Notice of Intent to Adopt a Negative Declaration: "Colby Mountain Recreation Project"

Posted on April 11, 2024**LEAD AGENCY:** Butte County Resource Conservation District
150 Chuck Yeager Way, Ste A, Oroville, CA 95965

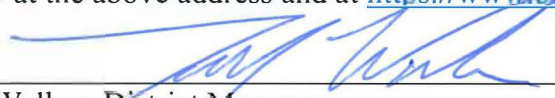
CONTACT PERSON: Wolfgang Rougle, Conservation Project Manager, (530) 693-3173

PROJECT LOCATION: The Project is located on the Almanor Ranger District of the Lassen National Forest in Butte, Plumas, and Tehama Counties, California. The project area is within Township (T) 26 North (N), Range (R) 4 East (E), Sections 1-4, 9-14; T26N, R5E, Sections 26-28, 33-36; T27N R5E Sections 31 and 32 and T26N, R5E, Sections 5-7 and 18; Mount Diablo meridian. The site is not on any of the lists enumerated under Section 65962.5 of the Government Code regarding hazardous waste facilities.

PROJECT DESCRIPTION: Lassen National Forest is proposing to construct approximately 36 miles of new single-track trails out of Jonesville Snow Park, two vault-style bathrooms, one well at the Jonesville Snowmobile Park, an expanded parking lot at Humboldt Summit and a parking lot at the hub of 27N06 and 27N36. The trail system would offer a variety of distance and terrain options for multiple user groups including 0.92 miles of pedestrian-only use trails and 34.77 miles of non-motorized multi-use trails.

ENVIRONMENTAL DETERMINATION: The draft Negative Declaration (DND) has been prepared by the Butte County Resource Conservation District as lead agency in collaboration with Lassen National Forest and Chico Environmental. The DND is in conformance with Section 15070, Subsection (a), of the State of California Guidelines for Implementation of the CEQA. The purpose of the draft ND and the Initial Study Checklist was to determine whether there were potentially significant impacts associated with the development of the project.

PUBLIC REVIEW PERIOD: A 30-day minimum public review period for the Mitigated Negative Declaration will commence on April 11, 2024, and end at 5 pm Saturday, May 11, 2024, for interested individuals and public agencies to submit written comments on the document. Any written comments on the Negative Declaration must be received at the above address within the public review period. Alternatively, you may email comments to the following address: wolfy@bcrcd.org. Copies of the Negative Declaration are also available for review at the above address and at https://www.bcrcd.org/announcements.



4/11/24

Thad Walker, District Manager
Butte County Resource Conservation District

Date

Draft
Initial Study - Negative Declaration
for the proposed
Colby Mountain Recreation Project, Butte, Tehama, and Plumas Counties, California

Prepared by:

Butte County Resource
Conservation District (BCRCD)

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April 2024

Table of Contents

APPENDICES

Appendix A: Trail Development Standards

Appendix B: Decision Memo (DM)

Appendix C: Biological Evaluation and Biological Assessment (BE/BA) for Wildlife and Botany

Appendix D: Management Indicator Species Report (MIS) – Migratory Bird (MB) Assessment

Appendix E: Construction Emissions

NEGATIVE DECLARATION

STAGE OF CEQA DOCUMENT DEVELOPMENT

☐ **Administrative Draft.** This California Environmental Quality Act (CEQA) document is in preparation by Butte County Resource Conservation District (BCRCD) staff.

☒ **Public Document.** This completed CEQA document has been filed by BCRCD at the State Clearinghouse on April 11, 2024, and is being circulated for a 30-day state agency and public review period. The review period ends on Saturday, May 11, 2024.

☐ **Final CEQA Document.** This final CEQA document contains the changes made by the District following consideration of comments received during the public and agency review period. The CEQA administrative record supporting this document is on file, and available for review, at the Butte County Resource Conservation District office, 150 Chuck Yeager Way, Suite A, Oroville, CA 95965.

1) BACKGROUND

Project Description

The Almanor Ranger District, Lassen National Forest is proposing to construct approximately 36 miles of new single-track trails out of Jonesville Snow Park, two vault-style bathrooms, one well at the Jonesville Snowmobile Park, an expanded parking lot at Humboldt Summit and a parking lot at the hub of 27N06 and 27N36. The trail system would offer a variety of distance and terrain options for multiple user groups including 0.92 miles of pedestrian-only use trails and 34.77 miles of non-motorized multi-use trails. (**Figure 1**).

The Colby Mountain Recreation Project is a collaborative effort conducted by the Butte County Resource Conservation District, Northern California Regional Land Trust, Sierra Buttes Trail Stewardship, and Chico Velo to enhance trail-based recreation near the community of Jonesville in Lassen National Forest. With the support of the U.S. Forest Service, the project has developed over months of stakeholder engagement and incorporates forest health demonstration sites, environmental education facilities, day-use and emergency response amenities and an extensive network of multi-use trails.

There is a desire for more access to the recreational areas that would accommodate a variety of recreational users in a safe and resource sensitive manner. The project would create a new trail system and expand access to the community of Jonesville. These new

trails would provide additional opportunities for non-motorized users to explore Butte County. The purpose of the project is to provide long-term sustainable trails, with minimal maintenance needs, that expand access to multiple user groups.

Desired conditions are as follows:

- Non-motorized trail system: a safe network of system trails capable of accommodating multiple user groups (hikers, cyclists, equestrians, and Class 1 e-bikes) that meets future resource management needs, while reducing adverse water quality and ecological impacts associated with public access.
- Pedestrian-only system: a safe trail capable of accommodating hikers only that meets future resource management needs, while reducing adverse water quality and ecological impacts associated with public access.

The Project is located on the Almanor Ranger District of the Lassen National Forest in Butte, Plumas, and Tehama Counties, California. The project area is within Township (T) 26 North (N), Range (R) 4 East (E), Sections 1-4, 9-14; T26N, R5E, Sections 26-28, 33-36; T27N R5E Sections 31 and 32 and T26N, R5E, Sections 5-7 and 18; Mount Diablo meridian.

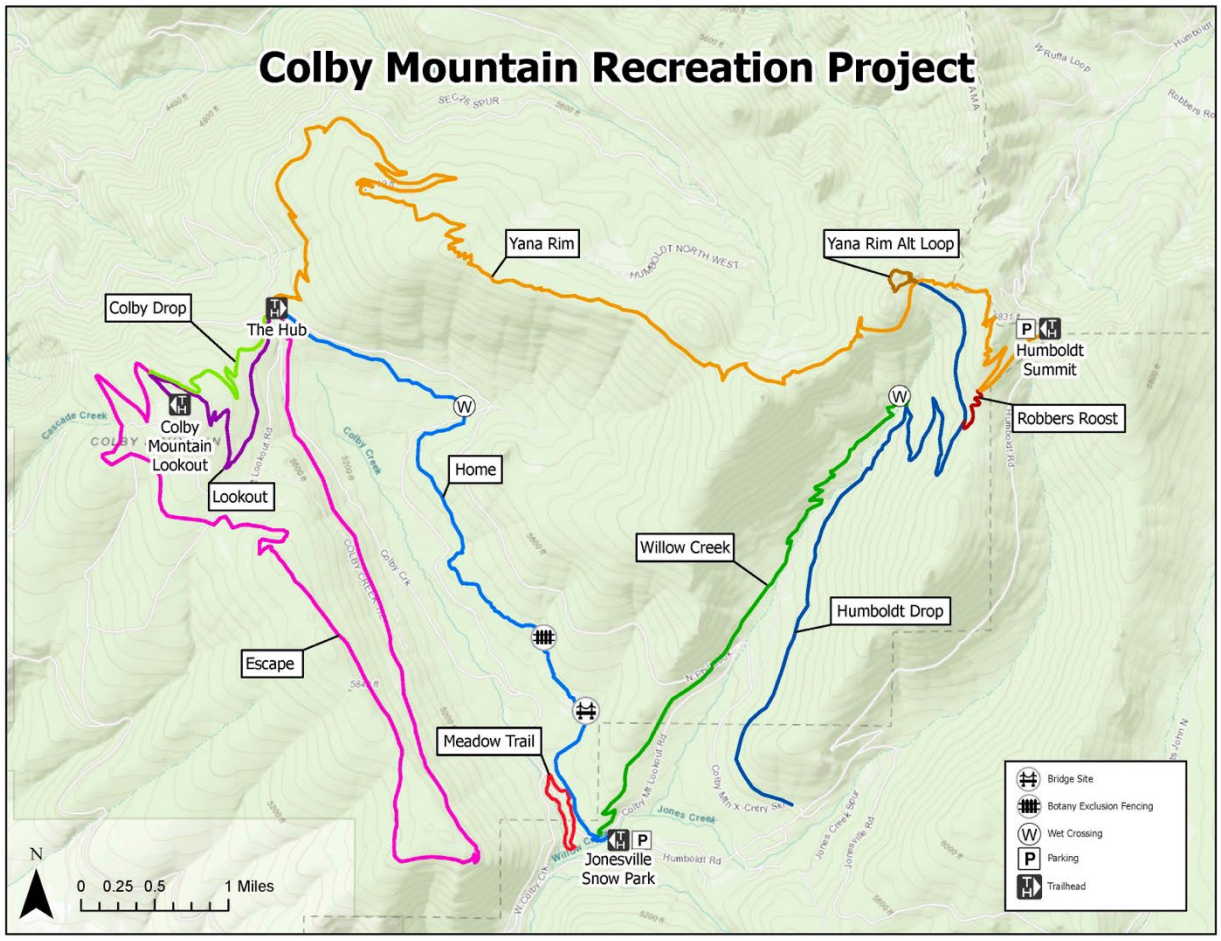

Figure 1. Colby Mountain Recreation Project Trail Design

Trail Construction

Project implementation incorporates Trail Construction Standards and Management Requirements (USFS, 2016). The NEPA document's management requirements provide measures minimizing project effects related to aquatic wildlife, botanical resources, and terrestrial wildlife; cultural resources; fire and fuels; invasive plants; recreation; visual resources; and watershed, soils, and hydrological resources.

The trails would be constructed to Trail Development Class 2 and Class 3 standards (**Appendix A**). The standard width for the trail would be 24 inches, with the trail widening on steep sidehills and other locations as necessary to promote safety and resource protection issues. Trail grade would average less than 10 percent with maximum constructed grades not to exceed 15 percent.

The trail would accommodate multiple users including mountain bikers, hikers, and equestrians. Signage on the new trail proposal would be installed to alert trail users to hazardous sections, multiple uses, and two-way traffic to minimize potential trail user

conflict and maintain public safety. Trail designs include frequent undulations so that grade reversals keep speeds down. Width limiting barriers would be installed at trail entryways to maintain classification of motorized use (i.e., prevent ATVs from riding on single-track) and at junctions with non-motorized trail to restrict motorized intrusion onto non-motorized trails.

Trail construction would entail brush removal with chainsaws and hand tools and use of bulldozers and excavators to create a trail path. Additional equipment that would be used include a rock hammer, skid steer, materials mover, and a vibratory plate compactor. For the construction of parking lots, a grader, water truck, dump truck and drum roller or sheep foot would be used. The specific trail locations would be refined with ground verification of existing conditions.

No mechanized trail construction or chainsaw use would occur between February 15 and September 15 within ¼ mile of Northern Goshawk Protected Activity Centers (PACs) or nests known to occur in the project area unless surveys confirm no nesting is occurring. A Limited Operating Period (LOP) for California Spotted Owl (CSO) Protected Activity Centers would occur between March 1 and August 15 (or according to most recent LOP guidance in the event of CSO listing by the U.S. Fish and Wildlife Service) within ¼ mile of PACs unless surveys confirm no nesting is occurring. In addition, where trails overlap with spotted owl or northern goshawk PACs, trees larger than 6-inch DBH will only be cut if approved by a forest service wildlife biologist. If any trees greater than 6-inch DBH are cut in PACs, they would be left in place, although they may be moved off trail alignment.

One, 15’ bridge is proposed along the southern portion of the Home trail that would cross an unnamed drainage. Trail segments and bridges would be constructed following Trail Construction Standards described in the USFS Standard Specifications for Construction of Trails and Trail Bridges on Forest Service Projects document (USFS, 2016) and Best Management Practices (BMPs) listed in the Region 5 Soil and Water Conservation Handbook to minimize the potential for tread wear, erosion, and sediment transport (USFS, 2011). One wet crossing would also be constructed along the northern portion of the Home trail and one on the Willow Creek trail. The wet crossings would be constructed with hardened entrances to minimize the stream banks’ impacts and limit sediment inputs.

Trailheads

The project would also include four trailheads. The main trailhead for the trail system would be located at the Jonesville Snow Park parking lot and would connect the Meadow Loop Trail, Home Trail, and Willow Creek Trail. The project would rebuild the existing parking lot and expand it eastward, adding one well, helipad, and a comprehensive trail information kiosk. The parking lot expansion would also include a bioswale, a vegetated low-lying area that would use plant materials and specialized soil mixes to treat, absorb, and convey stormwater runoff.

The Humboldt Summit trailhead would provide direct access to Colby Drop, Willow Creek trail, and Humboldt Drop. The Humboldt Summit trailhead would serve as a shuttle drop location for visitors seeking a downhill mountain experience. The project improvements at the Humboldt Summit trailhead would include a designated parking lot, one vault-style

bathroom, a separate kiosk for Pacific Crest Trail (PCT) and Colby Mountain, equestrian trailer parking, picnic tables, and hitching posts.

The Colby Mountain Lookout trailhead would offer connections to Colby Drop and the Escape trail. The trailhead would offer access to the Hub trailhead via the Lookout trail or could be shuttled via the US Forest Service (USFS) forest road 27N36.

The Hub (27N06 and 27N36) trailhead would be located at the northern edge of the trail system and would serve as a central “hub” linking the Lookout trail, Escape trail, Colby Drop, Home trail and Yana Rim trail. The Hub would be accessed via the 27N06 USFS road, a well-maintained and surfaced forest access road. The project improvements at the Hub would include one vault-style bathroom, parking, hitching posts, and picnic tables.

Regulatory Compliance

The Lassen National Forest completed the Colby Mountain Recreation Project Decision Memorandum (DM) in April 2024 (USFS 2024b) for the Colby Mountain Recreation Project in accordance with the National Environmental Policy Act (NEPA). The DM evaluates the potential for environmental impacts on invasive species management, wildlife resources, hydrology, and heritage/archeological resources. These resources were selected for evaluation based on internal and external scoping. The DM also addresses project consistency with federal regulations governing these resources such as the Clean Water Act, Endangered Species Act, National Historic Preservation Act, National Forest Management Act, as well as the Lassen Forest Land Management Plan and the Sierra Nevada Forest Plan Amendment 2007 Record of Decision. The Decision Memo (DM) was signed on April 1, 2023. The DM concluded that, with implementation of Management Requirements, the project would not result in a significant impact on the environment and is consistent with governing federal, state, and local laws.

The Butte County Resource Conservation District (BCRCD) received funding from the Sierra Nevada Conservancy (SNC). This project is considered a project subject to environmental review under the California Environmental Quality Act (CEQA; Public Resources Code [PRC] § 21000 et seq.).

2) CEQA GUIDANCE AND FINDINGS

Use of a Decision Memo as the Basis for a Negative Declaration for the Colby Mountain Recreation Project, Lassen National Forest

The Butte County Resource Conservation District (BCRCD), acting as a lead agency under CEQA, has reviewed the Colby Mountain Recreation Project Decision Memo (DM) prepared by the Lassen National Forest (**Appendix B**). CEQA Guidelines (§15063(a)(2)) allow a lead agency to use a DM or a similar analysis prepared pursuant to NEPA to meet CEQA requirements for conducting an Initial Study if only minor technical changes or additions are necessary (CEQA Guidelines §15164(b)). Further, CEQA Guidelines (§15221) direct that when a project has already been the subject of a NEPA analysis, the lead agency should use the analysis if: 1) it has been prepared before the CEQA Environmental Impact Report or Negative Declaration would otherwise be completed for the project; and 2) it complies with the provision of the CEQA Guidelines.

The BCRCD has determined that the Colby Mountain Recreation Project DM fully describes the project geographic area, environmental setting, potential environmental effects, and incorporation of Trail Construction Standards and Management Requirements to avoid significant impacts. This content meets the CEQA requirements for an Initial Study specified in CEQA Guideline Section 15063(d). The DM does not address all environmental factors addressed by CEQA Guidelines Appendix G Environmental Checklist for consideration. Therefore, supplemental environmental information is provided below to address the CEQA Environmental Checklist subjects that were not addressed in the DM. The discussion is presented for the purpose of completing the CEQA record and amplifying the DM determination that the project would have no impact or less than significant impacts in these categories.

The supplemental CEQA Environmental Checklist discussion does not identify new significant effects, an increase in severity of significant effects, or a need for mitigation not addressed in the DM. The supplemental CEQA information merely clarifies and amplifies the determination of the DM and is an insignificant modification to the environmental review analysis. Therefore, use of the DM as the basis of a Negative Declaration is appropriate.

The proposed project was found to be categorically excluded from documentation in an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) under Code of Federal Regulations (CFR), Title 36, Section 220.6 (e) Category (1) Construction and reconstruction of trails. This category of action(s) is applicable because there are no extraordinary circumstances that might cause this action to have a significant effect on the quality of the human environment, individually, or cumulatively. The Colby Mountain Recreation Project Biological Assessment/Biological Evaluations and Management Indicator Species-Migratory Bird Species Report (BE/BA, MIS-MB) were prepared during 2023 (included in **Appendix C** and **Appendix D**, respectively) to determine if the project would result in a trend toward listing or loss of viability for sensitive species, and to document effects of threatened or endangered species and/or

their critical habitat.

CEQA FINDINGS

The DM, together with the CEQA Environmental Checklist documentation provided below, comprises the Initial Study used by the Butte County Resource Conservation District (BCRCD) to evaluate the potential for the project to have significant effects pursuant to CEQA Guidelines Section 15063(a)(2). With the implementation of the USFS Trail Construction Standards and Management Requirements, no environmental effects related to the project activities would exceed stated CEQA-related significance criteria. There is no substantial evidence, in light of the whole record before the BCRCD, that the project may have a significant effect on the environment.

Based on the environmental evaluation presented in the Initial Study (defined above as the DM plus the CEQA Environmental Checklist), the project would not cause significant adverse effects related to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire. In addition, substantial adverse effects on humans, either direct or indirect, would not occur. The project does not affect any important examples of the major periods of California prehistory or history. Nor would the project substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. The project would not have impacts that are individually limited, but cumulatively considerable. Pursuant to CEQA Guidelines Sections 15063(1)(2) and 15221, the BCRCD intends to use the DM in support of preparing its own Negative Declaration to provide Sierra Nevada Conservancy grant funds to the Lassen National Forest for the Colby Mountain Recreation Project.

3) CEQA ENVIRONMENTAL CHECKLIST DISCUSSIONS

The following discussion addresses environmental subjects identified in the CEQA Guidelines Appendix G Environmental Checklist which were not covered in the Colby Mountain Recreation Project DM. All potential impacts would either not occur or be minor in nature and be considered less than significant.

Aesthetics. The DM does not directly address potential project effects on scenic resources. Additionally, the DM did not specifically address potential visual effects to scenic resources within the viewshed of a state scenic highway or whether the project would create a new source of substantial light and glare.

There are no designated state scenic highways within or near the project area (Caltrans, 2019). Trail improvements would blend into the surrounding landscape, and building materials would make use of materials already on-site; any new additions would also blend into the natural surroundings. The trail would not include improvements that could introduce a new source of light or glare, e.g., no lighting, reflective surfaces, and little to no use at night. Therefore, the project would not have a significant adverse aesthetic impact.

Agriculture/Forestry. The DM project area is located within the Lassen National Forest and does not contain any prime farmland nor does it contain any Williamson Act contracted land (Butte County, 2015; DOC, 2016). The project would not result in the loss of forest land or conversion of forest to non-forest use. The project would not conflict with existing zoning or cause rezoning of timberland because it would not be converting the land for another use. Therefore, the project will not have significant adverse effects on agriculture or forestry impacts.

Air Quality. The DM does not directly address the potential project effects on air quality. The DM did not discuss emissions during trail construction. This supplemental CEQA discussion provides additional air quality information to provide further clarity for the CEQA evaluation.

Since 1970, air quality has been regulated at the federal level under the Clean Air Act (CAA). This act authorized the US Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for air pollutants of nationwide concern. The EPA has established standards for six criteria air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM_{10}), and lead (EPA, 2023). The California CAA is the corresponding State Law to the Federal CAA. The California CAA establishes threshold concentrations for the six federal Common Air Pollutants (CAPs) as well as four additional air pollutants: sulfate, hydrogen sulfide, visibility-reducing particles, and vinyl chloride (chloroethene). The California Air Resources Board (CARB) has jurisdiction over local air districts and works with them to develop and implement attainment plans to obtain compliance with both federal and state air quality standards.

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Butte County and Tehama County

are located in the Northern Sacramento Valley Air Basin (NSVAB), where topography and climate vary dramatically. The NSVAB extends from Sacramento and Solano Counties in the south to Shasta County in the north. This air basin is generally situated in the northern portion of the Central Valley. On the west, NSVAB is bounded by the Coastal Range Mountains. To the north and east, it is bounded by the Cascade-Sierra Nevada Mountains and the Siskiyou mountains and foothills. To the south, the NSVAB is adjacent to the San Joaquin Valley Air Basin. The basin floor gradually slopes upward from the south to the north. The NSVAB is a natural closed basin. To the south and southwest, two air basins generate high amounts of ozone and its precursors: the Broader Sacramento Area Air Basin (BSAAB) and the San Francisco Bay Area Basin (SFBAB). Pollutants from these two basins, BSAAB and SFBAB, are of concern to the NSVAB, since they are carried by wind up to the NSVAB. The "bowl" type terrain of the NSVAB acts as a trap for these pollutants, as well as those generated within the NSVAB.

California Air Resources Board (CARB) monitors air quality in both Tehama and Butte Counties; the Butte County Air Quality Control District (BCAQMD) monitors air quality in Butte County and the Tehama County Air Pollution Control District (TCAPCD) monitors Tehama County air quality.

Butte County has been designated as a non-attainment area for ozone, PM_{10} and $PM_{2.5,}$ according to California state standards (CARB, 2020). For a county to be classified as nonattainment for ozone air quality goals, the annual fourth-highest daily maximum 8-hour concentration averaged over a three-year period cannot exceed 0.070 ppm. For primary PM10 air quality goals, 150 $\mu g/m^3$ cannot be exceeded more than once per year when averaging over a three-year period. A portion of Tehama County has been designated as a marginal nonattainment area for ozone under the National Ambient Air Quality Standards (NAAQS) in the Tuscan Buttes area and thus would not apply to the proposed project (CARB, 2023). Butte County as a whole is designated a nonattainment status for ozone according to California Ambient Air Quality Standards (CAAQS) (BCAQMD, 2021).

The California Clean Air Act requires districts to adopt air quality attainment plans (AQAP) and to review and revise their plans to address deficiencies in interim measures of progress once every three years. Tehama and Butte County are part of the Northern Sacramento Valley Planning Area (NSVPA). The NSVPA 2021 Triennial Air Quality Attainment Plan lays out measures to achieve and maintain healthy air quality throughout the northern air basin and includes control strategies necessary to attain California standards at the earliest practicable date (BCAQMD, 2021).

Suspended particulate matter with particulates of 2.5 microns or less is more commonly known as $PM_{2.5.}$ The primary components of these particulates are organic chemicals, dust, soot, and metals. These are released into the air as a result of the fuel combustion of oil, diesel, or wood products.

Suspended particulate matter with particulates of 10 microns or less is more commonly known as PM_{10}. The primary components of these particulates are dust, nitrates, sulfates, and diesel exhaust. These are released into the air as a result of fuel

combustion, dust from construction sites, agriculture and landfills, as well as brush/waste burning and wildfires, among other sources.

The Colby Mountain Recreation Project would be completed between June 1, 2024 through about December 2027. The majority of work would be completed by trail crews cutting back vegetation with chainsaws and finish work with hand tools, a small mini-excavator, and a small trail dozer. Construction equipment emission would be low, and any burning would be completed under an approved Air Pollution Permit in close coordination with the local Air Quality Management District.

Construction equipment emission estimates for the Colby Mountain Recreation Project were calculated using CalEEMod. The Colby Mountain Recreation Project construction emissions are well below thresholds established by the TCAPCD and BCAPCD as seen in Table 1 and Table 2 (TCAPCD, 2015; BCAPCD, 2014). Therefore, the impact would be less than significant.

Table 1. Tehama County Estimated Average Maximum Daily Emissions of Criteria Air Pollutants Associated with the Project Site (CalEEMod, 2022).

Construction Emissions	**Average Maximum Unmitigated Emissions (lb/day)**		
	ROG	NOx	PM10
Maximum lb/day	0.23	1.73	0.28
TCAPCD Thresholds	137	137	137
Threshold Exceeded?	**No**	**No**	**No**
Notes: All calculations were made using CalEEMod software. See Appendix E for calculations.			
ROG = reactive organic gases; NOx = oxides of nitrogen; PM10 = respirable particulate matter			

Table 2. Butte County Estimated Average Maximum Daily Construction Emissions of Criteria Air Pollutants Associated with the Project Site (CalEEMod, 2022).

Construction Emissions	**Average Maximum Unmitigated Emissions (lb/day)**		
	ROG	NOx	PM
Maximum lb/day	0.25	1.97	0.84
BCAPCD Thresholds	137	137	80
Threshold Exceeded?	**No**	**No**	**No**
Notes: All calculations were made using CalEEMod software. See Appendix E for calculations.			
ROG = reactive organic gases; NOx = oxides of nitrogen; PM = respirable particulate matter			

The emissions of criteria pollutants generated by project equipment over the construction period would be small scale and would not have a significant impact on the environment. There are no sensitive receptors (residences, schools, hospitals, etc.) located within one-quarter mile of the project site, and thus would not be exposed to air pollutant emissions from project construction or trail use.

The proposed development of 36 miles of new non-motorized trails is designed to serve existing recreation occurring in the area. Any increase in motorized recreation use occurring as a result of this project is expected to be minor. Vehicle emissions

associated with the new trail mileage would have little effect on air quality and would be less than significant.

Biology. The Biological Evaluation/Biological Assessment (BE/BA) addresses federal special-status wildlife or plant species, in addition to aquatic and riparian habitat (USFS, 2023b). Some of the federal species addressed in the BE/BA are also California special-status species.

The BE/BA concludes the project would have no effect on the following federally listed or proposed fish and wildlife species: Chinook salmon, Steelhead, Cascades frog, Sierra Nevada yellow-legged frog, Bald eagle, Great Gray owl, Willow flycatcher, and Gray Wolf. Potential effects to four species on the USFS Region 5 Sensitive Species list (California spotted owl, Northern goshawk, Pacific marten, and Fisher) are described within the BE/BA, where mitigation measures are determined to ensure there is no significant effect on the discussed species.

The project has been planned to avoid or minimize effects upon riparian areas. The project area's fens and riparian/wetland plant communities, where they exist, would be protected during trail construction. Trail construction is unlikely to result in major impacts to riparian areas. The project would not impair wildlife movement or corridors. The project is not subject to, nor would it conflict with, any habitat conservation plan.

