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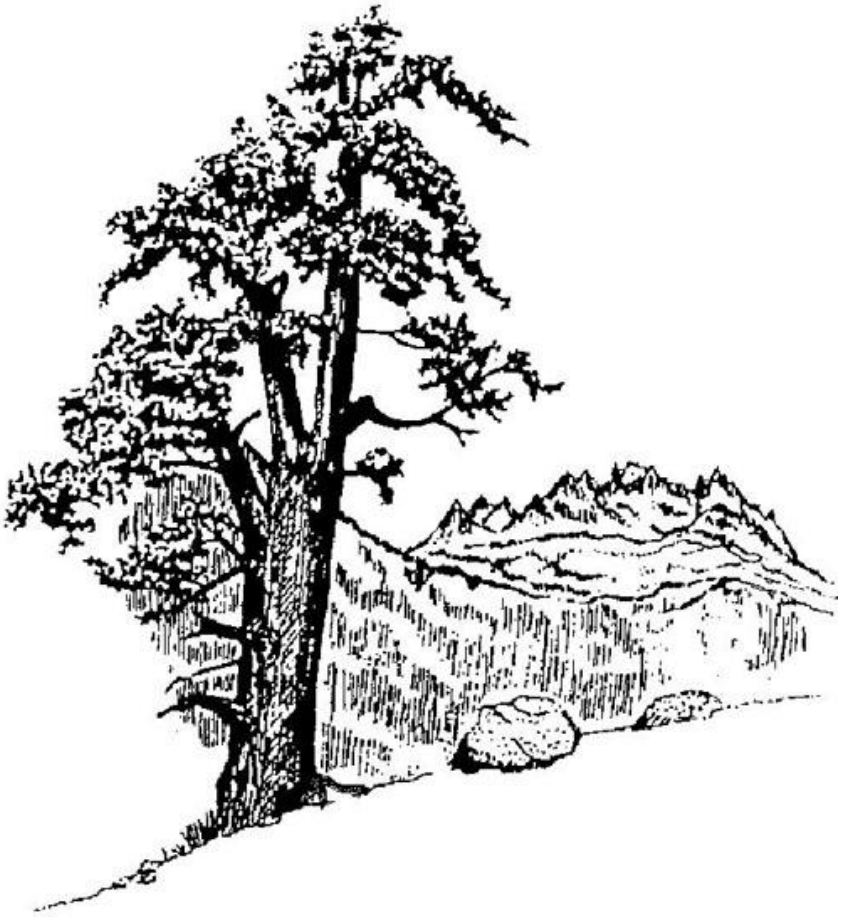
Final Environmental Impact Statement

Record of Decision

Sierra National Forest
Sugar Pine Adaptive Management Project



Sierra National Forest
Sugar Pine Adaptive Management Project

Record of Decision

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Abstract: A Final Environmental Impact Statement (FEIS) that discusses alternatives for the Sugar Pine Adaptive Management Project on the Sierra National Forest is available for public review in the Bass Lake Ranger District Office. This Record of Decision documents the Deciding Officer's decision pertaining to the alternatives identified in the FEIS.

The decision (1) allows treatments designed to strategically place area treatments on the landscape to reduce the intensity and spread of wildfires across the landscape and near communities and (2) allows treatments to reduce stand densities to provide for increased stand resiliency, growth and vigor; (3) implements these treatments in such a way as to maintain adequate habitat elements for species at-risk; (4) makes one non-significant Land and Resource Management Plan amendment.

Introduction

This Record of Decision (ROD) documents my decision on the Sugar Pine Adaptive Management Project (Sugar Pine Project) on the Sierra National Forest (SNF or Forest). The purpose of this project is multifaceted and includes:

- Strategically placing area treatments (known in the Sierra Nevada Forest Plan Amendment (SNFPA, ROD, USDA-FS, 2004) as SPLATs) on the landscape to reduce the intensity and spread of wildfires across the landscape and near communities and;
- Reducing inter-tree competition (stand density) to improve tree vigor and tree growth whereby providing increased stand resiliency to drought conditions, insect and disease attack and wildfire effects.

The Final Environmental Impact Statement (FEIS) discloses the environmental impacts associated with the agency's original proposed action, a no action alternative, and two additional action alternatives developed to meet the purpose and need and respond to issues raised by the public.

My decision makes one non-significant Forest Plan amendment to the Sierra National Forest Land and Resource Management Plan (SNF LRMP)/Sierra Nevada Forest Plan Amendment Record of Decision 2004 (SNFPA ROD 2004).

Background

As directed by the SNF LRMP, as amended in 2004, projects are to be developed and planned utilizing an ecosystem management approach that compares the current condition of key ecosystem elements to the desired conditions set by the SNFPA ROD 2004. A landscape analysis for the Fresno River watershed was completed in July 2005. The Sugar Pine Adaptive Management Project brings forward the opportunities provided in the Fresno River Landscape Analysis where management actions could bring key ecosystem elements closer to their desired condition.

Location

The project is located on the SNF in Madera and Mariposa Counties, California (See Vicinity Map, Figure 1). The project area includes SNF System lands within the Bass Lake Ranger District of the SNF.

Figure 1-Vicinity Map

Purpose and Need

The underlying needs for this decision include:

1. The need for fuel reduction (in the surface and ladder fuels) that protects human communities from moderate/high intensity wildfires as well as minimizes the spread of wildfires that might originate in urban areas into the forested lands. The reasons for this need are to increase the efficiency of firefighting efforts and reduce risks to firefighters, the public, facilities and structures, and natural resources from moderate/high intensity wild fires.
2. The need for conifer stands to be resilient to attack from insects, diseases, drought conditions, and/or wildfire. The reason for this need is conifer stands are well above normal stocking levels (stand densities) resulting in a decline in growth, health and resiliency, thus increasing a stands potential for higher rates of mortality.

In meeting the aforementioned needs the action must also achieve the following purposes:

1. A purpose of this proposal is to reduce the intensity and spread of wildfires across the landscape and near communities. The reason for this purpose is to provide a buffer between developed areas and wildlands where fire suppression capabilities are enhanced by modified fire behavior inside the WUI zones as well as provide a safe and effective area for fire suppression activities to occur (USDA-FS 2001, page 9).

2. A purpose of this proposal is to reduce stand density, within the lower and mid-canopy layers of conifer stands, to such a level as to provide for increased stand resiliency, growth and vigor. The reason for this purpose is to increase the capability for forested stands to withstand drought conditions, attacks from insects and diseases, and the effects from wildfire.

