, BMPs and proposes road decommissioning, culvert removal and/or replacement activities to protect water quality. Where temporary or permanent roads would be constructed, project design features and BMPs would help meet Forest guidelines and reduce the extent of disturbance and maintain soil productivity. New proposed permanent road construction would have negligible effects on hillslope hydrology and water quality because it would be located in an upper hillslope and ridgetop location, would not cross any water and would be placed into a hydrologically stable condition

<i>Cited Literature</i>	<i>How was it considered</i>	<i>Rationale/Comments</i>
		following long-term storage techniques. Temporary roads would be fully obliterated and recontoured after use.
Baker, William L., Ehle, Donna. 2001. Uncertainty in surface-fire history: the case of ponderosa pine forests in the western United States. June 25, 2001. http://cifr.nrc.ca	Not used but consistent with science used and referenced.	Tree ring (fire scar) sampling represent the most effective field data and evaluation method currently used. However, It is commonly agreed, however, that mean fire intervals are typically underestimated due to inherent limitations for recording very low intensity fires (no cambium scorch). It is also well established that longer FI is directly associated with higher fire intensity.
Barry, Glen, Ph.D. Commercial Logging Caused Wildfires, Published by the Portland Independent Media Center, August 2002. http://portland.indymedia.org/en/2002/08/17464.shtml	Not applicable	This commentary, published via the Portland Independent Media Center, is an opinion piece. It is a perspective on national fire policy and the Republican party by Dr. Barry, prior to the passage of the HFRA. Dr. Barry holds a Ph.D. in "Land Resources" from the University of Wisconsin-Madison but is not a fire scientist. No new science or information is revealed in his commentary. This article denounces all commercial timber harvest on FS lands.
Barry, John Byrne. Stop the Logging, Start the Restoration. The Planet newsletter, June 1999, Volume 6, Number 5 http://www.sierraclub.org/planet/199905/ec1.asp	Not applicable	This non-peer reviewed article is an opinion piece advocating an end to commercial logging on federal lands. Doc Denny project activities are consistent with Forest plan direction for this area and address the purpose and need for action.
Bush Fire Policy: Clearing Forests So They Do Not Burn" FOREST CONSERVATION NEWS TODAY, August 27, 2002 http://forests.org/archived_site/today/recent/2002/tiporefl.htm	Not applicable	Quoted... The Forest Service is using the fear of wildfires to allow logging companies to remove medium-and large-diameter trees that they can sell, rather than just the small trees and brush that can make fires more severe. There is little evidence to show that such logging will prevent catastrophic fires; on the contrary, logging roads and industrial logging cause wildfires. Bush is a well known supporter of the timber industry and has accepted huge sums of money from wealthy timber company leaders. He is promoting misinformation about forest fires in order to benefit timber industry campaign contributors."
Cushman, John H. Jr. 1999. Audit Faults Forest Service on Logging Damage in U.S. Forests. New York Times, February 5, 1999 http://query.nytimes.com/gst/fullpage.html?res=9B00E2DF163BF936A35751C0A96F958260&sec=&sp on=&pagewanted=print	Not Applicable	This 1999 article in the New York Times reported deficiencies in implementation of Forest Service timber sales between 1995 and 1998. It is not pertinent to this project.
Dombeck, Mike Ph.D. Through the Woods. The News Hour with Jim Lehrer. 19 June 1998. http://www.pbs.org/newshour/bb/fedagencies/jan-june98/road_6-19.html	Not used; supports analysis	This quotation is taken out of context from a transcript about road building in roadless areas. It does not address any specific activities in the proposed project. The Doc Denny Project discloses potential impacts to recreation, wildlife, watershed and fisheries resources.
Dombeck, Mike Ph.D. 1998. A message on Conservation Leadership sent to all USFS employees on July 1, 1998 http://www.wvhighlands.org/VoicePast/VoiceAug98/Dombeck.Aug98.html	Not used; supports analysis	The Doc Denny project was developed with consideration of resource values, Forest plan goals, objectives and standards and in compliance with NEPA regulations.
Ehrlich, Anne Ph.D., David Foster Ph.D. and Peter Raven Ph.D. 2002. Call to End Logging Based on Conservation Biology. Native Forest Network. http://www.nativeforest.org/campaigns/public_land/stb_5_30_02.htm	Not applicable	The excerpted quote refers to environmental damage caused by Forest Service logging activities in the past century. It calls for a halt to commercial logging on National Forest Lands. The Doc Denny Project is consistent with Forest Plan management direction for this area and responds to the purpose and need for action.
Elliot, W.J.; Page-Dumroese, D.; Robichaud, P.R. 1999. The effects of forest management on erosion and soil productivity, Proceedings of the Symposium on Soil Quality and Erosion Interaction,	Background information. Consistent with science used	This paper discusses the impacts of forest management activities on soil erosion and productivity. The Doc Denny EA analyzed the impacts of proposed harvest and burning activities on soil erosion and productivity. Proposed

