

Biological Assessment/Evaluation
Threatened, Endangered, Proposed and Forest Service Sensitive Species

**Smith River National Recreation Area
Restoration and Motorized Travel Management Project**

Klamath Province
Six Rivers National Forest
Smith River National Recreation Area

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I. INTRODUCTION

The purpose of this Biological Assessment/Evaluation (BA/BE) is to review and evaluate the proposed Forest Service action, **Smith River National Recreation Area Restoration and Motorized Travel Management (RMTM) Project**, in sufficient detail to determine if the proposed action may affect any of the threatened, endangered, or Forest Service sensitive species listed below. This BA/BE is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (19 U. S. C. 1536 (c), 50 CFR 402), and standards established in Forest Service Manual direction (FSM 2672.42).

This BA/BE incorporates the information from the Forest-wide Reference Document (April 2016) for BA/BE's. The Reference Document contains current management direction, species life history and habitat requirements information (on which effects of proposed projects are evaluated), and literature cited. The Reference Document is updated periodically as species status or other information changes.

The Smith River RMTM Project will determine which system roads are to be upgraded, downgraded, repaired, or decommissioned; and which unauthorized routes will be improved and designated as system roads and trails.

List of Species Considered

The following endangered, threatened, proposed, and Forest Service sensitive wildlife species are addressed in this document. The USFWS provides a species list through a new national website "IPaC" or "Information for Planning and Conversation" (ecos.fws.gov/ipac/). This process is under development and may not contain the most accurate list; therefore, the list of ESA listed species was confirmed during the Level 1 process (Streamlining MOU, 2013). The updated species list is located in the current Reference Document (April 27, 2016). The Region 5 Forest Service Sensitive Wildlife Species that were addressed were identified from the US Forest Service – Pacific Southwest Region Sensitive Animal Species List, September 9, 2013. These species are known to or are suspected to occur on the **Smith River NRA** of the Six Rivers National Forest (SRNF).

Note: The Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) was identified as a species potentially occurring on the SRNF; however, there is no suitable habitat for this species or proposed WYBC Critical Habitat on the Six Rivers (Forest-wide Reference Document April 27, 2016). This project will have no effect on the WYBC.

Endangered

None

Threatened

Northern spotted owl (*Strix occidentalis caurina*)

Marbled murrelet (*Brachyramphus marmoratus*)

Critical Habitat

Northern spotted owl
Marbled murrelet

**Proposed
None****Forest Service Sensitive Species**

Bald eagle (*Haliaeetus leucocephalus*)
Northern goshawk (*Accipiter gentilis*)
California wolverine (*Gulo gulo luteus*)
Fisher (*Pekania pennanti*)
Pacific marten (*Martes caurina*)
Townsend's big-eared bat (*Corynorhinus townsendii*)
Fringed myotis (*Myotis thysanodes*)
Southern torrent salamander (*Rhyacotriton variegatus*)
Northern red-legged frog (*Rana aurora aurora*)
Foothill yellow-legged frog (*Rana boylei*)
Western pond turtle (*Clemmys marmorata*)
Mardon Skipper (*Polites mardon mardon*)
Western Bumblebee (*Bombus occidentalis*)

II. CONSULTATION TO DATE

In 2006, this project was evaluated by the Six Rivers National Forest Wildlife Level 1 Team, which includes biologists from both Forest Service (FS) and US Fish and Wildlife Service (USFWS), and formal consultation was completed in 2007 (file number 8-14-2007-3069). Before implementation could begin, the project was appealed and the decision was rescinded. The Forest decided to go through additional public involvement and collaboration, and to prepare an Environmental Impact Statement.

On October 31, 2013 and March 24, 2015, the project was again reviewed by the Level 1 Team. The Level 1 Team agreed that the determinations reached in 2007 were still valid. The Level 1 team agreed with the following determination: 1) may affect, likely to adversely affect the marbled murrelet (MAMU) and the northern spotted owl (NSO) based on the potential for noise disturbance during the breeding season, and 2) may affect not likely to adversely affect NSO Critical Habitat due to minor habitat degradation at culvert removal sites. During the March 24, 2015, meeting the Team determined that the project would not impact MAMU CHU PCEs (the small diameter trees at culvert work sites would not equate to the “half potential tree height” PCE of MAMU CHU); therefore the project would have no effect on MAMU Critical Habitat.

Use of Surrogates

On March 24, 2015, the Level 1 Team also developed the process for determining the individual number of NSO and acres of MAMU habitat potentially affected by the RMTM Project. At that time, the USFWS required the effects to be presented by estimating the potential number of owls that could be affected. However, on May 1, 2015 the USFWS finalized an addition to section

402.14 of the regulations that implement section 7(b) (4) of the ESA, which codified the use of surrogates to express the amount or extent of take in an incidental take statement (ITS). The USFWS found that in many cases, the biology of a listed species or the nature of the proposed action makes it difficult to detect or monitor take of individual animals. Additionally, the impact of proposed actions to some species may not be in the form of direct or immediate mortality to affected individuals, but rather a reduction in their biological fitness. Documenting this reduction is very difficult, and doing so may take months or years at considerable expense. However, effects to habitat are much easier to observe and can be readily monitored. The USFWS determined that, in the case of species such as the spotted owl, using the number of acres of habitat affected as a surrogate for numbers of individuals to express the extent of anticipated take and to monitor the impacts of take on the species is a practical alternative.

Quantifying the anticipated amount or extent of take is only one side of the equation. It must also be possible and practical to detect and monitor the take of individuals to ensure that the exempted take level is not exceeded. If the anticipated take of listed species is quantifiable in terms of affected individuals, but the monitoring of that take is not practical, the regulation allows the Services to express the amount or extent of anticipated take using a surrogate for which the impacts of take can be readily detected and monitored.

Therefore, the USFWS will allow the use surrogates in incidental take statement (ITS), provided the following conditions are met:

1. The ITS describes the causal link between the surrogate and the take of the listed species;
2. The ITS describes why it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of individuals of the listed species; and,
3. The ITS sets a clear standard for determining when the level of anticipated take of the listed species has been exceeded.

Using the NSO as an example, noise disturbance within habitat of the threatened NSO can cause take by significantly disrupting the owls' nesting behavior. Although the number of spotted owls likely to be taken as a result of a project can be estimated, detection and monitoring of the affected owls to determine when take has occurred or when the take limit has been reached is not practical because: 1) spotted owl ranges average over 3,000 acres, and injured or dead owls are frequently quickly removed by predators and scavengers, making them very difficult to count; 2) the project occurs across the entire Smith River National Recreation Area (358,843 acres) and direct monitoring of individuals would be extremely difficult and expensive; and therefore impractical, and 3) the impact to the spotted owl is primarily in the form of reduced fitness of adult owls, leading to reduced survival and reproductive potential.

The potential acres of NSO N/R habitat and MAMU nesting affected for each road has been determined and any limited operating periods established based on specific road conditions. A yearly monitoring report will be provided to the USFWS describing accomplishments, acres affected that year, and total acres affected to that date for the project to set a clear standard for determining when the level of anticipated take of the listed species has been exceeded.

Project Assumptions

Potential impacts from noise disturbance may occur during project implementation on high priority, high risk National Forest Transportation System (NFTS) roads and unauthorized routes (not currently on the NFTS). These are roads/routes where work needs to be done during the breeding season to avoid negative impacts to aquatic resources. On March 24, 2015, the L1 team agreed to the following assumptions for the RMTM Project:

All known ACs on the project will have a LOP of February 1 to July 31 as required by the Six Rivers LRMP. If there is an AC within 0.25 miles of a road, work will not begin anywhere on that road until after July 31 due to operational issues; therefore, there will be no effect to NSO on that specific road. However, there are two roads with known ACs where work may be able to be done before July 31 greater than 0.25 miles from the AC because the roads are long and it would be possible to start work in another area and not impact the known AC during the breeding season. The potential impacts to unsurveyed NSO (and MAMU) habitat within 0.25 mi of these two roads were calculated in case work occurs outside of the AC during the breeding season.

A portion of the RMTM Project area is being surveyed for the Gordon Vegetation and Fuels Management Project, and those surveys are scheduled to continue for the duration of the Gordon project. Outside of known ACs, roads within the Gordon Project surveyed area will not need LOPs provided surveys are continued through the life of the RMTM Project. If surveys are discontinued before work is completed, all nesting/roosting habitat within 0.25 mi of worksites will be considered unsurveyed and occupied. The potential acres of owl habitat was calculated for these 6 roads in case work occurs in unsurveyed suitable habitat.

It is expected that the acres of NSO and MAMU habitat affected will be overestimated for the following reasons:

- 1) All nesting habitat was considered occupied regardless of habitat quality. Not all nesting habitat within 0.25 mi of a road is of high enough quality or in large enough patches to be occupied.

Note: High quality NSO N/R habitat is defined as multi-layered, old stands (most late mature and old growth stands and some mid-mature stands with predominants,) with an average DBH of 40" or larger and an overall canopy of 85% or greater. Moderate and low quality habitat stands occur in one or more of the following: 1) younger stands (mid mature), 2) smaller average DBH (but with a minimum DBH of 21"), 3) lacking secondary canopy layer, and/or 4) or have lower canopy closure (but at least 60%).

High quality MAMU suitable habitat would include late mature and old growth habitats with high canopy closure (85% or greater) and large trees over 50 inches DBH with large lateral branches and/or deformities for nest platforms. Low quality MAMU habitat occurs in areas with small patch size, low canopy cover, smaller diameter overstory trees, and fewer large

trees with large branches suitable for nesting.

- 2) Not all actions on the roads will exceed background noise levels
- 3) Nesting habitat may occur in widely spaced patches along a road but specific work sites have not yet been identified; therefore, all work on a road is considered to have the potential to cause disturbance. Actual work sites may not be within 0.25 miles of nesting habitat.
- 4) Potential disturbance at each site would not always be to the level that the species would have breeding disrupted to the extent that take would actually occur.

Because of the above factors, it is likely that disturbance effects are being overestimated. The Forest will report the actual acreage affected for NSO and MAMU every year until the work on these high risk roads is completed.

Action Area: The Action Area (AA) is defined for ESA purposes as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR 402). The project encompasses the entire Smith River NRA extended to include all NSO territories affected by project; therefore, the AA is 367,368 acres.

III. CURRENT MANAGEMENT DIRECTION

See the Six Rivers National Forest Land and Resource Management Plan (LRMP) and the Forest-wide Reference Document (April 2016).

NSO Recovery Plan

On June 28, 2011, the FWS released the *Revised Recovery Plan for the Northern Spotted Owl (Strix occidentalis caurina)*. The purpose of recovery plans is to describe reasonable actions and criteria that are considered necessary to recover a listed species. The 2011 Revised Recovery Plan (RP) for the Northern Spotted Owl represents the “best available science.” The 2011 RP recognizes the importance of maintaining, and restoring, habitat for the recovery and long-term survival of the spotted owl. The 2011 RP relies on Federal lands to provide the major contribution for recovery (USDI Fish and Wildlife Service 2011).

In the long term, the RMTM Project will have beneficial effects for NSO because road miles across the District will be reduced, which will reduce habitat fragmentation and disturbance from continued road use. The project meets the objectives of the 2011 NSO RP.

Northern Spotted Owl Revised Critical Habitat

On December 4, 2012 the Final 2012 Northern Spotted Owl Critical Habitat rule was published (77 Fed Reg. 71876-72068). Critical habitat consists of those areas which have “physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.” 16 U.S.C. § 1532(5)(A). In total,

approximately 9,577,969 acres (ac) (3,876,064 hectares (ha)) in 11 units and 60 subunits in California, Oregon, and Washington fall within the boundaries of the critical habitat designation. Federal agencies are required to consult on any project that may affect newly designated Critical Habitat under the ESA. The rule became effective on January 3, 2013.