Some of the project area is within the Critical Aquatic Refuge (CAR) as designated by the U.S. Forest Service (USDA Forest Service, 2006). CARs are subwatersheds that contain: either known locations of threatened, endangered or sensitive species; highly vulnerable populations of native plant or animal species; and/or localized populations of rare native aquatic- or riparian-dependent plant or animal species (USDA Forest Service, 2006). The primary role of CARs is to preserve, enhance, restore, or connect habitats for these species at the local level and to ensure the viability of aquatic or riparian dependent species (USDA Forest Service, 2006). The cumulative impacts of this project will not significantly disrupt the CAR, and therefore, will have a less than significant impact.

The BE/BA and DM did not directly address species that are considered special-status solely by the State of California. The California Natural Diversity Database (CNDDB) lists five California special-status species, that are not federally listed or assigned special Federal status, known to occur within a USGS 4-quad radius of the project area (Humboldt Peak, Onion Butte, Jonesville, and Butte Meadows) that have potential to occur at the project site. One is an aquatic invertebrate (Wawona riffle beetle) believed to occur within the project area, as listed in the CNDDB. It will be protected by riparian protection measures. The other four California special-status species are the Southern long-toed salamander, Golden eagle, Osprey, and Sierra Nevada red fox. The other four species are briefly discussed below.

Southern long-toed salamander (*Ambystoma macrodactylum sigillatum*; California Species of Special Concern)

In California, Southern long-toed salamander are known to occur in in mixed Sierra

Nevada coniferous forest and alpine communities. Southern long-toed salamander are typically found at higher elevations (above 6,500 feet) and prefer alpine meadow habitats with high mountain ponds and lakes. Therefore, it is unlikely the species could occur within the project area. The project would have no impact.

Golden eagle (*Aquila chrysaetos*; California Watch List)

Golden eagles are found throughout North America, but are more common in western North America. Golden eagles inhabit a variety of habitats including forests, canyons, shrub lands, grasslands, and oak woodlands. Golden eagles are typically found in open country in the vicinity of hills, cliffs, and bluffs (USFWS, 2023). They are also known to be sensitive to human activity and are known to avoid developed areas. No Golden eagle has been noted in the project area. However, if a nest is discovered during construction, CDFW rules would institute a one-mile limited operating period (LOP) buffer around the nesting site from late January through August during the breeding season. The LOP may be modified after review by a qualified biologist.

Osprey (*Pandion haliaetus*; California Watch List)

Ospreys are medium-sized raptors with characteristic dark brown/black plumage with a starkly white striped head. Ospreys occur widely throughout North America and occur year-round within the vicinity of the project area. Ospreys are fish predators and are almost entirely only found within close proximity to a large body of water where they have ample prey resources. Nests are built on high platforms, including on trees, snags, or artificial platforms. Since ospreys are so closely tied to waterbodies, they are unlikely to nest in the project area. As a result, the project would have no impact on osprey.

Sierra Nevada red fox – southern Cascades DPS (Vulpes vulpes necator pop. 1; State threatened)

The red fox (Vulpes vulpes) is a small canid (dog family member), with primarily reddish-hued fur with a large bushy tail with a characteristic large white tip. Sierra Nevada red fox are typically found at high elevations (above 5,000 feet in the southern Cascades and 7,000 feet in the central Sierra Nevada) and utilize a variety of habitats including alpine and barren area, subalpine forests, red fir forests, lodgepole pine forests, mixed conifer forests, and meadows. Sierra Nevada red fox population is poorly understood within the project area and vicinity.Though habitat exists broadly within the southern Cascades, no individuals have been documented in the past nearby, and the population is considered critically imperiled within the area. Adults den and reproduce in excavated burrows or other protected cavities, including under boulders or downed tree roots. While little is known about the Sierra Nevada red fox's response to human disturbance, it is believed they are similar to wolverines and are a highly cryptic species. Camera traps monitored from October 5, 2022 to November 30, 2022 and between April 2023 – August 2023 across the Upper Butte Creek watershed, including within the project area, captured some gray fox but no Sierra Nevada red fox. As a result, BCRCD finds the project would likely have no impact on Sierra Nevada red fox.

The DM made a Finding of No Significant Impact (FONSI) for existing wildlife, fisheries,

and botany. This means that for each species analyzed, the project would either have no impact, or might affect individuals but would not be likely to result in a trend toward listing of the species. To achieve this level of impact, appropriate protection measures would be taken, addressed in the BE/BA and MIS/MB analysis reports (**Appendices C & D**). For example, these measures include:

- Riparian species (aspen, cottonwood, alder, willow, dogwood, etc.) would not be cut or removed. All sugar pine identified as rust resistant or previously identified as a candidate for rust resistance would be protected. Healthy sugar pine showing no observable signs of blister rust would be favorably retained.
- All trees with nest structures in them or showing signs of current wildlife habitation would be retained, regardless of the diameter.
- In accordance with the LRMP (USDA-FS 1992 p. 4-37), coarse woody debris (CWD, large logs and snags ≥ 15-inch DBH) already on the ground would be retained and protected to the greatest extent possible from disturbance during treatment.
- Large snags ≥ 15-inch DBH would be retained, and the trail would be routed around them if there is a question of safety.
- No EPA-approved borate would be applied within 25 feet of known Sensitive and Special Interest (SI) plants or within 25 feet of live streams and meadow/wetlands
- No mechanized trail construction or chainsaw use would occur between February 15 and September 15 within ¼ mile of Northern Goshawk Protected Activity Centers (PACs) or nests known to occur in the project area unless surveys confirm no nesting is occurring.
- A Limited Operating Period (LOP) for California Spotted Owl Protected Activity Centers would occur between March 1 and August 15 (or according to the most recent LOP guidance, in the event of the future listing of the CSO by U.S. Fish and Wildlife) within ¼ mile of PACs unless surveys confirm no nesting is occurring.
- In addition, where trails overlap with spotted owl or northern goshawk PACs, trees larger than 6-inch DBH will only be cut if approved by a forest service wildlife biologist. If any trees greater than 6-inch DBH are cut in PACs, they would be left in place, although they may be moved off trail alignment
- If a Pacific marten den site is identified, a 100-acre area consisting of the highest quality habitat in a compact arrangement would be placed around the den site. The den site area would be protected from vegetation treatments with a LOP from February 15th through July 31st as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a marten rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) would be protected from being damaged during Project implementation.
- If a Pacific fisher den site is identified, a 700-acre area consisting of the highest quality habitat in a compact arrangement would be delineated around the den site. The den site area would be protected from vegetation treatments with a LOP from March 1st through June 30th as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a fisher rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) would be protected from being damaged during Project implementation.
- All occurrences of *Meesia triquetra* (three-ranked humpmoss) and Meesia uliginosa (broad-nerved humpmoss), their associated springs, meadows and fens will be flagged and avoided from all ground disturbing activities and protected with a fence from potential impacts.

- Gray wolf: If a wolf den or rendezvous site is discovered during implementation of the proposed Project, an LOP from April 1 through July 15 may be implemented and coordination with CDFW and the Service shall be pursued. Further discussions and coordination with CDFW and the Service may result in a modified distance or more flexible dates for this specific conservation measure.

Cultural Resources. A record search, intensive resource inventory, and cultural resource report that complies with Section 106 of the National Historic Preservation Act was completed for the Colby Mountain Trails Project in the report *Colby Mountain Trails Heritage Resource Survey (2022) USFS Report No.: R2022050651047* prepared by Native-X Inc. Archeological Services. The DM concludes that adverse impacts to cultural resources would be avoided through project design and site avoidance.

If human remains are inadvertently discovered, the Lassen National Forest would follow the procedures as outlined in California Health and Safety Code section 7050.5. All project activities at the find site must come to a complete stop, and no further excavation or disturbance of the area or vicinity would occur. The county coroner would be contacted immediately, and if the coroner determines or has reason to believe that the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC) within 24 hours of making this determination. Whenever the NAHC receives notification of a discovery of Native American human remains from a county coroner, the NAHC follows the procedures as outlined in PRC section 5097.98.

Energy. The DM did not directly address the project's energy use. Energy consumption is closely tied to the issues of air quality and greenhouse gas (GHG) emissions. The project would be constructed on federal (USFS) land; neither state nor local plans for energy efficiency would apply, although any applicable state fuel efficient and emission standards would apply to constriction vehicles and motorcycles used in the project area. The trails would only be available to non-motorized recreation and are expected to be used by hikers, mountain bikers, and equestrians.

Given the existing demand for the trail and the existing OHV and other recreation uses in the project area, construction and use of the proposed trail would not result in a potentially significant energy impact because it would not cause wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Geology and Soils. The DM does not address project impacts on soils. With implementation of trail design standards, soil and hydrology management requirements, and best management practices, impacts to soils would be minimal. The project site is not located in an area subject to strong seismic shaking, and the proposed trail project is not a use that would typically create seismic related hazards to trail users if there was seismic-related ground shaking. The trail alignment was chosen to avoid areas with unstable geologic units and unstable soils. Due to the mountainous terrain, there are no hazards associated with subsidence or liquefaction. Expansive soils are not a consideration in the project area, and the project does not involve construction of any structures. The project would not exacerbate any geologic conditions creating risk or

hazards. The additional facilities installed onsite would be standard vault toilets with no running water. The project does not involve the use of septic tanks or wastewater disposal systems that could affect soils.

The project site does not support geological components (sedimentary and metasedimentary rock) that have potential to support unique paleontological resources or unique geologic features (Caltrans 2022, Hamilton, 1916). As a result, there is low likelihood for in situ paleontological resources to be disturbed by project activities, and no impacts are expected.

Greenhouse Gas Emissions (GHG). The DM does not directly address greenhouse gas emissions. The discussion below provides additional context and analysis to assess the project's impacts related to GHGs.

The California Global Warming Solutions Act of 2006 (Assembly Bill 32) required the Air Resources Board (CARB) to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. In 2015, Governor Jerry Brown issued Executive Order B-30-15 establishing a GHG reduction target to reduce GHG emissions by 40% below 1990 levels by 2030. The California Air Resources Board (CARB) adopted the 2017 Climate Change Scoping Plan and has amended or adopted several regulations intended to reduce GHG emissions that achieve the adopted 2030 GHG reduction goal, including the Low Carbon Fuel Standard. These actions improve energy efficiency, lower the carbon content of transportation fuels such as gasoline and diesel, and lower statewide GHG emissions levels. The state codified a 2030 GHG reduction goal and the Office of Planning and Research amended the State CEQA Guidelines to provide new guidance regarding GHG impacts analysis. Further, the CARB published the Draft 2022 Scoping Plan Update to assess progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Carbon dioxide equivalent (CO_2e) is the number of metric tons of CO_2 emissions with the same global warming potential as one metric ton of another greenhouse gas. CO_2e is used to compare the emissions from various greenhouse gases based on their global-warming potential and essentially allows a group of greenhouse gases to be expressed as one value.

The proposed trail development project would produce GHG emissions from construction-related fuel combustion. Project implementation would occur gradually over three year. GHG emission estimates were modeled for the Colby Mountain Recreation Project on the Lassen National Forest using CalEEMod. The project was estimated to generate 120.4 metric tons (MT) of CO2e per year maximum (**Appendix E**).

Butte County Air Quality Management District does not have an adopted threshold for GHGs, and recommends compliance with Qualified Greenhouse Gas Reduction Strategy, Lead Agency's threshold (if adopted), consistency with goals of AB 32, or

those of a neighboring jurisdiction (that has a similar air quality setting) with a reduction plan or some other adopted threshold. The lead agency, Butte County RCD, is not required to adopt a GHG threshold and has not elected to do so, so this analysis uses thresholds established by the Tehama County Air Pollution Control District. Multiple air quality management districts throughout California have adopted a GHG threshold of 10,000 MT-CO_2e per year for project construction phases and 1,100 MT-CO_2e per year (de minimis level) for land use operational phases.

A major stationary source of GHG emissions, as defined by the Tehama County Air Pollution Control District, has a threshold of greater than or equal to 100,000 tons per year of, CO_2e, provided that the mass emissions of all GHGs emitted without consideration of GWP, are equal to or greater than 250 tons per year (TCAPCD, 2011). According to the Prevention of Significant Deterioration (PSD) Regulations by the US EPA, "…regulations define stationary sources as any building, structure, facility or installation which emits or may emit any pollutant regulated under the Clean Air Act (UEPA, 1981)." Emissions will be exclusive to construction and are not considered stationary, therefore the project will continue to comply with the goals of TCAPCD, which fits the definition of *a neighboring jurisdiction (that has a similar air quality setting) with a reduction plan or some other adopted threshold*.

The estimated GHG emissions per year are well below the significance thresholds. Therefore, impacts related to project GHG emissions would be less than significant.

Construction vehicle and equipment GHG emissions are identified and planned for in CARB's GHG emissions inventory and Scoping Plan, which contains measures designed to achieve the state's GHG reduction goals in AB32 (CARB, 2021). This project would not contain any stationary sources that are subject to state or federal GHG permitting or reporting regulations. Since the trails are non-motorized, no new ongoing emissions would result from the 36 miles added to the National Forest Trail System. The new GHG emissions would not conflict with an applicable plan (including a local climate action plan), policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Growth-Inducing Effects. The DM did not directly address the project's potential growth-inducing impacts. The project would increase recreational use in the Jonesville and Colby Mountain area. The expected users include mountain bikers, equestrians, and hikers looking for new opportunities. The increased use would come from local, regional, or statewide recreationists drawn to the project area. Users of the Lassen National Forest Jonesville Snowmobile Park currently utilize areas that are a part of the proposed project area, including Colby Mountain Lookout, Jonesville, and Colby Meadows. The Jonesville Snowmobile Park is where the main trailhead is proposed for the trail system. The Jonesville Snowmobile Park is open year round, classified as medium to heavy usage, with the busiest season occurring during winter. The project would bring more users to the area during summer, spring, and fall, but does not expect usage to exceed the amount of recreationists that explore the area during winter months. Since the general area already has a high usage of recreationists and little to no vacant housing (with no additional housing proposed as part of the project), the proposed project would not induce substantial population growth in the project area and would be

less than significant.

Hazards and Hazardous Materials. The DM did not directly address the project's potential impacts related to hazards or hazardous materials. The Colby Mountain Recreation Project would not create hazards due to the generation, routine transport, disposal, or upset of hazardous materials. The project would not generate hazardous emissions or require crews or the public to handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. There are no known hazardous materials sites or cleanup sites in the project area (DTSC, 2022; SWRCB, 2022; USEPA, 2022). The project is not located within an airport land use plan or within two miles of a public use airport and would not interfere with adopted emergency response or evacuation plans. The project area is located in an undeveloped area within a State Responsibility Area. The area has been identified by Cal-Fire as being in a Non-Very High Fire Hazard Severity Zone (Non-VHFHSZ). The project would not substantially impair emergency response plans or emergency evacuation plans and would not require the installation or maintenance of associated infrastructure.

Hydrology. The DM identifies Best Management Practices (BMPs) to improve water quality where necessary according to the Lassen National Forest Land and Resource Management Plan Forest-wide Standards and Guidelines. With implementation of trail design standards, soil and hydrology management requirements, and best management practices, the project would have a less than significant impact to water quality and stream hydrology.

The project would not increase water use, create a significant demand on groundwater supply, or otherwise interfere with groundwater volumes or recharge rates. No new impervious surfaces would be added; in fact, part of the project includes repairing and installing runoff infiltration bioswales around the Jonesville Sno-Park parking lot, partly mitigating for the existing parking lot's impervious surface.

The project would be designed to promote natural runoff of the newly created trail through designing it in accordance with USFS Trail Fundamentals and Trail Management Objectives; the project would not result in flooding or increase potential for flooding. The project would not contribute runoff that would exceed storm water drainage systems or create additional sources of polluted runoff. The project does not involve construction of residential or other structures within a 100-year flood plain or in an area that could be affected by failure of a levee or dam. The project is not located in an area that is subject to seiches, tsunamis, or mudflows.

Land Use. The proposed Colby Mountain Recreation Project is located on federal land within a national forest. Local and state land use plans do not apply to federal lands. The trails would be located within a "roaded natural-appearing area" (RN) identified in the Lassen National Forest Land and Resource Management Plan Recreation Opportunity Spectrum (ROS) and would be consistent with the designation. The proposed project is consistent with the Land and Resources Management Plan for the Lassen National Forest. The proposed project would not change the nature of any land use within the area. The project does not conflict with land use policy.

Mineral Resources. No important mineral resources would be removed from the project area as the project would not change the nature of any land use within the area.

Noise. The DM did not directly evaluate the potential noise impacts from trail use. Noise levels would temporarily increase during trail construction work due to the use of power tools and heavy equipment (trail dozer and mini excavator). Localized ground vibrations may occur during implementation of the project due to the use of heavy equipment. Blasting would occur during construction, causing bursts of loud noise and vibrations. Blasting, construction noise, and ground vibration would be limited to weekdays for a period of the 10- to 12-week construction season. There are no sensitive receptors (i.e., schools, daycare centers, nursing facilities and hospitals) in the lightly populated, rural and recreational setting of the project site that would be affected by heavy equipment noise and vibration. Increases in ambient noise levels would be temporary, intermittent, and localized to the specific area where construction is occurring and would not be significant.

The project area is not located within two miles of a public airport, or private airport, or airstrip; the project would not result in exposure of people to excessive noise levels from airport operations.

Population and Housing. The trail project does not involve development of housing or any other activities that would increase population growth in the area. The project would not displace any housing or people as it does not involve the removal or alteration of existing housing.

Public Services. The proposed trail site is located within a National Forest. There are no permanent residential populations located in the project area and no community based public services in the immediate vicinity of the project. The project would not increase the need for fire or police protection services or create an adverse impact on those protection services. The project would not affect the number of students served by local schools, nor bring in new residents requiring the construction of additional schools. The project would increase recreational use of the project area, but implementation of the project would not include new residences or otherwise create a situation in which fire protection service ratios, response times, or other performance objectives could not be met. No other public facilities would be affected by the project.

Recreation. The project would result in improved recreation opportunities for mountain bikers, hikers, and equestrians. Adequate measures to minimize potential conflicts among user groups would be included as well. No neighborhood or regional parks are located in the vicinity of the project area, and none would be impacted by the proposed trail development. The project would include additional restrooms and facilities to accommodate for any increase in visitor use at the national forest. The Colby Mountain Recreation Project is likely to disperse beginning through advanced riders from the concentrated trails in the central Mt. Hough, Quincy, and Taylorsville area. The project would not have significant recreation impacts.

Transportation. The DM did not address transportation. The Colby Mountain Recreation Project would serve existing trail recreation use and would shift some

recreational uses within a national forest that is already popular for motorized and non-motorized recreation. Some recreational non-motorized users of roads might shift to using only trails. The increase in vehicle trips to the project area associated with new trail development would not exceed the access roads' capacity. The trail is adjacent to the paved Humboldt Road; emergency access to or from the project area would not be affected. The project would not have significant transportation impact.

Tribal Cultural Resources. Assembly Bill (AB) 52 created a specific CEQA role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    A) Included or determined to be eligible for inclusion in the California Register of Historical Resources

    B) Included in a local register of historical resources as defined in PRC section 5020.1(k)

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC section 5024.1 (c). In applying the criteria set forth in PRC section 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

3) A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC section 21084.1, a unique archaeological resource as defined in PRC section 21083.2(g), or a "non-unique archaeological resource" as defined in PRC section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if:

(1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and

(2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

The BCRCD sent consultation notification letters on September 7, 2022 to the following tribes in accordance with the Native American Heritage Commission Native American contact list for Butte County: Berry Creek Rancheria of Maidu Indians, Estom Yumeka

Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of Maidu Indians, KonKow Valley Band of Maidu, Mooretown Rancheria of Maidu Indians, Tsi Akim Maidu, and the Nevada City Rancheria Nisenan Tribe. On September 28, 2022 a response was received from Mooretown Rancheria stating that they were not aware of any known cultural resources on the site. Consistent with AB 52, BCRCD can conclude the CEQA process with the AB 52 consultation complete.

On July 18, 2023, mailed letters and the full Proposed Action and Purpose and Need Statement (PAPN) and project maps were sent by the Lassen National Forest to Greenville Rancheria, Susanville Indian Rancheria, Mechoopda Indian Tribe of Chico Rancheria, Redding Rancheria, Mooretown Rancheria, Maidu Summit Consortium & Conservancy, Konkow Association Corporation, and Konkow Valley Band of Maidu Indians. Additionally, emails were sent to the same tribes/entities on March 27, 2023. Responses were due by September 23, 2023. Fifty individuals and/or organizations provided comments. No issues were raised that required or resulted in modifying the proposed action.

Utilities. The proposed project is comprised of trails and trailheads. The trailhead includes a vault toilet that would not require a water supply. The site would generate waste from the vault toilet that would need to be serviced, and a small amount of trash would be generated by recreationists that is generally either packed out or deposited at trailhead trash receptacles. The project would not affect water, wastewater, energy, or other utilities.

Wildfire. The DM did not evaluate potential impacts of the Colby Mountain Recreation Project on wildfire. The proposed trail project is entirely within an area of federal fire protection responsibility but is immediately north and east of a state responsibility area zoned very high fire hazard. Although the proposed trail would provide a new opportunity for non-motorized recreation, it would be constructed within an area that is already used for recreation and other activities and traversed by trails and roads. Due to the limited likelihood of fire starts from non-motorized additional users, the existing trail and road density in the area, and adjacent roads already allowing adequate ingress and egress, the proposed trail project would not cause a significant wildfire impact because it would not substantially impair emergency response or evacuation, would not significantly exacerbate wildfire risks, would not require additional infrastructure, and would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

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APPENDIX A: TRAIL DEVELOPMENT STANDARDS

Design Parameters (FSH 2309.18, Section 23.13, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent[1]. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use **BICYCLE**		**Trail Class 1**	**Trail Class 2**	**Trail Class 3**	**Trail Class 4**	**Trail Class 5**
Design Tread Width	**Single Lane**	6” – 12”	12” – 24”	18” – 36”	24” – 48”	36” – 60”
	Double Lane	36” – 48”	36” – 48”	36” – 48”	48” – 84”	72” – 120”
	Structures (Minimum Width)	18”	18”	36”	48”	60”
Design Surface[2]	**Type**	Native, ungraded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, with limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native, with some on-site borrow or imported material where needed for stabilization and occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, with improved sections of borrow or imported materials and routine grading Stable, with minor roughness	Likely imported material and routine grading Uniform, firm, and stable
	Protrusions	≤ 24” Likely common and continuous	≤ 6” May be common and continuous	≤ 3” May be common, but not continuous	≤ 3” Uncommon and not continuous	No protrusions
	Obstacles (Maximum Height)	24”	12”	10”	8”	No obstacles
Design Grade [2]	**Target Grade**	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill segments only	25% 35% on downhill segments only	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail

10/16/2008

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	**Target Cross Slope**	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%
Design Clearing	**Height**	6’	6’ – 8’	8’	8’ - 9’	8’ - 9’
	Width	24” – 36” Some vegetation may encroach into clearing area	36” – 48” Some light vegetation may encroach into clearing area	60” – 72”	72” – 96”	72” – 96”
	Shoulder Clearance	0’ – 12”	6” – 12”	6” – 12”	6” – 18”	12” – 18”
Design Turn	**Radius**	2’ – 3’	3’ – 6’	4’ – 8’	8’ – 10’	8’ - 12’

[1] For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

[2] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

APPENDIX B: DECISION MEMO (DM)

DECISION MEMO
COLBY MOUNTAIN RECREATION PROJECT
U.S.D.A. FOREST SERVICE
LASSEN NATIONAL FOREST
ALMANOR RANGER DISTRICT
BUTTE, PLUMAS, AND TEHAMA COUNTIES, CALIFORNIA

BACKGROUND

The Colby Mountain Recreation Project is a collaborative effort conducted by the Butte County Resource Conservation District, Northern California Regional Land Trust, Sierra Buttes Trail Stewardship, and Chico Velo to enhance trail-based recreation near the community of Jonesville in Lassen National Forest. With the support of the U.S. Forest Service, the Project has developed over months of stakeholder engagement and incorporates forest health demonstration sites, environmental education facilities, day-use and emergency response amenities and an extensive network of multi-use trails.

The new trail system will expand and enhance recreational opportunities in the Lassen National Forest for many user groups by providing long-term, sustainable trails built in a safe and resource sensitive manner. The project will support community recovery of Jonesville following the 2018 Camp Fire by increasing the quality of life for existing or displaced area residents and will aid in building a sustainable tourism revenue base for Butte County during the fire recovery process. Ultimately, the project will serve several disadvantaged communities and lower the barrier to nature access for school children and residents of all ages.

DECISION

I have decided to implement the Colby Mountain Recreation Project to construct approximately 36 miles of new non-motorized single-track trails, improve two exiting trailheads, and construct one new trailhead, one foot bridge, two wet water crossings, build exclusionary fencing, and install an information sign at the fence location. Activities will include tree and shrub cutting as needed for construction. Specific actions are the following:

Trail Construction:

We will construct about 36 miles of new non-motorized single-track trails out of Jonesville Snow Park (see Project map). The trail system will offer a variety of distance and terrain options for

multiple user groups including 0.92 miles of pedestrian-only use trails and 34.77 miles of non-motorized multi-use trails. Table 1 is a list of the trails and their estimated distances, trail classes, and uses. Trail classes are defined in the Trail Class Matrix in the Forest Service Handbook 2353, Section 14.2, Exhibit 01.

There will be two methods of trail construction, the full professional build, and the hybrid build, described in the next two bullet points:

- The Colby Drop trail, Humboldt Drop trail, Meadow trail, Robber Roost Connector trail, and Willow Creek trail will be built using mechanized equipment such as a mini excavator or trail-specific dozer, followed by a professional hand crew. This is called a full professional build method used for complex or specialized trails.
- The Escape trail, Home trail, Lookout trail, Yana Rim trail, and Yana Rim Alt. Loop trail will be built using a hybrid method. Some segments of the trails will be built utilizing the professional build method. On the remaining trail segments, we will use a single excavator to excavate the trail prism followed by volunteers to rake and compact the trail tread.

Table 1 Trail distance, class and uses.

Trail Name	Estimated Distance (miles)	Trail Class	Uses
Escape	8.35	Class 3	Non-motorized bikes, equestrians, hikers
Colby Drop	1.38	Class 4	Non-motorized bikes, hikers
Home	4.35	Class 3	Non-motorized bikes, equestrians, hikers
Lookout	2.11	Class 3	Non-motorized bikes, equestrians, hikers
Meadow Trail	0.92	Class 4	Hikers
Yana Rim	9.64	Class 2	Non-motorized bikes, equestrians, hikers
Yana Rim Alt. Loop	0.44	Class 2	Non-motorized bikes, equestrians, hikers

Willow Creek	4.76	Class 3	Non-motorized bikes, hikers
Humboldt Drop	3.4	Class 3/2	Non-motorized bikes, hikers
Robbers Roost Connector	0.34	Class 3	Non-motorized bikes, hikers
TOTAL MILEAGE	35.69		

Trailhead Improvement and Construction:

We will build or improve three trailheads to provide access for the new trail system and improve user experience. Table 2 summarizes the proposed trailhead improvements. Trailhead activities will be the following:

- We will rebuild the existing parking lot at the Jonesville Snow Park parking lot and expand it eastward and construct a well, a helipad, and a trail information kiosk. We will also build a bioswale for the parking lot expansion. The bioswale will be vegetated and include specialized soil mixes to treat, absorb and convey stormwater runoff.
- We will improve the existing Humboldt Summit trailhead currently used for the Pacific Crest Trail (PCT). We will build a designated parking lot for the new Colby Drop, Humboldt Drop, and Willow Creek trails, construct one vault-style toilet, install a kiosk for the PCT and another one for the Colby Mountain trail, build hitching posts, and install picnic tables. The new parking lot will accommodate equestrian trailer parking.
- We will construct a new trailhead called The Hub at the junction of National Forest System roads 27N06 and 27N36 near the northern edge of the project area. The Hub will access and link the Lookout, Escape, Colby Drop, Home, and Yana Rim trails. The Hub will include a parking area, one vault-style toilet, hitching posts, and picnic tables.
- The parking area at the Colby Mountain Lookout will be used as a trailhead for the Lookout Trail which will provide access to the Colby Drop and Escape trails.