Cited Literature	How was it considered	Rationale/Comments
<p>Keystone, CO, July 7, 1996. Ankeney, IA: Soil and Water Conservation Society. 16 p. http://forest.moscowfs.wsu.edu/smp/docs/docs/Elliot_1-57444-100-0.html</p>		<p>activities are consistent with Forest and Regional soil standards. Design features have been included to assure that these standards are met.</p>
<p>FOREST CONSERVATION NEWS TODAY. August 27, 2002. Bush Fire Policy: Clearing Forests So They Do Not burn http://forests.org/archived_site/today/recent/2002/tiporefl.htm</p>	<p>Not applicable</p>	<p>This opinion piece contends there is little evidence to show that logging will prevent catastrophic fires; on the contrary, logging roads and industrial logging causes wildfires. The objectives of the Doc Denny project are to provide goods and services, recover economic value of dead and dying trees; improve species diversity in the area to create resilient vegetative conditions; reduce stand densities in overstocked stands to promote tree growth and vigor and reduce potential sediments into the aquatic ecosystems. This is not a fuels project.</p>
<p>Franklin, Jerry F. Ph.D. and James K. Agee Ph.D. 2003. Forging a Science-Based National Forest Fire Policy. Issues in Science and Technology Fall 2003. http://inr.oregonstate.edu/download/forging_a_science_based_national_forest_fire_policy.pdf</p>	<p>Provides background information applicable to this project</p>	<p>In this article, a multi-disciplinary group of scientists discuss ecosystem based management approaches to keep watersheds and forests functioning properly. Doc Denny project activities are consistent with the approaches discussed. It is not a fire salvage project. Sufficient amounts of down, woody material would be left to sustain soil productivity. No old growth would be harvested.</p>
<p>Franklin, Jerry Ph.D., David Perry Ph.D., Reed Noss Ph.D., David Montgomery Ph.D. and Christopher Frissell Ph.D. 2000. Simplified Forest Management to Achieve Watershed and Forest Health: A Critique. http://www.coastrange.org/documents/forestreport.pdf</p>	<p>Provides background information applicable to and consistent with the project.</p>	<p>In this article, a multi-disciplinary group of scientists discuss ecosystem based management approaches to keep watersheds and forests functioning properly. To maintain forest function, the Doc Denny project would implement INFISH buffers, applicable BMPs, retain 14 to 26 trees per acre on regeneration harvested areas – favoring the retention of larger trees.</p>
<p>Giuliano, Jackie Alan, Ph.D. 2008. Fire Suppression Bush Style: Cut Down the Trees! Environmental News Service, 2008. http://www.ens-newswire.com/</p>	<p>Not applicable</p>	<p>This 2008 opinion piece asserts that under the Bush administration, environmental laws would be undermined or suspended to that federal land management agencies can increase logging and roadbuilding on public lands, one of the timber industry's highest priorities. The Doc Denny project is consistent with all applicable laws, rules and regulations regarding proposed activities. It is also consistent with Forest Plan direction for this area.</p>
<p>Gorte, Ross W. Ph.D., "Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses", A CRS report for Congress, June 2, 2008, http://www.nationalaglawcenter.org/assets/crs/RL34517.pdf</p>	<p>Not used, supports analysis</p>	<p>Quoted... Reducing burnable biomass, however, does not eliminate wildfires, because fuel reduction does not directly alter the dryness of the biomass or the probability of an ignition."</p>
<p>Government Accounting Office. 1999. Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats, GAO/RCED-99-65. http://www.gao.gov/archive/1999/rc99065.pdf</p>	<p>Not used, supports analysis</p>	<p>Quoted..."Most of the trees that need to be removed to reduce accumulated fuels are small in diameter and have little or no commercial value. "Mechanically removing fuels (through commercial timber harvesting and other means) can also have adverse effects on wildlife habitat and water quality in many areas. Officials told GAO that, because of these effects, a large-scale expansion of commercial timber harvesting alone for removing materials would not be feasible. However, because the Forest Service relies on the timber program for funding many of its activities, including reducing fuels, it has often used this program to address the wildfire problem. The difficulty with such an approach, however, is that the lands with commercially valuable timber are often not those with the greatest wildfire hazards." This 1999 GAO report contains recommendations to the Secretary of Agriculture for developing a more cohesive strategy to address growing threats to national forest</p>

Cited Literature	How was it considered	Rationale/Comments
		resources and nearby communities from catastrophic wildfires. Consistent with the GAO report, this project would improve species diversity to recreate conditions that are resilient and allow for rapid recovery after disturbance.
Hanson, Chad Ph.D. 2000. Commercial Logging Doesn't Prevent Catastrophic Fires, It Causes Them. New York Times. May 19, 2000. http://www.commondreams.org/views/051900-101.htm	Not used, supports analysis	This opinion piece asserts that timber harvest through its effects on forest structure, local microclimate and fuel accumulation has increased fire severity more than any other recent human activity. The Doc Denny EA analyzed the impacts that proposed harvest of dead and dying trees would have on ladder and surface fuels in the project area.
Hanson, Chad Ph.D. 2008. Logging Industry Misleads on Climate and Forest Fires. New West. July 11, 2008. http://www.newwest.net/topic/article/logging_industry_misleads_on_climate_and_forest_fires/C41/L41/	Not applicable	This excerpt from an opinion piece states that recent editorials by timber industry spokesman are a wildly misleading attempt to promote increased logging of western US forests under the guise of reducing wildland fires. This general statement does not pertain to the Doc Denny project, its purpose and need or site specific analysis of potential impacts.
Hanson, Chad, Ph.D. 2001. Logging for Dollars in National Forests. The Sacramento Bee - November 14, 2001. http://www.johnmuirproject.org/news-logging-for-dollars.html	Not applicable	This excerpt from an opinion piece states that the FS has developed a huge bureaucracy around the selling of timber from national forest land. The Doc Denny project is consistent with Forest Plan management area direction, applicable laws, rules and regulations.
Harvey, A. E., M. J. Larsen, and M. F. Jurgensen. 1976. Distribution of Ectomycorrhizae in a Mature Douglas-fir/larch Forest Soil in Western Montana. Forest Science, Volume 22, Number 4, 1 December 1976, pp. 393-398(6) http://www.ingentaconnect.com/content/saf/fs/1976/00000022/00000004/art00007;jsessionid=l2sdf2hphia2.alexandra	Used for background information	The reference states that "logging reduces the organic parent material (duff and woody residues) available for soil formation processes." Numerous authors have reported reductions in mycorrhiza populations due to forest disturbance; however, the degree of reduction and its impact on forest regeneration varies widely and depends on many factors. The Doc Denny EA, Chapter 2, describes all soil design and mitigation measures to keep project impacts at acceptable levels. Project activities and design features are consistent with science discussed.
Houston, Alan Ph.D. 1997. Why Forestry is in Trouble with the Public. Evergreen magazine, October 1997. http://evergreenmagazine.com/web/Why_forestry_is_in_trouble_with_the_public-v2.html	Not applicable	Opinion piece speaks to public distrust of foresters.
Hudak, Mike Ph.D. 1999. From Prairie Dogs to Oysters: How Biodiversity Sustains Us from his book review of The Work of Nature: How the Diversity of Life Sustains Us by Yvonne Baskin, 1997 Newsletter of Earth Day Southern Tier, February/March 1999, p. 2 http://www.mikehudak.com/Articles/FromPrairieDog_s9902.html	Not applicable	A single statement is taken from a book review which states that human manipulation of existing ecosystems has also sometimes had unfortunate consequences. The Doc Denny EA analyzed potential impacts to applicable resources from proposed activities.
Huff, Mark H. Ph.D.; Ottmar, Roger D.; Alvarado, Ernesto Ph.D., Vihnanek, Robert E.; Lehmkuhl, John F.; Hessburg, Paul F. Ph.D., Everett, Richard L. Ph.D. 1995. Historical and current forest landscapes in eastern Oregon and Washington. Part II: Linking vegetation characteristics to potential fire behavior and related smoke production. Gen. Tech. Rep. PNW-GTR-355. USDA Forest Service, Pacific Northwest Research Station. https://ir.library.oregonstate.edu/dspace/bitstream/1957/4706/1/PB96155213.pdf	Used for background information	This 1995 study examined changes in vegetation structure and composition in 6 river basins in eastern Oregon and Washington from 35 to 50 years ago to the present and to project the effects of vegetation changes on potential fire behavior and smoke production. The study concludes that prescribed fire, along with mechanical measures if hazardous burning conditions exist, can be used for restoration purposes to regulate stand composition, reduce plant competition, and modify fuels to achieve a desired structure. Over time, prescribed fires, natural fires, selective tree harvesting or combinations thereof can be used to maintain desired conditions and processes. The study conclusions, while specific to Oregon and Washington, are consistent with Doc Denny project