In the long term, the RMTM Project will have beneficial effects for NSO Critical Habitat because road miles across the District will be reduced, which will reduce habitat fragmentation and restore suitable habitat. The project meets the objectives of the 2012 NSO CH Rule.

Marbled Murrelet Recovery Plan

Management direction is contained in the FSEIS ROD and was incorporated into the LRMP land allocations and standards and guides. The Recovery Plan for the Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon, and California (USDI 1997) forms the basis for the management direction, in part. The Recovery Plan calls for the protection of habitat essential for recovery in larger contiguous blocks; maintaining occupied habitat; and monitoring trends, productivity, and reproduction.

In the long term, the RMTM Project will have beneficial effects for MAMU because road miles across the District will be reduced, which will reduce habitat fragmentation and disturbance from continued road use. The project meets the objectives of the 1997 MAMU RP.

Marbled Murrelet Critical Habitat

Marbled Murrelet (MAMU) Critical Habitat was revised in 2009 with a final rule published on October 5, 2011 (USDI 2011). A designation of critical habitat identifies areas essential to conservation of a species. The USFWS has determined that the physical and biological habitat features (referred to as the primary constituent elements) associated with the terrestrial environment that support nesting and other normal behaviors are essential to the conservation of the MAMU and require special management considerations.

Located primarily on Federal land, and to a lesser extent on State, county, city and private lands, this final Critical Habitat rule provides protection requirements under section 7 of the Endangered Species Act for federally regulated activities. There are 76,463 acres of marbled murrelet Critical Habitat within the Action Area. Marbled murrelet Critical Habitat is entirely within LSR boundaries.

In the long term, the RMTM Project will have beneficial effects for MAMU Critical Habitat because road miles across the District will be reduced, which will reduce habitat fragmentation and restore nesting habitat. The project meets the objectives of the 2011 MAMU CH Rule.

IV. DESCRIPTION OF THE PROPOSED ACTION

Background

The project encompasses the Smith River NRA and Gasquet Ranger District and is referred to collectively as the Smith River NRA. Access throughout the Smith River NRA is dependent on National Forest Transportation System roads, as well as State and County roads. NFTS roads are constructed and maintained to specific Forest Service standards. Appendix A describes the existing NFTS and their current and proposed Operational Maintenance Level (OML) on the Smith River NRA, and any mitigations needed. More information about OMLs is located in Appendix B of this document. The NFTS on the Smith River NRA is comprised of approximately 484 miles of roads and 21 miles of motorized trails. Of the 484 miles of NFTS roads on the NRA, there are 88 miles of OML1, 254 miles of OML 2, 111 miles of OML 3, 12 miles of OML 4, and 19 miles of OML 5 roads. In addition to the NFTS, there are approximately 116 miles of State and County roads within the administrative boundary, and approximately 155 miles of inventoried unauthorized routes (UAR). Unauthorized routes are not maintained by the Forest Service. UARs evaluated in this project are open and drivable but are not currently on the NFTS.

The 1990 Smith River NRA Act restricted motorized travel to designated routes. On November 2, 2005 the Forest Service published the Travel Management Rule (36 CFR 212) which established policies and procedures to ensure that the use of motorized vehicles on public lands would be controlled to protect the resources, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands. The Rule consists of two parts, Subpart A and Subpart B.

Subpart A requires the administrative units to conduct a Travel Analysis Process (TAP) to evaluate the road and trail system in order to: 1) identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands; 2) identify roads for decommissioning, including priorities, and; 3) evaluate unneeded roads that might be converted to other uses.

In 2005 the Smith River NRA Roads Analysis Process (RAP)/Off-Highway Vehicle Strategy was completed, which addressed OML 1 and 2 roads, and unauthorized routes. The Smith River NRA RAP tiers to the Six Rivers National Forest RAP (USDA 2003), which was completed at the Forest scale. The Forest-scale RAP addressed Forest Service Maintenance Level 3, 4, and 5 roads that provide access to large land areas across the Forest and to recreational destinations such as campgrounds, picnic sites, and trailheads. The Smith River NRA RAP in combination with the Forest-scale RAP meets the requirements of the Travel Management Rule, Subpart A, to complete a Travel Analysis Process (TAP).

The 2005 Smith River NRA RAP identified the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest system lands. The Smith River RAP developed resource risk and administrative need assessments for every OML 1 and 2 road and unauthorized route on the Smith River NRA, which resulted in management recommendations for each road or route. The RAP identified road-associated

environmental and public safety risks; site-specific priorities and opportunities for road improvements, decommissioning, and restoration; areas with special resource values; routes that are potential candidates for road or trail designation; and developed specific information that may be needed to support project-level decisions.

Subpart B involves the designation of roads and trails for motor vehicle use, including designation by vehicle class and season of use.

State, County, and Smith River NRA OML 3, 4, and 5 roads are all main access roads on the NRA. These main roads accommodate passenger cars and are not being considered in this analysis, with the exception of 17N49 and 17N07 which are OML 3 roads that are being proposed to downgrade to OML 2. Also not considered in this analysis are roads that were closed under previous NEPA decisions. No new construction or reconstruction would occur under this proposal, and only minor expansion of existing open areas (brush removal) will occur to allow parking along 17N49. The proposed parking areas do not occur in potential habitat for any TEPS wildlife species.

Proposed Action

There are 4 action alternatives proposed for this project. Alternative 6 is the preferred alternative, which will be addressed in this BA/BE.

Changes between the draft and final EIS for Alternative 6 include adding seasonal and year round gates or removing seasonal gates that were determined to be in low risk areas or were already closed by another gate elsewhere, changing barricades to year-round gates, replacing the 18N07 Griffin Creek Bridge, downgrading two roads from OML3 to OML 2, decommissioning additional OML1 roads, changing two roads from restore/decommissioning to OML 1, and adding two UARs as motorized trails.

Changing barricades to gates, downgrading OML 3 to 2, or changing OML1 roads to decommissioning or restore/decommissioned roads to OML 1 will not change the level of use; therefore will not change the effects on listed and Forest Service Sensitive species. Both roads to be downgraded are roads that access private land, and are expected to continue to have the same level of use roads. OML 1 roads are closed to traffic and are allowed revegetate; therefore there will be no use on either OML1 or decommissioned roads. Use of OML 1 roads will require additional NEPA analysis in the future before they can be opened for use. The 18N07 Bridge is the access point from Highway 199, and construction will not increase the amount of noise disturbance in the area. The two UARs to be added as motorized trails occur in serpentine habitats and do not occur in suitable habitat for any Threatened or Forest Service Sensitive species.

None of the changes made to Alternative 6 between the draft and final EIS change the level of impact or effects to listed species, Critical Habitat Unit, or Forest Service Sensitive species.

The Six Rivers National Forest proposes the following actions¹:

- 1) The addition of 18 unauthorized routes as NFTS roads (OML 2) , totaling 4 miles

¹ Lengths are rounded to whole numbers in miles.

- 2) The addition of 81 unauthorized routes as motorized trails/OML1 to the NFTS, totaling 56 miles (12 miles of which will be at OML 1-closed to motorized vehicles);
- 3) The seasonal gate closure on 10 roads and 7 motorized trails, totaling 34 miles;
- 4) The downgrading of 2 OML 3 roads to OML 2 (17N49 and 17N07) to allow mixed-use totaling 15 miles;
- 5) The decommissioning of 112 NFTS roads, totaling 54 miles, and;
- 6) The restoration of 217 UARs totaling 93 miles
- 7) The downgrading of 22 OML 2 roads to OML 1, totaling 21 miles
- 8) The addition of 4 parking areas on 17N49

The proposed action includes the types of management actions described below. Proposed changes to the NFTS, resource risk mitigations, and unauthorized route restoration actions are described on a route-by-route basis in Appendix A (Proposed Action Table).

MANAGEMENT ACTION DEFINITIONS

This section provides more information on the types of actions encompassed in the proposed action.

Designate Road or Motorized Trail System Desirable unauthorized routes will be designated on the NFTS either as a road with an identified OML, or as a motorized trail with a designated vehicle class. Consideration of whether to designate an unauthorized route as a road versus a trail is based on the identified primary purpose of the route. The vehicle class for motorized trails indicates the management intent to accommodate a specific use, which is based on an assessment of the resource use, recreation opportunities, and constraints of the area. The proposed vehicle class designation is Off-Highway Vehicles (OHV).

Upgrade to OML2 In some cases, a road is designated as OML 1 (closed to motorized use) but is currently drivable and identified as having a high recreation need. Upgrading these roads provides public access and allows the Forest to manage and control the current use to reduce resource risk. Upgrading may involve road surface improvements, such as installing, repairing or replacing culverts, rolling dips or waterbars. In two cases, OML 3 roads will be downgraded to OML2 to change the allowed vehicle class of a road from highway legal only to include all vehicles, including non-highway legal vehicles.

Downgrading to OML1 Downgrading is primarily aimed at the reduction of maintenance costs on low-use roads. Downgrading to OML 1 will close the road for motorized use but would maintain the option of future administrative use. Downgrading and managing as OML 1 may involve removing culverts and other drainage features and leaving the road in a hydrologically maintenance-free condition.

Decommission Road / Restore Unauthorized Route Decommissioned roads and restored unauthorized routes are not part of the NFTS, and therefore are not open for motorized travel.

Decommission Road This action includes removing low use or high risk roads from the NFTS. Removing a road or trail from the NFTS may simply involve an amendment to the Transportation database for those routes that are currently non-drivable and present a low-risk; however in other cases, when a road is still drivable and/or there is a moderate or high resource risk, decommissioning and restoration actions described below may be required.

Restore Unauthorized Route This action will occur on unauthorized routes where there is a moderate or high resource risk, or the route is still drivable, and there is a low need.

The suite of actions within this category (decommission roads and restore unauthorized routes) are aimed at re-establishing vegetation and, if necessary, initiating restoration of ecological processes interrupted or adversely impacted by the unneeded road or route. These actions are designed to restore hydrologic function. Decommissioned roads and restored routes are left in a maintenance-free condition (i.e. remove drainage structures, re-establish natural drainage patterns), are not drivable by motor vehicles, and are not part of the NFTS. Depending on slope location, type of stream crossings, and diversion potential of an unneeded road or route, decommissioning roads and restoring unauthorized routes may require as little as a simple barricade or as much as the use of heavy equipment to correct drainage problems. The specific actions needed are based on the site-specific conditions and may include the following treatments.

- **Outslope, Waterbar** – These activities are aimed at re-establishing former drainage patterns. These water dispersion strategies are all designed to minimize stream diversion potential (i.e., prevent water from flowing down the road or trail), which minimizes the potential for off-site sediment delivery.
- **Remove Culvert and Associated Fill** – This action aimed at re-establishing drainage patterns.
- **Barricade** – This includes the placement of a barrier at the entrance to a road or route. The objectives are to prevent motorized use and to allow for revegetation.

Resource Risk Mitigations Resource risk mitigations apply to NFTS roads and trails to reduce risk and impacts to botanical, wildlife, aquatic, or Port Orford-cedar on system roads and trails. Table 3 provides a summary of the resource risk mitigations.

- **Barricade** – This includes the placement of a barrier on NFTS roads and trails. The objectives are to prevent motorized use and to allow for revegetation.
- **Seasonal Gate Closure** – Reinforcing the seasonal closure through the installation of a gate is one of the management actions identified as a method to reduce the risk of spread of *Phytophthora lateralis* root disease to Port Orford-cedar populations. Seasonal gate closure dates vary depending on location and existing ground conditions, but in general, the dates range from October to May.
- **Gravel** - Reinforce existing gravel on routes or add new gravel along sections of road near POC to reduce vehicle contact with mud and the spread of *Phytophthora lateralis* root disease to Port Orford-cedar populations.