Table 2. Trailhead Improvements

Trailhead	Existing/New	Improvements
Jonesville Snow Park	Existing trailhead, with proposed improvements	rebuild and expand existing parking lot, bioswale, trail

		information kiosk, a drinking water well, helipad
Humboldt Summit	Existing trailhead, with proposed improvements	vault toilet, designated parking, hitching posts, separate kiosk for PCT and Colby Mountain, equestrian trailer parking, picnic tables
Hub (27N06 and 27N36)	New trailhead construction	vault toilet, parking, hitching posts, picnic tables

Bridge, Wet Crossings, and Exclusionary Fencing

One 15-foot bridge will be built on the southern end of the Home trail where it will cross an unnamed drainage in section 11, T26N, R04E, M.D.M.

One wet crossing will be constructed along the northern end of the Home trail in section 35, T27N, R04E, M.D.M. and one on the north end of the Willow Creek trail where it crosses Willow Creek in section 31, T27N, R05E, M.D.M. The wet crossings will be constructed with hardened entrances to minimize the steam banks' impacts and limit sediment inputs.

We will build exclusionary fencing along 20 feet of the Home Trail in section 11, T26N, R04E, M.D.M. to bar access to a fen and install an information sign for the sensitive area.

Tree and Shrub Removal

Live trees less than 10 inches diameter at breast height (DBH) and shrubs will be cut during the construction or maintenance of the trails' eight-foot-wide corridor in accordance with the trail class. Where a trail cannot be routed around a tree that is 10-inches DBH or larger, it will be cut and removed, such as in areas where tree density is high. Best efforts will be made to avoid cutting sugar pine (*Pinus lambertiana*), western white pine (*P. monticola*), Jeffery pine (*P. jeffreyi*), and ponderosa pine (*P. ponderosa*) trees. No trees 30 inches DBH and larger will be cut unless it is a safety issue.

Trees that are less than 10-inches DBH and shrubs that are cut will be lopped and scattered to a depth not to exceed 12 to 18 inches. For trees 10-inch DBH to less than 30-inch DBH, once the tree has been cut down, tree branches and tops of trees to a 6-inch diameter will be cut from the bole of the trees and lopped and scattered. Larger bole material can be left on site or piled.

During construction of the Jonesville Snow Park parking lot expansion, trees can be mechanically cut and removed, possibly through a small timber sale, or cut by hand. Shrubs will be cut, and slash will be piled and burned or chipped and scattered.

Shrubs will be removed for improvements to the Humboldt Summit trailhead and the construction of the Hub trailhead, but no tree removal will occur at these locations.

INTEGRATED DESIGN FEATURES

The following Integrated Design Features (IDF) are resource protection measures that were developed by specialists for the proposed action and are incorporated as part of the decision for this project. They are in addition to Best Management Practices (BMP) and standards and guidelines from the Lassen Land and Resource Management Plan, as amended. These IDF are included for implementation parameters that will be incorporated into treatments, contracts, or used to guide Forest Service or partner personnel in conducting implementations.

Botany

Threatened, Endangered and Sensitive Plant Species:

1. Rare plant surveys shall be completed prior to Project implementation and any occurrences of TES or SI plant species discovered will be protected through flag- and-avoid methods and with incorporation of any additional protection measures recommended by Forest Botany personnel.
2. All occurrences of *Meesia triquetra* (three-ranked humpmoss) and *Meesia uliginosa* (broad-nerved hump-moss) their associated springs, meadows and fens will be flagged and avoided from all ground disturbing activities and protected with a fence from potential impacts.
3. All ground-disturbing activities will be excluded from within 50 feet of occurrences of *Botrychium* species. Locations will be displayed as control areas on all contract maps.
4. All ground-disturbing activities will be excluded from within 25 feet of occurrences of *Piperia colemanii* species.

Invasive Plant Species:

5. All off-road equipment will be weed-free prior to entering the Forest. Staging of equipment will be done in weed free areas.
6. Known noxious weed infestations will be identified, flagged where possible, and mapped for this Project. Locations will be displayed on contract maps. Identified invasive plant species' sites within or adjacent to the Project area will be evaluated by forest personnel and treated by forest botany staff prior to Project implementation and the sites avoided. Any larger or un-pullable infestations will be avoided by harvesting equipment or equipment used will be washed on site before leaving the infested area and entering un-infested areas to prevent spreading invasive plants across the Project area.

7. New small infestations identified during Project implementation will be evaluated and treated according to the species present and Project constraints and avoided by Project activities.
8. Post Project monitoring for implementation and effectiveness of treatments and control of new infestations will be conducted as soon as possible and for a period of two years after completion of the Project.
9. If Project implementation calls for mulches or fill, they will be certified weed-free. Seed mixes used for re-vegetation of disturbed sites will consist of locally adapted native plant materials.

Cultural Resources

Cultural Resources on Forest Service land are managed and protected through the Programmatic Agreement (PA) among the U.S.D.A. Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region (2018; R5 PA). Archaeological surveys were conducted in 2022 to identify archaeological sites within the proposed trail corridor. Site specific Approved Standard Protection Measures (SRPM), as outlined in the R5 PA, Appendix E, will be used to protect cultural resources to ensure the undertaking will have no adverse effect on the resource. Standard Resource Protection Measures for this project include the following:

10. Trails will be routed to avoid archaeological sites, artifacts, and features.
11. Mechanical equipment will be prohibited within archaeological sites.
12. An Archaeological monitor will be present during project activities near sensitive archaeological areas.
13. In the event cultural resources are discovered during project implementation (unanticipated discovery) all work shall immediately cease in the area identified and the Lassen National Forest Heritage Staff shall be notified immediately. Should any cultural resources become damaged in unanticipated ways by activities proposed in this Project, the steps described in the R5 PA for inadvertent effects will be followed.
14. LNF Heritage staff will be kept informed of the status of various stages of the Project to ensure Standard Resource Protection Measures are in place and adhered to during implementation.
15. Monitoring of cultural resources may occur during and after the Project has been completed to ensure the effectiveness of protection measures.

Silviculture

16. **Borate Treatment**: In the proposed Jonesville Snow Park parking lot expansion area, live conifer trees with a 14-inch and larger stump diameter will be treated with an Environmental Protection

Agency (EPA)-approved borate compound which is registered in California for the prevention of annosus root disease. No EPA-approved borate will be applied within 25 feet of known Sensitive and Special Interest (SI) plants or within 25 feet of live streams and meadow/wetlands.

17. **Sugar Pine Trees**: All sugar pine trees identified as rust resistant or as a candidate for rust resistance will be protected. A $20,000 fine will be imposed for each rust-resistant or candidate tree damaged during operations. Healthy sugar pine trees showing no observable signs of blister rust will be favorably retained.

Wildlife Resources

18. **Known Populations**: The following Threatened and Endangered Species (TES) are known to be present in the LNF: Sierra Nevada Yellow-legged Frog, Foothill Yellow-Legged Frog, Northern Spotted Owl, Central Valley Steelhead, Central Valley Spring-run Chinook, and Gray Wolf. If populations of TES species are discovered in the Project Area, consultation with USFWS will be initiated as needed and direction from the 2004 SNFPA ROD and 2014 USFWS Programmatic Biological Opinion will be applied.
19. **New Wildlife Findings**: Where subsequent surveys identify occupied threatened, endangered, or sensitive species habitat, PACs, den site buffers, or other protections will be established in coordination with the forest service biologist as described in the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) Record of Decision (ROD) (USDA 2004b).
20. **Nest Trees and Wildlife Habitation:** All trees with nest structures in them or that show signs of current wildlife habitation shall be retained, regardless of the diameter.
21. **Down Wood and Snags**: In accordance with the LRMP (USDA-FS 1992 p. 4-37), coarse woody debris (CWD, large logs and snags ≥ 15-inch DBH) already on the ground will be retained and protected to the greatest extent possible from disturbance during treatment. Snags 15-inches DBH and larger will be retained, where possible. If a trail reroute is not possible, a gap will be cut for the trail to allow the two ends of the tree to remain as habitat.
22. **Trees in PACs**: Within California spotted owl and northern goshawk PACs, the maximum size tree to be cut will be 6-inch DBH. Trees larger than 6-inch DBH will only be cut if approved by a Forest Service Wildlife Biologist. If any trees greater than 6-inch DBH are cut in PACs, they will be left in place, although they may be moved off trail alignment.
23. **Wildlife Limited Operating Periods**: Limited operating periods (LOPs) including no construction with power tools will apply during implementation to protect key wildlife species listed in the Biological Evaluation (BE)/Biological Assessment (BA).
    a. **California Spotted Owl:** A California spotted owl LOP from March 1st to August 15th will apply to stands within ¼ mile of all spotted owl protected activity centers (PACs). The LOP may be lifted after surveys if no nesting spotted owls are confirmed. If a California spotted owl nest is found within any of the proposed treatment units and is outside of all current

PACs, the nest will be protected through the placement of a new PAC or the realignment of an existing PAC boundary.

b. **Northern Goshawk:** A goshawk LOP from February 15th to September 15th will be applied within ¼ mile of all goshawk PACs or within ¼ mile of a nest if a nest is confirmed. The LOP may be lifted if it is determined that the protected activity centers (PACs) are not occupied. If agoshawk nest is found within any of the proposed treatment units and is outside of all current PACs, the nest will be protected through the placement of a new PAC or the realignment of an existing PAC boundary.

c. **Pacific Fisher:** If a fisher den site is identified, a 700-acre area consisting of the highest quality habitat in a compact arrangement will be delineated around the den site. The den site area will be protected from vegetation treatments with a LOP from March 1st through June 30th as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a fisher rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) will be protected from being damaged during Project implementation.

d. **Pacific marten:** If a marten den site is identified, a 100-acre area consisting of the highest quality habitat in a compact arrangement will be placed around the den site. The den site area will be protected from vegetation treatments with a LOP from February 15th through July 31st as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a marten rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) will be protected from being damaged during Project implementation.

e. **Monarch Butterfly:** Disturbance to the Monarch butterfly host species, milkweed, will be avoided, where found, throughout Project implementation.

f. **Gray Wolf:** If a wolf den or rendezvous site is discovered during implementation of the proposed Project, an LOP from April 1 through July 15 may be implemented and coordination with CDFW and the Service shall be pursued. Further discussions and coordination with CDFW and the Service may result in a modified distances or more flexible dates for this specific conservation measure.

g. **Amphibians:** If populations of TES amphibians are discovered in the Project area, direction from the 2004 SNFPA ROD and 2014 USFWS Programmatic Biological Opinion for 4 Sierra Nevada Amphibians (updated in 2023 to include Foothill yellow-legged frog) will be applied. A pre- construction survey or biological monitor of the water crossings may be conducted to assess for the presence of amphibians.

Hydrology

The LNF LRMP includes Forest-wide Standards and Guidelines to maintain or, where necessary, improve water quality using BMPs. The following BMP's (FS-909a, National BMP for Water

Quality Management on National Forest System Lands, April 2012) will be applied to the project plan and implementation document.

Aquatic Ecosystems BMPs (Apply these BMPs where trail construction goes through riparian conservation areas.

24. **AqEco-2**. Operations in Aquatic Ecosystems
25. **AqEco-4**. Stream Channels and Shorelines

Recreation

Recreation activity BMPs

26. **Rec-1.** Recreation Planning
27. **Rec-2.** Developed Recreation Sites
28. **Rec-3.** Dispersed Use Recreation
29. **Rec-4.** Motorized and Nonmotorized Trails

Transportation

Road BMPs

30. **Road-10.** Equipment Refueling and Servicing

CATEGORY OF EXCLUSION

This action is categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). The applicable category of actions for the Colby Recreation project is identified in agency procedures under Code of Federal Regulations (CFR), Title 36:

- Section 220.6 (e) Category (1) Construction and reconstruction of trails.
- Section 220.6 (e) Category (22) Construction, reconstruction, decommissioning, or disposal of buildings, infrastructure, or improvements at an existing recreation site, including infrastructure or improvements that are adjacent or connected to an existing recreation site and provide access or utilities for that site. Recreation sites include but are not limited to campgrounds and camping areas, picnic areas, day use areas, fishing sites, interpretive sites, visitor centers, trailheads, ski areas, and observation sites. Activities within this category are intended to apply to facilities located at recreation sites managed by the Forest Service and those managed by concessioners under a special use authorization.
- Section 220.6 (e) (24), Construction and realignment of up to 2 miles of National Forest System roads and associated parking areas.

These categories of actions are applicable because the purpose of the project is to build a system of non-motorized, sustainable trails in a safe and resource sensitive manner, provide supporting infrastructure to improve visitor experience, and protect sensitive natural resources.

I find that there are no extraordinary circumstances that will warrant further analysis and documentation in an EA or EIS. I considered resource conditions identified in agency procedures that should be considered in determining whether extraordinary circumstances might exist:

- Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species (terrestrial species): a Biological Assessment and Biological Evaluation (BA/BE) for terrestrial Wildlife Species was prepared. The findings are that:
    - There will be **no effect** on the following federally listed threatened and endangered species or their designated critical habitat: northern spotted owl, gray wolf, and North American wolverine
    - There will be **no effect** on the following Forest Service Sensitive Species: bald eagle, great gray owl, greater sandhill crane, willow flycatcher, yellow rail, fringed myotis, pallid bat, Sierra Nevada red fox, and Townsend's big-eared bat.
    - The actions **may affect** individuals of the following species, but the actions are not likely to result in a trend toward Federal listing or the loss of viability for these species: California spotted owl, northern goshawk, Pacific marten, Pacific fisher, monarch butterfly, and western bumblebee.
- Federally listed threatened or endangered species or designated critical habitat, species proposed for federal listing or proposed critical habitat, or Forest Service sensitive species (aquatic species): a BA/BE for aquatic species was prepared that showed:
    - There will be **no effect** on the following federally listed threatened and endangered aquatic species or their designated critical habitat: Shasta crayfish, Central Valley spring-run chinook, Central Valley steelhead, delta smelt, California red-legged frog, Sierra Nevada yellow-legged frog, foothill yellow-legged frog. There is no designated critical habitat for the Sierra Nevada yellow-legged frog or California red-legged frog within the project area and critical habitat has not been designated for the foothill yellow-legged frog at this time. Further, there are no current or historic detections of the Sierra Nevada yellow-legged frog, foothill yellow-legged frog, or California red-legged frog in the project area.
    - There will be **no effect** on the following aquatic Forest Service Sensitive Species: black juga, California floater, Great Basin rams-horn, kneecap lanx, montane peaclam, nugget pebblesnail, scalloped juga, Shasta hesperian snail (*Vespericola*

shasta), Topaz juga, Eagle Lake rainbow trout, Goose Lake redband trout, hardhead, Pacific lamprey, Cascades frog, northwestern pond turtle. Cascades frogs were last detected in and around the project area in 2014 and have since not been detected despite numerous survey efforts. Given this lack of recent occupancy and the inclusion of BMPs and IDFs designed to minimize potential effects to the species and its habitat, the Colby Mountain Recreation Project will not affect this species.

- Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species (botanical species): a BE/BA was conducted to review the potential effects of the proposed Colby Mountain Recreation Project on federally listed Threatened or Endangered species and Forest Service Region 5 Sensitive (TES) plant species.
    - The Colby Mountain Recreation Project area does not contain any known Federally-listed plant species nor any designated critical habitat.
    - The project may affect individuals of the following Region 5 Sensitive species *Botrychium ascendens* (upswept moonwort), *Botrychium crenulatum* (scalloped moonwort), *Botrychium minganense* (Mingan moonwort), *Botrychium montanum* (western goblin), *Botrychium pinnatum* (northwestern moonwort), *Botrychium pedunculosum* (stalked moonwort*), Meesia uliginosa* (broad-nerved hump-moss) and *Silene occidentalis ssp. longistipitata* (long-stiped campion.) and associated habitat, the project is not likely to result in a trend toward Federal listing or loss of viability for these species with the implementation of IDFs.
- Floodplain, wetlands, or municipal watersheds – The Project Area is located outside of the 100-year floodplain and will not create an impact to the floodplain. The proposed action will have little to no impact on wetlands. The project area is within the Butte Creek watershed, which is a municipal watershed that sources municipal and domestic supply to Chico. Best Management Practices (BMPs) will be used to improve water quality where necessary according to the LNF LRMP Forest-wide Standards and Guidelines.
- There are no congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas within the project area.
- There are no inventoried roadless areas or potential wilderness areas within the project area.
- There are no research natural areas within the project area.

- American Indians and Alaska Native religious or cultural sites, archaeological sites, or historic properties or areas: Pursuant to the National Historic Preservation Act, 1966 as modified by the Region 5 (R5) Programmatic Agreement (PA) (2018), 36 CFR 800, and Forest Service Manual 2360, archaeological surveys were conducted in 2022 to identify archaeological sites within the trail corridors. Site specific Approved Standard Protection Measures, as outlined in the R5 PA (2018), Appendix E, will be used to protect cultural resources to ensure the undertaking will have no adverse effect on the resource.

PUBLIC INVOLVEMENT

Public meetings for this action have been held on the following dates at the designated locations:

- Forest Advisory Committee, Monday, November 25, 2019
- Public Event at Sierra Nevada Brewery, Monday, November 25, 2019
- Butte County Board of Supervisors, January 28, 2020
- Forest Advisory Committee, January 25, 2021
- Butte Meadows Jonesville Community Association, Saturday, October 2, 2021
- Connected Communities/ Colby Mountain- Butte Meadows Meeting, Saturday, October 23, 2021
- Connected Communities/ Colby Mountain- Chico Meeting, Sunday, November 21, 2021

This project was published on the Butte County Resource Conservation District website during project initiation in 2019.

This action was first listed as a proposal on the Lassen National Forest Schedule of Proposed Actions (SOPA) in January 2023. On July 24, 2023, scoping letters and emails with copies of the Proposed Action, Purpose, and Need (PA/PN) document were sent to eight regional tribal organizations. Also on July 24, 2023, scoping letters with a link to the Colby project website and emails with the PA/PN and scoping letter attached were sent to interested and affected parties that included adjacent landowners, grazing allotment permitholders, groups responding to the proposal on the SOPA, and federal, state, and local agencies. Responses were due by September 23, 2023.

Fifty individuals and/or organizations provided comments. No issues were raised that required or resulted in modifying the proposed action.

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

This decision is consistent with the 1992 Lassen National Forest Land and Resource Management Plan and 1993 Record of Decision (ROD) as amended by the 2004 Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement and ROD and the

Sierra Nevada Forests Management Indicator Species Amendment Final Environmental Impact Statement and ROD (2007). This decision is consistent with all other applicable laws and regulations including the Endangered Species Act, Clean Water Act as amended, Clean Air Act as amended, National Historic Preservation Act, and Executive Order 13112: Invasive Species- 64 FR 6183 (February 8, 1999).

This project will be conducted in accordance with requirements of the California Central Valley Regional Water Quality Control Board to ensure compliance with California Water Code and the Federal Clean Water Act.

The Federal Land Policy and Management Act of October 21, 1976, the National Environmental Policy Act of 1970, and the National Forest Management Act of 1976, combined give the Forest Service the authority and responsibility for protection of resources and management of National Forest System lands.

Administrative Review (Appeal) Opportunities

This decision is not subject to appeal and administrative review

This decision is not subject to appeal by individuals or organizations.

Implementation Date

Implementation of this decision may occur immediately after this Decision Memo is signed.

Contact

For additional information concerning this decision, contact: Russell Nickerson, Lassen National Forest, Almanor District Ranger, russell.nickerson@usda.gov, (530) 258-2141.

Russell Nickerson 04/01/2024

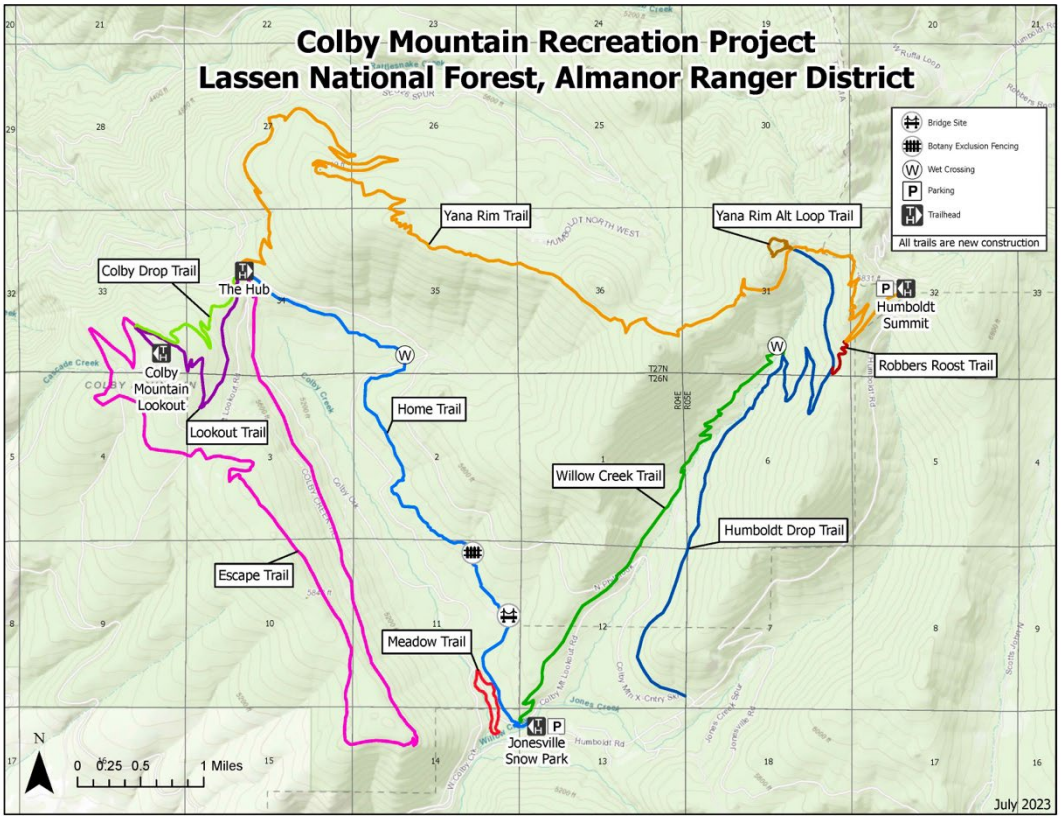
Russell Nickerson Date

Almanor District Ranger, Lassen National Forest

APPENDIX C: BIOLOGICAL EVALUATION AND BIOLOGICAL ASSESSMENT (BE/BA)

Biological Evaluation and Biological Assessment of the Aquatic and Terrestrial Wildlife Species for the Colby Mountain Recreation Project

Lassen National Forest
Almanor Ranger District



Prepared by: Chico Environmental
333 Main Street, Suite 260
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Reviewed by: _____ Date: 1/8/2024

Kelly Mosinski
District Wildlife Biologist
U.S. Forest Service
Lassen National Forest, Almanor Ranger District

Table of Contents

LIST OF TABLES

LIST OF FIGURES

Introduction

The purpose of this Biological Evaluation and Biological Assessment (BE/BA) is to determine how the Colby Mountain Recreation Project (Colby Recreation Project, or Project) Proposed Action may affect federally threatened, endangered, candidate or proposed species, or Forest Service Region 5 Regional Forester's Sensitive Species (aka Forest Service Sensitive Species; list updated September 9, 2013. FSM 2670.5). This BE/BA is prepared in accordance with the standards established in Forest Service Manual direction (FSM 2672.42) and the legal requirements set forth under Section 7 of the Endangered Species Act (ESA) of 1973, as amended [16 U.S.C. 1536 (c) *et seq. 50CFR 402*], and its implementing regulations.

The United States Department of Agriculture (USDA) Forest Service, Lassen National Forest (LNF), Almanor Ranger District (RD), proposes to construct approximately 35.69 miles of multi- use trail and expand access to the community of Jonesville. Implementation of the proposed action could begin as early as winter 2023. All activities proposed would be completed within approximately three years.

The objectives of this BE/BA are:

1. To ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant or contribute to animal species or trends toward Federal listing of any species.

2. To comply with the requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of Federally listed species.

3. To provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species receive full consideration in the decision-making process.

Five categories of species are considered in this BE/BA; threatened, endangered, proposed, candidate and Forest Service sensitive species. Species federally listed as endangered by the USFWS are species currently in danger of extinction throughout all or a significant portion of their range. Species listed as threatened are likely to become endangered within the foreseeable future throughout all or a significant portion of their range. A proposed species is any species that is proposed in the Federal Register to be listed as a threatened or endangered species under the Endangered Species Act (ESA) (50 CFR 402.03). A candidate species is a species for which the USFWS has on file enough information to warrant or propose listing as endangered or threatened. Forest Service sensitive species are designated by the Regional Forester and are species that have known or suspected viability problems due to (1) significant current or predicted downward trends in population numbers or density, and/or (2) significant current or predicted downward trends in habitat quantity or quality for these species (FSM 2670.5). The Forest Service considers the long-term conservation needs of sensitive species in order to avoid future population declines and the need for federal listing.