Cited Literature	How was it considered	Rationale/Comments
		activities to address the purpose and need for action and move toward desired conditions.
Ingalsbee, Timothy Ph.D. 1997. Logging for Firefighting: A Critical Analysis of the Quincy Library Group Fire Protection Plan. Unpublished research paper. http://www.fire-ecology.org/research/logging-for-firefighting_2.htm	Not applicable	This paper is specific to the Quincy Library Group Fire Protection Plan.
Ingalsbee, Timothy Ph.D. 2000. Commercial Logging, for Wildfire Prevention: Facts Vs Fantasies. http://www.fire-ecology.org/citizen/logging_and_wildfires.htm	Not applicable	This opinion piece asserts that forest management policies should be based on science, not politics and that past management activities are the sources of forest health problems such as insect infestations, disease outbreaks and severe wildfires. The Doc Denny EA analyzed the impacts of proposed activities with consideration of the latest science (see references).
Ingalsbee, Timothy Ph.D. 2002. Logging without Limits isn't a Solution to Wildfires. The Portland Oregonian, August 6, 2002 http://www.klamathforestalliance.org/Documents/loggingwithoutlimits.html	Not applicable	This opinion piece speaks to public opposition to commercial logging and skepticism regarding Forest Service credibility. It does not offer science or statements regarding proposed activities that can be addressed here.
Ingalsbee, Timothy Ph.D. 2002. The wildland fires of 2002 illuminate fundamental questions about our relationship to fire. The Oregon Quarterly, Winter 2002 http://fireecology.org/research/wildfire_paradox.pdf	Not applicable	Quoted...“Thus, the use of commercial logging for fire hazard reduction poses yet another paradox: Logging removes the trees that normally survive fires, leaves behind the trees that are most often killed by fire, increases flammable fuel loads, and worsens fire weather conditions.” (pg. 5)
Ingalsbee, Timothy Ph.D. 2003. Fanning the Flames! The U.S. Forest Service: A Fire-Dependent Bureaucracy. Missoula Independent. Vol. 14 No. 24, June 2003 http://www.fire-ecology.org/research/USFS_fire_dependent.html	Not applicable	This opinion piece contends that harvest activities create conditions that encourage large scale severe wildfires. Project analysis determined post-harvest fuel loading would decrease.
Ingalsbee, Timothy Ph.D. 2005. A Reporter's Guide to Wildland Fire. Firefighters United for Safety, Ethics, and Ecology (FUSE), January 2005 http://209.85.173.104/search?q=cache:FuTKT_jqv2oJ:www.fire.unifreiburg.de/media/A%2520Reporters%2520Guide%2520to%2520Wildland%2520Fire.pdf+ph.d.+%22fuels+reduction%22,+%22commercial+logging%22&hl=en&ct=clnk&cd=19&gl=us	Not applicable	This opinion piece contends that logging will make the area more prone to high intensity and high severity wildfires and increase hazardous fuels. Project analysis determined post-harvest fuel loading would decrease.
Jalkotzy, M.G., P.I. Ross, and M.D. Nasserden. 1997. The Effects of Linear Developments on Wildlife: A Review of Selected Scientific Literature. Prepared for Canadian Association of Petroleum Producers. Arc Wildlife Services Ltd., Calgary. 115pp. http://citeseerx.ist.psu.edu	Reviewed; not used.	The document reported on the effects of roads, trails, pipelines, and seismic lines related to petroleum extraction in Canada. Adverse and beneficial to effects to wildlife and mitigation practices were presented. The Doc Denny project proposes an alternative that would not construct permanent roads. Some roads in excess of those needed to accomplish Forest Plan management objectives would decommissioned, and habitats naturally reforested by seeds from adjoining forest stands.
Keene, Roy. 2009. Logging does not prevent wildfires Guest Viewpoint, the Eugene Register Guard. January 11, 2009. http://www.highbeam.com/doc/1G1-192070397.html	Not applicable	Opinion piece promoting fuel reduction through the hand cutting, piling and burning of small trees and brush along Forest roadsides. The Doc Denny Project would use timber harvest to reduce fuels and would subsequently plant with early seral fire resistant species to achieve desired species distribution and structure. It would treat activity fuels by piling, burning or chipping. .
Keene, Roy, Restorative Logging? "More Rarity than reality", Guest Viewpoint, the Eugene Register Guard, March 10, 2011 http://eugeneweekly.com/2011/03/03/views3.html	Not applicable	This opinion piece contends that forest restoration should rarely include logging. Proposed Doc Denny Project activities are consistent with Forest Plan direction for this area and were developed to meet the project purpose and need for action. Timber harvest activities would reduce fuel