Decision

Based on the analysis and the associated planning record, I have decided to implement Alternative 3, which includes the following actions:

- Commercial and biomass thin from below on an estimated 760 acres natural conifer stands.
- Commercial and biomass thin an estimated 65 acres of ponderosa pine plantations.
- Biomass thin an estimated 240 acres [4 to 10 inch diameter at breast height (dbh)] conifer stands.
- Pre-commercial hand thin and remove fuel ladders, hand pile and burn approximately 17 acres.
- Pre-commercial thin, tractor pile and burn approximately 30 acres of natural conifer stands.
- Masticate brush fields and masticate pre-commercial thin reproduction areas approximately 245 acres.
- Masticate brush fields, fuel ladders, and pre-commercially thin reproduction areas approximately 395 acres.
- Perform fuelbreak maintenance on approximately 40 acres.
- Pre-commercial thin/release plantations approximately 115 acres.
- Plant and hand release of approximately 40 acres site prepared openings.
- Prescribed understory burn, as a primary fuels treatment, approximately 215 acres.
- Complete maintenance operations on approximately 28.2 miles of National Forest Transportation System (NFTS) roads.
- Complete reconstruction operations on approximately 9.8 miles of NTFS roads.
- Construct approximately 0.5 miles of temporary road.
- Construct approximately 0.2 miles of new NTFS road.
- Prescribed burn and/or manually treat infestations of noxious weeds, where located within the project treatment areas, with the goal of eradication and prevention of their spread.

In making the decision to implement Alternative 3, I have included as part of the decision the following amendment to the SNF LRMP/SNFPA ROD 2004 Standard and Guideline #86. The amendment wording is shown in italics. The rest of Standard and Guideline #86 is retained as written in the SNFPA ROD 2004.

"Avoid fuel treatments in fisher densite buffers to the extent possible. If areas within densite buffers must be treated to achieve fuels objectives of the urban wildland intermix zone, limit treatments to mechanical clearing of fuels. Treat ladder and surface fuels to achieve fuels objectives. Use piling or mastication to treat surface fuels during initial treatment. Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists." *Vegetation treatments designed to meet Forest Health objectives and defined in Chapter 2, (Alternatives Considered in Detail of the Sugar Pine Project FEIS, may occur in designated Pacific fisher densite buffer(s) within the Sugar Pine Adaptive Management Project boundary during the implementation phase of this project (see FEIS Map 1 for project boundary).*

This Forest Plan Amendment would allow both fuels treatments and vegetation treatments designed to meet Forest Health objectives, to be implemented in designated Pacific fisher densite buffers within the Sugar Pine Project boundary. Treatments designated within the 2008 795-acre Pacific fisher densite of the Sierra Nevada Adaptive Management Project (SNAMP) F01[1] female fisher are limited to mechanical treatment of ladder and surface fuels that achieve fuels objectives of the "urban intermix zone". Use of piling and mastication to treat surface fuels during initial treatment is allowed. Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists. This particular fisher densite buffer is chosen because it is the only one entirely within the Sugar Pine Project boundary.

Project Research

As part of the SNFPA ROD 2004, an adaptive management and monitoring strategy designed to address high priority, key questions that relate to the uncertainties associated with management activities was to be initiated. In 2006, Region 5 (Pacific Southwest Region) of the Forest Service, as well as other Federal and State Agencies, entered into an agreement with the University of California whereby the university would act as a neutral third party to study the effects of management actions associated with implementation of the SNFPA ROD management direction. This study, known as SNAMP is designed around cause (management actions directed through Standards and Guidelines from the SNFPA ROD 2004) and effects monitoring is conducted to gain a better understanding of how components, structures and processes in four key areas (wildlife [Pacific fisher]; fire and forest health; water quality/quantity; and public participation) respond to management activities, and how ecosystem components interrelate. The information collected from this study will be assembled, reviewed, and integrated into a feedback loop that can inform subsequent management decisions. The Sugar Pine Project is one of two projects within the region where this research is being conducted.

Adjustments to Alternatives in Response to Comments

I have read all of the public comments received in response to the Draft EIS and I have made some adjustments to Alternative 3. These changes respected the original theme and intent of the alternative, and address issues that arose through the public comments.

The Biological Assessment/Biological Evaluation has been revised and updated to include the "best science available" (scientific reports and SNAMP pre-treatment data) regarding the movement patterns, location of Pacific fisher densites and what is known to be the habitat conditions preferred by species considered at risk within the Sugar Pine Project area.

[1] SNAMP scientists have trapped and radio collared several Pacific fishers within the Sugar Pine area to track their movement and use of the area. Each individual fisher has been given a number. "F" designates a Female fisher. "01" is this individual fisher's number.

Design Criteria Common to All Action Alternatives (FEIS, pages 16-26) has been revised to clearly reflect their intent and desired results. Based on comments, additional design criteria have been included: 1) to expand a Limited Operating Period to all suitable Pacific fisher denning habitat within the Sugar Pine Project boundary; 2) to provide adequate snag and down woody material retention; and 3) to provide shrub cover and understory diversity.

The Air Quality Analysis was updated and revised to reflect the recent attainment status changes for the San Joaquin Air Basin. The analysis includes the General Conformity Determination for project activities, by alternative, as they relate to the State Implementation Plans for Ozone and Particulate Matter.

Finally, in response to public comment, the Economic Analysis was updated and expanded.

Design Criteria Included in the Decision

Based on their site specific review of the project area, resource specialists identified design criteria to reduce potential impacts caused by the various alternatives. The FEIS, Chapter 2 describes and defines the actions. My decision includes implementation of the Design Criteria shown in the ROD, Appendix A. These design criteria minimize, reduce or eliminate impacts on sensitive resources.

Monitoring Included in the Decision

Monitoring is critical for evaluating the effectiveness of management decisions and the accuracy of analysis assumptions and conclusions. Monitoring is required and must meet regional and/or National standards. If monitoring determines additional resource damage is occurring, steps to prevent further damage must be taken. Addressing resource damage discovered during monitoring may require additional National Environmental Policy Act (NEPA) analysis. Monitoring requires establishment of a condition baseline prior to project implementation then data is gathered for future management decisions. Once implementation begins, more effective monitoring elements may be identified and implemented.

Best Available Science

I adopted all practicable means to avoid or minimize environmental harm in the design of this project. I included all of the project design criteria that I believe are necessary to avoid, minimize, or rectify impacts on resources affected by the implementation of this decision. My conclusions are based on a review of the record that is based on the best available science. The resource sections in Chapter 3 of the FEIS identify the effects analysis methodologies, reference scientific sources which informed the analysis, discuss responsible opposing views and disclose limitations of the analysis.

Rationale for My Decision

In making the decision to implement Alternative 3, I have considered its compliance with all applicable laws, regulations and policies relevant to this decision. This includes, but is not limited to, NEPA; National Forest Management Act; Endangered Species Act; Clean Water Act; Clean Air Act; National Historic Preservation Act; applicable Executive Orders; Forest Service Manuals and Handbooks; and the SNF LRMP as amended by the SNFPA ROD 2004. In reviewing the documentation provided in Chapter 3-Legal and Regulatory Compliance section in the FEIS, the FEIS itself and the supporting resource specialist reports and Biological

Assessments/Biological Evaluations, this decision is in compliance with these and all applicable laws, regulations and policies.

Alternative 3 best meets the purpose and need of this project while providing the opportunity for the Sierra Nevada Adaptive Management Project (SNAMP) to provide information on the Pacific fisher's response to vegetation management treatments. These treatments were developed with an ecosystem restoration approach that relies primarily on creating and maintaining the desired conditions for Pacific fisher and designed to meet forest health objectives as well as fire/fuels objectives. Alternative 3, by excluding the designated 2008 SNAMP female fisher F01densite from the non-significant Forest Plan Amendment, provides the additional opportunity for SNAMP to provide information on the Pacific fisher's response to having no vegetation management treatments designed to meet forest health objectives implemented.