Table 1. Threatened and Endangered, Proposed, Candidate and Sensitive Animal Species that Potentially Occur on the Colby Mountain Recreation Project

Threatened, Endangered and Sensitive Species (Scientific Name)	Species Status*	Habitat or Ecosystem Component	Category for Project Analysis**	Determinations***
Invertebrates				
Black juga – snail (*Juga nigrina*)	USFS: S	Low elevation large springs and small to medium streams with a level bottom and a stable gravel substrate and fast-flowing, unpolluted, highly oxygenated cold water	1	WNA
California floater – freshwater mussel (*Anodonta californiensis*)	USFS: S	Natural lakes, reservoirs, and downstream low-gradient reaches of rivers in pool habitats	1	WNA
Great Basin rams-horn (snail) (*Helisoma newberryi newberryi*)	USFS: S	Spring-influenced areas of large lakes and rivers	1	WNA
Kneecap lanx (limpet) (*Lanx patelloides*)	USFS: S	Freshwater springs	1	WNA
Monarch Butterfly (*Danaus plexippus)*	FC	Prairies, meadows, grasslands and along roadsides	3	MAI
Montane peaclam (*Pisidium (Cyclocalyx) ultramontanum*)	USFS: S	Bog ponds, ponds, and swamps that dry up for several months each year and temporary streams or seepages	1	WNA
Nugget pebblesnail (*Fluminicola seminalis*)	USFS: S	Gravel-cobble substrate and clear, cold flowing water	1	WNA
Scalloped juga (snail) (*Juga (Calibasis) occata*)	USFS: S	Large springs and rivers with well-aerated, cold water	1	WNA
Shasta crayfish (Pacifastacus fortis)	FE	Cold, clear spring water	1	WNA
Shasta hesperian snail (*Vespericola shasta)*	USFS: S	Along river edges almost in the water under bark and debris	1	WNA
Topaz juga (snail) (*Juga (Calibasis) acutifilosa*)	USFS: S	Pristine, cold springs and their outflows that are unpolluted, well oxygenated, with gravel substrates	1	WNA
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry on the valley floor and low foothills	1	WNA
Western Bumblebee (*Bombus occidentalis*)	USFS: S CDFW : SSC	Access to Flowering Plants and Abandoned Rodent Burrows	3	MAI

Threatened, Endangered and Sensitive Species (Scientific Name)	Species Status*	Habitat or Ecosystem Component	Category for Project Analysis**	Determinations***
Fish				
Central Valley fall/late fall-run chinook salmon (*Oncorhynchus tshawytscha*)	FSOC	Riverine and Lacustrine	2	WNA
Central Valley spring-run chinook (*Oncorhynchus tshawytscha*)	FT	Riverine and Lacustrine	2	WNA
Central Valley steelhead (Oncorhynchus mykiss)	FT, CH	Riverine and Lacustrine	2	WNA
Delta Smelt (*Hypomesus transpacificus)*	FT	Riverine and Lacustrine	1	WNA
Eagle Lake rainbow trout (*Oncorhynchus mykiss aquilarum* (pop 5))	USFS: S	Riverine and Lacustrine	1	WNA
Goose Lake redband trout (*Oncorhynchus mykiss* (pop 6))	USFS: S	Riverine and Lacustrine	1	WNA
Hardhead (*Mylopharodon conocephalus*)	USFS: S	Riverine and Lacustrine	1	WNA
Pacific lamprey (*Entosphenus tridentatus*)	USFS: S	Riverine and Lacustrine	1	WNA
Amphibians				
California red-legged frog (*Rana draytonii)*	FT	Riverine and Lacustrine	1	WNA
Cascades Frog (*Rana cascadae*)	USFS: S CDFW: SSC SCE	Mountain meadows, bogs, ponds, or potholes above 2,400 feet elevation	2	WNA
Foothill yellow-legged frog (*Rana boylii*)	USFS: S, CDFW : SSC, SE	Riverine and Lacustrine	1	WNA
Sierra Nevada yellow-legged frog (*Rana sierrae*)	FE, CH, CDFW : WL, ST	Riverine and Lacustrine, mountain meadows	2	WNA
Reptiles				
Northwestern pond turtle (*Actinemys marmorata*)	USFS: S, FPT	Riverine and Lacustrine	1	WNA
Birds				
Bald eagle (*Haliaeetus leucocephalus*)	USFS: S,	Large trees adjacent to riverine and lacustrine	2	WNA
California spotted owl (*Strix occidentalis occidentalis*)	FP, CDFW : SSC	Late Seral Closed Canopy Coniferous Forest	3	MAINLJCE
Great gray owl (*Strix nebulosa*)	USFS: S	Late Seral Closed Canopy Coniferous Forest adjacent to wet meadows	2	WNA

Threatened, Endangered and Sensitive Species (Scientific Name)	Species Status*	Habitat or Ecosystem Component	Category for Project Analysis**	Determinations***
Greater sandhill crane (*Grus canadensis tabida*)	USFS: S	Prefers open habitats (grasslands and croplands) with shallow lakes and fresh emergent wetlands	1	WNA
Northern goshawk (*Accipiter gentilis*)	USFS: S, CDFW : SSC	Late Seral Closed Canopy Coniferous Forest	3	MAI
Northern spotted owl (*Strix occidentalis caurina*)	FT, CH	Old grown Douglas-fir forests, high canopy layers	1	WNA
Willow flycatcher (*Empidonax trailii brewsteri*)	USFS: S, SE	Riparian with dense willows	2	WNA
Yellow rail (*Coturnicops noveboracensis*)	USFS: S	Shallow marshes, and wet meadows; in winter, drier fresh-water and brackish marshes, as well as dense, deep grass, and rice fields	1	WNA
Mammals				
Fisher (*Pekania pennanti*)	USFS: S, CDFW : SSC	Late Seral Closed Canopy Coniferous Forest	3	MAI
Fringed myotis (*Myotis thysanodes)*	USFS: S	Hardwood-conifer Open Canopy Forests	2	WNA
Gray wolf (*Canus Lupus*)	FE	Varied habitats	2	WNA
North American Wolverine (*Gulo gulo luscus)*	USFS: S FPT	Late Seral Closed Canopy Coniferous Forest	1	WNA
Pacific Marten (*Martes Caurina)*	USFS: S	Forested habitats. It is most often associated with mature and old- growth evergreen forests.	3	MAI
Pallid bat (*Antrozous pallidus*)	USFS: S	Most common in open, dry habitats with rocky areas (rocky outcrops, cliffs and crevices)	2	WNA
Sierra Nevada Red Fox (*Vulpes vulpes necator)*	USFS: S, SPE, FC	Wide range of remote, high-elevation alpine and subalpine habitats, including meadows; dense, mature forest; talus; and fell fields. Habitat use varies seasonally.	1	WNA
Townsend's big-eared bat (*Corynorhinus townsendii*)	USFS: S	Mesic Habitats	2	WNA

*__Status__: **FE =** Federal Endangered, **FT** = Federal Threatened, **FP** = Federal Proposed, **FC** = Federal Candidate, **FSOC** = Federal Species of Concern **SE** = State Endangered, **ST** = State Threatened, **SC** = State Candidate for Endangered Species **USFS:S** = Forest Service Sensitive **SPE** = State Proposed Endangered **CH** = Critical Habitat **CDFW:FP** = State Fully Protected **CDFW:SSC** = State Species of Special Concern **CDFW:WL** = California Department of Fish and Wildlife Watch List
__Categories__: **Category 1: Species and/or whose habitat is not in or adjacent to the Project Area and would not be affected by the Project. **Category 2:** Species and/or whose habitat is in or adjacent to the Project Area but would not be either directly or indirectly affected by the Project. **Category 3:** Species and/or whose habitat would be either directly or indirectly affected by the Project.
***__Determinations__: **T & E Species: WNA** = Will Not Affect, **MAINLA** = May Affect but Is Not Likely to Adversely Affect Individuals or their designated critical habitat, **MAILAA** = May Affect and Is Likely to Adversely Affect Individuals or their designated critical habitat. **Proposed (P) Species: WNA** = Will Not Affect, **MAINLJCE =** May Affect but is Not Likely to Jeopardize the Continued Existence of Individuals, **Proposed Critical Habitat: WNA** = Will Not Affect, **NLRDAM** = Not Likely to Result in the Destruction or Adverse Modification of their Proposed Critical Habitat, **LRDAM** = Likely to Result in the Destruction or Adverse Modification of their Proposed Critical Habitat. **FS Sensitive Species: WNA** = Will Not Affect, **MAI** = May Affect Individuals, but is not likely to result in a trend toward Federal listing or loss of viability, **MAILRTFL** = May Affect Individuals, and is Likely to Result in a Trend toward Federal Listing or loss of viability

Category 1

When the Project area is located outside the known range for a species, that species is eliminated from further consideration and coded as "1" in Table 1. Therefore, the Project would not directly or indirectly affect these species or their habitat.

Table 2. Rationale for level of analysis for Category 1 species considered for the Colby Mountain Recreation Project.

Species	Rationale for Level of Analysis
INVERTEBRATES	
Black juga (*Juga nigrina*)	The geographic range of the species is outside the Project area.
California floater (*Anodonta californiensis*)	Project area lacks suitable habitat for species including lakes and reservoirs or in stable low-gradient streams.
Great Basin Rams-horn (*Helisoma newberryi newberryi*)	The geographic range of the species is outside the Project area.
Kneecap lanx (*Lanx patelloides*)	The geographic range of the species is outside the Project area.
Montane Peaclam (*Pisidium (Cyclocalyx) ultramontanum*)	The geographic range of the species is outside the Project area
Nugget pebblesnail (*Fluminicola seminalis*)	The geographic range of the species is outside the Project area.
Scalloped Juga (*Juga (Calibasis) acutifilosa*)	The geographic range of the species is outside the Project area.
Shasta crayfish (*Pacifasctacus fortis*)	The geographic range of the species is outside the Project area.
Shasta Hesperian snail (*Vespericola shasta*)	The geographic range of the species is outside the Project area.
Topaz Juga (*Juga (Calibasis) occata*)	The geographic range of the species is outside the Project area.
Valley elderberry longhorn beetle (*desmocerus californicus dimorphus*)	The geographic range of the species is outside the Project area.
AMPHIBIANS	
California red-legged Frog (*Rana aurora draytonii*)	Portions of the Colby and Willow creek areas in the Project area are just within the potential range of *R. draytonii* according to USFWS IPAC. There is no designated critical habitat for *R. draytonii* within the Project area according to USFWS IPAC.
Foothill yellow-legged frog (*Rana boylii*)	Portions of Willow Creek and Jones Creek in the Project area are just within the potential range of *R. boylii* according to USFWS IPAC. The lower elevation of trails are just above elevations where *Rana boylii* is typically found (below 4500 ft).
FISH	
Delta smelt (*Hypomesus transpacificus*)	The geographic range of the species is outside the Project area. The species is restricted to the Sacramento San Joaquin Delta.
Eagle Lake rainbow trout (*Oncorhynchus mykiss aquilarum*)	The geographic range of the species is outside the Project area. The species is restricted to Eagle Lake and its tributaries.
Goose Lake redband trout (*Oncorhynchus mykiss pop. 6*)	The geographic range of the species is outside the Project area. The species is restricted to Goose Lake and its tributaries.
Hardhead (*Mylopharodon conocephalus*)	The geographic range of the species is outside the Project area. The species is associated with mid-low elevation riverine and lacustrine habitats of the Sacramento and Pit River systems (Moyle 2002). No suitable habitat is present in Project area.

Pacific lamprey (*Entosphenus tridentatus*)	The geographic range of the species is outside the Project area. The species is anadromous. The streams in the Project area are not accessible to anadromous species.
REPTILES	
Northwestern pond turtle (*Actinemysmarmorata*)	The geographic range of the species is outside the Project area. No suitable habitat for this species exists in the Project area.
BIRDS	
Greater sandhill crane (*Grus canadensis tabida*)	Potentially suitable habitat exists in the Project area, however, this species has not been detected in the Project area. There have been no historic detections in or near the Project area. Suitability of the habitat for this species is low.
Northern spotted owl *(Strix occidentalis caurina)*	The geographic range of the species is outside the Project area.
Yellow rail (*Cotumicops noveboracensis*)	No suitable habitat for this species exists in the Project area.
MAMMALS	
North American wolverine (*Gulo gulo luscus*)	No suitable habitat for this species exists in the Project area.
Sierra Nevada Red Fox *(Vulpes vulpes necator)*	No suitable habitat for this species exists in the Project area.

Category 2

Category 2 includes species whose habitat occurs within the analysis area, but the habitat factors for these species would not be directly or indirectly affected by the project; therefore, the project would not affect these species or their habitat. Category 2 species and their habitat components will not be affected by the Colby Mountain Recreation Project.

Chinook and Steelhead Fish

There is no occupied anadromous habitat within the Project area and the area of nearest occupancy is downstream, therefore, project actions will not affect Central Valley spring-run Chinook salmon, Central Valley fall-run Chinook salmon, or Central Valley steelhead or critical habitats. Due to the distance between the project area and occupied anadromous habitat located in Butte Creek and the small scale of the project relative to the watershed, any potential sediment production resulting from project actions that enters project area stream channels is highly unlikely to affect occupied anadromous habitat downstream within their critical habitat in a measurable amount. Measures to protect the fish species have been identified in the IDFs in Appendix A, under the Riparian Habitat Conservation Areas (RHCAs).

Cascades Frog

The Project Area is within Cascade frog range and portions of Willow and Colby Creek contain Cascade frog suitable habitat. The Cascade frog was formerly listed as a candidate species and has recently been found not warranted for listing as of 9/20/2023 (USDI 2023). Until recently a small population of Cascades frog occupied the meadows along Colby and Willow Creek West. This population declined precipitously from 1995 to 2007 (DeLong et al. 2015), however remained occupied by a small number of frogs as recently as 2014 (Karen Pope, unpublished data). Cascades frog along Colby and Willow Creek West have not been detected since, despite concerted survey effort (Karen Pope unpublished data, Pope et al. 2020). In the July and August of 2020, Point Blue Conservation Science (Point Blue) worked with permitted wildlife biologist Bethany Johnson from Collins Pine Company to survey for this species throughout the Storrie Meadows project area (USDA 2021) which overlaps a portion of the Colby Trail project that contains Cascade frog suitable habitat. Two observers completed two visual encounter surveys of all suitable habitat in the Colby and Willow Creek West project subareas of the Storrie Meadows project, yielding no detections of Cascades frog. The species is presumed extirpated from the project area. It is my

determination that because this species has not been present in the project area for the last 9 years, the Colby Trails Project will not affect this species. Should a Cascade frog be found in or near the Project Area, measures to protect the species have been identified in the IDFs in Appendix A, including a pre-construction survey or biological monitor of the three proposed water crossings to assess for the presence of amphibians.

Sierra Nevada Yellow-Legged Frog
The Project area is within the potential range of *Rana sierrae* according to USFWS IPAC. There is no designated critical habitat for *Rana sierrae* within the Project area according to USFWS IPAC. Since there are only three stream crossings proposed, there are no historic detections of *Rana sierrae*, and no recent detections during the surveys for Cascades frog completed for the Storrie Meadows project mentioned above, the species will not be affected by the Project.

Bald Eagle
According to CDFW range map for Bald Eagle, the Project area is within the range of Bald Eagle habitat. However, the Bald Eagle requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches and nest usually located near a permanent water source (C. Polite, J. Pratt 1999) and therefore will not be affected by the proposed Project as the Project area does not provide suitable habitat.

Great Gray Owl
Potentially suitable habitat for *Strix nebulosa* exists in the Project area, however, there have been no historic detections in or near the Project area. Great gray owls are rare and found infrequently on the Lassen National Forest (LNF). Extensive surveys for California spotted owl and great gray owl have been conducted where suitable habitat occurs on forest land, including the proposed action area. Only one confirmed detection occurred in the LNF in 2018 in the vicinity of Humbug Valley which is now within the Dixie fire perimeter and approximately 10 miles from the proposed action area; this is the most recent observation on the forest. No breeding has ever been recorded in LNF. Due to the unlikelihood of great gray owl occurring in the project area, and project actions not altering suitable habitat, the project will not affect the species.

Willow Flycatcher
The Willow flycatcher (WIFL) is listed as a USFS sensitive species and as a state endangered species and has potential habitat in the Project area. Two WILF surveys were conducted using the 2003 protocol and were conducted on June 15-25, 2022 and June 26-July 15, 2022. Both surveys found no detections and no occupancy is supported by historical data within the Project area.

Gray Wolf
The geographical range of the Gray wolf is considered fairly broad including the Sierra Nevada and Cascade Mountain Ranges as well as habitats such as general forest, rangeland, grassland, tundra, etc. and have potential to be within the Project Area, specifically members of the Lassen Pack. The CDFW Approximate Area of Gray wolf Activity, updated in May 2023, shows known locations of three Gray wolf packs, none of which have been within the Project Area. The project area is over five miles away from known denning or rendezvous sites, therefore project actions are not likely to affect the species. Should a Gray wolf be found in or near the Project Area, measures to protect the species have been identified in the IDFs in Appendix A.

Bats
The three special-status bat species Fringed myotis (*Myotis thysanodes*), Pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*) have potential habitat in the Project area. The Townsend's big-eared bat is found in all but subalpine and alpine habitats and is now considered uncommon in California (J. Harris, 2000). The Townsend's big-eared bat required caves, mines, tunnels, buildings, or other human-made structures for roosting, making the

Colby Mountain Recreation Project area limiting. Fringed myotis is found in a varied of habitats. Optimal habitats include pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 1300-2200 m (4000-7000 ft) (J Harris). The fringed myotis roosts in caves, mines, buildings, and crevices. The Pallid bat s is most common in open, dry habitats with rocky areas for roosting (J Harris). Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Rocky outcrops, caves, and cave-like manmade structures are not present in the Colby Mountain Project area. The bats may be threatened by recreational caving and mine exploration, loss of large trees, and removal of buildings and bridges. Measures to protect what could be potential habitat of large trees have been identified in IDFs in Appendix A and will minimize impacts if bat species are found in the Project area.

Category 3

The species whose habitat would be either directly or indirectly affected by the Colby Mountain Recreation Project, identified as Category 3 in Table 1, are carried forward in this analysis. These species include the following:

- California Spotted Owl – (*Strix occidentalis occidentalis*)
- Northern Goshawk – (*Accipiter gentilis*)
- Pacific Marten - (*Martes caurina*)
- Fisher – (*Pekania pennanti*)
- Monarch Butterfly (*Danaus plexippus*)
- Western Bumblebee (*Bombus occidentalis)*

Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction

Regulatory Environment

Direction relevant to the Proposed Action as it affects terrestrial and aquatic wildlife includes:

Federal Laws

- Departmental Regulation 9500-4
- Code of Federal Regulations (23, 36, 50 CFR)
- Endangered Species Act (ESA 1976)
- Forest Service Manual and Handbooks (FSM/H 1200, 1500, 1700, 2600)
- National Environmental Policy Act (NEPA 1969)
- National Forest Management Act (NFMA 1976)
- The Migratory Bird Treaty Act of 1918, as amended
- USFWS Information, Planning, and Conservation System Online Consultation List (September 21, 2022)

Forest Service direction for TES species incorporated in this BE/BA can be found in the Forest Service Manual (FSM 2670.31, FSM 2670.32). Information regarding threatened, endangered,

proposed, candidate and sensitive species is also obtained through the cooperation of the USFWS and the California Department of Fish and Wildlife (CDFW).

Consultation with USFWS

A list of T&E species was provided by USFWS, "List of Threatened and Endangered species that may occur in your proposed project location, or may be affected by your proposed project," issued November 21, 2023, accessed via USFWS Information for Planning and Consultation (IPAC; https://ipac.ecosphere.fws.gov; Sacramento Office – Project Code: 2023-0039697; filed in project record). No threatened or endangered species are expected to be affected by the Colby Mountain Recreation Project; therefore, consultation with USFWS is not needed.

California Department of Fish and Wildlife

Input specific to the Colby Mountain Recreation Project was not solicited from the Department of Fish and Wildlife; however, past advice from the Department was considered during the planning of the Colby Mountain Recreation Project.

Forest Management Direction

- Lassen National Forest Land and Resource Management Plan (LNF LRMP)
- Regional Forester (Region 5) policy and management direction
- Regional Forester (Region 5) Sensitive Plant and Animal Species List (June 10, 1998), as appended July 3, 2013
- Sierra Nevada Forest Plan Amendment (SNFPA) and its implementing Final Environmental Impact Statement (FEIS), Record of Decision (ROD), January 2001
- Sierra Nevada Forest Plan Amendment (SNFPA) and its implementing Final Supplemental Environmental Impact Statement (FSEIS), Record of Decision (ROD), January 2004
- Sierra Nevada Forests Management Indicator Species Amendment FEIS, December 2007
- USDA Forest Service Region 5 Best Management Practices (USDA 2012)

The Lassen National Forest Land and Resource Management Plan (LNF LRMP) provides Forest specific information on how TES species will be managed. These include forest wide goals and policies for Sensitive Plants (p. 3-22 – 3-23), Water and Riparian Areas (p. 3-35 – 3-38), Wildlife (p. 3-41 – 3-46), as well as forest wide management direction, standards and guidelines for significant resources (p. 4-1 through 4-39). Management Area specific and species-specific direction and prescriptions will be included in the species discussions below. Direction is also found under other areas (e.g., Recreation management) that directly or indirectly affect animal species and/or their habitats. This direction is incorporated by reference. The LNF LRMP provides management guidelines that incorporate regional direction for each species. Current TES and wildlife direction can be found in the LNF LRMP, as amended by the 2004 Sierra Nevada Forest Plan Amendment Supplemental Environmental Impact Statement and Record of Decision (2004 SNFPA FSEIS & ROD), for wildlife, fish, riparian ecosystems and riparian-dependent wildlife species. This Project is being analyzed for consistency to all applicable Forest Plan standards and guidelines for terrestrial and aquatic wildlife. Appendix A provides a list of applicable Forest Plan standards and guidelines.

Riparian Habitat Conservation Areas

Riparian Habitat Conservation Areas (RHCAs) are a land management designation. RHCAs are defined as portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines.

Delineation and management of RHCAs are critical steps in managing to meet the Aquatic Conservation Strategy goals. More specifically, RHCAs help to maintain the integrity of aquatic systems by:

1) influencing the delivery of coarse sediment, organic matter and woody debris to streams;

2) providing root strength for channel and inner gorge stability;

3) maintenance of riparian microclimate, including stream shade;

4) protecting water quality;

5) maintaining or enhancing riparian vegetation; and

6) maintaining the durability and function of floodplains and riparian terraces.

The standards and guidelines will be implemented to minimize, to the extent practicable, adverse effects on listed anadromous fish downstream of the Project area. Net long-term adverse effects on listed anadromous fish will be avoided. The Recreation Management standards below apply to the proposed Project:

- RM-1. Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Aquatic Conservation Strategy goals. Complete site level analysis prior to construction of new recreation facilities in RHCAs. For existing recreation facilities inside RHCAs, assure that the facilities or use of the facilities will not prevent attainment of Aquatic Conservation Strategy goals. Relocate or close recreation facilities where Aquatic Conservation Strategy goals cannot be met.

- RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy goals. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting Aquatic Conservation Strategy goals, eliminate the practice or occupancy.

- RM-3. Address attainment of Aquatic Conservation Strategy goals and potential effect on anadromous fish and their habitat in Wild and Scenic Rivers, Wilderness, and other recreation management plans.

Project Description

The Colby Mountain Recreation Project is a collaborative effort conducted by the Butte County Resource Conservation District, Northern California Regional Land Trust, Sierra Buttes Trail Stewardship, and Chico Velo to enhance trail-based recreation near the community of Jonesville in Lassen National Forest. With the support of the U.S. Forest Service, the Project has developed over months of stakeholder engagement and incorporates forest health demonstration sites, environmental education facilities, day-use and emergency response amenities and an extensive network of multi-use trails. The purpose of the Project is to expand access to recreational areas in the Lassen National Forest to multiple user groups by providing long-term, sustainable trails in a safe and resource sensitive manner.

The proposed Project is located on the Lassen National Forest, in the Almanor Ranger District, in Butte County, CA. Specifically the Project area is within Township 26N, Range 4E, Sections 1-4, 10-15, Township 26N, Range 5E, Sections 5-8, Township 27N, Range 5E, Sections 31 and 32.

Proposed Action

New Single-track Trails and Trailheads

The Almanor Ranger District is proposing to construct approximately 36 miles of new single-track trails out of Jonesville Snowmobile Park (Figure 1). The trail system would offer a variety of distance and terrain options for multiple user groups including 0.92 miles of pedestrian-only use trails and 34.77 miles of non-motorized multi-use trails. Table 3 provides a list of the proposed trails and their estimated distances, trail classes, and proposed uses.

There would be two methods of trail construction used: full professional build and hybrid build. The full professional build method would be used for trails that are complex or specialized. Those trails would use mechanized equipment (mini excavator or trail-specific dozer) followed by a professional hand crew. The full professional build method would be used for Colby Drop, Willow Creek trail, Humboldt Drop, Robbers Roost Connector and the Meadow trail. For the hybrid build method, professional trail builders would pioneer the trail corridor and excavate the trail prism with a single excavator and volunteers would rake and compact the trail tread. The hybrid build method would integrate with the full professional build method on some segments of the trails. The hybrid build method would be used for the Home trail, Escape trail, Lookout trail, Yana Rim and Yana Rim Alt Loop.

The Project would also include four trailheads. The main trailhead for the trail system would be located at the Jonesville Snow Park parking lot and would connect the Meadow Loop trail, Home trail, and Willow Creek trail. The Project would rebuild the existing parking lot and expand it eastward, adding one (1) well, helipad, and a comprehensive trail information kiosk. The parking lot expansion would also include a bioswale, a vegetated low-lying area that would use plant materials and specialized soil mixes to treat, absorb, and convey stormwater runoff.

The Humboldt Summit trailhead would provide direct access to Colby Drop, Willow Creek trail, and Humboldt Drop. The Humboldt Summit trailhead would serve as a shuttle drop location for visitors seeking a downhill mountain bike experience. The Project improvements at the Humboldt Summit trailhead would include a designated parking lot, one (1) vault-style bathroom, a separate kiosk for Pacific Crest trail (PCT) and Colby Mountain, equestrian trailer parking, picnic tables, and hitching posts.

The Colby Mountain Lookout trailhead would offer connections to Colby Drop and the Escape trail. The trailhead would offer access to the Hub trailhead via the Lookout trail or could be shuttled vis the US Forest Service (USFS) forest road 27N36.

The Hub (27N06 and 27N36) trailhead would be located at the northern edge of the trail system and would serve as a central "hub" linking the Lookout trail, Escape trail, Colby Drop, Home trail and Yana Rim trail. The Hub would be accessed via the 27N06 USFS road, a well-maintained and surfaced forest access road. The Project improvements at the Hub would include one (1) vault-style bathroom, parking, hitching posts, and picnic tables. Table 4 summarizes the proposed trailhead improvements.

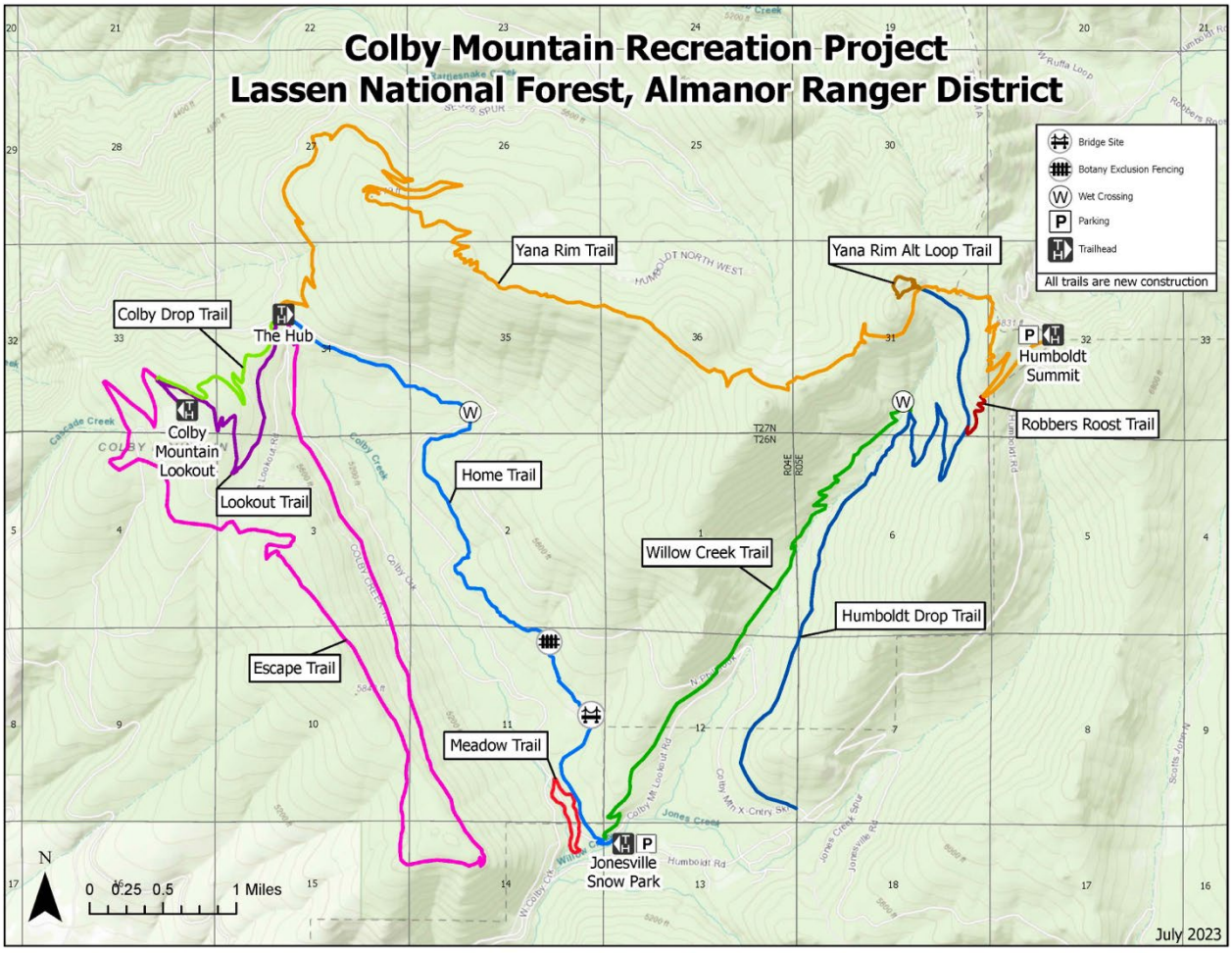

Figure 1. Map of the Colby Mountain Recreation Project Area.