<i>Cited Literature</i>	<i>How was it considered</i>	<i>Rationale/Comments</i>
		loadings, promote early seral tree species that can tolerate repeated underburning, enhance resiliency to disturbances and preventing fuel accumulations over time while providing an appropriate level of timber productivity.
Keppeler, Elizabeth T. Robert R. Ziemer Ph.D., and Peter H. Cafferata. 1994. Effects of Human-Induced Changes on Hydrologic Systems. An American Water Resources Association publication, June 1994 http://www.fs.fed.us/psw/publications/ziemer/Ziemer94a.PDF	Used as background information	This study addresses hillslope drainage processes by comparing pre- and postharvest pore pressure levels and soil moisture conditions on a steep hillslope within a zero order basin in coastal northwestern California. The Doc Denny project incorporates design measures, BMPs and riparian area protections as well as field verification by project hydrologists and soil scientists to minimize effects to these resources.
Klein, Al. 2004. Logging Effects on Amphibian Larvae Populations in Ottawa National Forest. http://www.nd.edu/~underc/east/education/documents/AKlein2004Pre-loggingssurveyofamphibianlarvaeinvernalpools.pdf	Not used but consistent with science used and referenced.	Consistent with Forest Plan direction and applicable laws and regulations, the Doc Denny EA analyzed all applicable management indicator species, designated threatened, endangered, and sensitive species. The Doc Denny project proposes road decommissioning and improvement, culvert replacement and removal, road and trail stream crossing improvements in RHCAs and INFISH buffers where amphibians may exist. With respect to the boreal toad, commercial and pre-commercial thinning would retain large, down wood and cover and are not expected to directly or indirectly effect reproduction or rearing habitats. It is possible that mechanical harvest would kill some individuals residing in treated areas.
Laverty, Lyle, USDA Forest Service and Tim Hartzell U.S. Department of the Interior. 2000. A Report to the President in Response to the Wildfires of 2000. September 8, 2000. http://www.fs.fed.us/emc/hfi/president.pdf	Used as background information. Consistent with document and science used	This report recommends that increased efforts are currently needed to address 'the brush, small trees, and downed material that have accumulated in many forests because of past management activities, especially a century of suppressing wildland fires, [and this] will require significant investments to treat landscapes through thinning and prescribed fire. The report discusses the Peshtigo Fire, which grew and spread to such tragic proportions in large part because of the availability and wide distribution of untreated harvest slash. The Doc Denny Project would treat post-harvest slash. It would reduce fuel buildup. It would establish long-lived early seral fire tolerant species.
Lawrence, Nathaniel, NRDC senior attorney. 2001. Gridlock on the National Forests. Testimony before the U.S. House of Representatives Subcommittee on Forests and Forest Health (Committee on Resources) December 4, 2001. http://www.nrdc.org/land/forests/tnl1201.asp	Not applicable	The author contends that there is little scientific information about how thinning actually affects overall fire risk. Rather, thinning dries out the forest interior and increases flammability, leave untreated flammable slash, promotes flammable undergrowth, compacts soil which impacts trees ability to absorb moisture and introduces diseases, pests, damages reserve trees and disrupts natural processes.
Leitner, Brian. 2003. Logging Companies are Responsible for the California Wildfires. The Democratic Underground, October 30, 2003. http://www.democraticunderground.com/articles/03/10/30_logging.html	Not applicable	The quoted excerpt from this nonscientific paper states that post-harvest logging debris increases risk of wildfire. The Doc Denny project will treat post-harvest fuels to reduce this risk.
Long, Richard D., U.S. Department of Agriculture Office of Inspector General. 2001. Western Region Audit Report: Forest Service National Fire Plan Implementation. Report No. 08601-26-SF, November 2001. http://maps.wildrockies.org/ecosystem_defense/Resources_Species_Topics/Fire/Misuse%20of%20Fire%20Plan%20funds.pdf	Not applicable	This report presents the results of the Inspector General's 2001review of the Forest Service's implementation of the National Fire Plan. The Doc Denny project is not a fuels reduction project. This report has no bearing on the Doc Denny project.
Malecki, Ron W. 2006. A New Way to Look at Forest Roads: the Road Hydrologic Impact Rating System (RHIR). The Road-RIPorter, Autumn	Not used; supports analysis	This newsletter focuses on wildland restoration activities in the west. The Doc Denny project proposes road decommissioning and reconstruction work and culvert

Cited Literature	How was it considered	Rationale/Comments
Equinox, 2006. http://www.wildlandscpr.org/files/uploads/RIPorter/rr_v11-3.pdf		replacement that fit with the goals of this group.
Mann, Charles C. Ph.D. and Mark Plummer Ph.D.; Call for Sustainability in Forests Sparks a Fire, Science 26 March 1999: Vol. 283. No. 5410, pp. 1996-1998, http://www.sciencemag.org/cgi/content/summary/283/5410/1996	General Information	The Doc Denny project complies with all current Forest Plan direction, applicable laws, rules and regulations regarding the proposed timber harvest.
Maser, C. Ph.D. and J. M. Trappe Ph.D. 1984. The Seen and Unseen World of the Fallen Tree. 1984 USDA Forest Service, GTR-PNW-164 http://www.fs.fed.us/pnw/publications/pnw_gtr164/	Not applicable	The quoted 2 sentences suggest that removal of fallen trees impact habitat diversity and long-term forest productivity. The Doc Denny project designated logging systems designed to minimize soil disturbance that would detrimentally affect both physical character and biological soil organisms. Site disturbance for preparation for planting of the kind current in 1984 is not necessary with proposed silvicultural prescriptions, harvest systems, and site preparation activity.
Maser, C. Ph.D., R. F. Tarrant, J. M. Trappe Ph.D., and J. F. Franklin Ph.D. 1988. The Forest to the Sea: A Story of Fallen Trees. USDA Forest Service, GTR-PNW-GTR-229 http://www.fs.fed.us/pnw/publications/pnw_gtr229/	Not applicable	The 2 quoted sentences in summary, state that logging negatively impacts habitat diversity. Consistent with Graham et al, The Doc Denny project would retain 7-13 tons of CWD/acre; retain 5 to 26 leave trees per acre. Large diameter legacy trees would be retained to provide long term structural diversity. The project includes vegetative objectives to improve species diversity to create conditions that are resilient and allow for rapid recovery after disturbances. Mountain pine beetle outbreaks can be prevented by creating a mosaic of age and size classes, which reduces the acreage susceptible to mountain pine beetles at one time (Amman and Safranvik 1984).
McIntosh, B.A., J.R. Sedell, J.E. Smith, R.C. Wissmar S.E. Clarke, G.H. Reeves, and L.A. Brown. 1994. Management history of eastside ecosystems: changes in fish habitat over 50 years, 1935-1992. GTR-321 93-181, http://www.fs.fed.us/pnw/publications/pnw_gtr321/	Not applicable	This single sentence quotation states that logging reduces ecosystem health by damaging aquatic habitats through siltation, reduction in stream complexity and increased water temperature. The Doc Denny Project incorporates BMPs, INFISH buffers and other design features to protect aquatic habitats from those effects.
Moring, John R. Ph.D. 1975. The Alsea Watershed Study: Effects of Logging on the Aquatic Resources of Three Headwater Streams of the Alsea River, Oregon – Part III. Fishery Report Number 9 Oregon Department of Fish and Wildlife. http://www.for.gov.bc.ca/hfd/library/ffip/Moring_JR1_975b.pdf	Not applicable	This 1975 study analyzed the effects of logging practices on a specific watershed system. Doc Denny project design features including implementation of INFISH RHCAs would prevent these effects.
Naeem, Shahid Ph.D., F.S. Chapin III Ph.D., Robert Costanza Ph.D., Paul R. Ehrlich Ph.D., Frank B. Golley Ph.D., David U. Hooper Ph.D. J.H. Lawton Ph.D., Robert V. O'Neill Ph.D., Harold A. Mooney Ph.D. Osvaldo E. Sala Ph.D., Amy J. Symstad Ph.D., and David Tilman Ph.D. 1999. Biodiversity and Ecosystem Functioning: Maintaining Natural Life Support Processes. Issues in Ecology No. 4. Fall 1999. http://www.esa.org/science_resources/issues/Textlsues/issue4.php	General information	Biological diversity is addressed in the Forest Plan through detailed management direction (goals, standards and guidelines), by management area (MA) for the MIS and T&E wildlife species; and Regional Forester's direction and designations of sensitive wildlife and plant species. Biodiversity is preserved in this project by following Forest Plan requirements.
Nappier, Sharon. Lost in the Forest: How the Forest Service's Misdirection, Mismanagement, and Mischief Squanders Your Tax Dollars. Taxpayers for Common Sense, 2002. http://www.ourforests.org/fact/lostintheforest.pdf	Not applicable	This is a single statement from an opinion piece criticizing FS land management. An economic analysis was completed for the Doc Denny project. It is consistent with Forest plan direction and applicable rules and regulations.
Noble, Ian R. and Rodolfo Dirzo Ph.D. 1997.	Not applicable	The quoted excerpt refers to agroforestry and how it