Design Criteria are an integral part of Alternative 3. They direct the design of treatment areas, treatment types and implementation. As listed in the FEIS on pages 16-26, these are directly from Forest Plan Standards and Guidelines (S&G); Forest Service Manual/Handbook directions, such as Best Management Practices (BMP); based on past implementation experience; legal requirements; and based on the "best science available". I have reviewed the conclusions and biological determinations made relative to Alternative 3 and with the inclusion of these Design Criteria, environmental impacts would be minimized and/or eliminated for all resources areas. Important habitat elements are part of these Design Criteria. The Biological Assessment/Biological Evaluation for Terrestrial Wildlife, in analyzing the effects of Alternative 3, found that Alternative 3 will retain a high degree of overstory forest canopy cover (>50% with a preference for 60%, where conditions allow); all trees >30 inches dbh and all snags (except where they pose an immediate safety hazard) will be retained during mechanized treatments. Trees >21 inches dbh will be retained, in adequate quantity, to help assure availability of resting and denning structures now and into the future. Black oaks will be retained, as well as large tree groups. The project will not impede movement or dispersal to other currently connected suitable habitat because habitat connectivity will be maintained within and adjoining the project area. No treatments will occur throughout suitable fisher habitat during their breeding season.

The Sugar Pine Project FEIS documents the analysis and conclusions upon which this decision is based.

Alternatives Considered in Detail but Not Selected

In addition to the selected alternative, I considered four other alternatives in detail, which are summarized below. A more detailed comparison of these alternatives can be found in Chapter 2 of the FEIS pages 27-31.

Alternative 1: No Action Alternative Under the No Action alternative, current management plans would continue to guide activities in the project area.

Alternative 1 would take no action at this time to address the purpose and need of this project. With the potential effects that would be caused if a stand replacing wildfire in a Wildland Urban Intermix area was to occur and/or the loss of stands from epidemic levels of insects and disease, drought conditions and uncharacteristic increases in fire behavior, Alternative 1 is not a viable option.

Alternative 2 (Proposed Action): Under Alternative 2, treatment areas would be treated to meet both fire/fuels (treatments to reduce surface and ladder fuels) and the forest health objectives (basal area treatments to reduce stand density) to such a level as to improve growth and

vigor of remaining trees. Treatments included in this alternative are: thinning from below, either pre-commercially, commercially, biomassing and/or mastication the lower and mid- level canopy of conifer stands to reduce stand densities and ladder fuels; mastication of ladder fuels and brush/shrub patches; prescribed burning, both understory and pile burning as a primary, post-thinning and/or maintenance treatment to reduce ladder and surface fuels; manually treat and/or prescribed burn noxious weed infestations to reduce and/or eliminate known infestations; and site preparation and planting of failed conifer plantations. A non-significant Forest Plan amendment to Standard and Guideline #86 would allow fire/fuels (reduction of ladder and surface fuels) and vegetation treatments (stand density treatments to meet forest health objectives) within designated Pacific fisher densite buffers.

Alternative 2 would provide the same opportunity as Alternative 3, but Alternative 2 does not provide the additional opportunity for SNAMP to gather and obtain information on the Pacific fisher's response to the protection measures set forth in the SNFPA ROD 2004 Standard and Guideline #86.

Alternative 4: Under Alternative 4, mechanical treatment types would be similar to Alternative 2, but intensity would be limited to that needed to meet fire/fuels objectives (reduction of surface and ladder fuels) in the lower-level and limited mid-level canopy in designated Pacific fisher densite buffers as well as areas outside of the densite buffers. This alternative would implement all Standards and Guidelines, as written, from the SNFPA ROD (USDA-FS 2004) and would not include the non-significant forest plan amendment.

Alternative 4, while meeting the purpose and need for fire/fuels it does little to meet the purpose and need for forest health.

Environmentally Preferable Alternative

The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves and enhances historic, cultural, and natural resources.

Based on my consideration of the factors listed above and the effects disclosed in the FEIS, I consider Alternative 3 to be the environmentally preferable alternative. I believe the management actions under Alternative 3 protect and preserve important historic, cultural, and natural resources and maintain the quality of habitat needed to protect sensitive species. In addition, this alternative provides the means by which to gather and obtain information on sensitive species response to management actions directed by the SNFPA ROD 2004. Alternative 3 provides three distinctively different intensities of treatment within it that include areas where no treatment occurs, only fire/fuels treatments occur and fire/fuels/forest health treatments occur.

Public Involvement

An important goal of this effort for me was to engage the public in a process. A notice of intent to prepare an EIS was published in the Federal Register on October 12, 2007 (74 FR 34753). In addition, the proposed action was listed in the SNF Schedule of Proposed Actions and updated periodically during the environmental analysis. People were invited to review and comment on the proposal through scoping letters sent to residences with properties within 1.5 mile radius of the project boundary, members and groups of the Native American communities, public meetings and field trips (specifically for the Sugar Pine Project and those associated with the SNAMP). The FEIS lists agencies, organizations, and people who received copies on page 196.

The following issues were identified from scoping comments and were used to determine the scope of the analysis. Centered as the issue from scoping comments was the proper balance between where forest functionality and susceptibility can be improved and human habitations susceptibility to wildland fire can be reduced while retaining important species habitat elements. A full description of issues significant to the proposed action appears in the FEIS on page 7.

A DEIS was published for review and comment on July 17, 2009.

Significant Issues

Comments from the public and other agencies were used to formulate issues concerning the proposed action. An issue is defined as a matter of public concern regarding the proposed action and its environmental impacts. The Forest Service separated the issues into two groups: significant and non-significant. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those (1) outside the scope of the proposed action; (2) already decided by law, regulation, LRMP or other higher level decision; (3) irrelevant to the decision to be made; or (4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality NEPA regulations explains this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…" A list of non-significant issues and reasons why they were found non-significant may be found at the SNF Bass Lake Ranger District Office, North Fork, CA in the project record.

In deciding to implement Alternative 3, I have considered significant issues that were brought forward during public scoping. These centered on the proper balance between improved forest functionality and sustainability and human habitation (Wildland Urban Intermix) vulnerability to wildfire while retaining important species habitat elements. Specifically, retention of important habitat elements for Pacific fisher, California spotted owl, Northern goshawk and Management Indicator Species as measured by:

- High canopy cover (average in a stand should not drop below 50% and significant portions of the treated stands should be at 60% or greater canopy cover),
- Retention of larger [>20 inch diameter] trees,
- Relatively high basal areas,
- Understory structure (provide for understory diversity),
- Adequate large snags and downed wood, and
- Available movement corridors linking to suitable habitat outside of project area (habitat connectivity).

Legal and Regulatory Compliance

My decision complies with the laws, policies, and executive orders listed below and described in Chapter 3 of the FEIS.