Table 3. Proposed Trail Summary

Trail Name	Estimated Distance (mile)	Trail Class[1]	Uses
Escape	8.35	Class 3	non-motorized bikes, equestrians, hikers
Colby Drop	1.38	Class 4	non-motorized bikes, hikers
Home	4.35	Class 3	non-motorized bikes, equestrians, hikers
Lookout	2.11	Class 3	non-motorized bikes, equestrians, hikers
Meadow Trail	0.92	Class 4	hikers
Yana Rim	9.64	Class 2	non-motorized bikes, equestrians, hikers
Yana Rim Alt Loop	0.44	Class 2	non-motorized bikes, equestrians, hikers
Willow Creek	4.76	Class 3	non-motorized bikes, hikers
Humboldt Drop	3.4	Class 3	non-motorized bikes, hikers
Robbers Roost Connector	0.34	Class 3	non-motorized bikes, hikers
TOTAL MILEAGE	**35.69**		

[1] Trail Classes are general categories reflecting trail development scale, arranged along a continuum. The Trail Class identified for a National Forest System (NFS) trail prescribes its development scale, representing its intended design and management standards. **Trail Class 1** = Minimally Developed. **Trail Class 2** = Moderately Developed. **Trail Class 3** = Developed. **Trail Class 4** = Highly Developed. **Trail Class 5** = Fully Developed. See the attached USFS Trail Class Matrix guide.

Table 4. Trailhead improvements

Trailhead	Existing/New	Improvements
Jonesville Snow Park	Existing trailhead with proposed improvements	rebuild and expand existing parking lot, bioswale, trail information kiosk, a drinking water well, helipad
Humboldt Summit	Existing trailhead with proposed improvements	vault toilet, designated parking, hitching posts, separate kiosk for PCT and Colby Mountain, equestrian trailer parking, picnic tables
Hub (27N06 and 27N36)	New trailhead construction	vault toilet, parking, hitching posts, picnic tables

Bridge, Wet Crossings, and Exclusionary Fencing

One 15-foot bridge is proposed along the southern portion of the Home trail that would cross an unnamed drainage. One wet crossing would also be constructed along the northern portion of the Home trail and one on the Willow Creek trail. The wet crossings would be constructed with hardened entrances to minimize the steam banks' impacts and limit sediment inputs. There would also be exclusionary fencing placed for 20 feet along a section of Home Trail to bar access to a sensitive fen area and installation of an information sign.

Tree Removal

For the Colby Mountain Recreation Project, trees may be cut during the construction or maintenance of the trail corridor, however, construction of the trails would work to retain as many trees as possible, and removal of a tree above 10-inch diameter at breast height (DBH) would be uncommon. If there is an area where a trail was proposed to be routed that had a high density of trees, there is a possibility of the removal of trees above 10-inch at DBH for proper trail alignment. Additionally, if a tree above 10-inch at DBH has a deadly snag that could hit a trail user, removal would occur due to safety concerns. The described potential situations would most likely occur less than five times for the entire Project.

No trees would be removed from the Humboldt Summit trailhead due to the area already being cleared after the 2021 Dixie Fire. Approximately 0.5 acres of brush would be removed from the Hub Trailhead and tree removal would occur at the Jonesville Snow Park/Trailhead in order to expand the lot area. Best efforts would be made to avoid Sugar pines (*Pinus lambertiana*), Western white (*Pinus monticola*), Jeffery (*Pinus jeffreyi*), and Ponderosa pine (*Pinus ponderosa*) when possible. During construction in the Jonesville Snowmobile Park parking lot, trees would be mechanically cut and removed, possibly through a small timber sale, and slash would be piled and burned. Vegetation removal would be in accordance with trail class as detailed in the USFS Design Parameters (FSH 2309.18, Section 23.13, Exhibit 01), summarized in Table 4 of the document.

Effects Analysis Methodology

Geographic Analysis Areas

The treatment area is defined as the trail, approximately 36 miles, and 100 feet on either side. For this BE/BA, the wildlife analysis area is the treatment area plus an additional half-mile buffer around the treatment area. All potential affects discussed occur within the wildlife analysis area and have been considered in evaluating impacts to threatened, endangered, proposed, or sensitive species.

Specific Assumptions

The following assumptions apply specifically to the BE/BA analysis:

- **Assumption 1:** All standards and guidelines, standard operating procedures (SOPs), Project specific design elements and mitigations would be fully adhered to and implemented, including the use of the appropriate Limited Operating Periods (LOPs).

- **Assumption 2:** All activities proposed would be completed within approximately five years.

- **Assumption 3:** Construction of the trails would work to retain as many trees as possible, and removal of a tree above 10-inch diameter at breast height (DBH) would be uncommon. Best efforts would be made to avoid Sugar pines (*Pinus lambertiana*), Western white (*Pinus monticola*), Jeffery (*Pinus jeffreyi*), and Ponderosa pine (*Pinus ponderosa*) when possible.

- **Assumption 4**: The majority of treatments are not expected to occur on the entire 200-foot wide action area since in actuality, trail footprint is only expected to cover about 8 feet. But because there are occasional circumstances where the trail may need to be routed around a land feature such as a rock outcrop, a very large tree or trees, large coarse woody debris, large snags, or other sensitive resources, a 200-foot buffer was the conservative estimate used as the basis for calculating acres of treatment.

Specific Methodology

The Colby Mountain Recreation Project was reviewed on the ground, through aerial photographs, digital orthophoto quadrangles (DOQs), vegetation layer spatial datasets, species specific spatial datasets and known information to help determine suitable habitat for TES species (e.g., Sierra Nevada yellow-legged frogs, etc.).

Data Sources

- GIS layer of the following information: vegetation layer, ownership, aquatic features (streams, springs, and lakes, etc.), species map (eBird), and critical aquatic refuges (CARs), etc.) and species management layers (PACs, HRCAs and Ranges, etc.).
- Project survey reports and incidental detection records, etc.
- Scientific literature.

Terrestrial Wildlife Indicators

Direct and Indirect Effects of Construction and Use of a Non-motorized Trail

Indicator Measure 1: Suitable habitat modified, lost, or fragmented at various scales.

Indicator Measure 2: Habitat components modified, lost, or fragmented.

Short-term timeframe: 1 year

Long-term timeframe: 25-30 years, because climate change, unforeseeable future Projects, demographic changes, etc. makes assumptions beyond this timeframe speculative**.**

Spatial Boundary: The wildlife analysis area.

Methodology: *Indicator Measure 1* is comprised of a GIS analysis of the proposed Project in relation to suitable habitat completed at various scales (e.g., wildlife analysis areas, protected activity centers, etc.) for each species as well as qualitative assessments. Analysis focuses on potential suitable habitat and qualitatively discusses the potential affects to habitat components. Suitable habitat is species specific, for example, goshawk habitat consists of nesting and foraging, while trout consists of resting and foraging. *Indicator Measure 2* is comprised of a qualitative assessment of snags, structural diversity, down woody debris, prey species and competitors, etc., due to the scarcity of data on these habitat components.

Cumulative Effects Analysis

Long-term timeframe: 25-30 years because climate change, unforeseeable future Projects, demographic changes, etc. make assumptions beyond this timeframe speculative.

Spatial Boundary: Wildlife analysis area.

Methodology: In order to understand the contribution of past actions to the cumulative effects of the Proposed Action, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects.

Present and future Projects planned that overlap with the wildlife analysis area may have cumulative impacts to wildlife, fisheries, and amphibians. In this analysis, each present and future Project is analyzed by species in order to understand the contribution of present and future Projects to the cumulative effects of the Proposed Action.

Affected Environment/Environmental Consequences

General Affected Environment

Wildlife habitat in the Colby Mountain Recreation Project analysis area is predominantly mixed conifer forests of small to medium sized trees (6-24" dbh). There are smaller amounts of meadows, rocky open areas, rock outcrops, and mountaintops and perennial and intermittent watercourses. The Colby Mountain Recreation Project area is adjacent to the City of Jonesville, which is popular with hikers, horseback riders and mountain bikers. The area is currently used for hiking and biking on old USFS roads and limited trails.

General Environmental Consequences

The effects of the Project to the species listed in Table 1 are not expected to extend beyond the Project area boundary. The effects include immediate changes in habitat conditions and disturbance/harassment to individuals during trail construction and trail use. It is assumed in this analysis that the proposed action would be implemented as stated, in compliance with all rules and regulations governing land management activities. Indirect effects include effects that occur later in time or beyond the treatment area of the Project. Indirect effects also may include effects to a species-prey base.

Under NEPA, cumulative effects represent the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. In addition, this proposed trail would add to the ongoing and increasing use of trails in the Colby Mountain area.

Direct and Indirect Effects of constructing non-motorized trails and improving trailheads

Indicator Measure 1 & 2: Suitable habitat modified, lost, or fragmented at various scales and habitat components modified, lost, or fragmented.

The proposed trails connect to existing roads that have some public use, including Colby Mountain Lookout Road and Humboldt Road. By constructing new trailheads, new trail segments to join the existing road segments and designating a system trail, more human disturbance would be brought into these areas than is currently being experienced. Construction of a new trail in an otherwise inaccessible habitat will have the direct effect of removing vegetation such as brush, trees, and flowering plants and displacing wildlife away from the trail when in use by humans. Improvement of existing trailheads and expanding an existing parking lot will have the direct effect of removing shrubs and other vegetation, as well as creating a new forest opening for the lot expansion. Larger wildlife, bears, coyotes, etc., will use trails as travel corridors. It is expected that this Project will result in moderate human traffic; however, these species tend to be more active at night when the trail is less likely to be used by people, therefore wildlife-human interactions will likely be minimal.

Cumulative Effects

The existing condition reflects the landscape changes from all activities that have occurred in the past. The analysis of cumulative effects of the proposed action evaluates the impact on TES habitat from the existing condition within the wildlife analysis area.

Other current projects geographically overlap with the proposed activity. The Resource Conservation District of Butte County is planning implementation of the Upper Butte Creek Forest Health (UBCFH) Project within the next several years that aims to improve forest and meadow health and increase resiliency of wildlife habitat, the Wildland Urban Interface and of cultural resources on 19,881 acres through road decommissioning, fuel treatments, fuel vegetation improvements, road maintenance, road improvements/ construction, timber sales, and watershed improvements (USDA, 2022). The activities of the UBCFH have the potential to directly and indirectly affect species mentioned in this BE/BA through noise disturbances or habitat alteration.

The Storrie Meadows Restoration project, located just south of the proposed Project at 40.112602°, -121.468880°, is a 220-acre meadow restoration project on National Forest System lands. Colby Creek, Willow Creek West, and Snag Lake meadows were identified for restoration because of their ecological attributes and degraded state (USDA, 2021). Activities included in this project include constructing Post-Assisted Log Structures and Beaver Dam Analogs, treating headcut features, providing riffle augmentation, filling artificial channel/ditch features, lowering roads and removing culverts, constructing multiple grade control structures by felling large trees, and removing encroaching lodgepole pine trees (USDA, 2021). The Storrie Meadows Project is primarily a restoration project and likely would not adversely affect species identified in this BE/BA.

Cumulative effects in this area are also caused by ongoing and increasing recreation. The entire Project area is used by the public. It is open to woodcutting, which takes place throughout much of late spring through late fall/early winter. In addition, there is recreation use year-round in the area.

Most of the recreation use within the wildlife analysis area consists of dispersed camping, hiking, mountain biking, hunting, pleasure driving, and wildlife watching. In the winter, it is a popular snowmobiling area and is used for Christmas tree cutting. These uses are expected to continue and increase. The true extent and effect of these activities on wildlife species is not known; however, increased human disturbance has shown to have a negative impact on a large variety of species. Cumulative effects of the UBCFH and Storrie Meadows Projects are not anticipated to adversely affect the mentioned species.

Affected Environment/Environmental Consequences for Category 3 Species

Analysis was conducted for the following species, which were listed as Category 3 species in Table 1 and contain potential habitat in the Project area:

- California Spotted Owl – (*Strix occidentalis occidentalis*)
- Northern Goshawk – (*Accipiter gentilis*)
- Fisher – (*Pekania pennanti*)
- Pacific Marten – (*Martes caurina*)
- Monarch Butterfly – (*Danaus plexippus*)
- Western Bumblebee – (*Bombus occidentalis)*

Analysis Area Surveys

The project considered surveys conducted for the Colby Mountain Recreation Project area as well as current and past surveys conducted for Upper Butte Creek Forest Health, Storrie Meadows Restoration projects and surveys conducted by Sierra Pacific Industries (SPI) which owns land adjacent to the Project, to inform presence of potential threatened, endangered, and sensitive (TES) species in the project area, and to support compliance with the requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of Federally listed species. Surveys were also used to inform determination of whether project actions will contribute toward a trend in federal listing or loss of viability for Forest Service sensitive species.

California Spotted Owl

The Project area contains suitable habitat for the California spotted owl (CSO) (Figure 2). The California spotted owl is federally proposed as threatened and CDFW species of special concern. Monitoring has indicated that California spotted owls generally rely on mature and old-growth forests as they contain the structures and characteristics required for nesting, roosting, and foraging.

California spotted owl habitat is managed through the establishment of protected activity centers (PACs) and Home Range Core Areas (HRCAs), which are intended to protect owl territories. PACs are 300-acre land allocations surrounding each territorial owl activity center detected on National Forest System lands since 1986 and are delineated to encompass the best suitable habitat in as compact a unit as possible surrounding the nest stand or roost. Owl activity centers are designated for all territorial owls based on: (1) the most recent documented nest site, (2) the most recent known roost site when a nest location remains unknown, and (3) a central point based on repeated daytime detections when neither nest nor roost locations are known (SNFPA ROD, 2004). HRCAs are 1,000 acres, which include the PAC plus an additional 700 acres of suitable habitat adjacent to the PAC which encompasses the best surrounding habitat. Currently, PACs and HRCAs are maintained regardless of occupancy, i.e. the land allocations remain in place (USDA 2004).

Portions of the Escape trail, Home trail, Meadow trail, and Yana Rim trail are proposed within California spotted owl PACs; specifically, Colby Mountain, Colby Creek and Rattlesnake Creek (Figure 2). Due to the proximity of the trail to the PACs, a limited operating period (LOP) will be implemented during project construction. A LOP consists of a period during which Project activities would not occur and appear effective for mitigating acute, direct noise and activity disturbance on individuals. Implementation requirements such as the timing, potential lifting, and location of LOPs for certain species would be determined by the District Wildlife Biologist. For the Colby Mountain

Recreation Project, the District Wildlife Biologist has determined the following LOP for the California spotted owl:

- A California spotted owl LOP from March 1st to August 15th would apply to stands within ¼ mile of all CSO PACs unless surveys confirm that spotted owls are not nesting. The LOP would apply to all PACs unless current surveys can determine nesting status each season, in which case the LOP may be modified after review by a qualified biologist. In areas where nesting is unknown, LOPs would apply.

In addition, where trails overlap with spotted owl PACs, trees larger than 6-inch DBH will only be cut if approved by a forest service wildlife biologist. If any trees greater than 6-inch DBH are cut in PACs, they would be left in place, although they may be moved off trail alignment.

Map of California Spotted Owl Protected Activity Centers (PACs) overlapping the Wildlife Analysis Area redacted for public circulation

Surveys were conducted six times in 2022-2023 by Sequoia Ecological Consulting Inc; following a two-year Protocol for Surveying Spotted Owl in Proposed Management Activity Areas and Habitat Conservation Area (USDA, 1993). These data were used to inform both Upper Butte Creek Forest Health Initiative (UBCFH), and Colby Mountain Project.

Data from four of the six CSO surveys were referenced for this report. Survey one occurred between May 16 and 18, 2022. A pair of CSO were detected near the Home trail. Based on the pair's behavior, non-nesting was inferred, and no apparent nest sites were found in the immediate area of the roosting CSO pair. A CSO male was detected greater than a half mile southeast of the Project area. The male CSO was believed to have come from the surrounding private property and suitable habitat near the detection was limited.

Survey two occurred between May 31 and June 2, 2022. A CSO pair was detected again near the Home trail. During the follow up survey, a male CSO was moused at its roosting location near the northwest portion of the Home trail. No potential nests or apparent daytime roosts were found.

Survey three occurred between July 13 and 15, 2022. A CSO pair and female were detected north of the Home trail. The adult female moused and ate after over an hour, then refused the second mouse for another hour. No young were detected. The owls only took one mouse during this visit so non-reproduction was inferred but unconfirmed. No apparent nest sites were found in the immediate area of the roosting CSO pair. A male CSO was detected northeast of the Yana Rim trail. Surveyors conducted a follow-up survey, but the male was not located, and surveyors stopped calling when a juvenile red-tailed hawk (*Buteo jamaicensis*) perched in the area calling and actively flew around. This male was thought to be originating from the Rattlesnake Creek drainage and outside of the Colby Mountain Recreation Project area.

Survey four occurred between June 6 and 8, 2023. A CSO female was detected near the Home trail making contact calls and whistles. A CSO male was detected west of the Home trail using 4-note contact calls. On June 7, a follow up survey was conducted in suitable habitat and where a male CSO was found during the night and day surveys in 2022 near the northern portion of the Home trail. No response or sign of a CSO was observed. No CSO were detected during the night survey conducted on June 7. On June 8, a follow up survey was conducted on the male CSO detected west of the Home trail. Suitable habitat in the area was covered in the survey but no CSO were detected.

No CSO nests were found during the surveys completed by Sequoia Ecological Consulting Inc. in 2022 and 2023.

California spotted owl nest locations were identified in the California Natural Diversity Database (CNDDB) and detected in the field by Sierra Pacific Industries (SPI) since 2019. Four nests were recorded within the vicinity of the Escape trail. A nest with one pair and two young was found in 2018 in the Cherry Hill PAC. In 2019, SPI detected one pair and new nest location for the same PAC; the same nest appeared to be used again in 2020 and 2023. In 2021 and 2022, SPI detected pairs and a third and fourth nest locations within 10 meters of each other.. The area was surveyed in 2023 and the pair appeared to be using the 2019 nest, however by mid-June, surveyors were unable to locate the birds near the nest or on the southwest side of the ridge. Though the Escape trail proposed footprint passes near the 2019 nest, trail implementation will utilize the full 200 foot project action area to route the trail as far as possible from the existing nest tree.

Further owl surveys are recommended prior to construction if construction is performed during the breeding season (March 1 – August 15). Where proposed trails overlap with existing CSO PACs, trees larger than 6-inch DBH will only be cut if approved by a forest service wildlife biologist. If any trees greater than 6-inch DBH are cut in PACs, they will be left in place, although they may be moved off trail alignment.

Direct and Indirect Effects of constructing a non-motorized trail, improvements to trailheads, and expansion of parking lot

Potential impacts to the California spotted owl from project actions may include noise disturbance to breeding individuals from trail construction activities that include the use of mechanized equipment followed by a hand crew to manually build and groom trails. Noise associated with nonmotorized recreation does not seem to pose a threat to spotted owls (USDA, 2019). Several studies have suggested that chainsaw activity within about 100 meters of nest sites have very little potential to impact the CSO (USFS, 2019). This information suggests that other activities within the noise range of a chainsaw will also have very little potential to impact the CSO, such as

vehicles and manual trail maintenance done by hand crews with non-motorized tools. Potential noise impacts will be mitigated by adherence to the spotted owl LOP restricting project actions near spotted owl territories during breeding season (see IDF 13a). Additional impacts may include minor habitat alteration from the cutting and/or removal of small trees and occasional cutting of trees over 10-inch DBH, but this habitat alteration will not be significant enough to change habitat quality nor will it significantly affect canopy cover. All suitable habitat will remain suitable. Additionally, no trees with nest structures will be cut. Indirect effects include increased human recreation, increased noise and potential harassment of individuals in the area. These effects are likely to be minimal since owls are nocturnal and trail use is expected to occur primarily during the day.

The improvement of The Humboldt Summit and Hub trailheads will use existing forest openings and only shrubs are expected to be removed. The only trailhead that will remove trees in approximately one acre of forested land is adjacent to the Jonesville Snow Park as part of the existing parking lot expansion. The Jonesville Snow Parking lot expansion does not occur in suitable habitat for CSO and will not remove nesting, roosting or foraging habitat for the species.

Cumulative Effects

The Colby Mountain Recreation project proposes new construction of non-motorized recreation trails within three of nine spotted owl PACs in the vicinity of the project overlapping the wildlife analysis area and therefore would have a cumulative impact on the local spotted owls when combined with possible effects from the Upper Butte Creek Forest Health project. However, the impact of this Project to CSO is mitigated in such a way as to minimize any long-term affects to the local CSO population. The Colby Trails project minimizes impacts in two ways; 1) trail construction within PACs does not reduce nesting suitability and 2) project implementation would only occur outside of the breeding season unless surveys are conducted and reviewed by a Forest Service Biologist. Tree cutting/removal within the three PACs overlapping the trail footprint, Colby Mountain (TE155), Colby Creek (TE084), and Cherry Hill (TE179) territories removes only trees less than 6-inch DBH and would not affect habitat viability for nesting. In comparison, the UBCFH project proposes to modify suitable nesting and foraging habitat using variable density thinning, potentially converting some to early seral habitat with more open canopy, causing reduction of available suitable habitat for breeding spotted owls. The Colby Trails project would not incrementally reduce or remove suitable nesting habitat within known territories therefore not incurring any meaningful negative cumulative effects to habitat or population viability within the local spotted owl population.

Given the minor direct and indirect effects to CSO and their habitat, project actions are not expected to have a measurable cumulative effect. The treatment area is a very small portion of the estimated home range and will not change the quality of available suitable habitat. Vegetation communities within the analysis area have changed over time because of past management actions, including fire exclusion and past forest management. Current conditions within the analysis area include overly dense forested stands. These dense conditions reduce tree vigor and increase stress on forest stands making them more susceptible to insects, disease, drought-related mortality, and high-severity wildfire. These trends are likely to continue within the owl home range and the proposed treatments would neither contribute to nor reverse these trends, having only localized affects to stands but not changing trends at the home range scale. At the stand scale, treatments are designed to retain important habitat features. Treatments on private timber land could affect the owls home range at any time those treatments take place.

The wildlife analysis area is open for use by the public. Ongoing recreation use may consist of camping, fishing, hiking, hunting, mountain biking, OHV use, pleasure driving, and wildlife watching. Use is expected to continue at the current rate.

Determination: The proposed Project May Affect but is Not Likely to Jeopardize the Continued Existence of California Spotted Owls.

Northern Goshawk

The northern goshawk (NOGO) is a USFS sensitive species and a CDFW species of special concern. The project area contains suitable habitat for the northern goshawk (Figure 3), which generally consists of mature or old-growth conifers, mixed hardwood-conifer, birch, or aspen forest (USFWS, n.d.). Standards and guidelines for northern goshawk management are prescribed by the LNF LRMP, as amended by the SNFPA ROD. This document directed the establishment of a system of goshawk protected activity centers (PAC) of 200 acres in size, surrounding all known and newly discovered breeding territories detected on National Forest System lands. NOGO PACs are designated on the latest documented nest site and locations(s) of alternate nests. If the actual nest site is not located, the PAC is designated based on the location of territorial adult birds or recently fledged juvenile goshawks during the fledgling dependency period (USDA – FS 2004).

Portions of the Escape trail, Home trail, Meadow trail, Willow Creek trail, and Yana Rim trail are proposed within northern goshawk PACs; specifically, Colby Springs, Colby Creek, Humboldt Summit, and Rattlesnake (Figure 3). Due to the close proximity of the trail to the PACs, a limited operating period will be implemented during trail construction for the entire 200-acre PAC unless surveys determine nesting status, in which case, the LOP may be reviewed for lifting or a reduction in size. For the Colby Mountain Recreation Project, the District Wildlife Biologist has determined the following LOP for the northern goshawk:

- A northern goshawk LOP from February 15th to September 15th would be applied within ¼ mile of all goshawk PACs or within ¼ mile of a nest if a nest is confirmed. The LOP would apply to all PACs unless current surveys can determine nesting status each season, in which case the LOP may be modified after review by a qualified biologist.

If nesting northern goshawks are not identified during protocol-level surveys, further mitigation for the species would not be required. However, if nesting northern goshawks are identified during protocol-level surveys, the LOP would be applied within ¼ mile of all goshawk PACs or confirmed goshawk nests. In addition, where trails overlap with goshawk PACs, trees larger than 6-inch DBH would only be cut if approved by a forest service wildlife biologist. If any trees greater than 6-inch DBH are cut in PACs, they will be left in place, although they may be moved off trail alignment.

Figure 3. Northern Goshawk Protected Activity Centers (PACs) in and adjacent to the Wildlife Analysis Area redacted for public circulation.

Surveys pursuant to the Northern Goshawk Inventory and Monitoring Technical Guide (Woodbridge and Hargis, 2006) were conducted in 2023 to provide current information on the presence or absence of the northern goshawk in the Project area. The northern goshawk survey footprint for the UBCFH Project included the Colby Mountain Recreation Project area and their data was used for this report. The "Dawn acoustical" method was utilized for conducting surveys for the northern goshawk in the Colby Mountain Recreation Project area. The dawn acoustical method is based on detection of courtship vocalizations and flight displays of goshawks at their nest sites. It consists of establishing "listening stations" in close proximity to known nest stands or patches of suitable habitat and conducting 1½-hour listening periods at dawn during the early breeding season (Woodbridge and Hargis, 2006). A two-visit Broadcast Acoustical Survey protocol was used in combination with the dawn acoustical surveys and is based on broadcast of taped goshawk calls at points along transect routes to elicit responses from defensive territorial adult goshawks and their young (Woodbridge and Hargis, 2006).