<i>Cited Literature</i>	<i>How was it considered</i>	<i>Rationale/Comments</i>
Forests as Human-Dominated Ecosystems. Science Vol. 277. No. 5325, pp. 522 - 525. 25 July 1997. http://www.sciencemag.org/cgi/content/abstract/277/5325/522?maxtoshow=&HITS=10&hits=10&RESU_LTFORMAT=&fulltext=logging&searchid=1136659907310_5043&FIRSTINDEX=0&journalcode=sci		reduces biodiversity. Agroforestry is an integrated approach of using the interactive benefits from combining trees and shrubs with crops and/or livestock. The Doc Denny project does not employ agroforestry. The Forest Plan specifies management direction for various areas. This project is consistent with Forest plan management direction for this area
Northup, Jim. 1999. Public Wants More Wilderness, Less Logging on Green Mountain NF. Press Release by Forest Watch, a Vermont-based environmental organization. http://www.forestwatch.org/content.php?id=10	Not applicable	This opinion statement references survey data that concluded that people want more wilderness and less logging on the Green Mountain NF. This non scientific data is not applicable to this project.
Okoand Ilan Kayatsky, Dan. 2002. Fight Fire with Logging? Mother Jones, August 1, 2002 http://www.motherjones.com/news/feature/2002/08/fireplan.html	Not applicable	This opinion piece criticizes the National Fire Plan and claims that tree removal increases the risk of wildfire.
Partridge, Arthur Ph. D., Statement at a press Conference with Senator Robert Torricelli about S. 977 and HR 1376), the Act to Save Americas Forests, April 28, 1998, U.S. Capitol http://www.saveamericasforests.org/news/ScientistsStatement.htm	Not applicable	This 1998 press conference statement was made in support of a bill that did not become law which, in part, proposed to ban clearcutting from Federal lands.
Pierce, Jennifer L., Meyer, Grant A., Jull, Timothy A. J. 2004. Fire-induced erosion and millennial scale climate change in northern ponderosa pine forests. Nature, November 4, 2004	Not applicable	Potential effects of climate change models are currently only applicable at scales well outside the stand level. Until more accurate predictions can be made, current management direction and treatments proven to sustain fire tolerant seral species will be implemented.
Platt, Rutherford V. Ph.D., Thomas T. Veblen Ph.D., and Rosemary L. Sherriff. 2006. Are Wildfire Mitigation and Restoration of Historic Forest Structure Compatible? A Spatial Modeling Assessment. Published online by the Association of American Geographers. Sep. 8, 2006 http://www.ingentaconnect.com/content/routledg/anna/2006/00000096/00000003/art00001	Not Applicable	Platt et al. 2006 completed computer simulations of fuels and forest stand structures in Colorado and concluded that much of the area did not need both wildfire mitigation and restoration of historical stand structures, although wildfire mitigation was needed on more of the area. The authors stress that the study has several limitations that mean that the results should not be extrapolated beyond the study area and that it was not verified with field collected data.
Powell, Douglas S. Ph.D, Joanne L. Faulkner, David R. Darr, Zhiliang Zhu Ph.D. and Douglas W. MacCleery. 1992. Forest Resources of the United States. USDA Forest Service. Rocky Mt. Forest and Range Experiment Station.	Not Applicable	This quotation is a single statement pulled out of context from the report and states that private lands are more suitable for timber production than National Forest Lands which are of lower productivity and on steeper, higher elevation terrain. Forest Service direction requires that all stands where harvest is prescribed be classified as suitable for timber production. Doc Denny project activities are consistent with FP direction for the area and would move the area toward desired future conditions.
Raven, Peter, Ph.D., from his February 9, 2001 letter to Senator Jean Carnahan http://www.saveamericasforests.org/Raven.htm	Not applicable	This 2001 letter to Senator Jean Camahan is an opinion piece that discusses harvest of ancient forests; clearcutting; harvesting roadless areas; and logging in certain special forest areas. This letter states we need to allow sustainable forest practices around these protected forests which is consistent with the proposed project.
Raven, Peter, Ph.D., Jane Goodall, C.B.E., Ph.D., Edward O. Wilson, Ph. D. and over 600 other leading biologists, ecologists, foresters, and scientists from other forest specialties. From a 1998 letter to congress. http://www.saveamericasforests.org/resources/Scientists.htm	Not applicable	This 1998 letter to Congress is an opinion piece signed by advocates of the Act to Save America's Forests. This comment is beyond the scope of this project.
Roberson, Emily B. Ph.D., Senior Policy Analyst, California Native Plant Society Excerpt from a letter	Not applicable	This report excerpt states that logging and road building often increase both fuel loading and fire risk. These general