Forest Plan Consistency

My decision includes one amendment to the management direction contained in the LRMP. More information about these amendments and the evaluation of significance under the NFMA is provided below.

LRMP Amendments

The Forest Plan Amendment standard and guideline #86 to read as follows. The Amendment is shown in italics. The rest of standard and guideline #86 in quotes is retained as written in the SNFPA ROD 2004:

"Avoid fuel treatments in fisher densite buffers to the extent possible. If areas within densite buffers must be treated to achieve fuels objectives of the urban wildland intermix zone, limit treatments to mechanical clearing of fuels. Treat ladder and surface fuels to achieve fuels objectives. Use piling or mastication to treat surface fuels during initial treatment. Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists." *Vegetation treatments as designed to meet Forest Health objectives and defined in Chapter 2, Alternatives Considered in Detail of the Sugar Pine Adaptive Management Project Environmental Impact Statement, may occur in Pacific fisher densite buffer(s) within the Sugar Pine Adaptive Management Project boundary (the specific Sugar Pine Project Boundary is shown on Map 1 in the Appendix A-Map Package) during the implementation phase of this project.*

Significance of Forest Plan Amendment

Adoption of either of two of the action alternatives, (Alternative 2 or 3), would result in the above amendment of the SNF LRMP/SNFPA ROD. If an amendment to a Forest Plan results in a "significant change in the plan," the National Forest Management Act (NFMA) and its 1982 implementing regulations, under which this EIS is prepared, require that the amendment process follow the procedures used in the initial development of the plan. If the proposed change in the plan is not significant, public notification and completion of the NEPA procedures are still required (16USC 1604(f)(4) and 36 CFR 219.10(f). Determining whether a plan amendment is a significant change uses different criteria than those used in evaluating significance in the NEPA process. For the NFMA requirement, the Forest Service Manual (FSM 1922.51 and 52) provides specific direction.

Forest Service Manual 1933.51 – Changes to the Forest Plan that are Not Significant.
Changes to the forest plan that are not significant can result from:

1. *Actions that do not significantly alter the multiple-use goals and objectives for the long-term land and resource management.*

   The actions proposed in these alternatives would not alter the objectives and the multiple-use goals of the SNF LRMP as amended by the SNFPA ROD 2004. The purpose of the action alternatives is to facilitate achieving these goals and objectives of these. The action alternatives will continue to provide species protection in compliance with all applicable laws and regulations, while making more Agency resources available for other forest management priorities. The underlying need to which the action alternatives are responding is the need to achieve the objectives originally established for the SNFPA ROD 2004. Without the SNF LRMP/SNFPA ROD 2004 amendment the forest health objectives are frustrated as fisher densite buffers would encompass the vast majority of the 5,416 acres in the project boundary.

2. *Adjustment of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause*

significant changes in the multiple-use goals and objectives for long-term land and resource management.

The action alternatives would change Pacific fisher densite protection management. The action alternatives would not reduce species protection below legally required levels or increase timber harvest beyond levels identified in the SNFPA FSEIS or SNF LRMP. The action alternatives improve the Sierra National Forest's ability to conduct forest management activities at a level described in the SNF LRMP/SNFPA ROD 2004. Selection of one of the action alternatives would enable the SNF to better meet the long-term goals and objectives currently identified in the SNF LRMP/SNFPA ROD 2004.

3. Minor changes in standards and guidelines.

The action alternatives would modify a mitigation measure added during preparation of the SNFPA FSEIS. The action alternatives would not significantly change any key elements of the underlying strategy or standards and guidelines. Removing or modifying SNFPA ROD 2004 Standard and Guideline #86 would be a relatively minor change because: (1) the Sugar Pine Project forest health treatments have been developed with an ecosystem based approach that relies primarily on creating and maintaining the desired conditions for areas surrounding fisher den sites; (2) the amendment of Standard and Guideline #86 is limited in scope (5,416 acres out of the more than 1.3 million acres in the SNF (0.4 percent of the total forest) and in time frame (amendment is only applicable during the implementation phase of the Sugar Pine Project); (3)information will be generated on fisher's response to the vegetation treatments for forest health as this area is part of the SNAMP study that can help inform future decisions; and (4) the vegetation treatments for forest health will help sustain the habitat conditions needed by the fisher in the long-term. The effects discussion in Chapter 3-Affected Environment and Environmental Consequences (Terrestrial Wildlife) helps to quantify the change within the context of the proposed project.

4. *Opportunities for additional management practices that will contribute to achievement of the management prescription.*

The action alternatives are specifically designed to better and more efficiently meet the underlying needs identified in the SNFPA FSEIS.

Forest Service Manual 1922.52 – Changes to the Forest Plan that are Significant. The following examples are indicative of circumstances that may cause a significant change in a forest plan.

1. Changes that would significantly alter the long-term relationship between level of multiple-use goals and services originally projected (36 CFR 219.10(e)).

The changes proposed by the action alternatives would help achieve, not alter, the relationship between levels of multiple-use goods and services originally projected. The Pacific fisher will continue to receive protection as required to meet all applicable laws and regulations.

2. *Changes that may have an important effect on the entire forest plan or affect land and resources throughout a large portion of the planning area during the planning period.*

The changes proposed would modify an SNFPA ROD 2004 mitigation measure. The action alternatives do not change land allocation or other elements of the SNF LRMP or SNFPA ROD 2004. There will be a reduction in the area managed known fisher den site buffers; however, no other SNF LRMP or SNFPA ROD 2004 resource objective is dependent on these sites. There is predicted to be an increase in vegetation treatments for forest health from current levels; the current levels are well below the predictions displayed in the SNFPA FSEIS. The purpose of the proposal is to achieve levels of vegetation treatments for forest health that were expected when the SNFPA ROD was signed in 2004. Thus, the action alternatives will help achieve (and not change) the multiple use goals and objectives set forth in the SNFPA ROD 2004.

In conclusion, it is my finding that the Forest Plan Amendment is non-significant.

Findings Required by Other Laws and Regulations

This decision is consistent with the SNF LRMP as amended by the SNFPA ROD 2004. The project was designed in conformance with the intent of moving towards the management goals and objectives set forth in these documents to ensure that fuels treatments will effectively modify wildfire behavior while including other management objectives such as reducing stand density for forest health and restoring and maintaining ecosystem structure and composition.

The findings for other pertinent laws associated with this decision are listed below:

A. National Environmental Policy Act (NEPA)

NEPA requires that Federal agencies prepare detailed statements on proposed actions that significantly affect the quality of the human environment to provide decision makers with a detailed accounting of the likely environmental effects of a proposed action prior to its adoption, and to inform the public of, and allow comment on, such effects. Resource specialist have compiled and utilized information relevant to the effects of the alternatives considered in the Final Sugar Pine Adaptive Management Project EIS. All substantive comments, written and oral, made on the DEIS have been summarized and responded to in Appendix D of the FEIS.

I find that the environmental analysis and public involvement process complies with each of the major elements of the requirements set forth by the Council for Environmental Quality for implementing NEPA (40 CFR 1500-1508).