Northern goshawk dawn acoustical surveys were completed on the Project area throughout April 2023. On April 8th, 2023, one adult NOGO was detected approximately 0.12 miles east of the Escape trail, while the observer was listening from call station Dawn 20. The detection was not located within a NOGO PAC. The NOGO was observed briefly as it flew in, circled, and then disappeared in the eastern direction of 108 degrees. There were no courtship vocalizations or other behaviors that suggested nesting. The goshawk detection was incidental, and a follow-up survey conducted on June 12, 2023, resulted in no detections. No other goshawks were detected in April 2023.

Broadcast acoustical surveys covering the entire project area including areas surrounding the

goshawk detection were carried out during the latter part of June 2023. Known nesting sites in the Colby Springs PAC were also visited, near the vicinity of the goshawk detection, on June 16, 2023.

Additional broadcast acoustical surveys were carried out in the latter part of June 2023. A historic nest located approximately 0.24 miles east of the Escape trail and within the Colby Creek PAC, was visited on June 16, 2023, and was confirmed intact and appeared well maintained. A large splash of whitewash and a woodpecker feather were observed. A second visit occurred on July 1, 2023, and was verified as non-active status. Because signs of goshawks were found at the nest, but the nest was determined not active, the status is occupied, nonbreeding.

Three new NOGO nests were discovered within the wildlife analysis area during the broadcast acoustical surveys. One nest was discovered approximately 0.11 miles west of the Willow Creek trail and within the Humboldt Summit PAC, on June 19, 2023. A female NOGO was detected vocally with alarm calls and aggressively swooped down towards the observer. The second nest was discovered approximately 0.49 miles east of the Home trail and within the Colby Tributary PAC, on June 18, 2023. A female NOGO was detected and very vocal with alarm calls. The third nest was located on July 7, 2023, in the Cherry Hill PAC, approximately 0.4 miles south of the Jonesville parking lot expansion and Home Trailhead. An adult female was observed swooping down and flying below the canopy, then landed on a branch next to the nest. One nestling was observed in the nest along with an accumulation of whitewash surrounding the nest tree. A fourth nest, though not new and outside of the wildlife analysis area, was found active by survey crews during a June 17, 2023, visit when a female was observed sitting on the nest. The nest tree is located approximately 0.75 miles southeast from Humboldt Drop on the other side of the ridge and will likely not impact trail implementation. Because the goshawk nests were found active, the status of each is breeding.

It was determined that the following PACs are occupied and active within the Project wildlife analysis area: Humboldt Summit PAC, Cherry Hill PAC, Jones Creek PAC, and the Colby Tributary PAC. Therefore, a northern goshawk LOP from February 15th to September 15th would be applied within ¼ mile of each confirmed occupied and active PAC. Implementation of the northern goshawk LOP would be applied to avoid impacts to goshawk breeding during Project implementation. In addition, in the areas where each trail overlaps a PAC, trees larger than 6-inch DBH will only be cut if approved by a forest service wildlife biologist. If any trees greater than 6-inch DBH are cut in the PACs, they will be left in place, although they may be moved off trail alignment.

Direct and Indirect Effects of constructing a non-motorized trail, improvement of trailheads and expansion of parking lot

Direct Effects to goshawks include the modification of habitat components, including the occasional loss of trees that are greater than 10-inches DBH along the trail footprint. Other potential direct and indirect effects to northern goshawks may occur from noise disturbances from trail construction activities that include the use of mechanized equipment followed by a hand crew to manually build and groom the trails, and. Additionally, potential direct and indirect effects on goshawks may occur from increased disturbance to the area from growth in the number of trail users indefinitely both on the trails and in and around the trailheads. Goshawks are intolerant of humans (or other animals perceived as a threat) in the immediate vicinity of a nest. Human disturbance near nests may reduce breeding success or lead to displacement to other (perhaps less suitable) habitat. However, the primary threat to NOGO populations is thought to be loss of its preferred nesting habitat for purposes of timber harvest and through other types of habitat alteration (USFWS, n.d.). Prolonged periods of absence of the adult goshawks due to human interference can result in eggs and hatchlings that are not properly cared for and could result in death. Mitigations for these potential effects include implementing the LOPs discussed above and

in IDFs, avoiding cutting trees containing nest structures, and avoid cutting trees that are greater than 10 inches DBH as much as possible to avoid suitable habitat loss. This will allow for nest trees to be protected and would allow for fledged young to have left the area.

The improvement of The Humboldt Summit and Hub trailheads will use existing forest openings and only shrubs are expected to be removed. The only trailhead that will remove trees in approximately one acre of forested land is adjacent to the Jonesville Snow Park as part of the existing parking lot expansion. The Jonesville Snow Parking lot expansion does not occur in suitable nesting habitat for goshawk and only affects a small portion (approximately 1 acre) of goshawk foraging habitat. Compared to the available foraging habitat in the wildlife analysis area, the expansion will have minimal effect, if any, to goshawks.

Cumulative Effects:

The Colby Mountain Recreation project proposes new construction of non-motorized recreation trails within four of six goshawk territories in the vicinity of the project and therefore would have a cumulative impact on the local goshawks when combined with possible effects from the Upper Butte Creek Forest Health project. However, the impact of this project to goshawks is mitigated in such a way as to minimize any long-term affects to the local goshawk population. The Colby Trails project minimizes impacts in two ways; 1) trail construction within PACs does not reduce nesting suitability and 2) project implementation would only occur outside of the breeding season unless surveys are conducted and reviewed by a Forest Service Biologist. Tree cutting/removal within the Colby Springs (44-2), Colby Creek (44-1), Willow Creek (44-9) and Rattlesnake (41-2) territories removes only trees less than 6-inches DBH and would not affect habitat viability for nesting. In comparison, the UBCFH project proposes to mechanically thin some suitable nesting and foraging habitat, converting some stands to more open forest no longer suitable for breeding goshawks. The Colby Trails project would not incrementally reduce or remove suitable nesting habitat within known territories therefore not incurring any meaningful negative cumulative effects to habitat or population viability within the local goshawk population.

Determination: The proposed Project may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability for the Northern goshawk.

Pacific Marten and Fisher

The Pacific marten and the fisher are USFS sensitive species. The fisher is also a CDFW state species of concern. Pacific marten (*Martes caurina*) are small (600 to 1200 gram) carnivores typically associated with late successional forests. Marten prefer coniferous forest habitat with large diameter trees and snags, large downed logs, and moderate to high canopy cover (USDA 2001). The Pacific fisher (*Pekania pennanti*) is a medium-sized mesocarnivore inhabiting the Sierra Nevada and Cascade Mountain ranges as well as the northern California coastal range. The distribution of fisher in California is composed of two distinct population segments (DPS), as identified by the U.S. Fish and Wildlife Service (USFWS) in 2018. The southern Sierra Nevada (SSN) DPS occurs in southeastern California and is genetically and geographically distinct from the northern California and southern Oregon (NCSO) DPS stretching from the northern Sierra Nevada and coastal ranges up through southern Oregon. In 2020, the USFWS listed the southern Sierra Nevada (SSN) DPS as federally endangered while the NCSO DPS was not listed at that time. Reasons for not listing the NCSO DPS included greater range occupancy, population size, and age-class diversity. On September 23, 2023, the USFWS announced that it will be reevaluating the status of the NCSO DPS to determine if listing under the ESA is warranted. Both martens and fisher are strongly associated with mature, structurally complex forest stands with ample coarse woody debris, down logs, and snags with cavities and deformities that they can utilize for denning, resting and thermoregulation (Moriarty et al.2014).

Carnivore surveys were completed by Eric Mathews of Mathews & Associates to provide current

information on the presence or absence of species in the Project area (Mathews, 2022). Trail and trailhead implementation will continue to use current and future survey data, including incorporation of new observations or denning protection measures (see IDF #11 in Appendix A). Survey methods adhered to the Region 5 established Forest Service protocol that utilizes baited camera stations.

Surveys were performed following the post fire conditions of the 2021 Dixie Fire, which caused the removal and degradation of habitat in the area. The landscape of the area surveyed included non-burned areas intermixed with areas that burned with various intensities. The landscape within the Colby Mountain Recreation Project wildlife analysis area (half-mile buffer around the project area) included green forested habitat with non-burned areas of mixed conifer trees, firs, and pines, and low intense burn areas with mostly green firs and pines (Figure 4). Data was collected on species presence within the wildlife analysis area.

Seventeen baited camera stations were placed in a 19,800-acre vicinity to include the Project area of the Upper Butte Creek Forest Health Project, which included eight stations in the Colby Mountain Recreation Project area (Figure 4). Stations were placed in the best available habitats as well as high intensity burn areas to collect data on species habitat use and dispersal of young in post-fire conditions. Although no high intensity burn areas were located within the wildlife analysis area for this Project, the data was still considered in this analysis.

Each station was categorized based on the following burn intensities: green, low, moderate, and high. The green burn intensity category was defined by areas outside of the 2021 Dixie Fire footprint. The low burn intensity category was defined by areas generally beneficial to the habitat by burning portions of the ground and shrub layers, to including dense thickets of small diameter trees. The moderate burn intensity category was defined by areas with a mixture of high intensity burns and small patches of green trees as well as low intensity areas. The high burn intensity category was defined by large areas of high tree mortality and trees deeply charred and that lacked remnant branches. For the Colby Mountain Recreation Project, eight stations were located within the wildlife analysis area. Six stations were categorized as green (unburned) and two as low. No stations were categorized as moderate or high burn intensity within the Project area.

Two stations were installed within 4-mile square sample units, no closer than 1 mile apart, at sites having the best available habitats. Bushnell digital no glow cameras were used at each station and three to four pounds of chicken with one can of tuna. Stations were visited four times at weekly intervals to maintain functional for at least 28 days, or until scoped species were detected. Three stations were operated with less than the required number of days due to malfunctions such as snow accumulating over the camera lenses (Mathews, 2022). Table 5 summarizes Pacific marten and fisher detections, camera station names and burn intensity categories, the visit number in which the species was detected, the days to the first detection, and the proximity of the detection to the nearest proposed trails in the Colby Mountain Recreation Project area.

Table 5. Pacific Marten and Fisher Detection Summary for the UBCFH and Colby Mountain Recreation Project areas, 2022

Stations and Burn Intensity*	Fisher	Days to First Detection	Pacific Marten	Days to First Detection	Proximity of Detection to Nearest Trails (Miles, Trail Name)
04T26NR4E Green	V1, V2, V3, V4	1			0.44, Escape
04T26NR5E Low			V1	3	1.47, Humboldt Drop
06T26NR53 Green	V3, V4	16	V1, V2, V4	2	0.03, Willow Creek; 0.10, Humboldt Drop
07T26NR5E Low			V4	26	0.27, Humboldt Drop
11T26NR4E Green	V2, V3, V4	6	V4	17	0.32, Escape; 0.46, Home
12T26NR4E Green	V4	23-33			0.06, Willow Creek; 0.30, Humboldt Drop
13T26NR4E 1st Location Green			V1	6	0.33, Home
13T26NR4E 2nd location High			V4	2	0.62, Humboldt Drop
14T26NR4E Green	V4	34			0.57, Escape
15T26NR5E High			V1	11	3.73, Humboldt Drop
18T26NR5E Low			V1, V2, V3, V4	1	1.20, Humboldt Drop
19T26NR5E Low	V2	9	V1, V2, V3	5	1.96, Humboldt Drop
21T26NR5E Low			V1, V2, V3	5	3.21, Humboldt Drop
30T26NR4E Green			V2	20	4.35, Escape
33T27NR5E Low	V4	26	V1	2	1.00, Yana Rim
34T27NR4E Green	V3, V4	18			0.04, Home
35T27NR4E Low	V3, V4	13			0.25, Home

*__Gray Box__ = Within the Colby Mountain Recreation Project wildlife analysis area. __Green__ = Areas outside of the 2021 Dixie Fire footprint; __Low__ = Areas generally beneficial to the habitat by burning portions of the ground and shrub layers, to including dense thickets of small diameter trees; __High__ = large areas of high tree mortality and trees deeply charred and that lacked remnant branches. __V__ = Visit. *Data Source: Mathews, 2022.*

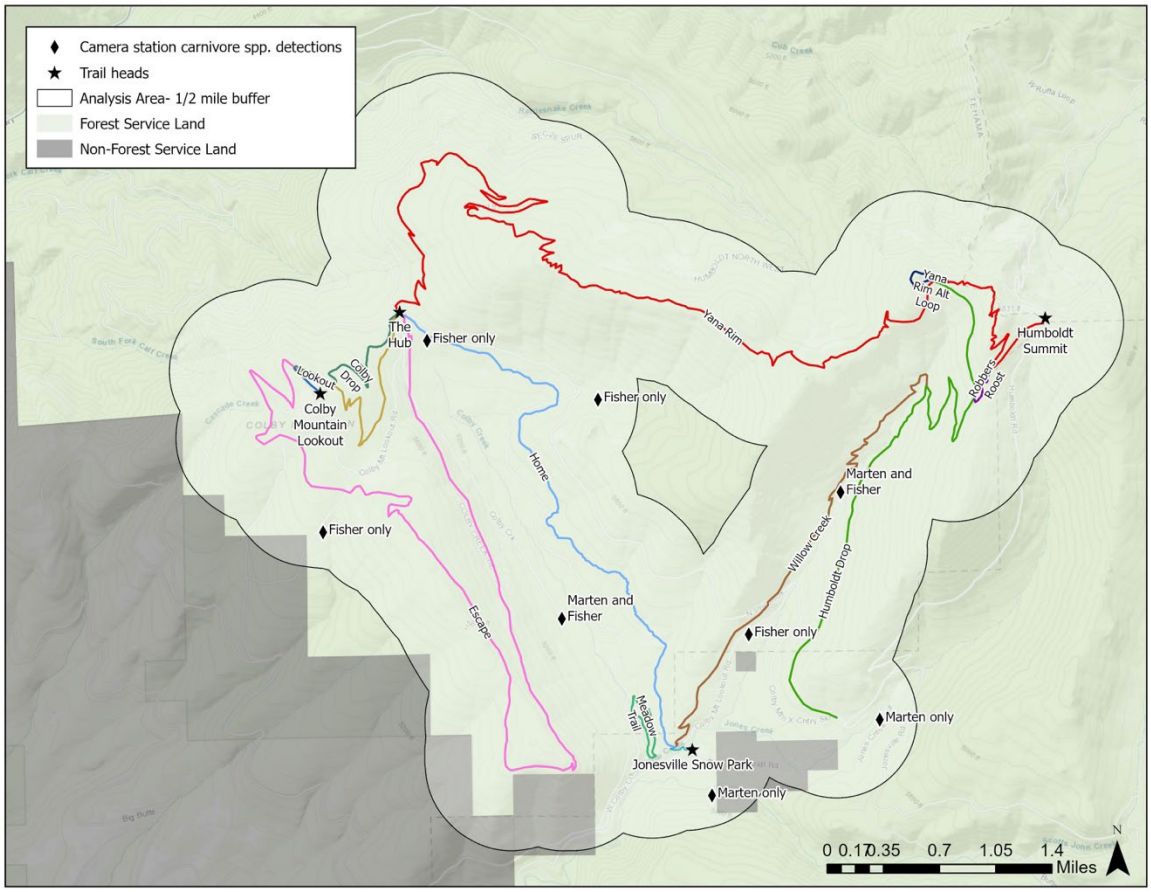

Figure 4.Carnivore Camera Station Locations and Detections in the Colby Mountain Recreation Project Analysis Area.

Detections at stations within the Colby Mountain Recreation Project analysis area were considered for this analysis. Fishers were detected at six of the eight stations and martens at six of the eight stations. Within the first 14 days of surveys, fishers were detected at three stations and martens were detected at two stations. Regarding detections in burn intensity categories, fishers were identified at five of the six stations in green and one of the two in low. Martens were identified in three of the six stations in green and one of the two in low.

Surveys demonstrated that fisher were present primarily in green category areas. The green category areas included fir, pine, and mixed conifers, mostly large trees with dense overstory as well as locations near Willow and Colby Creek. Fishers were detected at only one of the two low intensity stations, 35T27NR4E. 35T27NR4E was at the upper reaches of a tributary to Colby Creek and in an area generally open area with large trees and a dense understory (Mathews, 2022).

The majority of fisher resting sites are cavities or platforms in live trees or snags. Research shows that fishers prefer to rest in shade-intolerant trees such as pines and oaks (USDA, 2012). In addition, canopy cover is consistently the most important variable distinguishing resting sites from available sites for fishers, with results suggesting a minimum canopy cover target of approximately 60 percent (USDA, 2012). The dense understory and overstory and the presence of pines reported at the fisher detection locations demonstrates suitable habitat for the fisher. Resting sites are often found close to streams which is supported by the fisher detections near Willow and Colby Creek (USDA, 2012).

Pacific marten were detected at less stations within the wildlife habitat area than fisher. Marten were present at three green category areas and one of the two low burn intensity areas. The green category areas included large mature trees, mixed conifers, large overstories and locations near Willow and Colby Creek (Mathews, 2022). In the northern Sierra Nevada, martens frequently use large firs and pines for resting and in proximity to meadows or riparian areas (Spencer, 1987). The marten was also observed at green (13T26NR4E 1st Location) and low (07T26NR5E) category stations that were both on the edge of the intense burn by the Dixie Fire (Mathews, 2022). The findings support Volkmann (et. al. 2021) that martens select locations of low severity burn areas.

Thompson (1994) documented martens in uncut forests had significantly higher density, survival, and reproduction than in surrounding logged, regenerating forests. In addition, USDA 2012 infers that most disturbance to fisher and marten habitat will be the result of treatments to reduce fuels and control forest pathogens.

The District Wildlife Biologist has determined the following LOPs for the Pacific marten and fisher:

- **Fisher:** If a fisher den site is identified, a 700-acre area consisting of the highest quality habitat in a compact arrangement would be delineated around the den site. The den site area would be protected from vegetation treatments with a LOP from March 1st through June 30th as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a fisher rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) would be protected from being damaged during Project implementation**.**

- **Pacific marten:** If a marten den site is identified, a 100-acre area consisting of the highest quality habitat in a compact arrangement would be placed around the den site. The den site area would be protected from vegetation treatments with a LOP from February 15th through July 31st as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a marten rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) would be protected from being damaged during Project implementation.

For the Colby Mountain Recreation Project, trees may be cut during the construction or maintenance of the trail corridor, however, construction of the trails would work to retain as many trees as possible, and removal of a tree above 10-inch diameter at breast height would be uncommon. In addition, the following IDFs have been developed to further mitigate impacts to Pacific marten and fisher in their habitat:

- Riparian species (aspen, cottonwood, alder, willow, dogwood, etc.) would not be cut or removed. All sugar pine identified as rust resistant or previously identified as a candidate for rust resistance would be protected. Healthy sugar pine showing no observable signs of blister rust would be favorably retained.

- All trees with nest structures in them or showing signs of current wildlife habitation shall be retained, regardless of the diameter.

- In accordance with the LRMP (USDA-FS 1992 p. 4-37), coarse woody debris (CWD, large logs and snags ≥ 15-inch DBH) already on the ground would be retained and protected to the greatest extent possible from disturbance during treatment.

- Large snags ≥ 15-inch DBH would be retained, and the trail would be routed around them if there is a question of safety.

- No EPA-approved borate would be applied within 25 feet of known Sensitive and Special Interest (SI) plants or within 25 feet of live streams and meadow/wetlands.

Direct and Indirect Effects of constructing a non-motorized trail, improvements to trailheads, and expansion of parking lot

Both the Pacific marten and the Pacific fisher prefer to reside in mature, closed-canopy forested areas and will also inhabit downed logs. Loss of trees or the movement or removal of downed logs due to Project activities would directly affect both species. The creation of linear forest openings along with increasing the density of such openings across the project area may also negatively affect marten and fisher, since both species avoid these features, while their competitors and predators preferentially use roads and trails to move around (Tigner et al. 2016, Kordosky et al. 2020, Robitaille et al. 2000). Noise disturbance from maintenance activities and equipment as well as human presence would potentially deter the marten and fisher from inhabiting the area. Indirect effects include increased human use of the trails and trailheads over time potentially discouraging the Pacific marten or Pacific fisher from inhabiting the area.

Trailhead improvements and the expansion of the Jonesville parking lot will have an effect by removing canopy cover created by trees and shrubs in those areas. Existing trailheads will only receive treatment by removing shrubs to expand opportunities for parking and other recreational features such as kiosks and picnic tables; no trees will be removed. The Jonesville parking lot expansion treatment includes removing trees in approximately 1 acre of land adjacent to the existing parking lot. Due to the increased human activity associated with an existing parking lot, and the poor habitat quality (open/sparse forested stands) of the acre for marten and fisher, it is assumed that forest carnivores will continue to avoid these areas and the removal of 1 acre of forest cover will have a minimal impact on carnivore species and their movements.

Monarch Butterfly

The Project Area is within Monarch butterfly range according to USFWS IPAC and listed as a candidate species. Candidate species do not receive full ESA protection, and the federal government promotes voluntary conservation efforts because the species may warrant ESA protection in the future. No surveys for Monarch Butterfly were conducted for the Colby Trail project, but due to presence of their host plant milkweed in the project area (A. Sanger, pers. Comm) the species is assumed to be in the project area.

Direct and Indirect Effects of constructing a non-motorized trail, trailhead improvements and parking lot expansion

Monarch butterflies may be directly and indirectly affected by construction activities and use of the trails though the loss of vegetation or incidental injury to the butterflies by trail users. Impacts to Monarch butterflies would be minimized during Project implementation by the protection of the Monarch butterfly host plant, milkweed, as listed in the IDFs in Appendix A. Monarch butterflies may also be indirectly affected if the loss of milkweed occurs over time through the use of trails and incidental damage to the plant.

Cumulative Effects

Cumulative effects include loss of individuals or damage to habitat including milkweed from overlapping project actions including vegetation treatments planned for UBCFH, along with recent implementation of the Storrie Meadows restoration project. With the incorporation of design features to protect monarch’s host plant milkweed, the Colby Trail project actions are not likely to contribute cumulatively to adverse effects in a measurable way.

Determination: Project implementation may affect individuals but is not likely to result in a trend

toward Federal listing or loss of viability for the Monarch butterfly.

Western Bumblebee

Bombus occidentalis occurs along the Pacific coast and western interior of North America, from Arizona, New Mexico, and California; and north through the Pacific Northwest and into Alaska. Eastward, the distribution stretches to the northwestern Great Plains and southern Saskatchewan (The Xerces Society, 2023). Bumble bees require plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early February to late November for *B. occidentalis* (although the actual dates likely vary by elevation). Early spring and late fall are often periods with lower floral resources; the presence of flowering plants at these critical times is essential. Flowering plant species (nectar sources) known to be used by the Western bumblebee occur throughout the analysis area. The major threats to bumble bees include: spread of pests and diseases by the commercial bumble bee industry, other pests and diseases, habitat destruction or alteration, pesticides, invasive species, natural pest or predator population cycles, and climate change.

Direct and Indirect Effects of constructing a non-motorized trail, trailhead improvements and parking lot expansion

Impacts from human disturbance would depend on how close the nest is to the trail and where flowering resources are in relation to the trail. The Western bumblebee may be directly affected via loss of flowering plant species in the area and/or through incidental harm from construction equipment or activities. Impacts to the Western bumblebee would be minimized during Project implementation by incorporating the IDFs found in Appendix A for native plants and noxious weed control.

Western bumblebees would potentially be affected if there is loss of flowering plant species in the area or through incidental harm from construction activities or human use. The anticipated increase in use of the area may lead to damage of flowering plant species.

Cumulative Effects

Cumulative effects include loss of individuals or potential decrease of availability of flowering plants from overlapping project actions planned for UBCFH including vegetation treatments, all types of burning (pile, broadcast, underburn), use of herbicide for reforestation and invasive plant species, along with recent implementation of the Storrie Meadows restoration project. While these activities may decrease the availability of flowering plants in the short-term, long-term expectancy is herbaceous and shrub flowering plants would regenerate and potentially increase over time. Details of all future vegetation activities are unknown, but site-specific analysis of direct, indirect, and cumulative effects of all planned activities would or have been documented in a separate analysis.

Determination: Project implementation may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability for the Western bumblebee.

Determinations

Determination of Effect – Category 3 Species:

The proposed activity may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability of the California Spotted Owl, Northern goshawk, Pacific marten, Pacific

fisher, Monarch butterfly, or Western bumblebee. The rationale for this determination is that construction activities and increased use of the area may affect individuals of the species through noise or habitat disturbances, but based on known information about the species, the activities would likely not lead to loss of viability.

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APPENDIX A--Integrated Design Features

The following Integrated Design Features (IDFs) are resource protection measures that are developed by specialists and incorporated as part of the proposed action for this Project. They are Project specific and in addition to Best Management Practices (BMPs) and standards and guidelines from the Lassen National Forest Land and Resource Management Plan (LRMP), as amended. These IDFs are also included for implementation parameters that would be incorporated into treatments, contracts, or used to guide Forest Service personnel in conducting implementation.

Aquatics and Watershed--Riparian Habitat Conservation Areas
Riparian Conservation Areas (RHCAs) are a land management designation. RHCAs are defined as portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. Delineation and management of RHCAs are critical steps in managing to meet the Aquatic Conservation Strategy goals. More specifically, RHCAs help to maintain the integrity of aquatic systems by: 1) influencing the delivery of coarse sediment, organic matter and woody debris to streams; 2) providing root strength for channel and inner gorge stability; 3) maintenance of riparian microclimate, including stream shade; 4) protecting water quality; (5) maintaining or enhancing riparian vegetation; and (6) maintaining the durability and function of floodplains and riparian terraces.

The standards and guidelines will be implemented to minimize, to the extent practicable, adverse effects on listed anadromous fish downstream of the Project area. Net long-term adverse effects on listed anadromous fish will be avoided. The Recreation Management standards below apply to the proposed Project:

RM-1. Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Aquatic Conservation Strategy goals. Complete site level analysis prior to construction of new recreation facilities in RHCAs. For existing recreation facilities inside RHCAs, assure that the facilities or use of the facilities will not prevent attainment of Aquatic Conservation Strategy goals. Relocate or close recreation facilities where Aquatic Conservation Strategy goals cannot be met.

RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy goals. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting Aquatic Conservation Strategy goals, eliminate the practice or occupancy.

RM-3. Address attainment of Aquatic Conservation Strategy goals and potential effect on anadromous fish and their habitat in Wild and Scenic Rivers, Wilderness, and other recreation management plans.

Botany

Threatened, Endangered and Sensitive Plant Species:

1. Rare plant surveys would be completed prior to Project implementation and any occurrences of TES or SI plant species discovered would be protected through flag-and-avoid methods and with incorporation of any additional protection measures recommended by Forest Botany personnel.

2. All occurrences of *Meesia triquetra* (three-ranked humpmoss) and their associated springs, meadows and fens would be flagged and avoided from all ground disturbing activities and protected with a fence from potential impacts.

3. All ground-disturbing activities would be excluded from within 50 feet of occurrences of *Botrychium* species. Locations would be displayed as control areas on all contract maps.

4. All ground-disturbing activities would be excluded from within 25 feet of occurrences of *Piperia colemanii* species.

Invasive Plant Species:

5. All off-road equipment would be weed-free prior to entering the Forest. Staging of equipment would be done in weed free areas.

6. Known noxious weed infestations would be identified, flagged where possible, and mapped for this Project. Locations would be displayed on contract maps. Identified invasive plant species' sites within or adjacent to the Project area would be evaluated by forest personnel and treated by forest botany staff prior to Project implementation and the sites avoided. Any larger or un-pullable infestations would be avoided by harvesting equipment or equipment used would be washed on site before leaving the infested area and entering un-infested areas to prevent spreading invasive plants across the Project area.