<i>Cited Literature</i>	<i>How was it considered</i>	<i>Rationale/Comments</i>
to Chief Dale Bosworth and 5 members of congress http://www.plantsocieties.org/PDFs/Fire%20letter%20CNPS%208.02%20letterhead.pdf		statements, valid in some settings, do not apply to the Doc Denny Project because of project design features. Moreover, this is court testimony by a third party, which although it is the speakers considered opinion, it is not peer reviewed material.
Roelofs, Terry D. Ph.D. 2003. Testimony for the California State Water Board and Regional Water Quality Control Boards Regarding Waivers of Waste Discharge Requirements on Timber Harvest Plans. August 2003. http://74.125.113.132/search?q=cache:QNY_aih1RxEJ.edennapa.org/thp/roelofstestimony.doc+%22timber+harvest%22+ph.d.+adverse&hl=en&ct=clnk&cd=5&gl=us	Not applicable	This paper discusses how logging and associated activities impact coastal watersheds in California inhabited by coho salmon. INFISH buffers, BMP implementation assures there would be no change in temperature or sedimentation from Doc Denny activities.
Rudзитis, Gundars. 1999 Amenities Increasingly Draw People to the Rural West. Rural Development Perspectives, vol. 14, no. 2 http://www.ers.usda.gov/publications/rdp/rdpsept99/rdpsept99b.pdf	Not applicable	This quotation references opinion poll information opposing commodity extraction on public lands.
Short, Brant, Ph.D. and Dayle C. Hardy-Short Ph.D. Physicians of the Forest : A Rhetorical Critique of the Bush Healthy Forest Initiative Electronic Green Journal, Issue #19, December 2003 http://escholarship.org/uc/item/4288f8j5	Not applicable	This opinion piece criticizes the Healthy Forest Initiative. The Doc Denny project is not a fuels reduction project.
Sierra Club. 2005. Ending Commercial Logging on Public Lands http://northcarolina.sierraclub.org/pisgah/conservation/ecl.html	Not applicable	This opinion piece denounces logging on public lands. The Doc Denny project is consistent with all applicable laws, rules and regulations regarding harvest in this Management area on this forest.
Slaymaker, Olav Ph.D. "Assessment of the Geomorphic Impacts of Forestry in British Columbia" AMBIO: A Journal of the Human Environment 29(7):381-387. 2000 http://www.bioone.org/doi/abs/10.1579/0044-7447-29.7.381	Not used; Consistent with other science used	This article is consistent with other science used to develop design features to minimize hydrology effects. The abstract cited speaks to effects on runoff, water yield, peak flows, sediment and wood transport and mass movement (landslides). The article suggests that following Forest Practice Act codes (in British Columbia) can significantly minimize these impacts. The Doc Denny project implements design features, such as INFISH buffers, that are more stringent than state Forest Practice Act codes. BMP audits have verified the effectiveness of preventing or greatly limiting impacts to streams.
Stahl, Andy. 2003. Reducing the Threat of Catastrophic Wildfire to Central Oregon Communities and the Surrounding Environment. Testimony before the House Committee on Resources, August 25, 2003 http://www.fseee.org/index.html?page=http%3A//www.fseee.org/eactivist/testimony082503.shtml	Not applicable	Doc Denny is not a HFRA project
Strickler, Karyn and Timothy G. Hermach. 2003. Liar, Liar, Forests on Fire: Why Forest Management Exacerbates Loss of Lives and Property Published by CommonDreams.org. October 31, 2003 http://www.commondreams.org/scriptfiles/views03/1031-10.htm	Not applicable	This opinion piece opposes all timber harvest. It claims that excessive logging removes and reduces cooling shade adding to the hotter, drier forests along with logging debris creating a more flammable forest. Current "forest management" practices, road building and development cause forest fires to rage for hundreds of miles.
Taxpayers for Common Sense. 2000. From the Ashes: Reducing the Harmful Effects and Rising Costs of Western Wildfires. Washington DC, Dec. 2000 http://www.ourforests.org/fact/ashes.pdf	Not applicable	This opinion piece is critical of logging to reduce fuels. It contends that logging opens up and dries out the forest, making it more susceptible to fire. Increased sunlight increases understory growth which leads to weaker, more densely packed forests.
Thomas, Craig. 2007. Living with risk: Homeowners face the responsibility and challenge of developing	Not applicable	This opinion piece states that indiscriminate logging is not a viable solution to reducing wildfire risk. Logging can

Cited Literature	How was it considered	Rationale/Comments
<p>defenses against wildfires. Sacramento Bee newspaper, July 1, 2007. http://www.sierraforestlegacy.org/NR_InTheNews/SFLIP_2007-07-01_SacramentoBee.php</p>		<p>actually increase fire danger by leaving flammable debris on the forest floor. Loss of tree canopy lets the sun in, encouraging the growth of brush, increases wind speed and air temperature, and decreases the humidity in the forest, making fire conditions even worse.” The article goes on to state that Forest managers and scientists agree that the most hazardous fuels in the forest are dry grass, pine needles, tree limbs and brush, and eliminating them should be the first priority. The focus of a good fuels management plan must be on reducing those fuels that ignite and spread wildfire, while keeping the large, older trees that are resistant to fire. Those big trees provide shade, keep the forest floor moist and the wind speed down. Because fire behavior is contingent upon local conditions, a "one-size-fits-all" prescription is not the answer. Also, state and federal governments must prioritize fire management dollars for the wildland-urban interface where people live, and not in remote areas where there is no threat to private property. The Doc Denny Project...</p>
<p>University of California; SNEP Science Team and Special Consultants 1996. Sierra Nevada Ecosystem Project: Final Report to Congress Volume 1, Chapter 4 – Fire and Fuels. http://ceres.ca.gov/snep/pubs/web/PDF/v1_ch04.pdf</p>	Not applicable	<p>The report excerpt presents findings specific to the Sierra Nevada ecosystem and states that timber harvest, through its effects on forest structure, local microclimate and fuels accumulation, has increased fire severity more than any other recent human activity. The article goes on to state that in some places, mechanical fuel reduction, often in conjunction with prescribed fire, can also be of use in reducing fuels and fire hazards.</p>
<p>Vincent, James W. Ph.D., Daniel A. Hagen, Ph.D., Patrick G. Welle Ph.D. and Kole Swanser. 1995. Passive-Use Values of Public Forestlands: A Survey of the Literature. A study conducted on behalf of the U.S. Forest Service. http://www.icbemp.gov/science/vincent.pdf</p>	Not applicable	<p>This report provides a survey of the state of economic research regarding the nonuse value of forests, and addresses the implications of these studies for the management of public forestlands in the Columbia River Basin. The Doc Denny project is consistent with Forest Plan Management area direction.</p>
<p>Voss, René. 2002. Getting Burned by Logging. The Baltimore Chronicle. July 2002. http://www.baltimorechronicle.com/firelies_jul02.shtml</p>	Not applicable	<p>This opinion piece opposes hazardous fuel reduction timber projects and contends that logging will likely increase the frequency and severity of wildland fires.</p>
<p>Williams, Mark A. 2012. Spatially extensive reconstructions show variable-severity fire and heterogeneous structure in historical western United States dry forests. Global Ecology and Biology</p>	Not used, consistent with other science used and referenced.	<p>Structural variability is a documented common occurrence across large forested landscapes including dry forest conditions. Historical (pre-settlement) fire severity modeling relies on numerous variables and assumptions, such as atmospheric conditions, fuel loading profiles, stand composition and health. Small changes in any one of which can lead to dramatic fluctuations in perceived results.</p>
<p>Wuerthner, George. 2008. Logging, thinning would not curtail wildfires. The Eugene Register-Guard, December 26, 2008 http://wuerthner.blogspot.com/2008/12/logging-thinning-would-not-curtail.html</p>	Not applicable	<p>This article contends that mechanical treatments have little effect on the spread of wildfires and can actually increase wildfires' spread and severity by increasing the fine fuels on the ground (slash) and by opening the forest to greater wind and solar penetration, drying fuels faster than in unlogged forests. The Doc Denny project proposes treatment of activity fuels following timber harvest.</p>
<p>Wuerthner, George. 2009. Who Will Speak For the Forests? NewWest, January 27, 2009 http://www.newwest.net/topic/article/who_will_speak_for_the_forests/C564/L564/</p>	Potential Impacts discussed were considered in the Doc Denny EA	<p>This opinion piece describes potential resource impacts from logging activities in general. The Doc Denny project contains design features to limit potential impacts.</p>
<p>Ziemer, Robert R. Ph.D., 1992. Effect of logging on subsurface pipeflow and erosion: coastal northern California, USA. Proceedings of the Chengdu</p>	Not applicable	<p>In a 1992 study, 3 zero order swales were instrumented to measure pipe flows within the Caspar Creek Experimental Watershed in northwestern California. After logging, there</p>