B. National Forest Management Act (NFMA)

My decision conforms to the 1982 planning regulations (36 CFR 219) that implement the National Forest Management Act. By implementing this decision under the Standards and Guidelines set forth in the SNF LRMP as amended by the SNFPA ROD 2004, as well as the inclusion in this decision of the design criteria to minimize and/eliminate potential significant environmental effects, I have determined this decision is in compliance with NFMA. I have determined that this decision includes a non-significant Forest Plan amendment. Based on direction provided in Forest Service Manual 1933.51 and 1933.52 to meet requirements under this act and used to determine the amendments

significance, as well as the public notification and completion of the NEPA procedures still required (16USC 1604(f)(4) and 36 CFR 219.10(f) it is my finding this is a non-significant Forest Plan Amendment and complies with NFMA.

C. Endangered Species Act

It is my finding that this decision is in compliance with this Act by the inclusion of design criteria and implementation of Forest Plan Standards and Guidelines as well as the completion of Biological Assessments and Evaluations for Botanical (J. Clines 2008), Aquatic Wildlife (P. Strand 2008), and Terrestrial Wildlife (A. Otto/G. Schroer/K. Williams 2010) species.

D. Clean Water Act

It is my finding that this decision is in compliance with this Act by the inclusion of design criteria, implementation Forest Plan Standards and Guidelines and implementation of Best Management Practices.

E. Clean Air Act

It is my finding that this decision is in compliance with this Act and is determined to be in conformance with applicable State Implementation Plan for criteria pollutants.

F. National Historic Preservation Act

It is my finding that this decision is in compliance with this Act through the incorporation of design criteria.

It is my finding that this decision is in compliance with all Executive Orders that provide direction to Federal agencies and apply to this decision.

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to 36 CFR 215. In accordance with the April 24, 2006 order issued by the U. S. District Court for the Missoula Division of the District of Montana in Case No. CV 03-119-M-DWM, only those individuals and organizations who provided comments during the comment period are eligible to appeal [36 CFR 215.11(a), 1993 version]. Appeals must be filed within 45 days from the publication date of the legal notice in the *Fresno Bee*. Notices of appeal must meet the specific content requirements of 36 CFR 215.14. An appeal, including attachments, must be filed (regular mail, fax, e-mail, hand-delivery, express delivery, or messenger service) with the appropriate Appeal Deciding Officer [36 CFR 215.8] within 45 days following the publication date of the legal notice. The publication date of the legal notice is the exclusive means for calculating the time period to file an appeal [36 CFR 215.15 (a)]. Those wishing to appeal should not rely upon dates or timeframe information provided by any other source.

Appeals must be submitted to Regional Forester, USDA Forest Service, 1323 Club Drive, Vallejo, CA 94592, (707) 562-8737. Appeals may be submitted by FAX [(707) 562-9091] or by hand-delivery to the Regional Office, at the address shown above, during normal business hours (Monday-Friday 8:00am to 4:00pm). Electronic appeals, in acceptable [plain text (.txt), rich text (.rtf) or Word (.doc)] formats, may be submitted to appeals-pacificsouthwest-regional-office@fs.fed.us with Subject: Sugar Pine Adaptive Management Project.

For electronically mailed appeals, the sender should normally receive an automated electronic acknowledgment from the agency as confirmation of receipt. If the sender does not receive an

automated acknowledgment of the receipt of the appeal, it is the sender's responsibility to ensure timely receipt by other means [36 CFR 215.6(a)(4)(iii)].

Implementation Date

If no appeals are filed within the 45-day appeal period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Contact Person

The FEIS and supporting documents are available for public review at the Sierra National Forest, Bass Lake Ranger District, 57003 Road 225, North Fork, CA 93643, (559) 877-2218. For further information on this decision, contact Mark Lemon (mlemon@fs.fed.us), Interdisciplinary Team Leader at (559) 877-2218 extension 3110.

/s/ Edward C. Cole — February 22, 2010

EDWARD C. COLE — Date

Forest Supervisor, Sierra National Forest

Appendix A- Design Criteria

Cultural Resources

Procedures and standard protection measures from the *Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Identification, Evaluation and Treatment of Historic Properties Managed by the National Forests of the Sierra Nevada, California* (the Sierran PA) will be utilized for the protection of Heritage Resources within the project area. The primary protection measure will be avoidance, but additional measures, such as directional felling and monitoring can be used to minimize potential effects.

Botany: Rare and Noxious Weeds

Project design criteria for protection of Forest Service sensitive plants (Project specific implementation of SNF LRMP (USDA-FS 1992) and SNFPA ROD (USDA-FS 2004b) S&G's and Endangered Species Act requirements):

- All known lady's slipper orchid populations will be flagged for avoidance unless they occur in streamside management zones where no management activities will occur.
- Populations of short-leafed hulsea that occur along Forest Roads 5S22Y and 5S06 will be flagged for avoidance prior to project implementation.

Project design criteria for prevention of spread of noxious weeds (SNFPA ROD (USDA-FS 2004b) S&G, pages 54-55):

- All heavy equipment used for implementing the project will be washed before arriving on site to remove soil and seeds of noxious weeds so that they are not transported into the project area.
- Infestations of foxglove, klamathweed, oxeye daisy, broom, and bull thistle will be removed prior to project implementation, and a buffer zone will be flagged for avoidance to prevent heavy equipment from transporting seeds in the soil to other areas within the project boundary and beyond.
- Any plantings or straw used for erosion control will be approved by the Forest Botanist to minimize the likelihood of accidental introduction of noxious weeds and to ensure compliance with the FS Pacific Southwest Region Native Plant Policy.

Geology/Soils

Leave a 100-foot wide buffer of 100 percent soil cover below large rock outcrops. These areas have a high potential to generate runoff that can cause accelerated erosion on soils down slope (FS Handbook).

A. Conduct mechanical equipment operations (mechanical thinning and biomass removal equipment, log skidders and tractor-piling operations) when the soil is sufficiently dry in the top 12 inches to prevent unacceptable loss of soil porosity (soil compaction). Field checking by a soil scientist would be done to determine if operations could continue under **moist** soil conditions. "Maintain 90% of the soil porosity over 85% of an activity area (stand) found under natural conditions." (BMP; FS Handbook)

B. Subsoil and water bar skid roads and trails in areas where soil compaction exceeds 15% of a treatment area. (BMP; FS Handbook)

C. Limit mechanical operations, where sustained slopes exceed 35%, except where supported by on-the-ground interdisciplinary team evaluation (FS Handbook; SNF LRMP S&G).

D. Maintain 50% soil cover over all treatment areas. Where shrub species predominate, attempt crushing before piling to create small woody fragments left scattered over the site for soil cover and erosion protection (FS Handbook; SNF LRMP S&G).

E. Maintain at least five well-distributed logs per acre as large woody debris (LWD) representing the range of decomposition classes defined in the Regional Soil Quality Standards and Guidelines (SNF LRMP and SNFPA ROD S&G).

F. Provide for road surface stabilization (gravel) on roads over 5% grade that are located on sensitive soils, including Holland and Musick soils (SNF LRMP S&G #129) and are affecting soil productivity and/or water quality.