- **Route Delineation** – Placement of a physical barrier to travel, such as large boulders or other imported material, in close proximity to the motorized trail prism, designed to keep vehicular traffic on the designated route.
- **Posted Speed Limits** – Posting speed limits to reduce travel speed is aimed at reducing dust generation and the potential for inhaling dust that may contain asbestos.
- **Public Information** – This is aimed at increasing public awareness about the potential exposure to asbestos while traveling on newly added NFTS roads and motorized trails, and the risk associated with exposure. Information may be made available in maps and literature available at the Ranger District office, or through signage posted on newly added NFTS roads and motorized trails.
- **Stormproofing** – This is a suite of management actions that will be applied to NFTS roads and trails to reduce water quality and sedimentation risks through culvert and road surface improvements, including redesigning of culverts for fish passage.
 - **Installation of Culvert, Rolling Dip** – These water dispersion, and/or containment strategies are all designed to minimize stream diversion potential (i.e., prevent water from flowing down the road or trail), protecting the travel route, as well as, minimizing the potential for off-site sediment delivery. The term “culvert” includes cross drains and stream crossings.
 - **Repair/Replace Culvert** – This action includes upsizing culverts to pass the 100-year flood flow and associated debris.
 - **Remove Culvert and Associated Fill** – When applied to NFTS roads remaining on the system, this action is limited to OML 1 roads.

High Priority, High Risk Roads/Routes: In some cases, road work (decommissioning/restoration and stormproofing) cannot be accomplished within the limited operating period for NSO and MAMU due the amount of work needed (number of culverts to be removed/replaced etc.). There are 76 roads that have high risk to aquatic resources where work will occur during the breeding season for these species (Appendix B). Of these, 52 roads/routes at least partially occur within 0.25 mi of suitable NSO and MAMU nesting habitat. Not all the roads or all segments of each road are within 0.25 mi of suitable NSO and MAMU nesting habitat.

Vegetation removal: No new road construction or reconstruction will occur as part of this project; therefore, no habitat will be removed for any TES species. However, in cases of culvert removal during decommissioning/restoration/stormproofing upgrades, the fill at the site needs to be removed and the stream crossing recontoured. Culvert removal may require minor amounts of vegetation removal (usually 1/10 acre or less) of brush and smaller diameter trees (saplings up to 11” dbh). No large diameter or predominant trees will be removed.

PROJECT DESIGN FEATURES

Project design features provide project specific implementation direction to reduce unintended adverse effects of the project.

Water Quality

To reduce the risk of sediment delivery to streams, all applicable Best Management Practices will be implemented.

Restoration, decommissioning and upgrading work will occur when stream flow is at a minimum, typically during the summer months. Streams will be dewatered where necessary prior to any activity involving heavy equipment. Specific dewatering methods (pipe, pump, etc.) will be determined on a site-by-site basis.

Native or straw mulch will be applied to all disturbed ground prior to seasonal rain or summer thunderstorms to minimize surface erosion.

Decommissioned or restored stream channel sideslopes and channel bottom gradients will be designed to blend with the natural channel above and below to minimize potential for unexpected channel adjustments.

Large rocks will be placed in the restored stream channels where needed to protect newly created sideslopes and reduce the potential for post-treatment channel adjustments.

Replacement of stream crossings (upgrading) culverts will be designed to accommodate the 100-year flood event and have no diversion potential.

Wildlife

No large snags would be felled unless they pose a hazard to public or staff safety. All hazard trees would be felled and left on site.

Northern Spotted Owl (NSO)

No restoration, decommissioning, or upgrading work will occur within 0.25 miles of a known NSO activity center (AC) between February 1 and July 31.

Except for restoration, decommissioning, or upgrading work on specific roads/ routes with a high risk to aquatic resources (where no LOP outside of known ACs will be required), noise generating activities (use of heavy equipment) within 0.25 mi of unsurveyed suitable northern spotted owl nesting/roosting habitat will not occur between February 1 and July 9, unless surveys determine the site to be unoccupied.

Marbled Murrelet (MAMU)

No restoration, decommissioning, or upgrading work will occur within 0.25 miles of an occupied MAMU site between March 24 and September 15.

Except for restoration, decommissioning, or upgrading work on specific roads/ routes with a high risk to aquatic resources (where no LOP outside of an occupied MAMU site will be required), noise-generating activities (use of heavy equipment) within 0.25 mi of unsurveyed low-quality suitable marbled murrelet nesting habitat will not occur between March 24 and August 5. In addition, work between August 5 and September 15 will not begin until 2 hours after sunrise and stop 2 hours before sunset unless surveys determine the site to be unoccupied.

Except for activities on high priority roads, noise-generating activities within 0.25 mi of unsurveyed high quality suitable MAMU habitat would not occur between March 24 and September 15 unless surveys determine the site to be unoccupied.

Noxious Weeds

Project design features to prevent the introduction and spread of noxious weeds include the cleaning of equipment moving prior to entering a work site and insuring that materials such as mulch and gravel imported into the project area are free of noxious weed seeds.

Port Orford-Cedar

All heavy equipment will be cleaned prior to entry to a work site to reduce the risk of spread of Port-Orford-cedar root disease.

Implementation of this project would begin in 2014 and would be completed by the end of 2029, depending on available funding and workforce.

There are no interrelated or interdependent activities that involve this proposed action and threatened, endangered, proposed or Forest Service sensitive species.

This project will contribute to the desired future condition of habitat for all species considered in this document by reducing road density across the District which will reduce fragmentation of habitat, increase patch size, reduce sedimentation in stream channels, and reduce disturbance and direct mortality. In the long term, the project will benefit TES species.

V. EXISTING ENVIRONMENT

A. Species Account

The following federally listed or Forest Service Sensitive species are known to or may occur in the project area, according to historic records, current sightings and, in some cases, formal surveys. In the absence of formal surveys for the remainder of the species considered in this document, the following information is supplied to support the determination presented in section VII. This is based upon the best available information at this time and the level of likelihood of species occupying territories/habitat where they could be affected by the project. See the *Six Rivers National Forest Species Reference Document* (USDA Forest Service, Six Rivers National Forest, 2016) for species life history information.

Federally Threatened, Endangered, or Proposed Species

Northern Spotted Owl (*Strix occidentalis caurina*)

Status: Federally Threatened

The northern spotted owl is associated with mature and older mixed conifer, Douglas-fir forests of the Pacific Northwest. The species was listed as Threatened in July 1990 due to the loss of older forests throughout the Pacific Northwest as a result of timber harvest (Thomas et al, 1990).

There are an estimated 90,754 acres of suitable spotted owl nesting/roosting (N/R) habitat and 87,292 acres of potential foraging on the Smith River National Recreation Area, which incorporates habitat impacts from the recent fires. This comprises approximately 50% of the total land base of the NRA. Approximately 40,000 acres of what is considered N/R habitat for the NSO is in the mid-mature seral stage. Although this seral stage meets the size class and canopy cover requirements, it often lacks multi-layered conditions, large snags, downed logs, and trees with deformities necessary to meet the habitat needs of this species. Therefore the suitable habitat available to NSO and other late-successional species may be less than what is estimated here.

In 2010 and 2011 all Six Rivers National Forest NSO known activity centers (AC) were surveyed to determine current status of the ACs. Using the information gained, a review was conducted in 2012 with concurrence of USFWS assessing the validity of the 374 established activity centers on the Forest. Valid AC's were determined based on the criteria presented in the *Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owls* (USFWS 2011). During this review, 208 ACs were considered valid and kept in their original location. A further 99 were moved from their original locations. AC locations were moved when the original location had been mapped incorrectly; when there were new detections that were higher in the hierarchy within AC locations (i.e. new pair location replaced a territorial single location); or in the case of habitat disturbance or loss at the site center, AC locations were moved to the nearest high quality habitat. Finally 67 ACs were dropped or retired because they either did not meet the minimum criteria and should not have been delineated as an AC in the first place or extensive habitat loss occurred throughout the AC (e.g. fire). A total of 307 AC's of varying reproductive and occupancy status are now recognized by the Forest.

There are 44 known NSO activity centers in the Smith River NRA. Of these, 34 have been confirmed as pairs and 10 as territorial singles (recorded from both historical records and survey data). District-wide status surveys occurred on all ACs in 2010 and 2011 and current surveys have been conducted in specific project areas. However, no surveys have been conducted specifically for this project; therefore all suitable N/R habitat is considered occupied for the purposes of this consultation.

There are 84,128 acres of NSO Critical Habitat designated in the Action Area, 41,027 acres of which overlap with the LSRs. Critical Habitat Units within the Action Area include the Redwood Coast Unit, Subunit RDC1 (total of 7,970 acres in AA), Klamath West Unit, Subunit 5 (24,319 acres) and Klamath West Unit, Subunit 6 (51,839 acres). Only dispersal habitat may be affected by the proposed project. There is 993 acres of dispersal habitat in RDC1, 3,499 acres in KRW5, and 5,454 in KRW 6.

Project activities will not occur within 0.25 mile of any known activity centers; however, activities may occur within 0.25 mi of unsurveyed suitable N/R habitat.

Marbled Murrelet (*Brachyramphus marmoratus*)**Status: Federally Threatened**

Marbled murrelets nest on platforms generally created by large diameter branches in large conifer trees that are close enough to coastal foraging environments for them to adequately supply their young with small marine fish.

The entire Smith River Basin occurs within Zone 1 for the marbled murrelet as described in the FEMAT Report. There are approximately 83,076 acres of potentially suitable murrelet habitat within the Smith River National Recreation Area, which incorporates habitat impacts from the recent fires. However, survey results show that key habitat areas appear to occur closer to the coast in old-growth (predominantly redwood) forests; therefore, the suitable habitat available to MAMU may be less than what is estimated here. The State and National Redwoods Parks contain most of this key habitat remaining in the Smith River Basin.

On the SRNRA, multiple birds were seen on multiple days in 1988 at the same Myrtle Creek location, during a distribution study at inland California sites conducted by Pacific Southwest Range and Experiment Station (Paton and Ralph 1988, Paton and Ralph 1990). Sightings were approximately 10 miles (18.5 km) inland. Vegetation in this drainage is predominantly old growth Douglas fir and Port Orford cedar. Nearby old-growth redwood stands at Jedediah Smith Redwoods State Park had higher activity levels. Surveys in the Myrtle Creek drainage were repeated in 1992, 1995, and 1996, with no detections. In 1992, an immature murrelet was found on the ground on private property near Panther Flat campground, approximately 15 miles (28 km) inland. There was no suitable nesting habitat in the vicinity of the bird, so it is not known where it came from (possibly blown off course during the large storm event the previous day). There were no other sightings on the SRNRA during survey efforts across the District between 1992 and 1996. In 1997, multiple sightings of MAMU occurred in old growth Douglas fir and redwood forest in the Copper Creek drainage in the north western corner of the Smith River NRA. A radar study conducted by ABR, Inc. (Blaha and Cooper, 2011) recorded 14 murrelet-like detections in 2010 and 17 murrelet-like detections in 2011 on the SRNRA. There were no audio-visual observations to confirm these; however, a suite of characteristics were used to minimize contamination of the dataset. These detections occurred in the Rowdy Creek drainage to the north and Blue Creek drainage to south. There have been no detections beyond the old growth habitats on the western edge of the Forest. However, no surveys have been conducted specifically for this project; therefore all suitable nesting habitat is considered occupied for the purposes of this consultation.