7. New small infestations identified during Project implementation would be evaluated and treated according to the species present and Project constraints and avoided by Project activities.

8. Post Project monitoring for implementation and effectiveness of treatments and control of new infestations would be conducted as soon as possible and for a period of two years after completion of the Project.

9. If Project implementation calls for mulches or fill, they would be certified weed-free. Seed mixes used for re-vegetation of disturbed sites would consist of locally adapted native plant materials.

Cultural Resources

Cultural Resources are managed and protected through the Programmatic Agreement (PA) among the USDA Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region (Region 5 PA, 1996)

10. Prior to implementation of each proposed activity, the Area of Potential Effect (APE) will be examined by Cultural Resources staff. The cultural resources present in the APE and the specific Approved Standard Protection Measures (Region 5 PA, 1996) that will be used to protect those resources will be documented and implemented.

Silviculture

11. Borate Treatment

In the proposed Jonesville Snow Park parking lot expansion area, live conifer trees with a 14-inch and larger stump diameter would be treated with an Environmental Protection Agency (EPA)-approved borate compound which is registered in California for the prevention of annosus root disease. No EPA-approved borate would be applied within 25 feet of known Sensitive and Special Interest (SI) plants or within 25 feet of live streams and meadow/wetlands.

12. Sugar Pine Trees

All sugar pine trees identified as rust resistant or as a candidate for rust resistance would be protected. A $20,000 fine would be imposed for each rust-resistant or candidate tree damaged during operations.

Healthy sugar pine trees showing no observable signs of blister rust would be favorably retained.

Wildlife

13. Implement limited operating periods for sensitive wildlife species:

Limited operating periods (LOPs) would be implemented around nests, dens, roost sites, and other areas of concentrated use of these species if found during Project implementation. An LOP consists of a period during which Project activities would not occur. Implementation requirements such as the timing, potential lifting, and location of LOPs for certain species would be determined by the District Wildlife Biologist.

a. **Northern goshawk:** A northern goshawk LOP from February 15th to September 15th would be applied within ¼ mile of all goshawk PACs or within ¼ mile of a nest if a nest is confirmed. The LOP may be lifted if it is determined that the PAC is not occupied.

b. **California spotted owls:** A California spotted owl LOP from March 1st to August 15th would apply to stands within ¼ mile of all spotted owl protected activity centers (PACs) unless surveys confirm that spotted owls are not nesting. The LOP may be lifted after surveys if no nesting spotted owls are confirmed. If a California spotted owl nest is found within any of the proposed treatment units, the nest would be protected through the placement of a new PAC or the realignment of an existing PAC boundary.

c. **Pacific marten:** If a marten den site is identified, a 100-acre area consisting of the highest quality habitat in a compact arrangement would be placed around the den site. The den site area would be protected from vegetation treatments with a LOP from February 15th through July 31st as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a marten rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) would be protected from being damaged during Project implementation.

d. **Pacific fisher:** If a fisher den site is identified, a 700-acre area consisting of the highest quality habitat in a compact arrangement

would be delineated around the den site. The den site area would be protected from vegetation treatments with a LOP from March 1st through June 30th as long as habitat remains suitable or until another Regionally approved management strategy is implemented. If a fisher rest site (female or male) is found within a treatment unit, the rest site structure, (e.g., log, snag, tree) would be protected from being damaged during Project implementation.

e. **Gray wolf:** If a wolf den or rendezvous site is discovered during implementation of the proposed Project, an LOP from April 1 through July 15 may be implemented and coordination with CDFW and the Service shall be pursued. Further discussions and coordination with CDFW and the Service may result in a modified distances or more flexible dates for this specific conservation measure.

14. Avoid or minimize impacts on Forest Service sensitive wildlife and plant species: Any detection of sensitive wildlife or plant species, nests, dens, roost sites, and other areas of concentrated use of these species, before or during implementation of the proposed actions, would be reported to the District Wildlife Biologist or District Botanist. Areas of concentrated wildlife use, particularly those that are important for reproductive activities (e.g., nest or den sites), would be protected in accordance with the LRMP as amended.

a. **Monarch butterfly:** Disturbance to the Monarch butterfly host species, milkweed, will be avoided, where found, throughout Project implementation.

b. **Amphibians:** If populations of TES amphibians are discovered in the Project area, direction from the 2004 SNFPA ROD and 2014 USFWS Programmatic Biological Opinion for 4 Sierra Nevada Amphibians (updated in 2023 to include Foothill yellow-legged frog) would be applied and consultation with USFWS may be initiated as needed. A pre- construction survey or biological monitor of the water crossings may be conducted to assess for the presence of amphibians.

15. Trees in PACs:

Within California spotted owl and northern goshawk PACs, the maximum size tree to be cut would be 6-inch DBH. Trees larger than 6-inch DBH would only be cut if approved by a Forest Service Wildlife Biologist. If any trees greater than 6-inch DBH are cut in PACs, they would be left in place, although they may be moved off trail alignment.

16. Nest Trees and Wildlife Habitation:

All trees with nest structures in them or showing signs of current wildlife habitation shall be retained, regardless of the diameter.

17. Snags and Coarse Woody Debris:

a. In accordance with the LRMP (USDA-FS 1992 p. 4-37), coarse woody debris (CWD, large logs and snags ≥ 15-inch DBH) already on the ground

would be retained and protected to the greatest extent possible from disturbance during treatment.

b. Large snags ≥ 15-inch DBH would be retained, where possible.

18. Riparian species (aspen, cottonwood, alder, willow, dogwood, etc.) would not be cut or removed.

APPENDIX B

Sierra Nevada Forest Plan Amendment: Final Supplemental Environmental Impact Statement Record of Decision: Forest wide Standards and Guidelines (USDA, 2004) applicable to the Colby Mountain Recreation Project.

Standard and Guideline #27 – Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations.

Standard and Guideline #28 – Assess the potential impact of Projects on the connectivity of habitat for old forest associated species.

Standard and Guideline #29 – Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridge top saddles during Project-level analysis.

Standard and Guideline #75 – **For California spotted owl PACs:** Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the activity center during the breeding season (March 1 through August 31), unless surveys confirm that California spotted owls are not nesting. Prior to implementing activities within or adjacent to a California spotted owl PAC and the location of the nest site or activity center is uncertain, conduct surveys to establish or confirm the location of the nest or activity center.

Standard and Guideline #76 – **For northern goshawk PACs:** Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the nest site during the breeding season (February 15 through September 15) unless surveys confirm that northern goshawks are not nesting. If the nest stand within a protected activity center (PAC) is unknown, either apply the LOP to a ¼- mile area surrounding the PAC, or survey to determine the nest stand location.

Standard and Guideline #77– The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be modified.

Standard and Guideline #82 – Mitigate impacts where there is documented evidence of disturbance to the nest site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb nest sites.

Standard and Guideline #85 – Protect fisher den site buffers from disturbance with a limited operating period (LOP) from March 1 through June 30 for vegetation treatments as long as habitat remains suitable or until another Regionally-approved management strategy is

implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

Standard and Guideline #87 – Mitigate impacts where there is documented evidence of disturbance to the den site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb den sites.

Standard and Guideline #88 – Protect marten den site buffers from disturbance from vegetation treatments with a limited operating period (LOP) from May 1 through July 31 as long as habitat remains suitable or until another Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

Standard and Guideline #89 – Mitigate impacts where there is documented evidence of disturbance to the den site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb den sites.

BIOLOGICAL EVALUATION AND ASSESSMENT FOR R5 FOREST SERVICE SENSITIVE AND FEDERALLY LISTED PLANT SPECIES

COLBY MOUNTAIN RECREATION PROJECT

ALMANOR RANGER DISTRICT

LASSEN NATIONAL FOREST

Prepared by: Jesse Duff-Woodruff Date: 2/9/2024

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I. INTRODUCTION

The purpose of this Biological Evaluation and Biological Assessment (BE/BA) is to review the potential effects of the proposed Colby Mountain Recreation Project on Threatened and Endangered plant species and Forest Service Region 5 Sensitive plant species. Specifically, the Biological Evaluation determines whether the proposed action would result in a trend toward any Sensitive plant species becoming federally listed as Threatened or Endangered under the Endangered Species Act (1973, as amended). **Appendix A** contains the complete list of plant species considered, determinations, and rationales. This BE/BA follows standards established in Forest Service Manual and Handbook direction (FSM 2670.3, 2671.2 & 2672.42, and R5 FSH 2609.25) for Threatened, Endangered, and Sensitive (TES) species.

The Forest Service is proposing to develop a 36-mile network of hiking, biking, and equestrian trails and trailheads for public use. These purposes are consistent with the 1992 Lassen National Forest Land and Resource Management Plan (LRMP; USDA 1992) and 1993 Record of Decision (ROD) as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) Final Environmental Impact Statement and ROD (2004), and the Management Indicator Species Amendment (2007b) and aligned with the goals from the Region 5 Ecological Restoration Leadership Intent (USDA 2011).

This BE/BA documents potential effects from project activities to those Forest Service Region 5 Sensitive plant species with known occurrences or potential habitat within the Colby Mountain Recreation Project area. These include *Botrychium ascendens* (upswept moonwort), *Botrychium crenulatum* (scalloped moonwort), *Botrychium minganense* (Mingan moonwort), *Botrychium montanum* (western goblin), *Botrychium pinnatum* (northwestern moonwort), *Botrychium pedunculosum* (stalked moonwort), *Meesia uliginosa* (broad-nerved hump-moss) and *Silene occidentalis* ssp. *longistipitata* (long-stiped campion.) No other currently listed Forest Service Sensitive plant species are known to occur or have potential habitat within the project area (**Appendix A**).

II. CONSULTATION

The most current lists of federally listed Threatened and Endangered plant species and associated Critical Habitats that may be present within the Colby Mountain Recreation Project area were obtained from the Sacramento Field Office of the US Department of the Interior, Fish and Wildlife Service (USDI FWS) on November 21st, 2023 (USDI FWS 2023). No federally listed plant species or associated Critical Habitat are known to occur within the Colby Mountain Recreation Project area. Neither consultation with the USDI FWS nor a Biological Assessment of project effects on these species is therefore required.

III. CURRENT MANAGEMENT DIRECTION

Forest Service Region 5 Sensitive (Sensitive) plant species, identified by the Regional Forester, are species "for which population viability is a concern, as evidenced by significant current or predicted downward trends in 1) population numbers or density and/or 2) habitat capability that would reduce a species' existing distribution" (FSM 2670.5). Forest Service management practices should "avoid or minimize impacts" on Sensitive species to ensure they "do not become Threatened or Endangered species because of Forest Service actions" and to "maintain viable populations of all native species throughout their geographic range on

National Forest System lands" (FSM 2670.22 and 2670.32). Project effects on TES species will be disclosed in a Biological Evaluation (FSM 2670.32).

A. LAND AND RESOURCES MANAGEMENT PLAN (LRMP, USDA FS 1993)

The Colby Mountain Recreation Project is located in the Jonesville Management Area (#44) as delineated in the Lassen National Forest Land and Resources Management Plan (LRMP, USDA FS 1993). The LNF LRMP management direction for Sensitive Plants includes the following goals, standards, and guides (LRMP pp 4-26 and 4-27):

a. Maintain habitat and viable populations to contribute to eventual de-listing of Sensitive plants that are found on the Forest.
   (1) Identify, preserve, or enhance Sensitive plant populations.
   (2) Restrict vegetative or soil disturbance in areas occupied by Sensitive plants, unless manipulation is needed to perpetuate the species.
   (3) Within the planning period, develop Species Management Guides for Sensitive plants that identify population goals and compatible management activities.

b. Manage Sensitive plants to insure that species do not become Threatened or Endangered because of Forest Service actions.
   (1) Evaluate all proposed projects for potential Sensitive plant habitat. Conduct surveys at the correct time of year for species identification if potential habitat exists in a project area.
   (2) If Sensitive plants are found in a proposed project, modify the project or take mitigative action as necessary to protect the habitat.

B. SNFPA DIRECTION (USDA FS 2004):

a. Standard and Guideline #125: Conduct field surveys for Threatened, Endangered, Proposed and Sensitive (TESP) plant species early enough in the project planning process that the project can be designed to conserve or enhance TESP plants and their habitat. Conduct surveys according to procedures outlined in the Forest Service Handbook (FSH 2609.25.11). If additional field surveys are to be conducted as part of project implementation, surveys results must be documented in the project file (USDA FS 2004, ROD Errata. pg. 66).

C. CONSERVATION STRATEGIES AND ASSESSMENTS:

A Conservation Strategy has been completed for *Silene occidentalis* ssp. *longistipitata* (USDA FS 2007a), a Conservation Assessment has been completed for *Meesia uliginosa* (USDA FS 2005), and a draft Conservation Assessment for all *Botrychium* species in Region 5 has also been completed (USDA FS 2009).

The Conservation Strategy for *Silene occidentalis* ssp. *longistipitata* includes management prescriptions for this species. These include the protection of all occurrences from disturbance except where prescribed for habitat enhancement, the consideration of treatments that would create small openings adjacent to occurrences, the use of prescribed fire to enhance habitat, and brush removal where the plant occurs (USDA FS 2007a).

The Conservation Assessment for *Meesia uliginosa* includes the following conservation considerations (USDA FS 2005):

1) Maintain habitat for these species by retaining occupied substrate, hydrological conditions and associated stand and microsite conditions near the population.
2) Restrict activities that have the potential to alter hydrological conditions (ditching, draining or groundwater extraction) or affect occupied substrate (direct disturbance, addition of sediment).
3) Avoid disturbance of soil substrate associated with the plants. Do not exceed greater than 20% bare ground in fens (cattle grazing, recreation impacts).

D. INTERIM MANAGEMENT PRESCRIPTIONS:

Management prescriptions for Sensitive plants on the Lassen National Forest have been developed and were signed by the Forest Supervisor, February 8, 2001 (USDA FS 2001). These prescriptions provide management recommendations that line officers should consider in all land management decisions until botanical investigations and conservation strategies are completed for each species.

Botrychium ascendens, Botrychium crenulatum, Botrychium montanum
Protect all occurrences from major disturbance; allow no machinery in occupied habitat. Maintain hydrologic conditions in riparian areas where these plants occur. If riparian area has significant encroaching conifers and/or excessive fuels leading to a decline in riparian conditions, consider thinning smallest diameter trees and fuel removal done by hand only.

There are no interim management prescriptions for *Botrychium minganense*, *Botrychium pedunculosum*, or *Botrychium pinnatum* because these species were not on the Region 5 Sensitive Species list in 2001. The same is true of *Meesia uliginosa;* there are conservation considerations included in the Conservation Assessment for this species (see above).

IV. DESCRIPTION OF PROPOSED ACTION

Background

The Colby Mountain Recreation Project is a collaborative effort conducted by the Lassen National Forest, Butte County Resource Conservation District, Northern California Regional Land Trust, Sierra Buttes Trail Stewardship, and Chico Velo to enhance and expand trail-based recreation near the community of Jonesville in the Lassen National Forest. With the support of the U.S.D.A. Forest Service, the Project has developed over months of stakeholder engagement and incorporates forest health demonstration sites, environmental education facilities, day-use and emergency response amenities, and an extensive network of multi-use trails. The Project is located on the Almanor Ranger District of the Lassen National Forest in Butte, Plumas, and Tehama Counties, California. The project area is within Township (T) 26 North (N), Range (R) 4 East (E), Sections 1-4, 9-14; T26N, R5E, Sections 26-28, 33-36; T27N R5E Sections 31 and 32 and T26N, R5E, Sections 5-7 and 18; Mount Diablo meridian.

The Almanor Ranger District is proposing the following actions:

New Single-track Trails and Trailheads

The Almanor Ranger District is proposing to construct approximately 36 miles of new single-track trails out of Jonesville Snow Park. The trail system would offer a variety of distance and terrain options for multiple

user groups including 0.92 miles of pedestrian-only use trails and 34.77 miles of non-motorized multi-use trails. Table 1 provides a list of the proposed trails and their estimated distances, trail classes, and proposed uses.

There would be two methods of trail construction used: full professional build and hybrid build. The full professional build method would be used for trails that are complex or specialized. Those trails would use mechanized equipment (mini excavator or trail-specific dozer) followed by a professional hand crew. The full professional build method would be used for Colby Drop trail, Willow Creek trail, Humboldt Drop trail, Robbers Roost Connector trail, and the Meadow trail. For the hybrid build method, professional trail builders would pioneer the trail corridor and excavate the trail prism with a single excavator and volunteers would rake and compact the trail tread. The hybrid build method would integrate with the full professional build method on some segments of the trails. The hybrid build method would be used for the Home trail, Escape trail, Lookout trail, Yana Rim trail, and Yana Rim Alt Loop trail.

The Project would also include four trailheads. The main trailhead for the trail system would be located at the Jonesville Snow Park parking lot and would connect the Meadow Loop trail, Home trail, and Willow Creek trail. The Project would rebuild the existing parking lot and expand it eastward, adding one well, helipad, and a comprehensive trail information kiosk. The parking lot expansion would also include a bioswale, a vegetated low-lying area that would use plant materials and specialized soil mixes to treat, absorb, and convey stormwater runoff. Table 2 summarizes the proposed trailhead improvements.

The Humboldt Summit trailhead would provide direct access to Colby Drop trail, Willow Creek trail, and Humboldt Drop trail. The Humboldt Summit trailhead would serve as a shuttle drop location for visitors seeking a downhill mountain bike experience. The Project improvements at the Humboldt Summit trailhead would include a designated parking lot, one vault-style toilet, a separate kiosk for the Pacific Crest trail (PCT) and Colby Mountain trail, equestrian trailer parking, picnic tables, and hitching posts.

The Hub trailhead would be located at the junction of National Forest System (NFS) roads 27N06 and 27N36 near the northern edge of the trail system and would serve as a central “hub” linking the Lookout, Escape, Colby Drop, Home, and Yana Rim trails. The Hub would be accessed via the NFS 27N06 road, a well-maintained and surfaced road. The Project improvements at the Hub would include one vault-style toilet, parking, hitching posts, and picnic tables.

The Colby Mountain Lookout trailhead would offer connections to the Colby Drop trail and Escape trail and access to the Hub trailhead via the Lookout trail. NFS road 27N36 could also be used to shuttle between the Colby Mountain Lookout and the Hub trailheads.

Table 1 Proposed Trail Summary

Trail Name	Estimated Distance (mile)	Trail Class[1]	Uses
Escape	8.35	Class 3	non-motorized bikes, equestrians, hikers
Colby Drop	1.38	Class 4	non-motorized bikes, hikers
Home	4.35	Class 3	non-motorized bikes, equestrians, hikers
Lookout	2.11	Class 3	non-motorized bikes, equestrians, hikers
Meadow Trail	0.92	Class 4	hikers
Yana Rim	9.64	Class 2	non-motorized bikes, equestrians, hikers
Yana Rim Alt Loop	0.44	Class 2	non-motorized bikes, equestrians, hikers
Willow Creek	4.76	Class 3	non-motorized bikes, hikers
Humboldt Drop	3.4	Class 3	non-motorized bikes, hikers
Robbers Roost Connector	0.34	Class 3	non-motorized bikes, hikers
TOTAL MILEAGE	35.69		

[1] Trail Class Matrix (FSH 2353, Section 14.2, Exhibit 01)

Table 2. Trailhead Improvements

Trailhead	Existing/New	Improvements
Jonesville Snow Park	Existing trailhead, with proposed improvements	rebuild and expand existing parking lot, bioswale, trail information kiosk, a drinking water well, helipad
Humboldt Summit	Existing trailhead, with proposed improvements	vault toilet, designated parking, hitching posts, separate kiosk for PCT and Colby Mountain, equestrian trailer parking, picnic tables
Hub (27N06 and 27N36)	New trailhead construction	vault toilet, parking, hitching posts, picnic tables

[1] Trail Classes are general categories reflecting trail development scale, arranged along a continuum. The Trail Class identified for a National Forest System (NFS) trail prescribes its development scale, representing its intended design and management standards. **Trail Class 1 =** Minimally Developed. **Trail Class 2 =** Moderately Developed. **Trail Class 3 =** Developed. **Trail Class 4 =** Highly Developed. **Trail Class 5 =** Fully Developed.

Bridge, Wet Crossings, and Exclusionary Fencing

One 15-foot bridge is proposed along the southern portion of the Home trail that would cross an unnamed drainage. One wet crossing would also be constructed along the northern portion of the Home trail and one on the Willow Creek trail. The wet crossings would be constructed with hardened entrances to minimize the steam banks' impacts and limit sediment inputs. There would also be exclusionary fencing placed for 20 feet along a section of Home Trail to bar access to a sensitive fen area and installation of an information sign.

Tree Removal

For the Colby Mountain Recreation Project trail construction, vegetation removal would be in accordance with the trail class as detailed in the Trail Class Matrix summarized in Table 1. Trees may be cut during the construction or maintenance of the trails' eight-foot-wide corridor, however, as many trees as possible would be retained, and removal of a tree 10-inch diameter at breast height (DBH) and larger would be uncommon. Only in cases where the trail could not be routed around a tree that is 10-inches DBH or larger would it be removed, such as in areas where tree density is high. Best efforts would be made to avoid sugar pine (*Pinus lambertiana*), western white pine (*P. monticola*), Jeffery pine (*P. jeffreyi*), and ponderosa pine (*P. ponderosa*) trees when possible.

Trees that are less than 10-inches DBH and shrubs that are cut would be lopped and scattered to a depth not to exceed 12 to 18 inches. For trees 10-inch DBH to less than 30-inch DBH, once the tree has been cut down, tree branches and tops of trees to a 6-inch diameter would be cut from the bole of the trees and lopped and scattered. Larger bole material would be left on site.

During construction of the Jonesville Snow Park parking lot expansion, trees would be mechanically cut and removed, possibly through a small timber sale, and slash would be piled and burned. Brush would be removed for improvements to the Humboldt Summit trailhead and the construction of the Hub trailhead, but no tree removal would occur at these locations.

Integrated Design Features

The following Integrated Design Features (IDF's) are protection measures for botanical resources that are developed by specialists and incorporated as part of the proposed action for this Project. They are project specific and in addition to Best Management Practices (BMPs) and standards and guidelines from the Lassen National Forest Land and Resource Management Plan (LRMP), as amended. These IDFs are also included for implementation parameters that would be incorporated into treatments, contracts, or used to guide Forest Service personnel in conducting implementation. See the Colby Mountain Recreation Project Decision Memo, hereby incorporated by reference, to review IDF's for other resources.

A. Botany

Threatened, Endangered and Sensitive Plant Species:

1. Rare plant surveys would be completed prior to Project implementation and any occurrences of TES or SI plant species discovered would be protected through flag-and-avoid methods and with incorporation of any additional protection measures recommended by Forest Botany personnel.

2. All occurrences of *Meesia triquetra* (three-ranked humpmoss) and *Meesia uliginosa* (broad-nerved hump-moss) and their associated springs, meadows and fens would be flagged and avoided from all ground disturbing activities and protected with a fence from potential impacts.

3. All ground-disturbing activities would be excluded from within 50 feet of occurrences of *Botrychium* species. Locations would be displayed as control areas on all contract maps.

4. All ground-disturbing activities would be excluded from within 25 feet of occurrences of *Piperia colemanii* species.

Invasive Plant Species:

5. All off-road equipment would be weed-free prior to entering the Forest. Staging of equipment would be done in weed free areas. Any mechanized equipment used in infested areas would be washed on site before leaving and subsequently entering un-infested areas, to prevent spreading invasive plants across the Project area.

6. Known noxious weed infestations would be identified, flagged where possible, and mapped for this Project. Identified invasive plant infestations would be evaluated by forest personnel and treated under the Upper Butte Creek Forest Health Project prior to implementation. Unmanageable infestations would be displayed on contract maps and avoided.

7. New small infestations identified during Project implementation would be evaluated and mechanically treated according to the species present and Project constraints and avoided by Project activities.

8. Post Project monitoring for implementation and effectiveness of treatments would be conducted as soon as possible and for a period of two years after completion of the Project.

9. If Project implementation calls for mulches or fill, they would be certified weed-free. Seed mixes used for re-vegetation of disturbed sites would consist of locally-adapted native plant materials.

B. Silviculture

10. Borate Treatment

    In the proposed Jonesville Snow Park parking lot expansion area, live conifer trees with a 14-inch and larger stump diameter would be treated with an Environmental Protection Agency (EPA)-approved borate compound which is registered in California for the prevention of annosus root disease. No EPA-approved borate would be applied within 25 feet of known Sensitive and Special Interest (SI) plants or within 25 feet of live streams and meadow/wetlands.

11. Avoid or minimize impacts on Forest Service sensitive wildlife and plant species:

    Any detection of sensitive wildlife or plant species, nests, dens, roost sites, and other areas of concentrated use of these species, before or during implementation of the proposed actions, would be reported to the District Wildlife Biologist or Forest Botanist. Areas of concentrated

wildlife use, particularly those that are important for reproductive activities (e.g., nest or den sites), would be protected in accordance with the LRMP as amended.

V. EXISTING ENVIRONMENT

For purposes of this analysis, the project area is considered to be the area within 25 feet of any proposed ground disturbance (trails and trailheads.) Any features outside of the project area are mentioned as such, if considered.

A. VEGETATION

The Colby Mountain Recreation Project area ranges in elevation from approximately 4,900 ft. to 6,600 ft. Predominant vegetation is mesic mixed-conifer forest characterized by incense cedar (*Calocedrus decurrens),* white fir (*Abies concolor),* Ponderosa pine *(Pinus ponderosa),* and Jeffrey pine *(P. jeffreyi,)* interspersed with shrubs such as mountain whitethorn (*Ceanothus cordulatus).* Dominant understory herbs include *Hackelia californica, Stipa occidentalis var. pubescens, Melica aristata, Elymus glaucus ssp. glaucus,* and *Elymus elymoides.* Adjacent riparian areas are characterized by gray alder (*Alnus incana ssp. tenuifolia,)* black cottonwood *(Populus trichocarpa,)* and willow (*Salix*) species, with dominant herbaceous species including *Hosackia oblongifolia, Equisetum arvense, Senecio triangularis, Artemisia douglasiana, Stachys rigida var. rigida, Achillea millefolium*. There are approximately 28 acres of surveyed fen habitat within several hundred meters downslope of the trail system, which is generally dominated by wetland obligate sedges, rushes, mosses, and other nonvascular plants. These fen areas are considered to be in good condition, with fully-functioning hydrology maintaining the inundation required by obligate species inventoried there (USDA FS 2023a.)

The Colby Mountain Recreation Project area occurs predominantly on undisturbed forested slopes, within a network of maintained dirt roads that experience moderate levels of public use. The proposed trails connect with a few other trails and trailheads including the Pacific Crest Trail, and with a repaired dozer line from recent wildfire operations. Timber harvest and wildfire disturbances have affected much of the surrounding landscape in recent decades.

B. SURVEYS

Project-specific floristic surveys were conducted in 2022. Other botanical surveys were conducted within and around the Colby Mountain Recreation Project area in 2005-6 and 2020, in conjunction with other Lassen National Forest projects (**Table 11**). Floristic surveys were conducted in general accordance with the California Native Plant Society Botanical Survey Guidelines (CNPS 2001). Survey routes and dates can be found within the NRIS TESP-Invasives geodatabase (USDA FS 2023a).