Lands/Special Uses

There are numerous land type special uses authorized under permit in the project area including water systems (spring developments, water lines and storage tanks), buried fiber optic and telephone lines, a telephone carrier site near Sugar Pine, the Madera Irrigation District gauging station, overhead and buried electrical lines, roads, and apiary sites. These Special Use areas are shown in Map 6 in Map Package. Based on past experience and to minimize potential negative effects to permitted special uses and associated infrastructure associated with them.

- To provide a measure of protection, permit holders will be responsible for identifying the location(s) of their authorized improvements and/or right-of-ways so they are clearly visible during project implementation. Holders shall identify their improvements by using a combination of flagging and surveyors stakes; holders shall print their name and contact phone numbers on the flagging/stakes with indelible ink that is capable of lasting several years.
- Roads authorized under permit that are damaged by project activities will be repaired by the operator(s) to pre-project condition.
- The Madera Irrigation District Ditch is located in Treatment Areas T15 and M5 where mastication would occur. The Ditch has been in use for over 150 years, and a riparian vegetation type has developed along the banks of the ditch. There should be a minimum setback of 25 feet on either side of the ditch where the use of mechanical equipment should be restricted, or project activities are limited to the hand removal of brush. All slash that enters the ditch resulting from project activities will be removed by the end of the days operating period by the operator to prevent blockage of the ditch.

Recreation special uses authorized under permit in the project area include the Yosemite Mountain Sugar Pine Railroad (YMSRR) and Yosemite Trails Pack Station (YTPS). The YMSRR improvements located within their permit area include the railroad right-of-way, office, parking areas, amphitheater, bathroom, seating areas, etc. These are easily identifiable and should be avoided during project activities. The YMSRR operates the railroad 6 months a year between March and October; however, their peak visitor season is between June and mid-August. Project activities would occur adjacent to and within the permit area.

- During project implementation various contractors and/or operators may need to cross the railroad tracks to gain access to treatment units. The Bass Lake Ranger District will identify the locations where rail crossings need to occur; and will work with the owner of YMSRR to design and construct the crossings to ensure heavy equipment does not damage the rail system during project implementation.
- The district will work with the owner of YMSRR to minimize interruptions to YMSRR operations during Project implementation.
- Contractors and/or operators will provide advance notification to the YMSRR when Project activities occur adjacent to the right-of-way and/or permit area, and advise the YMSRR when Project activities may result in a delay of YMSRR operations.
- Contractors and/or operators will remove all activity slash generated from project activities that land on the railroad tracks and/or within the railroad right-of-way. The contractor and/or operator will provide a spotter, whose responsibility is to remove slash from the tracks and right-of-way concurrent with the operation, or as soon as project activities cease, and the right-of-way is safe to enter.

The YTPS offers horseback rides three seasons of the year from their pack station headquarters adjacent to Big Sandy road, and offers horse driven sleigh rides from a secondary location south of Tenaya Lodge during winter months when snow conditions are favorable. The YTPS is authorized to use and maintain many of the horseback riding trails they take their clients on.

Trails used by YTPS and the Lewis Creek Recreation Trail may need to be crossed with equipment by operators to gain access to units. These trails are identified in the project folder and on the map entitled "Special Uses" within the Sugar Pine Project.

- All project-related equipment will cross at locations perpendicular to identified recreation trails.
- All slash will be pulled out of and away from trails. Activity fuels and slash will not be piled or treated within 5 feet of those trails.

Wildlife – Terrestrial

Limited Operating Periods (LOPs) (SNFPA ROD, pgs. 37-39)

Should surveys locate activity centers or active nests for California spotted owls or Northern goshawks, LOPs will be applied within a ¼ mile radius of the activity center or nest. All areas within the project area have been surveyed to Regional Protocol for California Spotted owl and Northern Goshawk. Should a great gray owl nest be located, nesting location will be protected by an LOP. The district biologist will be notified when a nest or den of any Threatened (T) Endangered (E), Candidate (C), Proposed (P), or Forest Service sensitive species is discovered within or adjacent to a treatment area and an LOP would be established for that nest area.

2. **Snags and Down Woody Material** (SNFPA ROD, Pg. 51-52):

   Down Woody Material (S&G #10): "Determine down woody material retention levels on an individual project basis, based on desired conditions. Emphasize retention of wood in the largest size classes and in decay classes 1, 2, and 3. Consider the effects of follow-up prescribed fire in achieving desired down woody material retention levels." This will be met by maintaining at least five well-distributed logs per acre as large woody debris (LWD) representing the range of decomposition classes from the Geology/Soils design criteria throughout the implementation of this project.

Snag Retention (S&G #11): "Design projects to implement and sustain a generally continuous supply of snags and live decadent trees suitable for cavity nesting wildlife across a landscape. Retain some mid- and large-diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. When determining snag retention levels and locations, consider land allocation, desired condition, landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops) avoiding uniformity across large areas.

The general guidelines for large-snag retention are as follows:

- Westside mixed conifer and ponderosa pine types – four of the largest snags per acre.
- Use snags larger than 15 inches dbh to meet this guideline. Snags should be clumped and distributed irregularly across the treatment areas. Consider leaving fewer snags strategically located in treatment areas within the WUI. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels."

Snag Felling: Snags can be felled only if they meet the definition of a danger tree (as described in the Engineering Design Criteria), have the potential to fall across prescribed fire control lines, and/or pose a threat to firefighter safety during prescribed fire implementation. Snags that meet this definition and are felled during project implementation will be retained on site for down woody debris. All snags not meeting these criteria will remain as standing snags within the project area.

Protected Activity Centers (PACs) and Home Range Core Area (HRCA) treatments (SNFPA ROD, page 40): Where treatments will occur within PACs aim to maintain >70% canopy closure where available. Where treatments will occur within HRCAs aim to maintain >60% canopy closure where available.

Pacific Fisher Specific Design Criteria (SNFPA ROD, pgs 39 & 61-62):

Den Site Designation, Standards and Guidelines

"Fisher densites are 700-acre buffers consisting of the highest quality habitat (CWHR size class 4 or greater and canopy cover greater than 60 percent) in a compact arrangement surrounding verified fisher birthing and kit rearing dens in the largest, most contiguous blocks available."

"Protect fisher den site buffers from disturbance with a limited operating period (LOP) from March 1 through June 30 for vegetation treatments as long as habitat remains suitable or until another Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location." (S&G #85)

"Avoid fuel treatments in fisher den site buffers to the extent possible. If areas within den site buffers must be treated to achieve fuels objectives for the urban wildland intermix zone, limit treatments to mechanical clearing of fuels. Treat ladder and surface fuels to achieve fuels objectives. Use piling or mastication to treat surface fuels during initial treatment.

Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists." (S&G #86)

Additional Design Criteria for Pacific Fisher

"Prior to vegetation treatments, design measures to protect important habitat structures as identified by the wildlife biologist, such as large diameter snags and oaks, patches of dense large trees typically ¼ to 2 acres, large trees with cavities for nesting, clumps of small understory trees, and coarse woody material. For example, use firing patterns, place fire lines around snags and large logs, and implement other prescribed burning techniques to minimize effects to these attributes. Use mechanical treatments when appropriate to minimize effects on preferred fisher habitat elements." (S&G #90)

"Assess the potential impact of projects on the connectivity of habitat for old forest associated species" (S&G #28)

"Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridgetop saddles during project-level analysis" (S&G #29)

The following Design Criteria have been developed to protect, maintain, and/or enhance important Pacific fisher habitat elements for all action alternatives and are based on information from Spencer 2008: Baseline Evaluation of Fisher Habitat and Population Status and Effects of Fires and Fuels Management on Fishers In the Southern Sierra Nevada, Final Report to USDA Forest Service, Pacific Southwest Region; North et. al. 2009: An Ecosystem Management Strategy for Sierran Mixed-Conifer Forests and Sierra Nevada Adaptive Management Study Integration Team discussions/fieldtrips.

- Maintain highest canopy cover possible to meet the prescription within stands, aim for 50-60% immediately post-harvest.

Thinning will not remove any trees larger than 30-inch dbh (SNFPA ROD, pg. 50).

Protect all suitable fisher denning habitat with a Limited Operating Period (LOP) from March 1 through June 30. Map 7 in the Map Package shows specific treatment areas with suitable fisher denning habitat and where the LOP will be implemented.

Retain groups of larger trees (greater than 20-inch dbh) at the rate of approximately one group per 2.5 to 3.5 acres. Ideally these groups would contain "defect" trees, those that have cavity and platform creating defects (mistletoe, rot, fork topped, broken limbs and tops) for den and rest sites. These groups are being retained to maintain habitat heterogeneity throughout the treatment areas.

Snag and Down Woody Material retention will meet the criteria listed in Criteria #2 (page 19-20).

Standard and Guidelines #28 and #29 provide guidance for developing and maintaining adequate habitat connectivity within riparian areas. Recent studies (Spencer, 2008; North, et.al., 2009) have also shown that fisher utilize riparian areas as travel corridors between high quality habitat. To provide for this habitat connectivity, design criteria have been developed to incorporate and expand upon established riparian area management zones; i.e. Streamside Management Zones (SMZ) and Riparian Management Areas (RMA) associated with perennial streams (Class I). The forest wildlife biologists have termed these zones Old Forest Linkages (OFL). They incorporate

and expand upon the measures required for SMZs and RMAs. OFLs consist of buffers measuring 300 feet total on either side of perennial streams. Design criteria for these Old Forest Linkages are detailed in the table and figure below.

For perennial streams (Class I) within the project area:

Distance from Stream*	**Vegetation Management Activities Allowed within zone**	**Zone Designation**
0-50 feet	No Activities Allowed	SMZ/RMA/OFL
50-100 feet	No ground disturbing equipment allowed into area (dozers, skidders, etc.) Activities allowed include hand-felling of trees smaller than 12"dbh, pile-burning, and equipment reach-in with boom arm. Canopy cover is to remain ≥60%.	SMZ/RMA/OFL
100-150 feet	Mechanical entry is allowed. Trees ≤12" dbh may be removed for fire and fuels reduction purposes by equipment. Canopy cover is to remain ≥60%.	OFL
150-300 feet	Mechanical entry is allowed. Thinning from below will occur. Canopy cover is to remain ≥60%.	OFL

*Distance from Stream for Activities is measured and applied to each side of the stream from bank-full left and bank-full right.

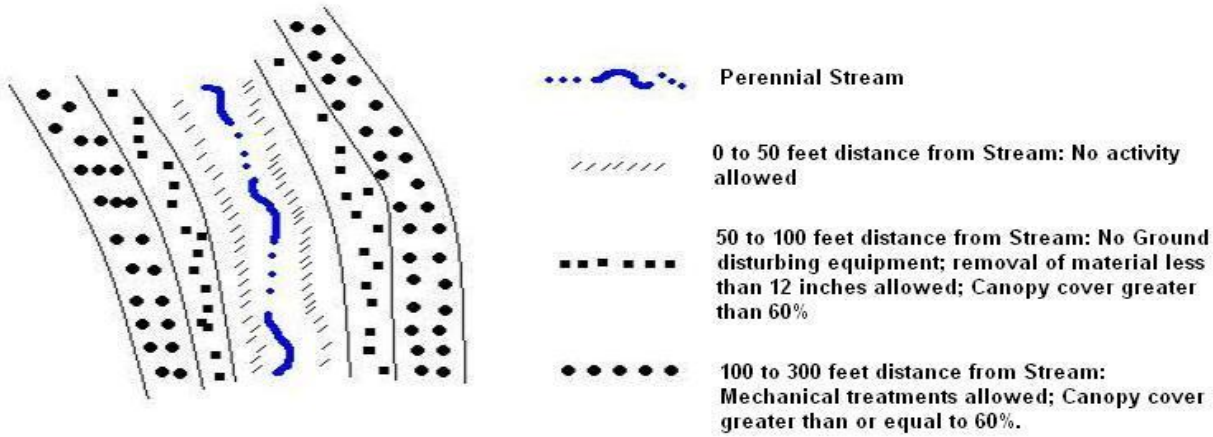

Figure 1. Associated Zones and Treatments within Old Forest Linkages

Oaks: Recent studies (see reference listed in Additional Design Criteria for Pacific Fisher beginning paragraphs on page 21) have shown that oaks are an important habitat element for denning and resting sites. Project surveys revealed that oaks in the project area tended to show evidence of cavity development once they had reach 20 inches in diameter or greater. Although no oaks are proposed for removal within this project, to maintain hiding cover for fisher and their prey, a buffer of 35 feet from the bole or to dripline whichever is greater around 2-3 black oaks >20-inch dbh per acre will have no vegetation treatment occurring.

Shrub Cover and Understory Diversity: Shrub and understory will be retained throughout the project area on a total of 3,458 acres of the 5,416 total project boundary acres. This understory diversity will be maintained in Old Forest Linkages associated with riparian areas (cooler, moister sites); oak buffer areas; as well as areas where no treatment will be conducted such as cultural resource sites, botanical areas, and steep and rocky areas. Species associated with riparian areas, such as dogwoods, alders, and willows will not be removed.

Remove unneeded roads in high quality fisher habitat.

The district wildlife biologist will be notified immediately if any den site(s) are located within or adjacent to a treatment area and protection measures will be implemented.

Wildlife – Aquatics

Follow all applicable aquatic wildlife species and riparian habitat standards and guidelines from the 2004 Sierra Nevada Forest Plan Amendment, Final Supplemental Impact Statement and Record of Decision (USDA-FS 2004b), the existing Sierra National Forest Land and Resource Management Plan direction (USDA-FS 1992), Forest Service handbook (FSH) 2509.22 Sierra Supplement #1 for treatments within Streamside Management Zones (SMZ, USDA 1989), Best Management Practices and other applicable laws and regulations (USDA-FS 2000a). Generalized SMZ designation is outline in Table 1.