<i>Cited Literature</i>	<i>How was it considered</i>	<i>Rationale/Comments</i>
Symposium, July 1992. IAHS Publication. No. 209, 1992 http://www.fs.fed.us/psw/publications/ziemer/Ziemer92.PDF		was great spatial and temporal variability in sediment transport. Water quality and postharvest sedimentation was modeled for the Doc Denny project. Design features such as INFISH buffers, BMPs, etc were included to limit sedimentation.

Appendix D –Maps

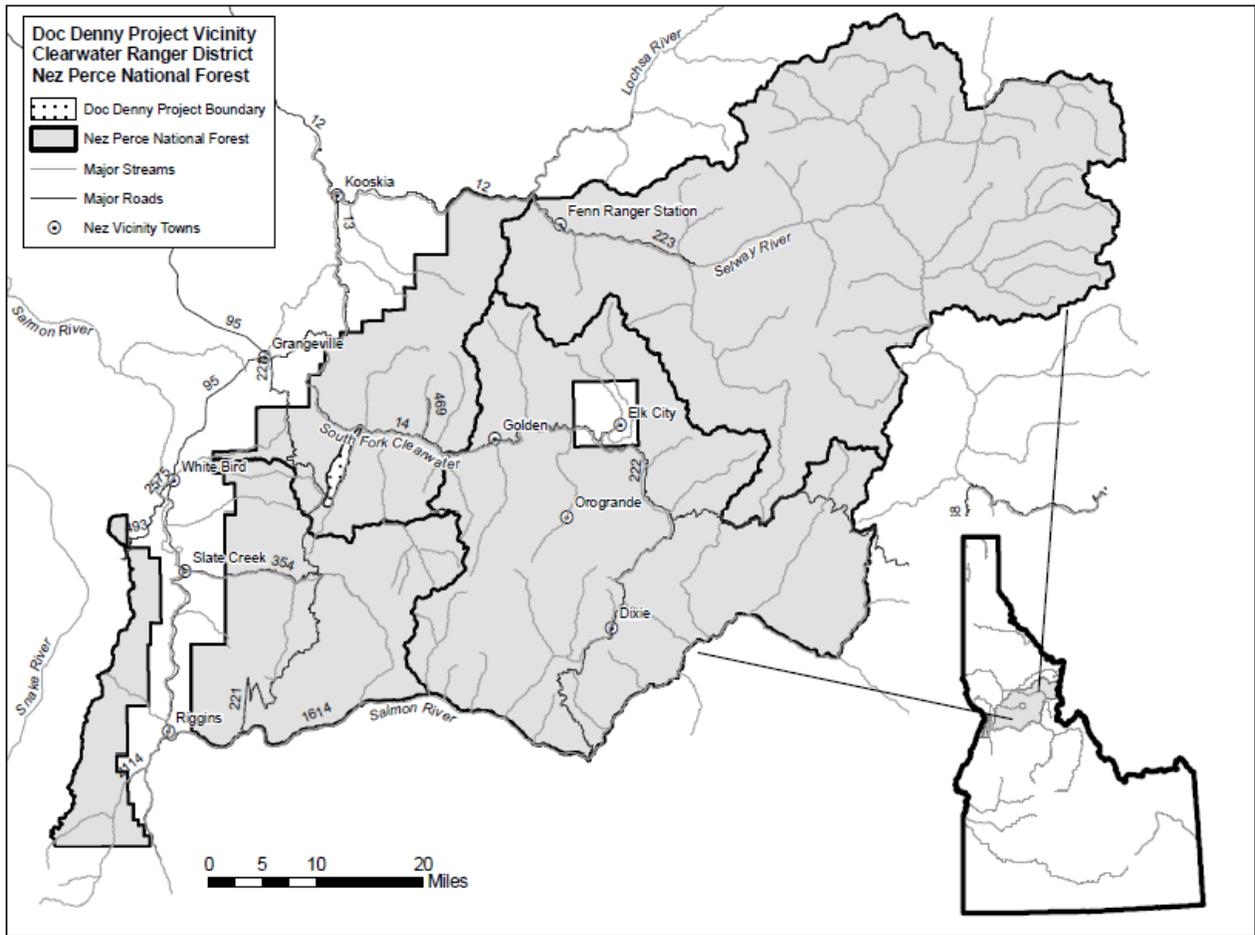
Map 1 – Vicinity Map displays where the Nez Perce Clearwater Forest is located in Idaho and where the Doc Denny Project analysis area lays on the Forest.

Map 2 – Project Activities Map displays the location of proposed treatments.