Marbled Murrelet (MAMU) Critical Habitat was revised in 2009 with a final rule published on October 5, 2011 (USDI 2011). Located primarily on Federal land, and to a lesser extent on State, county, city and private lands, this final Critical Habitat rule provides protection requirements under section 7 of the Endangered Species Act for federally regulated activities. There are 76,463 acres of marbled murrelet Critical Habitat within the Action Area. Marbled murrelet Critical Habitat is entirely within LSR boundaries.

Project activities will not occur within 0.25 mile of any occupied sites; however, activities may occur within 0.25 mi of unsurveyed suitable nesting habitat.

Forest Service Sensitive Species

Bald Eagle (*Haliaeetus leucocephalus*)

Nesting habitat is composed of low elevation, open (less than 40% canopy cover), mature/old-growth stands near permanent lakes and free-flowing rivers. Platform stick nests are built in large trees (greater than 36 inches dbh) with open branches, but some foliage usually shades the nest. Nests are located 50-200 feet (16-61 m) above ground, usually below tree crowns. Tree height and size appear to be more important than species. Nest trees are usually the largest in the stand, offer an unobstructed view of a body of water and are on prominent points of topography (USDI, 1986). In California, 87% of nest sites are within 1 mile (1.6 km) of water (Zeiner et al. 1990).

There are historical records of bald eagles nesting within the NRA; however, the last known nest site was in 1976. There are no known nests in the Smith River NRA, although there have been recent nests discovered to the west of the District around Lake Earl. There have been recent BAEA sightings on the NRA in late winter and spring. The project may occur within designated bald eagle network territory. The projects occur within 0.5 miles of suitable nesting habitat.

California Wolverine (*Gulo gulo luteus*)

In North America, wolverines occur within a wide variety of alpine, boreal, and arctic habitats, including boreal forests, tundra, and western mountains throughout Alaska and Canada. The southern portion of the species' range extends into the contiguous United States, including high-elevation alpine portions of Washington, Idaho, Montana, Wyoming, California, and Colorado (USFWS 2011). Wolverine do not appear to specialize on specific vegetation or geological habitat aspects, but instead select areas that are cold and receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season (USFWS 2011). The requirement of cold, snowy conditions means that, in the southern portion of the species' range where ambient temperatures are warmest, wolverine distribution is restricted to high elevations, while at more northerly latitudes; wolverines are present at lower elevations and even at sea level in the far north (USFWS 2011).

Female wolverines use natal dens that are excavated in snow. Consistent snow cover greater than 5 feet deep appears to be a requirement for natal denning, because it provides security for offspring and buffers cold winter temperatures. Deep, persistent, and reliable spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence in the contiguous United States (USFWS 2011).

There are no verified records of wolverine on the Forest; however, incidental sightings of wolverines have been reported on the NRA. Most of the sightings occurred in the 1970's and 80's. Considering their need for persistent spring snow cover, preference for subalpine and alpine habitats or climatic conditions and their aversion to human disturbance, wolverines are only likely to occur on the NRA at higher elevation area in the Siskiyou Wilderness.

Pacific Fisher (*Pekania pennanti*)

In northern California, fishers occupy mid-elevation, multi-storied mature and old-growth conifer, mixed conifer and mixed-conifer hardwood forests with contiguous canopy cover. Closed canopies (>50%) are typically selected but fishers will use areas of low to moderate canopy cover (25-40%) if there is sufficient understory (Lofroth et al. 2010). They do not occur in high-elevation alpine or subalpine habitats.

Foraging habitat varies with primary prey species. Since fishers in California prey primarily on small to medium-sized mammals (woodrats, squirrels etc.) they will use forests with hardwood components which provide mast for prey, structurally complex structures near the forest floor (brushy understories) and high abundance of downed, woody debris (Lofroth et al. 2010).

Thompson et al. (2007) determined that based on data from a 1994-1995 soot track plate study, a 1996-1997 telemetry study, and a 2002-2003 mark-site study, fishers appear to be abundant and well distributed across “the managed forests of extreme northwest California”. An exact population estimate and distribution for the Forest are still unknown.

Survey results in the past indicate that the species occupies roughly 20% of its historical range in Washington, Oregon and California (USDI 2010). The population in the southern Oregon/northern California region may be the largest remaining in the western states (Zielinski et al. 2000, Powell and Zielinski 1994) with population estimates of 4,616 individuals (USDI 2010) and is critical to the restoration of fishers elsewhere in California and Oregon (Zielinski, pers. com.).

Systematic surveys occurred across the Six Rivers National Forest in 1999 (Carroll, et al 1999) show the highest probability of detections centered on the Trinity River, with detection probability decreasing the farther north and south you go.

Incidental fisher sightings have occurred on the NRA, during all months of the year. Forest carnivore surveys (track plates and cameras) have been conducted large areas across the District. Fisher have been detected at many of the stations; however, no den sites have been found. The project area occurs in and within 0.25 miles of suitable fisher habitat.

Project activities will not occur within 0.25 mile of any known den sites; however, activities may occur within 0.25 mile of unsurveyed suitable denning habitat.

Pacific Marten (*Martes caurina*)

Marten prefer multi-storied mature and old growth mixed conifer, white fir (*Abies concolor*), red fir (*Abies magnifica*), and pine (*Pinus* spp.) forests, with moderate to dense canopy closure (greater than 40%). They require nearby small meadows, clearings, or riparian areas for foraging habitat. Closed canopy travel ways (especially on ridgetops) are also necessary between foraging areas.

There are two recognized subspecies of Pacific marten, the Humboldt marten (*M. c. humboldtensis*) and the Sierra marten (*M. c. sierrae*). The Humboldt marten is known to occur on the Forest and was historically distributed throughout the coastal, fog-influenced forests of the redwood region in California from northwestern Sonoma County northward to the Oregon border (Grinnell and Dixon 1926, Grinnell et al 1937).

The first verified Humboldt marten in 50 years was detected in 1996 by Zielinski and Golightly on the Smith River NRA. Since then, survey work has been conducted using track plates, baited photograph stations and radio telemetry to determine the size and range of the population. The current occupied area is 267 square miles extending from the mouth of Rock Creek on the Smith River NRA south to the Bluff Creek watershed on Orleans Ranger District, and east to the headwaters of Rock Creek drainage of the Klamath River in Siskiyou County (Slauson et al. 2009). This area encompasses lands on the Smith River NRA, Orleans Ranger District, Ukonom Ranger District, Redwood National and State parks, and private timber lands.

Current population estimates by Slauson et al. (2009) show a decline from 2000-01 surveys from approximately 60 individuals to approximately 40 individuals in 2008. These estimates were determined using a multi-state occupancy method utilizing detection data from 2000-01 and 2008 surveys. These surveys did not cover all possible habitat but the population is likely to be <100 individuals. No den sites have been found.

Project activities will not occur within 0.25 mile of any known den sites; however, activities may occur within 0.25 mile of unsurveyed suitable denning habitat.

Northern Goshawk (*Accipiter gentilis*)

Goshawks appear to select habitat by forest structure rather than by tree species (Greenwald et al. 2005). Goshawks prefer mature and old-growth forests for nesting and foraging that are at middle to high elevations, have relatively dense canopy closures (>40%), have usually little understory vegetation, are in close proximity to riparian corridors, and have flat or moderately sloping terrain (Crocker-Bedford and Chaney 1988; Moore and Henny 1983; Saunders 1982; Zeiner et al. 1990). Nesting stands are typically in dense pockets of large trees, often on north-facing, bench slopes near water. Foraging habitats are often more open to allow for the aerial ambush foraging strategy of the goshawk.

Historically, there have been numerous sightings of goshawks on the NRA, with at least three reproductive territories known to occur. However, the most recent territory was discovered in 1992. Comprehensive surveys of nest territories across the entire Forest in 1994 and 1995 determined that none of the nesting territories, or any of the suitable habitat within a one mile radius of the territories, were occupied. Additional surveys have been conducted on 45,000 to 50,000 acres (project-level surveys) with no detections. The status of the goshawk on the NRA is unknown at this time.

Goshawks occupy similar habitat to that of the NSO. There are no recent sightings of goshawk or any known nest sites in the project area.

Project activities will not occur within 0.25 mile of any known nest sites; however, activities may occur within 0.25 mile of unsurveyed suitable nesting habitat.

Townsend's big-eared bat (*Corynorhinus townsendii*)

The Townsend's big-eared bat occurs in a variety of habitats, and is strongly correlated with the availability of caves or cave-like roosting habitat. It has been found from sea level to 8700 ft. elevation (Humphrey and Kunz 1976, Kunz and Martin 1982, Pierson and Rainey 1994) and occurs in xeric to mesic habitats; although throughout much of its range it occurs in mesic habitats characterized by deciduous and coniferous forests (Kunz and Martin 1982). Because of this, it is difficult to define measurable habitat variables. The most limiting factor appears to be availability of suitable roost sites. In coastal California, they prefer riparian habitats near streams and small tributaries, foraging along the edge of the forest (Fellers and Pierson, 2002).

Little is known on the species abundance and distribution, although potentially suitable roost sites exist within the NRA. This species is known to roost in caves, mine shafts and abandoned buildings. No surveys have been conducted for this species; however, incidental sightings have been recorded.

Project activities may occur within 0.25 mile of potentially suitable roost sites.

Fringed Myotis (*Myotis thysanodes*)

The fringed myotis is rare across its range but may be quite common locally from sea level to 1,950m (6,400ft). It occurs in a wide range of habitats from desert scrub to high elevation coniferous forests (Pierson & Rainey, 1998). It uses open habitats, early successional stages, streams, lakes and ponds as foraging areas. They roost in snags, caves, mines, crevices and man-made structures (Zeiner et al. 1990).

Maternity and overwintering roosts have been most commonly reported in caves, buildings and mines. However, tree roosting has been observed in heavily forested environments in the northern part of the range (Pierson & Rainey, 1998).

Like other tree-roosting *Myotis* species, the fringed myotis switches roosts less than every two days on average (Weller & Zabel, 2001) and requires a large number of suitable roost sites in an occupied area. Roost choice appears to vary throughout the range of the fringed myotis with snags exhibiting greater importance in California, New Mexico and Arizona and a heavy reliance on rock crevices in South Dakota, Oregon and Washington (Lacki & Baker, 2007). Weller & Zabel (2001) found that fringed myotis prefer large (>30cm dbh) snags in decay class 2 or 3 that are the tallest in the stand and have reduced canopy cover (necessary for thermoregulation). This is consistent with the few snags reported by Lacki & Baker (2007) who also found that female the fringed myotis in arid climates used rock crevices that were 1-4cm wide and located in non-forested areas. It is unclear if the fringed myotis actually prefers rock crevices in these areas or if there is a deficient amount of quality snags.

Little is known on the species abundance and distribution, although potentially suitable roost sites exist within the NRA. This species is known to roost in caves, mine shafts and abandoned buildings. No surveys have been conducted for this species; however, incidental sightings have been recorded.

Project activities may occur within 0.25 mile of potentially suitable roost sites.

Western Pond Turtle (*Clemmys marmorata*)

The western pond turtle inhabits fresh or brackish permanent and intermittent water from sea level to about 4500 feet (1372 m). Turtles are often concentrated in low gradient and low velocity sections of creeks and rivers, especially in sloughs, side channels and backwater areas. They prefer creeks that have deep still water and sunny banks. Adults prefer creeks that have deep still water, sunny banks and undercuts which are used as refugia from predators. Hatchlings prefer shallow edge water areas with minimal current, including vernal pools. Turtles are associated with vegetated banks especially if dense canopy cover is not available (Reese and Welsh, 1998). Basking structures are important habitat elements. Potential basking sites include protruding or floating woody debris, protruding rocks, emergent vegetation, overhanging vegetation that touches the water, and banks. Young turtles also bask on algae or small surface debris.