The Sierra Nevada Forest Plan Amendment (USDA-FS 2001b, amended 2004b) provides an Aquatic Management Strategy (AMS). The fundamental principle of the AMS is to retain, restore, and protect the processes and landforms that provide habitat for aquatic and riparian-dependent organisms, and produce and deliver high-quality waters. The AMS includes designation of Riparian Conservation Areas (RCAs). RCAs are designated along streams and around water bodies and are areas for specific management direction and analysis, as described below (USDA-FS 2004b). RCA consistency with the AMS was evaluated under the project Riparian Conservation Objective Consistency Analysis (Strand, Stone, Gallegos, Clines, 2009).

Table 1. Summary of Relationship between Feature Types, RCA Widths, Stream Classes, SMZ Widths, RMA Widths, and Stream Orders (and other GIS data)

Feature Type	RCA Width	Stream Class	SMZ Width	RMA Width	Corresponding GIS Layer Stream Order
Perennial Streams	300 feet	I	At least 100 ft	100 feet	4+
Seasonally Flowing Streams	150 feet	II	At least 75 ft	N/A	3
		III	At least 50 ft		2
		IV	At least 25 ft		1
		V	None required		-
Streams in Inner Gorge	Top of inner gorge	Varies			
Special Aquatic Features (fens, bogs, springs, seeps, lakes, ponds, wetlands, etc.)	300 feet	N/A	N/A	100 feet	Either identified on GIS layers (meadows, springs, lakes), or identified in the field

1. Class I SMZs are within or adjacent to treatment areas: T4, T5, T7, T8, T9, T10, T11, T13, T14, T15, T23, T24, T26, T32, T33, M2, M5, M6, M7, M8, M10, M9, M11, M12, M13, M16, M24, M25, Rx 1, Rx 3, and Rx 5. Old Forest Linkage Prescriptions apply to these SMZs. No treatments within inner 50 feet from stream bank.
2. Protect any Special Aquatic Features (seeps, springs, bogs, fens, and/or wet areas) that may be found during project implementation that are not already identified on project analysis maps. Treat these areas as perennial (Class I) areas with 300 foot Riparian Conservation Areas (RCAs). This includes treatment areas: T3, T4, T7, T26, T30, T32, T33, T34, M11, and M16.
3. Within 50-100 feet distance from either side of Class I perennial stream (SMZs), reduce fuel loading by:
4. Removing vegetation $\leq$ 12 inches in diameter;
5. Hand-piling slash as necessary to reduce the effects of under-burning;

6. Apply SMZs as mapped in Project Hydrology report (Stone, K. 2009).
7. General aquatic species and riparian habitat protection measures are:
8. Do not allow mechanical equipment within 100 feet of meadows or other special aquatic features. Includes treatment areas: T3, T4, T7, T26, T30, T32, T33, T34, M11, and M16.
9. Do not allow mechanical equipment within SMZ.
10. To protect bank stability, do not cut streambank trees (trees with drip line extending to or over edge of streambank).
11. Do not cut any tree located within a channel.
12. For water drafting, use a screened intake device and pumps with low entry velocity to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats. A Hydrologist and Aquatic Biologist would approve water-drafting sites. See Best Management Practices (BMP) 2-21 in Appendix B for specific requirements.
13. Monitor potential project effects to streams and aquatic habitat using the Region 5 (R5) Stream-Condition Inventory protocols (Frazier et al. 2005).
14. When lighting piles, start burn from one end only to allow escape route for any species inhabiting piles.
15. No lighting into SMZs, but fire can creep into zone.
16. Report any discovery of amphibians or reptiles (e.g. frogs, toads, salamanders, and turtles) during project sale preparation and implementation to the district biologist immediately.
17. If newly listed or unknown occurrences of Federally listed threatened, endangered, proposed, candidate or Forest Service sensitive aquatic species are found within the affected project area during sale preparation and implementation, additional species protection measures may need to be imposed by the district fisheries and aquatic biologist.

Hydrology

Project specific Best Management Practices, listed in Appendix B of this document, will be implemented (FS Handbook).

Silviculture

A limited operating period would be imposed in well stocked stands heavy to fir (over 50% fir) where operations could begin August 1st or later when the sap is not running (fir bark is much more easily dislodged when the sap is running than later in the year). The District Silviculturist will determine which stands require a LOP during the thinning layout phase.

Based on SNFPA ROD (USDA-FS 2004b) S&Gs for mechanical treatments, as well as design criteria, silvicultural prescriptions will be written utilizing thinning from below techniques with basal area levels for stand species composition.

Fuels

The utilization of prescribed fire is considered a viable treatment in all treatment areas within the project boundary, as either a primary treatment to maintain appropriate levels of surface and

ladder fuels to meet fire and fuels objectives (RX treatment areas), as a follow-up treatment needed to further reduce surface and ladder fuels, and/or as a maintenance treatment. To reduce the potential impacts (fire effects) that may occur with the implementation of prescribed fire, the following criteria would need to be considered in the designation of areas where prescribed fire would be used:

1. In treatment areas designated with a (M), Map 1 in the Map Package, prescribed fire should first be considered where it is too steep and /or rocky for the masticator to work effectively, oak dominates the stand and/or as a maintenance treatment in areas where brush re-growth has not been slowed and have not been planted with conifers.
2. In treatment areas designated with a (T), Map 1 in the Map Package, prescribed fire should first be considered where there are larger residual trees (of size less susceptible to fire damage) with light fuel loadings, areas not being thinned due to steepness, follow-up treatments have been completed or are not required, and/or areas where conifer reproduction is not being used for re-generation of openings.
3. Prescribed fire should be used during the late fall, winter or early spring, to minimize effects to trees during active growing period and within Pacific fisher denning habitat areas.

Engineering

1. Maintain all National Forest Transportation System (NFTS) roads to standards established in the Forest Service Handbook 7709.58. Perform road maintenance, reconstruction and new road construction activities to support project access needs. Insure drainage structures are functional and stable to prevent potential resource damage and degradation of water quality (SNF LRMP S&G #78, #79, #124, #206 and BMPs).
2. Perform a final field review of project roads to determine reconstruction needs prior to project activities. Where economically feasible, place aggregate on existing native surface roads located in areas with High and very High Soil Erosion Hazard ratings (SNF LRMP S&G #129).
3. Close temporary roads required for unit access upon completion of use; remove all culverts, rip and ditch landings, construct waterbars, block the entrance with a log and dirt berm, and disguise the entrance with brush to discourage additional traffic.
4. Roadways will be managed for safe passage by road users. This will include the management of hazards associated with roadside vegetation, including the identification and mitigation of danger (hazard) trees. A danger tree, as defined in Forest Service Handbook 7709.59, Chapter 40, is a standing tree (live or dead) that presents a hazard to people due to conditions such as, but not limited to, deterioration or physical damage to the root system, trunk, stem, or limbs and the direction of lean of the tree (FSH 6709.11, Glossary). Selection criteria guidelines for the marking and removal of danger trees will be tiered to the Bass Lake Ranger District Hazard Tree Environmental Assessment, Appendix X.

A Route, NFTS Roads and NFTS Trails Information

A-1 Route Card Summary Roads and Trails Additions

A-2 Route Card Summary Area Additions

A-3 NFTS Roads

A-4 NFTS Trails

A-5 Monitoring

B Effects of Changes to Alternative 5