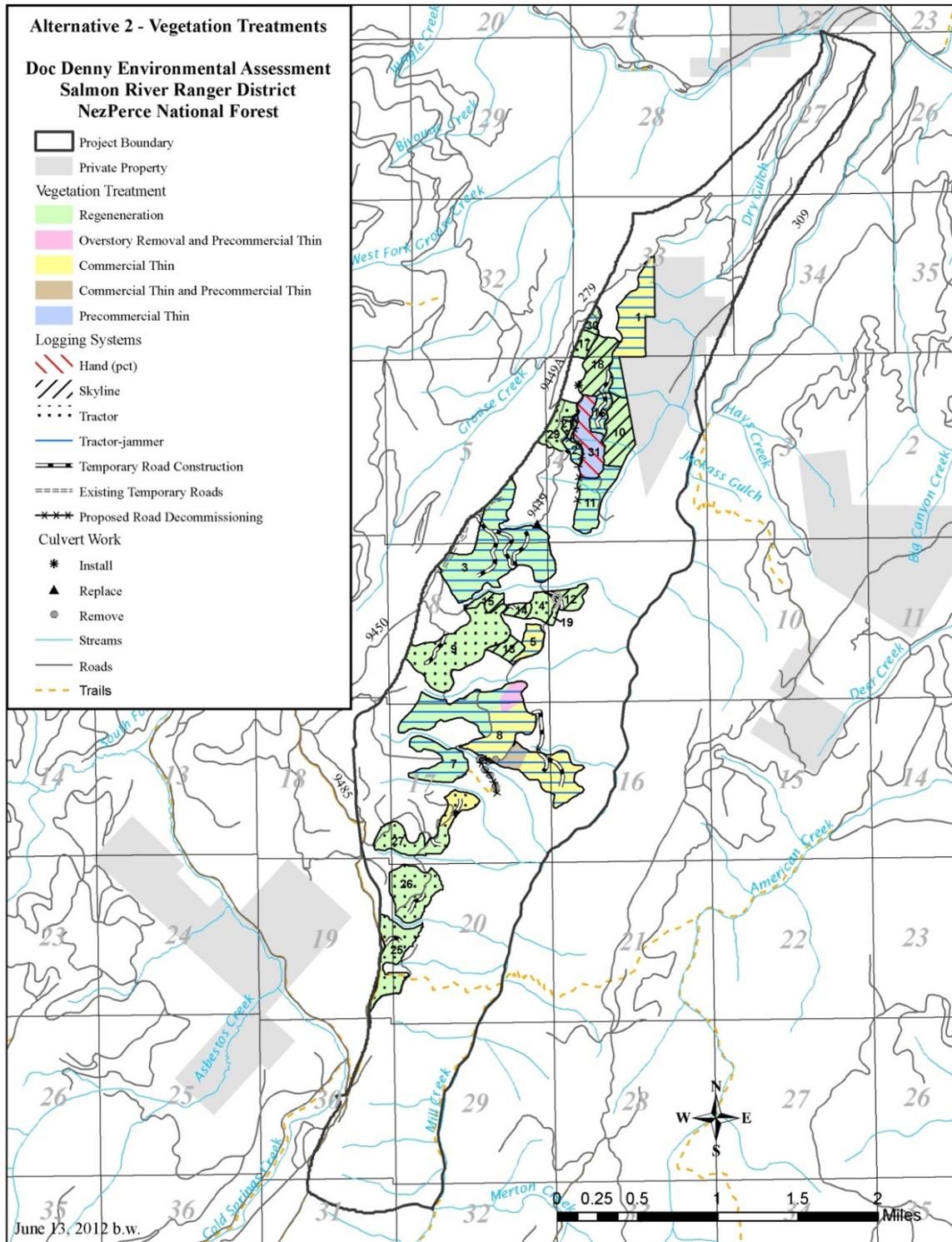
Map 3 – Temporary Road Construction mitigation – Unit 8

Map 4 – Temporary Road Construction mitigation – Units 16 & 18

Map 1 - Doc Denny Project Vicinity Map

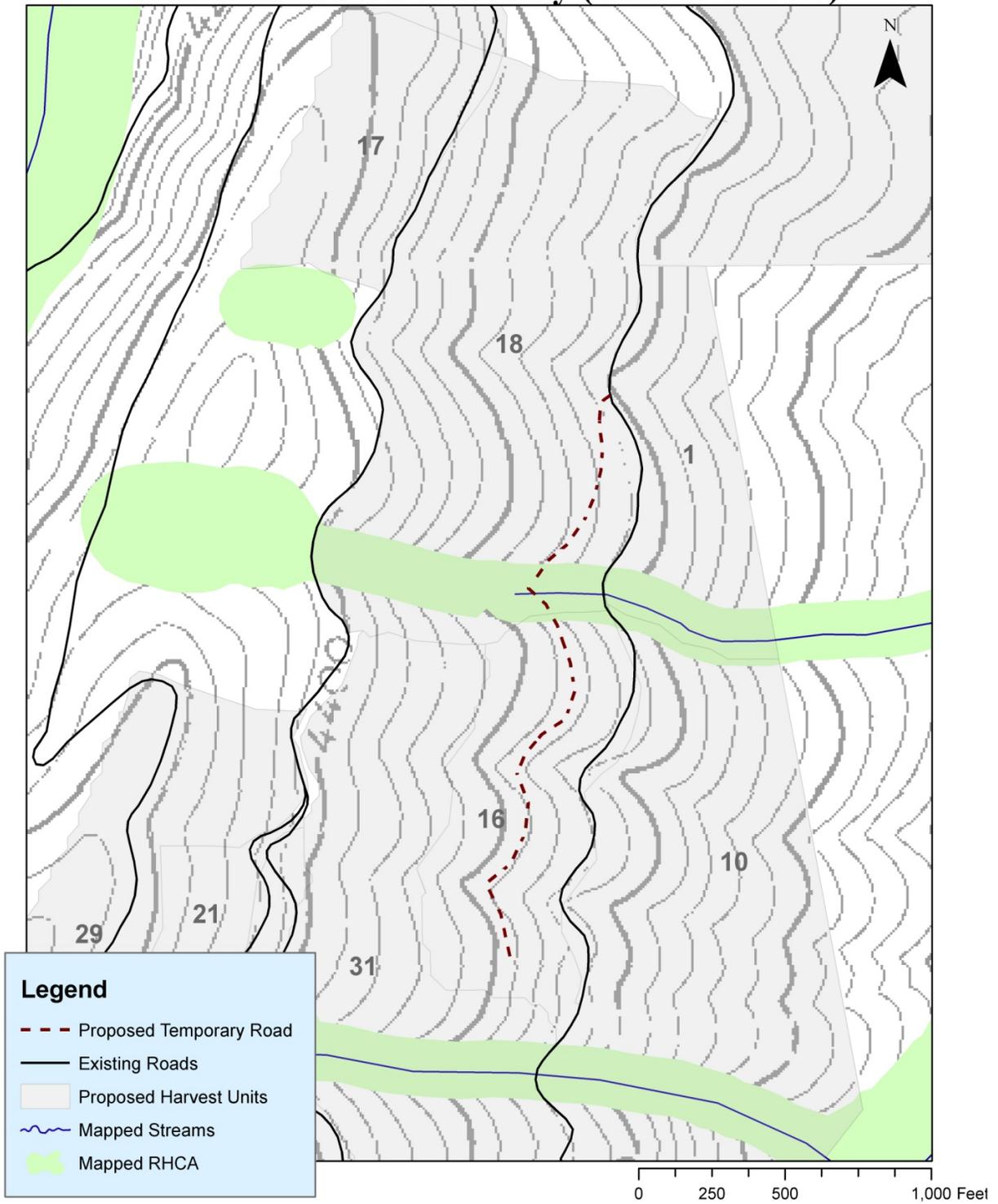


Map 2 - Doc Denny Project Activities Map



Map 3

Temporary Road Construction Mitigation Markham Creek Tributary (Unit 18 and 16)



Map 4

Temporary Road Construction Mitigation Mill Creek Tributary (Lower Unit 8)