Pond turtles have been sighted in the Smith River estuary and Lower Smith River, but there have been no sightings anywhere else on the Smith River. There have been no surveys conducted specifically for turtles, however, there is little suitable habitat for the species on the NRA, due to the geology and geomorphology of the Smith River (steep-sided waterways).

Project activities may occur in potential suitable western pond turtle habitat.

Northern Red-legged Frog (*Rana aurora aurora*)

Red-legged frogs are inhabitants of moist forests and riparian areas usually below 2876 ft. (850 m) in elevation. They are generally found near permanent bodies of quiet water including small ponds, quiet pools along streams, springs, lakes, and marshes (Gordon 1939, Nussbaum et al. 1983, Stebbins 1966). Red-legged frogs are found in ponds and intermittent and permanent streams with slow or still water. Intermittent streams must retain surface water pools year-round in order for the frogs to survive. Deep pools are necessary for many aspects of the red-legged frog's life cycle

Northern red-legged frogs have not been recorded beyond the western edge of the Forest. Project activities may occur in potential suitable red-legged frog habitat.

Yellow-legged Frog (*Rana boylei*)

This species is most common in streams that have a rocky or gravelly substrate, that are large enough to develop bar and backwater habitat (Jones et al. 2005). They may be found in other riparian habitats including moderately vegetated backwaters, isolated pools, and slow moving

rivers with mud substrates (Nussbaum et al. 1983). Foothill yellow-legged frogs preferred aquatic habitats are relatively slow to moderately moving water or pools. Breeding habitats occur in shallow, slow flowing water with at least some pebble and cobble substrate. Pebble/cobble river bars along both riffles and pools, with at least some shading, seems to be preferred by sub-adults and adults.

Foothill yellow-legged frogs are relatively common in the Smith River Drainage. Project activities may occur in suitable YLFR habitat.

Southern Torrent Salamander (*Rhyacotriton variegatus*)

This species is found from near sea level to 4820 feet in elevation (Welsh and Lind 1996). Preferred habitat is described as cold, permanent seeps and small streams with a rocky substrate (Jennings and Hayes 1994). Welsh and Lind (1996) found that this species is associated with cold, clear headwater to low-order streams with loose, coarse substrates in humid forest habitats with large conifers, abundant moss, and greater than 80% canopy cover. These conditions are mostly found within late seral stage forests. Changes to forest canopied and the hydrology of seeps and streams can affect southern torrent salamanders.

No surveys have been completed for this species; however they are known to occur on the District. Project activities may occur in potential suitable habitat for this species.

Mardon Skipper (*Polites mardon*)

The mardon skipper inhabits early seral stage open grasslands that are dominated by short-statured grasses or sedges and forbs and are generally free of overstory trees and shrubs. Areas as small as 0.5 acres will support small populations of mardon skippers but most areas consist of mixed forest-grassland complexes with some connectivity between habitat patches for dispersal and movement of individuals. In northwestern California and southwestern Oregon, mardon skipper is found in small meadows (0.5-5 acres) dominated by Idaho fescue in sparse Jeffrey pine forests. Sites are 7-15 miles inland from the Pacific coast and range in elevation from 1,500-3,000ft. These sites are associated with serpentine based soils and are within the fog belt (USDI 2012).

The mardon skipper was petitioned for listing in 2002 and placed on the candidate list as “warranted but precluded” (evaluation delayed due to limited funding that was dedicated to court-ordered or higher priority listings). On September 4, 2012, the USFWS released a 12-month finding which determined that listing was not warranted at this time. An increased survey effort from 2003-2011 found an additional 165 sites which was a dramatic increase from the 14 documented sites in the 2002 petition.

There are two main population sites on the NRA, each containing multiple meadows. One of the sites is believed to be the largest population in California based on a one day count of 204 individuals in 2008 (Black & Mazzacano, 2010). Monitoring at these sites over the last 5 years indicate that populations at the sites on the NRA appear to be stable.

No activities will occur in occupied habitat. Project activities may occur adjacent to potential suitable habitat for this species.

Western Bumblebee (*Bombus occidentalis*)

Western bumble bees require open meadows with rich supplies of floral resources with continuous blooming from spring to autumn. Western bumble bees have been observed taking nectar from a variety of flowering plants.

The Western bumble bee requires habitats with rich supplies of floral resources with continuous blooming from spring to autumn. Landscape level habitat quality has been shown to influence bumble bee species richness and abundance, indicating that isolated patches of habitat are not sufficient to fully support bumble bee populations (Hatfield and LeBuhn 2007; Öckinger and Smith 2007).

Historically the western bumble bee ranged from central California north to Alaska, east through Alberta and western South Dakota and southward into Arizona and New Mexico. Surveys in 2007 found isolated populations in northern Arizona, Utah, Nevada and northern California. The species has declined dramatically in the west (Washington, Oregon, California, British Columbia and Alaska) since the mid-1990s with most areas seeing a complete absence of the species from 2002-2007. Although the general distribution trend is steeply downward, especially in the west coast states, some isolated populations in Oregon and the Rocky Mountains appear stable (Rao et al. 2011, Koch and Williams 2012). The overall status of populations in the west is largely dependent on geographic region: populations west of the Cascade and Sierra Nevada mountains are experiencing dire circumstances with steeply declining numbers, while those to the east of this dividing line are more secure with relatively unchanged population sizes. The reasons for these differences are not known.

Probable causes for the population decline include the spread of *Nosema bombi* and other diseases from *B. occidentalis* and *B. impatiens* colonies that were raised in Europe and then shipped back to the U.S. and used commercially, loss of genetic diversity, livestock grazing, urban development, habitat fragmentation, habitat encroachment due to fire suppression and pesticide use (Thorp et al, 2008).

There is little information regarding the distribution of the western bumblebee on the Forest. Until recently, the nearest confirmed detections were of two workers in 1997 in the Marbled Mountain Wilderness on Klamath National Forest. In September 2014, two western bumblebees were detected on Route 1, one north of Grouse Mountain and the other north of Ammon Ridge on the Lower Trinity Ranger District.

It is unlikely, but project activities may occur adjacent to potential suitable habitat for this species.

B. Habitat Status

Road upgrading or decommissioning will occur across the District. The proposed project occurs in and within 0.25 mile of suitable NSO and MAMU habitat. The project occurs within LSRs, Riparian Reserves, and NSO and MAMU Critical Habitat. The proposed projects occur in MAMU Zone 1, and are within 25 miles of the coast. The project occurs in and within 0.25 mile of Forest Service Sensitive Species habitat.

VI. EFFECTS OF THE PROPOSED ACTION

Habitat Effects

NSO and MAMU

Alternative 6 will reduce overall OML 1 and 2 roads and unauthorized route miles, as well as downgrading OML 2 roads to OML 1 (closed to motorized vehicle) on the NRA by 40% (Table 1). Road density will be reduced across the District, varying from 0.24 mi/ mi² to 1.25 mi/ mi² depending on the 5th field watershed (Table 2).

Three routes (0.16 mi total) will be added to the NFTS within late-successional habitat that would be potentially suitable nesting habitat for NSO and MAMU. These 3 sites are popular dispersed camping sites, adjacent to high use County roads, which have been in use for many years. No additional habitat will be removed or degraded and ambient noise levels are already high.

No new road construction or reconstruction will occur as part of this project; therefore, no NSO or MAMU habitat will be removed or degraded for road construction or reconstruction. In the long term, the RMTM Project will have beneficial effects for NSO and MAMU because road miles across the District will be reduced by approximately 40% (approximately 168 miles), which will reduce habitat fragmentation and disturbance from continued road use.

In cases of culvert removal during decommissioning, the fill at the site needs to be removed and the stream crossing recontoured. Culvert removal may require minor amounts of vegetation removal (usually 1/10 acre or less) of brush and smaller diameter trees (saplings up to 11" dbh). No large diameter or predominant trees will be removed. Minor vegetation removal at culvert removal sites may degrade suitable dispersal habitat for NSO by removing brush and small diameter trees; however the removal will be negligible in any one area. Approximately 170 culverts will be removed across the District under Alternative 6, with a total of 17 acres of vegetation removed, approximately 0.02% of the available habitat for the NSO on the Smith River NRA. This overestimates the amount of vegetation to be removed in that not all culverts sites have been brushed in, the roads may occur in naturally open areas, or the amount of vegetation to be removed is less than 1/10 of an acre. It is also unlikely that all culvert sites occur in suitable habitat for NSO; therefore, 17 acres of suitable habitat degraded is also an overestimate.

Table 1 Changes to NFTS and effects to NSO and MAMU

Indicator	Alternative 6
Miles/number of routes of UAR added in late successional habitat	0.16 mi (3 routes)
Miles of UAR added in within 0.25 mile of known NSO AC, MAMU, or fisher occupied site	0
Miles/number of routes of UAR added in LSR/MAMU Critical Habitat**	1.93 mi (8 routes)
Miles /number of routes of UAR added in NSO Critical Habitat	1.92 mi (5 routes)
Miles /number of system roads and UAR decommissioned/restored in Late Successional Reserves and MAMU Critical Habitat	60.13 mi (112 routes)
Miles/number of system roads and UAR decommissioned/restored in NSO Critical Habitat	52.1 mi (97 routes)
Miles/number of system roads and UAR decommissioned/restored in NSO territories	80.39 mi (157 routes)
Total percent OML1, 2 and UARs restored, decommissioned, downgraded to OML1	40%

Table 2. Road density by 5th field watershed of the Smith River basin

5 th Field Watershed	Alternative 1	Alternative 4	Alternative 5	Alternative 6
	Road Density (mi/mi ²)			
Lower Smith River	0.58	0.41	0.22	0.37
Middle Fork Smith River	1.62	1.30	1.05	1.25
North Fork Smith River	0.42	0.30	0.15	0.24
South Fork Smith River	1.12	0.86	0.58	0.80

Critical Habitat

Unauthorized routes are proposed to be added to the system within LSR/MAMU CHU (8 routes for a total of 1.93 miles) and NSO Critical Habitat (5 route for 1.92 miles). None of the roads to be added to the system occur in suitable nesting habitat for the MAMU or NSO.

There are 112 roads/routes (60.13 miles) to be decommissioned in MAMU CHU, with some roads to be removed in each MAMU CHU on the District. Primary constituent elements of MAMU CH units include: 1) individual trees with potential nesting platforms, and 2) forested areas within 0.5 miles of individual trees with potential nesting platforms, and with a canopy height of at least one-half the site-potential tree height. Saplings (up to 11" dbh) are not considered primary constituent elements. The project will not change the function of nesting habitat in MAMU CH.

There are 97 roads/routes (52.7 miles) to be decommissioned in NSO CHU, with some roads to be removed in each NSO CHU on the District. Due to the young age of the vegetation to be removed culvert sites, it is possible that NSO CHU dispersal habitat could be degraded by the removal of 11" dbh saplings. If all culvert sites occurred in NSO CHU, and work at all sites removed saplings up to 11" dbh, less than 17 acres (one-tenth acres per site at up to 170 sites) of NSO CHU dispersal habitat would be degraded, which equates to less than 0.2% of the dispersal habitat available in CHU. Habitat removal at culvert sites would be negligible. This may be overestimating the amount of vegetation to be removed in that not all culverts sites occur in dispersal habitat, the roads may occur in naturally open areas, or the amount of vegetation to be removed is less than 1/10 of an acre. It is also unlikely that all culvert sites occur in Critical Habitat; therefore 17 acres of dispersal habitat degraded is also an overestimate. The project will not change the function of suitable habitat in the CHU.

Disturbance

No unauthorized routes will be added within 0.25 miles of known NSO AC or MAMU occupied site. Approximately 157 roads/routes (80.39 miles) will be removed (decommissioned or restored) from within known NSO 1.3 mile home ranges. There are no NFTS roads or UARs within 0.25 miles of an occupied MAMU site; although two NFTS roads that access the occupied Rowdy Creek watershed, approximately one mile from an occupied site, are being downgraded to OML1 (closed year round) or decommissioned.

The UARs to be added to the system are open and drivable and in use for decades. Although the routes are technically not part of the NFTS they are not physically barricaded, and continued to be used. There will be no increase in the level of noise disturbance within the vicinity of these routes over current conditions. As stated above, only 3 UARs proposed to be added (0.16 mi total) occur in suitable nesting habitat for the NSO and MAMU, and all 3 are popular camping sites adjacent to high-use County roads. Most of the routes to be added do not occur in nesting/roosting habitat for the NSO or nesting habitat for the MAMU.

There are 76 roads that have a high risk to aquatic resources where work will potentially occur during the breeding season of the NSO and MAMU; 52 of which occur within 0.25 mi of suitable NSO and MAMU habitat. Work on these roads will include decommissioning and upgrading (stormproofing). Upgrading involves replacement of culverts to withstand larger flood events, and correcting other road drainage issues. Delaying the work until after the breeding season would mean that the work would require multiple years of work, which greatly increases the cost of the work as well as increasing risk to aquatic resources. Therefore no LOP will be imposed on activities proposed for these 52 roads except at occupied NSO activity centers or occupied MAMU sites (see Project Design Features above). Not all the roads or all segments of each road are within 0.25 mile of suitable habitat for these species. Several roads are within the 199 corridor and have high ambient noise levels. Others occur in unsuitable habitat.

As stated above, all known NSO ACs on the project will have a LOP of February 1 to July 31 as required by the Six Rivers LRMP. If there is an AC within 0.25 miles of a road, work will not begin until after July 31 due to operational issues, even if a portion of the road is not within 0.25 miles of the AC; therefore, there will be no effect to NSO (Table 3). There are two roads with

known ACs where work may be able to be done before July 31 because the roads are long and it would be possible to start work in another area and not impact the known AC during the breeding season. One of the roads (17N07.102, Table 3) only has potential NSO and MAMU habitat within the 0.25 mile radius of the known AC; therefore, work on the road outside of the known AC will have no effect on the NSO or MAMU. The potential NSO and MAMU impacts were calculated for the other road, 16N19, in case work occurs outside of the 0.25 mile radius of the AC during the breeding season (Table 3).

A portion of the RMTM Project area is being surveyed for the Gordon Vegetation and Fuels Management Project, and those surveys are scheduled to continue for the duration of the Gordon project. Outside of known ACs, roads within the Gordon Project surveyed area will not need LOPs provided surveys are continued through the life of the RMTM Project. If surveys are discontinued before work is completed, all nesting/roosting habitat within 0.25 mile of worksites will be considered unsurveyed and occupied. The potential acres of NSO habitat affected was calculated for these roads in case work occurs in unsurveyed suitable habitat (Table 3).

All NSO and MAMU nesting habitat was considered occupied regardless of habitat quality.

Suitable habitat may occur in widely spaced patches along a road but specific work sites have not yet been identified; therefore, all work on a road is considered to have the potential to cause disturbance.

This method will overestimate the acres of NSO and MAMU habitat affected for the following reasons:

- 1) Not all suitable habitat within 0.25 mile of a road is of high enough quality or in large enough patches to be occupied.
- 2) Not all actions on the roads will exceed background noise levels
- 3) Actual work sites may not be within 0.25 mile of suitable habitat
- 4) Potential disturbance at each site would not always be to the level that the species would have breeding disrupted to the extent that take would actually occur
- 5) The total acres affected for the NSO includes roads that occur within the Gordon Project. There may be no take associated with these roads if surveys continued.

Because of the above factors, it is likely that disturbance effects are being overestimated.

Table 3. Acres of northern spotted owls and marbled murrelet nesting habitat affected.

Road Number	Known NSO Activity Centers within 0.25 miles of road/route (Requires LOP from February 1 through July 31 within 0.25 miles of the AC)	Acres NSO N/R impacted (if operations occur between February 1 through July 9 in unsurveyed N/R habitat)	Acres of MAMU nesting habitat impacted (if operations occur between March 24 through August 5 within 0.25 mi of low quality habitat or between March 24 through September 15 if within 0.25 mi of high quality habitat)	Comments
199.109	No	0	0	Between HWY 199 and the Smith River- high ambient noise; No LOP needed
14N01D	No	0	0	No NSO or MAMU habitat
14N33.3	Yes (1)	0	111	No effect for NSO; high quality MAMU habitat
15N11A	Yes (1)	0	54	No effect for NSO; high quality MAMU habitat
15N13	No	70	66	Low quality MAMU habitat
15N36.1	No	65	53	Low quality MAMU habitat
15N36N	No	30	28	Low quality MAMU habitat
16N02L	No	251	208	High quality MAMU habitat
16N03.2	No	130	110	High quality MAMU habitat
16N03K	Yes (2)	0	153	No effect for NSO; high quality MAMU habitat
16N16	Yes (1)	0	8	No effect for NSO; low quality MAMU habitat
16N18A	Yes (1)	0	131	No effect for NSO; high quality MAMU habitat
16N18E	No	114	98	High quality MAMU habitat

16N19 16N19.2 16N19.5 16N19F	Yes (1)	325 **(if not surveyed, see comments**)	233	<p>Spur road acres overlap so are combined</p> <p>High use OML 2 road. AC at the beginning of an 8.28 mile road. If work is done on the rest of the road during the breeding season (outside the NSO AC, from the junction with 17N07 to approximately 1.5 miles past the bride), unsurveyed NSO habitat may be impacted.</p> <p>**The road is in the Gordon Hill Vegetation and Fuels Management Project area and will be surveyed for NSO. If project activities on this road occur during surveys (and no NSO are found within 0.25 mi of the road) work on this road will have no effect on NSO. If surveys are not conducted, the unsurveyed, unoccupied habitat will be assumed to be occupied and will affect the number of acres indicated.</p> <p>High quality MAMU habitat</p>
16N32 16N32C	No	33	0	Spur road acres overlap so are combined
16N33	No	0	0	0
16N34	Yes (1)	0	21	No effect for NSO; low quality MAMU habitat
16N36B	No	153** (if not surveyed)	98	<p>** The road is in the Gordon Hill Vegetation and Fuels Management Project area and will be surveyed for NSO. If project activities on this road occur during surveys (and no NSO are found within 0.25 mi of the road) work on this road will have no effect on NSO. If surveys are not conducted, the unsurveyed, unoccupied habitat will be assumed to be occupied and will affect the number of acres indicated.</p> <p>Low quality MAMU habitat</p>

16N37	No	93** (if not surveyed)	28	** The road is in the Gordon Hill Vegetation and Fuels Management Project area and will be surveyed for NSO. If project activities on this road occur during surveys (and no NSO are found within 0.25 mi of the road) work on this road will have no effect on NSO. If surveys are not conducted, the unsurveyed, unoccupied habitat will be assumed to be occupied and will affect the number of acres indicated. Low quality MAMU habitat
16N41	No	164** (if not surveyed)	14	** The road is in the Gordon Hill Vegetation and Fuels Management Project area and will be surveyed for NSO. If project activities on this road occur during surveys (and no NSO are found within 0.25 mi of the road) work on this road will have no effect on NSO. If surveys are not conducted, the unsurveyed, unoccupied habitat will be assumed to be occupied and will affect the number of acres indicated.. Low quality MAMU habitat
17N01.100	No	10	0	No MAMU habitat
17N04.3	No	51	38	Low quality MAMU habitat
17N07.102	Yes (1)	0	16	AC at one end of 3+ mile road that connects at both ends to 17N07 (two access points). All habitat is within the AC at one end of the road. Low quality MAMU habitat
17N17	No	26	0	No MAMU habitat
17N18C	No	37	37	High quality MAMU habitat
17N30	No	138	34	Low quality MAMU habitat
17N35	No	98	54	high quality MAMU habitat
17N36	No	67	33	Low quality MAMU habitat

17N36C				Spur road acres overlap so are combined
17N39	No	104 (if not surveyed)	100	** The road is in the Gordon Hill Vegetation and Fuels Management Project area and will be surveyed for NSO. If project activities on this road occur during surveys (and no NSO are found within 0.25 mi of the road) work on this road will have no effect on NSO. If surveys are not conducted, the unsurveyed, unoccupied habitat will be assumed to be occupied and will affect the number of acres indicated. Low quality MAMU habitat
17N41G.1	No	77	77	Low quality MAMU habitat
17N48 17N48C	No	159** (if not surveyed)	27	** The road is in the Gordon Hill Vegetation and Fuels Management Project area and will be surveyed for NSO. If project activities on this road occur during surveys (and no NSO are found within 0.25 mi of the road) work on this road will have no effect on NSO. If surveys are not conducted, the unsurveyed, unoccupied habitat will be assumed to be occupied and will affect the number of acres indicated. Low quality MAMU habitat Spur road acres overlap so are combined
18N03	No	70	53	Low quality MAMU habitat
18N11 18N11A 18N11D	No	321	154	Low quality MAMU habitat Spur road acres overlap so are combined
18N11D.2 18N11D.3 18N11D.5	No	327	16	Low quality MAMU habitat. Spur road acres overlap so are combined

18N12A	No	75	10	Low quality MAMU habitat
18N16	No	449	252	High use OML 2; low quality MAMU habitat
18N17 18N17C 18N17H	No	309	105	Low quality MAMU habitat Spur road acres overlap so are combined
18N20	No	115	91	High quality MAMU habitat
18N22	Yes (1)	0	176	No effect for NSO; high quality MAMU habitat
18N56	No	53	14	Low quality MAMU habitat
Totals		3914 acres (NSO)	2701 acres (MAMU)	

Implementation of the project during the breeding season will potentially cause disturbance to **3,914 acres of NSO nesting/roosting habitat and 2,701 acres of MAMU nesting habitat**. Since these roads represent a high risk to aquatic resources, it is expected that the needed work will be accomplished within the first 5 years of the 15 year project. It is expected that the project will result in approximately 782 acres of NSO habitat impacted per year and 540 acres per year for the MAMU until the project is completed.

Forest Service Sensitive (FSS) Species

No new road construction or reconstruction will occur as part of this project; therefore, no habitat will be removed for any FSS species. In the long term, the RMTM Project will have beneficial effects for FSS species because road densities across the District will be reduced by 40% (approximately 168 miles), which will reduce habitat fragmentation, disturbance from continued road use, and direct mortality (road kill).

In cases of culvert removal during decommissioning, the fill at the site needs to be removed and the stream crossing recontoured. Culvert removal may require minor amounts of vegetation removal (usually 1/10 acre or less) of brush and smaller diameter trees (saplings up to 11" dbh). No large diameter or predominant trees will be removed. Minor vegetation removal at culvert removal sites may degrade suitable habitat for FSS species by removing brush and small diameter trees; however the removal will be negligible in any one area. Approximately 170 culverts will be removed across the District, with a total of 17 acres of vegetation removed. This may be overestimating the amount of vegetation to be removed in that not all culverts sites have been brushed in, the roads may occur in naturally open areas, or the amount of vegetation to be removed is less than 1/10 of an acre. It is also unlikely that all culvert sites occur in suitable habitat for FSS species; therefore 17 acres of suitable habitat degraded is also an overestimate.

Culvert removal/replacement activities could directly affect FSS aquatic species such as the yellow-legged frog and southern torrent salamander during project implementation and noise disturbance may impact species such as the goshawk, fisher, and marten during the breeding season. However, reducing road density across the District will reduce fragmentation of habitat, increase patch size, reduce sedimentation in stream channels, and reduce disturbance and direct mortality. In the long term, the project will benefit FSS species.

There are no known FSS den or nest sites within 0.25 miles of the high priority roads. Implementation of the project during the breeding season within 0.25 miles of unsurveyed habitat will potentially cause disturbance to FSS.

Cumulative Effects

Cumulative effects under ESA are those effects of future State or private activities, not involving Federal activities, which are reasonably certain to occur within the action area of the Federal action subject to consultation.

A review of CalFire site (August 9, 2016) found one timber harvest plan (THP) on private land within the action area. The project involves thinning on 133 acres (THP number 1-15-144-DEL).

This project is a long-term project (15 years), and it is expected that other activities will occur on state, federal, and private land that will have cumulative effects on TES species. Forest, County, and state road maintenance activities will continue, and may have negative impacts on aquatic resources. Vegetation management activities and wildfires such as the 2015 NRA Lightening Fires on the District and private land may cause negative impacts to TES species and their habitats. Recovery on private land is expected to be slower (or non-existent) than on federal land because of continued development and loss of habitats.

The trend for wildlife habitats on the NRA is towards recovery. Since the 1990 NRA Act, timber harvest on the NRA has been limited and geared towards habitat restoration (thinning in younger stands). Fuel treatments have been developed to help restore natural fire regimes and to protect existing habitats. Since the NRA Act in 1990, 884 acres have been thinned using silvicultural prescriptions designed to accelerate the development of late-successional habitat characteristics and 1,966 acres have had fuels reduction treatments completed to restore habitat through the reintroduction of fire and to protect existing late-successional habitat from stand-replacing fire. The Big Flat Vegetation Management and Fuels Reduction Project is currently being implemented and will improve habitat conditions on 1084 acres and protect existing habitat through fuels reduction on 735 acres. The Gordon Hill Vegetation Management and Fuels Reduction Project has yet to be implemented, and proposes to improve habitat conditions on 1515 acres and protect existing habitat through fuels reduction on 1273 acres. Accelerating the development of late-successional characteristics, and protecting existing habitat, will move the area toward the historic range of variability of seral stages and reduce fragmentation of habitat, improving habitat conditions for TES species.

Since the signing of the Six Rivers LRMP in 1995, 51.6 miles of road have been decommissioned or downgraded to OML 1 on the NRA. Alternative 6 of the Smith River RMT project will remove approximately 168 miles of road/routes and reduce road density across the NRA. Short-term negative impacts could occur from the use of heavy equipment (noise disturbance) while decommissioning or upgrading roads. However, reducing road density across the District will reduce fragmentation of habitat, increase patch size, and reduce disturbance and direct mortality. In the long term, the project will benefit TES species.

Regarding all the past impacts from land uses (mining, timber harvest, road constructions) on FS land, the proposed action will reduce the current effects from old failing roads, and will accelerate the recovery rate of disturbed areas and facilitate restoration by reducing road density across the District. The beneficial cumulative effects include the reduction of habitat fragmentation and reducing road-related disturbance and mortality for TES species.

VII. DETERMINATION

Based upon the size, nature, and duration of this proposed action, it is the determination of the wildlife biologist that this project **may affect and is likely to adversely affect the northern spotted owl and marbled murrelet** due to implementation of the project within 0.25 miles of suitable habitat during the breeding season. The project will create disturbance within 0.25 miles of approximately **3,914 acres of NSO nesting/roosting habitat and 2,701 acres of MAMU nesting habitat**. The project will have short term adverse effects but long-term beneficial effects for NSO and MAMU through the reduction of road density. The Forest will report the actual number of acreage affected for NSO and MAMU every year until the work on these high risk roads is completed.

The project **may affect but is not likely to adversely affect NSO CHU** through the degradation of **less than 17 acres** of dispersal habitat (one-tenth acre per site, a negligible amount in any one area) across the NRA.

The project **will have no effect on MAMU CHU**.

The project meets the objectives of the 2011 NSO Recovery Plan and the 2012 NSO Critical Habitat Rule through the reduction of road miles across the District, which will result in long term habitat recovery.

The proposed action may impact individuals, but will not cause a trend towards Federal listing for any FSS species. The project will have long-term beneficial effects for FSS species.

VIII. MANAGEMENT RECOMMENDATIONS

There are no management recommendations for this project

IX. LITERATURE CITED

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Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
305.103	0.14	UAR	Barricade.	Restore							T17NR1E
305.104	0.14	UAR	Barricade.	Restore							T17NR1E
305.105	0.22	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x						T18NR1E
305.106	0.21	UAR	Barricade.	Restore							T19NR1E
305.108	0.06	UAR	Barricade.	Restore							T18NR2E
305.109	2.43	UAR	Add to trail system. Motorized Trail; Install drains and gravel at wet areas to keep vehicles on the roadway (near mp 1.00 & 1.5). Improve surface drainage, place boulders strategically, increase enforcement.	M. Trail	x		x		x	x	T18NR2E
305.109A	1.02	UAR	Barricade.	Restore				x			T18NR2E
305.111	0.13	UAR	Barricade.	Restore							T18NR2E
305.113	0.12	UAR	Barricade.	Restore							T18NR2E
305.114	0.63	UAR	Outslope or rolling dips as needed and barricade.	Restore							T18NR2E
305.115	1.74	UAR	Outslope or rolling dips as needed and barricade.	Restore							T18NR2E
305.115A	0.18	UAR	Outslope or rolling dips as needed and barricade.	Restore							T18NR2E
305.118	0.80	UAR	Add to trail system. Motorized trail. Delineate Route, POC mitigation - seasonal closure at beginning of route. Gate mid-October through early	M. Trail	x	x		x		x	T18NR1E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			June; need culvert at POC site, barricade end of route.								
305.118	0.76	UAR	Outslope or rolling dips as needed.	Restore							T18NR1E
305.121	0.63	UAR	Barricade.	Restore							T18NR1E
305.121A	0.28	UAR	Barricade.	Restore							T18NR1E
305.121B	1.03	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T18NR1E
305.123	0.63	UAR	Barricade.	Restore							T18NR1E
305.124*	1.20	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail							T17NR1E
305.125	1.44	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T18NR1E
305.126	1.56	UAR	Barricade.	Restore							T17NR1E
305.128	0.69	UAR	Barricade through boulder placement.	Restore							T18NR1E
305.129	0.27	UAR	Barricade through boulder placement.	Restore							T18NR1E
305.131	0.09	UAR	Barricade through boulder placement.	Restore							T18NR1E
314.1*	1.21	UAR	Add to trail system. Motorized trail. POC mitigation - Barricade at mp 1.21	M. Trail						x	T17NR2E
314.107	0.26	UAR	Add to road system. OML 2; Delineate route. Three Ponds camping area. POC mitigation -	2	x			x		x	T18NR3E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			Gravel near POC.								
315.100	1.68	UAR	Add first 1000 ft. to trail system. Motorized Trail;	M. Trail							T18NR3E
315.102	0.48	UAR	Barricade.	Restore							T18NR3E
315.106	0.25	UAR	Barricade.	Restore							T18NR3E
315.107	0.30	UAR	Barricade.	Restore							T18NR3E
315.108	0.46	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x						T18NR3E
315.2	0.51	UAR	Outslope or rolling dips as needed. Remove culverts at mp 0.07 0.13 and 0.18 to improve drainage.	Restore							T18NR3E
315.3	0.98	UAR	Remove all culverts. Outslope as needed.	Restore							T18NR3E
315.3A	0.24	UAR	Remove all culverts. Outslope as needed.	Restore							T18NR3E
315.9A	1.22	UAR	Remove culverts and associated fill from stream channels. Outslope as needed.	Restore							T18NR3E
316.1	0.26	UAR	Add to road system. OML 2 administrative use only; add rolling dips. POC mitigation - Gravel near POC.	2			x		x		T17NR3E
324.100	0.13	UAR	Barricade.	Restore							T18NR4E
405.10	0.74	UAR	Add drivable portion to trail system. Motorized trail. Delineate route. Route	M. Trail	x					x	T16NR2E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			delineation at .36mp.								
405.100	0.11	UAR	Barricade.	Restore							T16NR3E
405.101	0.17	UAR	Barricade.	Restore							T16NR3E
405.103	3.47	UAR	Add to trail system. Motorized trail. Improve surface drainage near creek; repair culvert.	M. Trail					x	x	T16NR2E
405.9	0.05	UAR	Barricade.	Restore							T16NR3E
411.101	0.30	UAR	Barricade.	Restore							T17NR2E
411.102	0.17	UAR	Barricade.	Restore							T17NR2E
427.101	0.15	UAR	Add to road system. OML 1.	1							T15NR2E
427.103	0.32	UAR	Add to road system. OML 2. Delineate Route.	2	x					x	T16NR1E
427.105	0.29	UAR	Add to road system. OML 2, County disposal site; may be gated periodically for administrative purposes.	2							T16NR1E
427.106	0.13	UAR	Add to trail system. Motorized Trail; install rolling dips to improve drainage.	M. Trail					x		T15NR2E
13N13	0.60	2	Remove from System; Remove culvert and associated fill. Outslope as needed and barricade.	Deco							T13NR3E
13N26	2.31	2	Maintain, repair, or replace each culvert; improve surface drainage. POC Mitigation -	2		x			x		T13NR3E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barrier - cadet	Storm - proof	Speed Limit & Sign for NOA	
14N01B	0.50	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T14NR3E
14N01D**	1.80	2	Maintain, repair, or replace each culvert; improve surface drainage.	2					x		T13NR2E
14N01G	1.60	1	Remove all culverts and associated fill. Outslope or waterbars as needed and barricade.	1					x		T14NR3E
14N08T	0.11	1	Remove from System; Remove all culverts and associated fill. Outslope or waterbars as needed and barricade.	Deco							T14NR3E
14N10	0.50	1	Remove from System; Remove all culverts and associated fill. Barricade.	Deco							T13NR3E
14N15	0.50	2	Maintain, repair, or replace each culvert; improve surface drainage.	2					x		T13NR2E
14N15.1	3.80	UAR	Add to road system. OML 2. Replace culverts and repair road surface. POC mitigation - gravel near POC.	2			x		x	x	T13NR2E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
14N29A	0.80	2	Remove from System; Remove all culverts and associated fill. Outslope or waterbars as needed and barricade.	Deco							T13NR3E
14N32.1	0.26	UAR	Barricade.	Restore							T14NR3E
14N33	1.60	2	Remove from system. Remove culverts and associated fill from stream channels. Outslope and barricade.	Deco							T14NR3E
14N33.1	0.09	UAR	Barricade.	Restore							T14NR3E
14N33.2	0.07	UAR	Barricade.	Restore							T14NR3E
14N33.3**	0.52	UAR	Remove culverts and associated fill from stream channels as on 14N33. Outslope as needed.	Restore							T14NR3E
14N33A	0.22	1	Remove from System; Remove all culverts and associated fill. Outslope or waterbars as needed and barricade.	Deco							T14NR3E
14N38	0.60	2	Improve surface drainage and maintain as OML 2. Seasonal closure to protect POC. Gate mid-October through early June.	2		x			x		T14NR3E
14N46	2.70	1	Remove 2 culverts and associated fill. Outslope or waterbars as needed and	1				x	x		T14NR3E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			barricade. Downgrade to OML 1.								
14N46.1	0.08	UAR	Barricade.	Restore							T14NR3E
14N46.2	0.13	UAR	Outslope and barricade.	Restore							T14NR3E
14N46B	0.37	1	Remove from System; Outslope as needed and barricade.	Deco							T14NR3E
15N01.102	0.48	UAR	Add to road system. OML 2. POC mitigation - Gravel at low point near mp 0.14	2			x				T15NR3E
15N01.2	0.14	UAR	Barricade.	Restore							T14NR3E
15N01.3	0.15	UAR	Add to road system. OML 2	2							T14NR3E
15N01.4	0.35	UAR	Remove all culverts and associated fill. Outslope or waterbars as needed and barricade.	Restore							T14NR3E
15N01A.1	0.10	UAR	Barricade.	Restore							T15NR2E
15N01A.2	0.05	UAR	Barricade.	Restore							T15NR2E
15N01A.4	3.84	UAR	Replace culverts and repair road surface. Manage as OML1.	1				x			T15NR2E
15N01P	0.12	1	Remove from System; Remove all culverts and associated fill. Outslope or waterbars as needed and barricade.	Deco							T14NR3E
15N01R	0.10	1	Outslope or waterbars as needed and barricade.	1				x	x		T14NR3E
15N01S	0.10	1	Outslope or waterbars as needed and barricade.	1				x	x		T14NR3E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barrier - cade	Storm - proof	Speed Limit & Sign for NOA	
15N35C	0.57	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T15NR3E
15N36.1**	0.62	UAR	Remove 3 culverts and associated fill from stream channels. Outslope as needed and barricade.	Restore							T15NR3E
15N36C	0.55	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T15NR3E
15N36N**	1.30	2	Keep first 1.3 miles; Maintain, repair, or replace each culvert. Improve surface drainage with outsloping and rolling dips as needed.	2					x		T15NR3E
15N36N	1.30	2	Decommission from 1.3 to 2.6	Deco							T15NR3E
15N36N.1	0.90	UAR	Add to road system as OML 2. Access to Blackhawk Bar. Keep; Maintain, repair, or replace each culvert. Improve surface drainage with outsloping and rolling dips as needed. Rock/gravel.	2			x		x		T15NR3E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
16N16**	1.50	2	Repair or replace plugged culverts.	2					x		T16NR4E
16N16	0.60	2	Remove all 4 culverts and associated fill and outslope and barricade. Downgrade to OML 1.	1				x	x		T16NR4E
16N18.1	1.04	UAR	Barricade.	Restore							T15NR3E
16N18.3	0.49	UAR	Barricade.	Restore							T15NR3E
16N18.4	0.67	UAR	Barricade.	Restore							T15NR3E
16N18A**	1.35	2	Repair or replace 8 culverts on section up to MP 1.35 at bridge.	2					x		T15NR4E
16N18A**	0.95	2	Remove 5 culverts; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T15NR4E
16N18B.1	0.66	UAR	Barricade.	Restore							T15NR4E
16N18C	0.39	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T15NR4E
16N18E**	0.96	2	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T16NR4E
16N18K	1.10	1	Outslope or rolling dips as needed.	1					x		T15NR3E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			needed and barricade.								
17N07.4	0.21	UAR	Outslope as needed.	Restore							T16NR2E
17N07.5	0.32	UAR	Barricade.	Restore							T16NR2E
17N07.5A	0.15	UAR	Barricade.	Restore							T16NR2E
17N07.6	0.75	UAR	Barricade.	Restore							T16NR2E
17N07.7	0.30	UAR	Barricade.	Restore							T16NR2E
17N07J	1.64	2	Repair culvert at mp 1.25	2					x		T16NR2E
17N07K	0.80	2	Remove all 3 culverts and associated fill. Outslope or waterbars as needed and barricade. Downgrade to OML 1.	1					x	x	T16NR2E
17N07Q	0.22	2	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T16NR2E
17N07R	0.44	2	Remove from System; Remove culvert and associated fill. Barricade.	Deco							T16NR2E
17N07R.1	0.16	UAR	Barricade.	Restore							T16NR2E
17N07R.1A	0.25	UAR	Barricade.	Restore							T16NR2E
17N08.3	0.30	UAR	Barricade.	Restore							T17NR3E
17N08A	0.50	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T17NR3E
17N13A	0.38	2	Outslope or waterbars as needed and barricade. Downgrade to OML 1.	1					x	x	T17NR2E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			associated fill from stream channel. Outslope as needed and barricade.								
17N18F	0.07	1	Remove from System; Remove culverts and associated fill from stream channel. Outslope as needed and barricade.	Deco							T18NR3E
17N20**	0.19	2	Improve maintenance, repair, or replace each of the 3 culverts.	2					x		T17NR1E
17N21.1	0.41	UAR	Outslope or rolling dips as needed and barricade.	Restore							T17NR1E
17N22A	0.79	2	Improve maintenance on, repair, or replace culvert at mp 0.7.	2					x		T17NR1E
17N22A.1	0.21	UAR	Outslope or rolling dips as needed and barricade.	Restore							T17NR1E
17N22A.2	0.25	UAR	Barricade.	Restore							T17NR1E
17N22D	0.08	2	Remove from System; Remove culverts and associated fill from stream channel. Outslope as needed and barricade.	Deco							T17NR1E
17N22J	0.12	2	Outslope or rolling dips as needed.	2					x		T17NR1E
17N22W	0.15	2	Outslope or rolling dips as needed.	2					x		T17NR1E
17N22W.1	0.46	UAR	Add to system as OML 1. Outslope or rolling dips as needed.	1					x		T17NR1E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			Outslope as needed and barricade.								
17N39B	0.51	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T17NR2E
17N39C	0.12	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T16NR2E
17N40	0.35	2	Outslope or waterbars as needed, barricade, and downgrade to OML 1.	1				x			T16NR2E
17N40B	0.53	2	Outslope or waterbars as needed and barricade. Downgrade to OML 1.	1				x	x		T17NR2E
17N40B.1	0.19	UAR	Barricade.	Restore							T17NR2E
17N40C.1	0.20	UAR	Barricade.	Restore							T17NR2E
17N40D	0.18	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T17NR2E
17N41	1.60	2	Improve maintenance on, repair, or replace/upgrade each of the 13 culverts and Outslope or	2					x		T17NR2E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			waterbars as needed.								
17N41G.1**	0.17	UAR	Outslope or rolling dips as needed and barricade.	Restore							T16NR2E
17N46A	0.16	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T17NR2E
17N48.1	0.33	UAR	Barricade.	Restore							T17NR2E
17N48.3	0.16	UAR	Outslope or rolling dips as needed and barricade.	Restore							T17NR2E
17N48.4**	0.46	UAR	Outslope or rolling dips as needed and barricade.	Restore							T17NR2E
17N48**	1.7	2	Stormproof	2					X		T17NR2E
17N48C**	0.47	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T17NR2E
17N49	3.91	3	Designate as mixed use.	Mixed-Use							T17NR2E
17N49.100	0.12	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR1E
17N49.100	3.88	UAR	Barricade.	Restore							T17NR1E
17N49.100A	0.21	UAR	Barricade.	Restore							T17NR1E
17N49.101	1.17	UAR	Add to trail system. Motorized Trail; Delineate route. POC mitigation - Seasonal	M. Trail	x	x				x	T17NR2E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			Closure - Gate near mp 0.88								
17N49.102	0.87	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.102A	0.71	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.102B	0.17	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.102C	0.20	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.103	0.26	UAR	Outslope or rolling dips as needed and barricade.	Restore							T17NR2E
17N49.104	3.82	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR1E
17N49.104	1.05	UAR	Barricade.	Restore							T17NR2E
17N49.104A	0.05	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.104B	0.08	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.105	1.43	UAR	Barricade.	Restore							T17NR2E
17N49.105A	0.12	UAR	Barricade.	Restore							T17NR2E
17N49.106	0.32	UAR	Barricade.	Restore				x			T17NR1E
17N49.107	0.64	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.108	0.31	UAR	Add to trail system. Motorized	M. Trail	x					x	T17NR2E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			Trail; Delineate route.								
17N49.4	2.04	UAR	Add to trail system. Motorized Trail; Delineate route. POC mitigation - Gravel two POC creek crossings west & south of 17N49.101 junction.	M. Trail	x		x			x	T17NR2E
17N49.4A	1.06	UAR	Barricade.	Restore							T17NR2E
17N49.7	3.06	UAR	Add to trail system. Motorized trail; repair road drainage at spring area and 2 culverts; Delineate Route. POC mitigation - Seasonal Closure - Gate near mp 0.95, just north of 17N49.15 junction	M. Trail	x	x			x	x	T17NR1E
17N49.7	0.29	UAR	Barricade.	Restore							T17NR1E
17N49.7A	0.82	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR1E
17N49.8	0.39	UAR	Add to trail system. Motorized Trail; Delineate route.	M. Trail	x					x	T17NR2E
17N49.11	4.49	UAR	Add to trail system. Motorized Trail; Delineate route. POC mitigation - Seasonal Closure - Gate mid-slope near longitude	M. Trail	x	x				x	T17NR1E

Route / Road Number	Total Miles	Existing OML / Route Type	Proposed Action	Proposed OML / Route Type	Mitigations on National Forest Transportation System (NFTS)						Location : Township & Range
					Route Delineation	Seasonal Closure - Gate	Gravel	Barricade	Storm-proof	Speed Limit & Sign for NOA	
			from stream channels. Outslope as needed and barricade.								
18N13.100*	0.21	UAR	Remove culverts and fill from stream channels. Outslope as needed.	Restore							
18N15	1.20	2	Upsize culverts, install waterbars or rolling dips.	2					x		T18NR3E
18N15D	0.23	2	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T18NR3E
18N16**	1.2	2	Stormproof or replace 2 culverts.	2					x		T18NR3E
18N16.100	2.60	UAR	Barricade.	Restore							T18NR3E
18N16E	0.38	1	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T17NR3E
18N16F.1	0.16	UAR	Barricade.	Restore							T17NR3E
18N16W	0.17	2	Remove from System; Remove culverts and associated fill from stream channels. Outslope as needed and barricade.	Deco							T18NR3E
18N17**	8.10	2	Improve maintenance on, repair, or replace/upgrade each of the 19 culverts and	2					x		T18NR3E

Appendix B

Definition of Operational Maintenance Level (OML)

Roads are maintained at operational maintenance levels depending on identified management needs (FSH 7709.58). All Forest roads are categorized into one of five maintenance levels as described below.

National Forest System Roads are those forest roads under the jurisdiction of the USFS that are constructed to specific standards depending on the needs identified for the road. Roads will be maintained and available for use at maintenance levels commensurate with the identified management needs.

Maintenance Level 1

This level is assigned to roads that are closed to vehicular traffic for a period of greater than one year but still exist on the forest transportation system for potential future use. Custodial maintenance is done to provide the basic care needed to protect the road investment and minimize damage to adjacent land and resources.

Maintenance Level 2

This level is assigned to roads that will be open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic volumes are usually minor. Provides the basic custodial care described above and keeps roadway clear for safe passage.

Maintenance Level 3

This level is assigned to roads that will be open and maintained for safe travel by a prudent driver in a passenger car. User comfort and convenience is not considered a priority. Roads at this maintenance level are normally characterized as low speed, single lane with turnouts. The SRNF considers the functional classification of these roads is normally a collector (has lower level roads branching off from it).

Maintenance Level 4

This level is assigned to roads that will provide a moderate degree of user comfort and convenience at moderate travel speeds. Some roads may be single lane and some may be paved/and or dust abated. The SRNF considers the functional classification of these roads is normally collector or minor arterial (has one or more collectors branching off from it).

Maintenance Level 5

This level is assigned to roads that will provide a high degree of user comfort and convenience. These roads are normally double-lane, paved facilities. Some may be aggregate-surfaced and dust-abated.