Table 11. Recent botanical surveys in the Colby Mountain Recreation Project area

Project	Survey Date	Survey Type
Willow	2005, 2006	Floristic
Storrie Meadows	2020	Directed (Fen/Meadows)
Upper Butte Creek	2022	Floristic

Source: USDA FS 2023

C. EXISTING CONDITIONS

There are currently two Region 5 Sensitive plant species (*Botrychium crenulatum*, one occurrence, and *Botrychium montanum,* one occurrence) with recorded occurrences in the Colby Mountain Recreation Project area, both adjacent to Willow Creek (USDA FS 2023a.) Within 500 meters of the Project area, three additional Sensitive species occur (*Meesia uliginosa,* ten occurrences, all in fens; *Botrychium ascendens,* seven occurrences, along forested streamcourses; and *Botrychium minganense,* nine occurrences, along forested streamcourses.) Within two miles of the Project area, there are also 9 occurrences of *Silene occidentalis* ssp. *longistipitata*, generally in upland forest and clearings.

Following survey and geodatabase searches, the project area was analyzed in terms of its potential to offer habitat to all other Region 5 Sensitive species with potential habitat on the Lassen National Forest (Appendix A). In addition to the species identified through inventory, two other Region 5 Sensitive plant species, *Botrychium pinnatum* and *Botrychium pedunculosum,* have potential habitat identified in the project area.

D. SPECIES INFORMATION

This section includes species information only for Sensitive species with known occurrences within the Colby Mountain Recreation Project area. Information on Sensitive plant species with potential habitat but no known occurrences within the project area is contained within the Lassen National Forest Full Sensitive Plant Descriptions document (USDA FS 2020).

Botrychium crenulatum

Botrychium crenulatum, scalloped moonwort, is a small, primitive, perennial fernlike plant, yellowish green in color, and is often associated with moist habitats in California, including meadows, seeps and springs within coniferous forest (CNPS 2001) at elevations from 4,160 to 10,760 feet (CNPS 2021). *Botrychium crenulatum* is limited to the western United States, where it is scattered from California to Montana. It has the widest distribution of all the rare *Botrychium* species in California but is not known to be common anywhere, and most of the occurrences consist of just a few plants (USDA FS 2005b). The taxon has a California Rare Plant Rank of 2B.2, and it is considered fairly endangered in California but more common elsewhere (CNPS 2021). Currently, there are 137 occurrences of this species recorded in California's RareFind database, found in scattered locations from the San Bernardino to the Modoc National Forests; among these, 16 occurrences each are accorded to the Inyo and Eldorado National Forests and 30 to various private lands (CDFW CNDDB 2020).

Botrychium montanum

Botrychium montanum, western goblin, is a small, primitive, perennial fernlike plant, found in varied wet habitats from marshes/meadows to coniferous forest/montane streamside areas, at elevations ranging from 4,805 to 7,155 feet. It has scattered locations from Alaska and British Columbia to Montana, California, Oregon, and Idaho (CNPS 2001, 2021). The species has 69 occurrences recorded in the California Natural Diversity Database: there are occurrences on the Eldorado, Klamath, Lassen, Modoc, Plumas, Stanislaus, and Sierra National Forests and the Lake Tahoe Basin Management Unit, as well as several on state and private

lands (CDFW CNDDB accessed 2020). The taxon has a California Rare Plant Rank of 2B.1, and it is considered seriously endangered in California but more common elsewhere (CNPS 2021).

VI. ENVIRONMENTAL EFFECTS OF PROPOSED ACTION

This section will consider the environmental effects of the Colby Mountain Recreation Project on *Botrychium ascendens*, *Botrychium crenulatum, Botrychium minganense*, *Botrychium montanum*, *Botrychium pinnatum*, *Botrychium pedunculosum*, *Meesia uliginosa*, and *Silene occidentalis* ssp. *longistipitata*. These are the only R5 Sensitive species that are known to occur within the project area or have potential habitat within the project area.

A. DIRECT EFFECTS

The most likely direct effects to any of these species would involve physical damage to plants or their habitat. Trail and trailhead construction with hand tools or mechanized equipment is expected to compact and preclude plant growth from 9 to 19.5 acres, and have the potential to cause mortality, damage to tissue, and/or reduced spore and seed production through physically breaking, crushing, or uprooting plants there. A majority of the project area occurs in upland forest and forest openings in mid-elevation coniferous forest, which is considered potential habitat for *Silene occidentalis* ssp. *longistipitata.* A number of acres of potential habitat would for this species would be directly negatively affected.

IDF's specify that Sensitive species would be flagged and avoided by project activities, and that ground-disturbing activities would be excluded from within 50 feet of occurrences of *Botrychium* species. In addition to the two *Botrychium* occurrences recorded within 25 feet of proposed trails, numerous others were discovered within 100 feet of trails. These protection measures would ensure that the trail is slightly realigned to preclude direct effects to known populations. Additionally, by following BMP's for trail construction (USDA FS 2012b), this project would keep the trail as disconnected as possible from riparian areas and seeps that provide the habitat and moisture needed by *Botrychium* species. IDF's and BMP's would greatly reduce the potential for damage to unknown occurrences and potential habitat of *Botrychium* species. (This analysis assumes that known occurrences for a Sensitive species will occur primarily in the best potential habitat for the species.)

An IDF for this project specifies that all occurrences of *Meesia uliginosa* and *Meesia triquetra* (three-ranked humpmoss, a local Species of Interest) and their associated springs, meadows and fens would be flagged and avoided from all ground disturbing activities and protected with a fence from potential impacts. Because these ecosystems are the exclusive habitat for *Meesia uliginosa*, any unknown occurrences of this species in or near the project area would also be protected from direct effects.

B. INDIRECT EFFECTS

Indirect effects are separated from an action in either time or space. These effects, which can be beneficial or detrimental to rare species, may include changes in environmental conditions within occupied or potential habitat, or changes in invasive plant distribution and abundance as a result of project activities.

Experimental treatments on private lands adjacent to the Lassen National Forest have found large numbers of *Silene occidentalis* ssp. *longistipitata* seedlings on bare mineral soil in areas disturbed by timber harvesting activities (USDA FS 2012a.) This suggests that this species has some degree of tolerance to direct mechanical disturbance and tree removal. While potential habitat would be directly negatively affected by trail bed construction, indirect effects to the species may be neutral or beneficial.

Indirect effects to *Meesia uliginosa* and most *Botrychium* species would include changes to hydrologic systems connecting fens, springs, wet meadows, and riparian habitats. Trails, roads, and off-trail foot traffic can compact soils and alter groundwater flow to and through these habitats and cause erosion and sedimentation. However, by following BMP's for trail construction, this project would keep the trail as disconnected as possible from any sensitive hydrologic features and conform it to less erosion-prone landscape features, greatly reducing the risk of hydrologic effects to these species' habitats. The IDF that ensures protection and avoidance for all occurrences of *Meesia triquetra* and *Meesia uliginosa* and their associated springs, meadows and fens will prevent direct effects to these species. This measure would likely be applied at between one and five locations in the project area, where the trail network comes in proximity to these habitats, and would largely mitigate hydrologic effects to potential habitat for both of these species. Fencing would also deter off-trail hiker and equestrian traffic in these sensitive areas. Overall, indirect effects to the hydrologic systems on which these species depend would be negligible.

Numerous invasive plant occurrences within and near the project area were found during surveys, as documented in the Invasive Plant Species Risk Assessment (IPSRA) for the project (Colby Mountain Recreation Project Record.) There are existing scattered patches of bull thistle (*Cirsium vulgare*) that occur in some cases with *Botrychium* species and around fens and meadows that are potential habitat for *Meesia uliginosa*. Cheatgrass (*Bromus tectorum),* Canada thistle (*Cirsium arvense,*) and common velvet grass (*Holcus lanatus*) are also species of concern documented in the area. The IPSRA determined that with the incorporation of IDF's (including planned treatments,) the project has a low risk of increasing the establishment and spread of invasive plants. The specific habitats inhabited by *Botrychium* and *Meesia* species are also expected to be at low risk of invasion. Fen habitat is generally resilient to invasion by these species due to perennially inundated conditions, and surrounding meadow and forest habitats near the Project area known to host Sensitive species would receive monitoring and treatment by Botany staff.

C. Cumulative Effects

Current inventories of Sensitive plant species capture the aggregate impact of past human actions and natural events that have led to the current inventory of these species within the project area (CEQ 2005). Past human actions and natural events are therefore implicit within existing conditions and are addressed within the Existing Environment section above. For those Sensitive species predicted to experience direct or indirect effects from the Proposed Action, cumulative effects of other actions are also analyzed. In this case, *Silene occidentalis* ssp. *longistipitata* is the only species for which cumulative effects will be assessed.

Cumulative effects for *Silene occidentalis* ssp. *longistipitata* are spatially bounded by the project area (the area within 25 feet of any proposed ground disturbance for trails and trailheads.) Analysis is temporally bounded by a 20 year time frame. Cumulative effects would result when the direct and/or indirect effects of

the Proposed Action on this species add incrementally to the effects of past, present, and reasonably foreseeable future actions.

Ongoing actions are expected to have similar effects to *Silene occidentalis* ssp. *longistipitata* as the Colby Mountain Recreation Project, as all projects have either been surveyed for Sensitive plants to similar standards or would be prior to project implementation. These actions include maintenance of existing trails, roads and recreation sites, public recreation, Christmas tree cutting, and special uses activities. Future projects would incorporate similar design features to avoid direct effects to Sensitive plant species unless the project is intended to restore or enhance the species or its habitat or potential impacts are believed minor. The proposed Upper Butte Creek Forest Health Project, for example, would overlap the Colby Mountain Recreation Project, and is intended in part to improve hydrologic and habitat conditions for a variety of Sensitive species (USDA FS 2023b.) It also includes safeguards to prevent negative direct effects to these species during implementation, and incorporates a variety of invasive plant treatments to manage species of concern. As with ongoing actions, future actions on NFS lands would be surveyed to similar standards to ensure that any impacts to Sensitive plant species are either beneficial or mitigated so that the long-term viability of the Sensitive species on the forest is maintained. Ongoing and future actions on adjacent private lands may also add cumulatively to these effects, but since survey requirements and mitigations are not known on these lands, the type and extent of impacts to *Silene occidentalis* ssp. *longistipitata* or its potential habitat cannot be quantified.

In summary, the Colby Mountain Recreation Project would involve the construction of 36 miles of hiking, biking and equestrian trails, and the construction or expansion of four trailhead parking areas. These actions would be designed to avoid or minimize impacts to known occurrences and potential habitat for *Botrychium ascendens*, *Botrychium crenulatum, Botrychium minganense*, *Botrychium montanum*, *Botrychium pinnatum*, *Botrychium pedunculosum*, *Meesia uliginosa*, and *Silene occidentalis* ssp. *longistipitata*. Although project effects would add cumulatively to the effects of past, ongoing and future actions on these species, these effects would not lead to a loss of viability for these species within the Colby Mountain Recreation Project area or across the Lassen NF for at least the next 20 years.

VIII. DETERMINATION

It is my determination that with the incorporation of project Integrated Design Features, the implementation of the Colby Mountain Recreation Project may directly affect but would be unlikely to adversely affect *Silene occidentalis* ssp. *longistipitata*, and would have no effect on *Botrychium ascendens*, *Botrychium crenulatum, Botrychium minganense*, *Botrychium montanum*, *Botrychium pinnatum*, *Botrychium pedunculosum*, or *Meesia uliginosa*. This project is therefore not likely to result in a trend toward federal listing or loss of viability for these species (**Appendix A**).

IX. COMPLIANCE WITH FOREST PLAN AND OTHER REGULATORY DIRECTION

The Colby Mountain Recreation Project proposal is consistent with the Forest Plan (USDA FS 1993) and other direction with regard to R5 Forest Service Sensitive plant species and their habitats.

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APPENDIX A
Determinations and Rationales for
Region 5 Forest Service Sensitive (S) Plant Species
Colby Mountain Recreation Project

Species	Status*	Determination**	Rationale:
Limanthes floccosa ssp. *californica* (woolly meadowfoam)	FE	Not Analyzed	Low-elevation westside vernal pool habitat below 3000 ft. not present in project area.
Orcuttia tenuis (slender Orcutt grass)	FT	Not Analyzed	Vernal pool habitat from 4900-5760 ft., including designated critical habitat, not present in project area.
Pinus albicaulis	FP/S	Not Analyzed	Generally open subalpine habitat above 6500 ft. not present in project area.
Tuctoria greenei (Greene's tuctoria)	FE	Not Analyzed	Vernal pool habitat from 4900-5760 ft., including designated critical habitat, not present in project area.
Astragalus pulsiferae var. *suksdorfii* (Suksdorf's milk-vetch)	S	Not Analyzed	Habitat of sandy volcanic soil on alluvial flats in sagebrush or pine forest from 4500-6500 ft. not present in project area.
Boechera constancei (Constance's rock cress)	S	Not Analyzed	Habitat of serpentine soils or rock outcrops from 3500-6750 ft. not present in project area.
***Botrychium ascendens* (upswept moonwort)**	S	**No Effect**	**Habitat of perennially wet springs, seeps, and streambanks in mixed coniferous forests from 5200-6240 ft. Not present in project area, seven occurrences within 500 meters of project area. Project would not disturb habitat for this species.**
***Botrychium crenulatum* (scalloped moonwort)**	S	**No Effect**	**Habitat of perennially wet springs, seeps, and streambanks in understory of mixed coniferous forests from 4720-6000 ft. One occurrence in project area, ten more occurrences within 500 meters of project area. Project would not disturb habitat for this species.**
Botrychium lunaria (common moonwort)	S	Not Analyzed	Habitat of moist subalpine meadows, stream banks, springs or seeps from 7000-10,000 ft. not present in the project area.
***Botrychium minganense* (mingan moonwort)**	S	**No Effect**	**Habitat of perennially wet springs, seeps, and streambanks in understory of mixed coniferous forests from 4720-6250 ft. Not present in project area, nine occurrences within 500 meters of project area. Project would not disturb habitat for this species.**
***Botrychium montanum* (western goblin)**	S	**No Effect**	**Habitat of perennially wet springs, seeps, and streambanks in understory of mixed coniferous forests from 4800-6250 ft. One occurrence in project area, six more occurrences within 500 meters of project area. Project would not disturb habitat for this species.**
***Botrychium pedunculosum* (stalked moonwort)**	S	**No Effect**	**Habitat of springs, seeps, or gentle, perennially wet stream banks in mixed coniferous forests at approximately 6000 ft. Not present but project area is adjacent to potential habitat. Project would not disturb habitat for this species.**

Species	Status*	Determination**	Rationale:
Botrychium pinnatum **(northwestern moonwort)**	S	**No Effect**	**Habitat of perennially wet springs, seeps, and streambanks in mixed coniferous forests from 5200-6250 ft. Not present but project area is adjacent to potential habitat. Project would not disturb habitat for this species.**
Bruchia bolanderi (Bolander's bruchia)	S	Not Analyzed	Habitat of bare soil along westside montane stream banks in mixed conifer forests from 3800-8200 ft. present in the project area, however this species is not known to the forest. Habitat well-surveyed and species not found.
Buxbaumia viridis (green bug-on-a-stick)	S	Not Analyzed	Habitat of highly decayed logs, peaty soil or humus in westside, moist, shaded conditions present in the project area, however this species is not known to the forest. Habitat surveyed and species not found.
Calochortus longebarbatus var. *longebarbatus* (long haired star tulip)	S	Not Analyzed	Habitat of eastside seasonally wet meadows north of Highway 299 (Hat Creek Ranger Dist.) from 4000-6300 ft. not present in project area.
Clarkia gracilis ssp. *albicaulis* (white-stemmed clarkia)	S	Not Analyzed	Habitat of low elevation westside foothill open areas from 500-3600 ft. not present in project area.
Clarkia mildrediae ssp. *mildrediae* (Mildred's clarkia)	S	Not Analyzed	Habitat of sandy, often granitic or disturbed soils in lower montane mixed conifer forests from 1500-5200 ft. not present in project area.
Collomia larsenii (talus collomia)	S	Not Analyzed	Alpine fell-field habitat from 7250-11,500 ft. not present in project area.
Cryptantha crinita (silky cryptantha)	S	Not Analyzed	Habitat of foothill gray pine forest and blue oak woodlands below 3700 ft. near the Ishi Wilderness not present in project area.
Cypripedium fasciculatum (clustered lady's-slipper)	S	Not Analyzed	Habitat of mid- to late-seral westside mixed conifer forest to the west of Lake Almanor from 4,200 to 4,900 feet not present in the project area.
Cypripedium montanum (mountain lady's-slipper)	S	Not Analyzed	Habitat of moist mixed coniferous forest and riparian areas with high canopy cover from 2800-6000 ft. and north of Burney (Hat Creek RD) not present in project area.
Eremogone cliftonii (Clifton's sandwort)	S	Not Analyzed	Open habitat among mixed conifers or manzanita or in meadow, typically on granitic or ultramafic soil with limited organic material, at 1500-5800 ft. not present in project area.
Eriastrum tracyi *Tracy's eriastrum*	S	Not Analyzed	Habitat of open chaparral north of Hwy. 44 and below 4500 feet not present in the project area.
Eriogonum prociduum (prostrate buckwheat)	S	Not Analyzed	Habitat of open, dry, rocky, volcanic soils in eastside pine forest, juniper woodlands, or low sage from 4200-8200 ft. not present in project area.
Eriogonum spectabile (Barron's buckwheat)	S	Not Analyzed	Habitat of glaciated andesite soil in open red fir/lodgepole forest from 6600-6640 ft. not present in project area.

Species	Status*	Determination**	Rationale:
Erythranthe inflatula (ephemeral monkeyflower)	S	Not Analyzed	Habitat of seasonal lake margins, streambanks, or wet areas in eastside pine or sagebrush/juniper vegetation from 3900-5580 ft. not present in project area.
Frangula purshiana ssp. *ultramafica* (Caribou coffeeberry)	S	Not Analyzed	Habitat of shallow, rocky ultramafic soil covered primarily with shrubs, at elevations from 2700-6330 ft. not present in project area.
Fritillaria eastwoodiae (Butte County fritillary)	S	Not Analyzed	Habitat of lower westside mixed conifer or brushy areas from 100-4000 ft. not present in project area.
Helodium blandowii (Blandow's bog moss)	S	Not Analyzed	Habitat of wet meadows, seeps or fens in westside subalpine coniferous forest or alpine lakes from 6000-8100 ft. not present in project area.
Juncus leiospermus var. *leiospermus* (Red Bluff dwarf rush)	S	Not Analyzed	Habitat of lower elevation vernal pool or seasonally wet flats north of Hwy 299 and from 175-3300 ft. not present in project area.
Juncus luciensis (Santa Lucia dwarf rush)	S	Not Analyzed	Habitat of wet, sandy soils in open areas from 980-7000 ft. not present in project area.
Lewisia kelloggii ssp. *hutchisonii* (Hutchison's lewisia)	S	Not Analyzed	Habitat of ridge tops or relatively flat, open areas with bare, rocky soil at moderately high elevations from 5100-7000 ft. in Sierra Nevada not present in project area.
Limnanthes floccosa ssp. *bellingeriana* (Bellinger's meadowfoam)	S	Not Analyzed	Habitat of seasonally wet areas in oak or oak/juniper woodlands below 3600 ft. and north of Highway 299 not present in project area.
Lomatium roseanum (adobe parsley)	S	Not Analyzed	Habitat of shallow, rocky soil on open, wind-swept ridge tops on the Diamond Mountains from 5880-7280 ft. not present in the project area.
***Meesia uliginosa* (broad-nerved hump moss)**	**S**	**No Effect**	**Habitat of moist logs in westside fens present within project area. Ten occurrences within 500 meters of project area; project would not disturb habitat for this species.**
Monardella follettii (Follett's monardella)	S	Not Analyzed	Habitat of serpentine soils from 4000-6500 ft. not present in project area.
Oreostemma elatum (Plumas alpine aster)	S	Not Analyzed	Habitat of westside fens or very wet meadows from 3800-6200 ft. well-surveyed and species not found. No known occurrences on forest.
Packera eurycephala var. *lewisrosei* (cut-leaved ragwort)	S	Not Analyzed	Habitat of serpentine soils in mixed coniferous forest from 4100-6240 ft. not present in project area.
Peltigera gowardii *Goward's waterfan*	S	Not Analyzed	Habitat of cool, clear, shallow, spring-fed westside perennial streams not present in project area.
Penstemon personatus (closed-throated beardtongue)	S	Not Analyzed	Habitat of north-facing slopes with a substantial red fir component on the southern edge of the Almanor RD from 4000-6500 ft. not present in project area.

Species	Status*	Determination**	Rationale:
Penstemon sudans (Susanville beardtongue)	S	Not Analyzed	Habitat of open, often rocky, volcanic soils in juniper woodlands or yellow pine forests near Susanville from 3900-5600 ft. not present in project area.
Phacelia inundata (playa phacelia)	S	Not Analyzed	Habitat of eastside subalkaline flats from 5000-6600 ft. not present in project area.
Poa sierrae (Sierra bluegrass)	S	Not Analyzed	Habitat of moist, shady slopes, often with mossy rocks, from 1150-5000 ft. not present in project area. Species not found on the forest.
Pyrrocoma lucida (sticky goldenweed)	S	Not Analyzed	Habitat of open, vernally wet drainages, swales, or flats south of Highway 36 from 2290-6730 ft. not present in project area.
Rorippa columbiae (Columbia yellow cress)	S	Not Analyzed	Habitat of large, open, seasonally wet eastside flats (playas) from 4000-5950 ft. not present in project area.
Rupertia hallii (Hall's rupertia)	S	Not Analyzed	Habitat of lower westside mixed coniferous forest in Campbellville/ Butte Meadows/Onion Butte area below 4800 ft. (Almanor RD) not present in project area.
Scheuchzeria palustris (American scheuchzeria)	S	Not Analyzed	Habitat of floating sphagnum fens in cold, moderately high elevation lakes from 3000-9000 ft. not present in project area.
Sedum albomarginatum (Feather River stonecrop)	S	Not Analyzed	Habitat of serpentine or metasedimentary rock outcrops from 1500-6400 ft. not present in project area.
***Silene occidentalis* ssp. *longistipitata* (long-stiped campion)**	**S**	**May Affect Not Likely**	**Habitat of openings in mid-elevation, westside mixed coniferous forests from 3300-6100 ft. Well-surveyed but species not found; 8 occurrences within 2 miles of project area. Direct and indirect effects to potential habitat considered neutral.**
Thelypodium howellii ssp. *howellii* (Howell's thelypody)	S	Not Analyzed	Habitat of alkaline meadows, seeps and pastures or sagebrush/rabbitbrush scrub from 4100-6700 ft. not present in project area.

*Status: FE = Federal Endangered; FT = Federal Threatened; S = Forest Service Sensitive

Determinations: **Not Analyzed=** Project would not affect the species based upon lack of suitable habitat or known occurrences within the project area; **No Effect**= Project would not affect the species based upon lack of suitable habitat or known occurrences within treatment areas or exclusion from treatments; **May Affect Not Likely** = Project may affect individuals or habitat, but not likely to result in a trend toward federal listing or loss of viability for the species.

APPENDIX D: MANAGEMENT INDICATOR SPECIES REPORT (MIS)- MIGRATORY BIRD ASSESSMENT (MB)

Assessment of Colby Mountain Recreation Project Effects on Migratory Birds

Under the National Forest Management Act (NFMA), the Forest Service is directed to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." (P.L. 94-588, Sec 6 (g) (3) (B)). Direction for integrating migratory bird conservation into forest management and planning includes: the USFWS-USFS MOU to promote the Conservation of Migratory Birds (2008, extended in 2022); Executive Order 13186 (2001); The Landbird Conservation Strategic Plan (USDA Forest Service, 2000); the Partners in Flight North American Landbird Conservation Plan (Rosenberg et al., 2016); and other sources for integrating bird conservation into forest management and planning.

Within the National Forests, migratory bird conservation focuses on providing a diversity of bird habitats at multiple spatial and temporal scales over the long-term. Our actions also include promoting migratory bird conservation through collaboration and cooperation with the U.S. Fish and Wildlife Service as well as other agencies, non-profit organizations, and private citizens.

Introduction

The Lassen National Forest is proposing to manage lands in the Almanor Ranger District within the Colby Mountain Recreation project area. Proposed management is intended to implement direction contained within the Lassen National Forest Land and Resource Management Plan (LRMP - USFS 1993) as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service, 2004). Opportunities to promote conservation of migratory birds and their habitats in the project area were considered during the development, design, and implementation of the project.

The construction of a single-track non-motorized trail system, two vault-style bathrooms, one well, an expanded parking lot, and an additional parking lot will result in shrub removal, cutting of small trees, and noise disturbance. Per the Colby Mountain Project MIS, project construction and maintenance will mitigate impacts to the cumulative habitat within or adjacent to the Colby Mountain Recreation project area by only select trees and vegetation being cut for the trail corridor, in accordance with trail class. As many trees as possible will be retained and efforts to avoid native and old-growth forest will be made (USDA Forest Service, 2004). Therefore, this will have a minimal effect on cumulative migratory bird habitat in the Colby Mountain Recreation project area.

Migratory birds assessed for this project are listed in Table 1 – as defined by the USFWS IPaC migratory bird list for this project. The project effects to some migratory birds are included in other project reports, such as the Biological Evaluation/Biological Assessment (BE/BA) report, or Management Indicator Species (MIS) report, whereas effects to the other species are noted in the table.

Table 1. Migratory Birds Assessed for the Colby Mountain Recreation Project

Migratory Birds of Particular Concern (Migratory bird list from the USFWS IPaC system)	Species Status*	Critical Habitat component or threat as defined by Sierra Nevada Bird Conservation Plan (PIF)	Previously addressed by BE/BA or MIS Reports (Yes or No)	Category for Project Analysis**
Bald Eagle (*Haliaeetus leucocephalus*)	USFS : S, SE USFWS : BCC	Designated as a non-land bird	Yes	2
Black-throated Gray Warbler (*Dendrocia nigrescens*)	USFWS : BCC	Prefers dry, sunny, slopes, and open forest or woodland	No	3
California Thrasher (*Tozostoma redivivum*)	USFWS : BCC	Restricted to dense chaparral	No	2
Cassin's Finch (*Carpodacus cassinii*)	USFWS : BCC	Depends critically on old growth	No	3
Evening Grosbeak (*Coccothraustes vespertinus*)	USFWS : BCC	Prefers dense, mature forests, does not require decidous trees for nesting	No	3
Oak Titmouse (*Baeolophus inornatus*)	USFWS : BCC	Relies on warm, dry oak woodlands	No	2
Olive-sided Flycatcher (*Contopus cooperi)*	USFWS : BCC	Utilizes late successional/old growth forest, but does not depend on it critically	No	3
Wrentit (*Chamaea fasciata*)	USFWS : BCC	Depends critically on montane meadow habitat	No	2

***Species Status**: **USFS-S** = U.S. Forest Service Sensitive; **SE** = State Endangered; **USFWS-BCC** = U. S. Fish and Wildlife Service Birds of Conservation Concern

****Category 1**: Species whose habitat is not in or adjacent to the analysis area and would not be affected by the project.
Category 2: Species whose habitat is in or adjacent to the analysis area but would not be either directly or indirectly affected by the project.
Category 3: Species whose habitat would be either directly or indirectly affected by the project.

Bald eagle, California thrasher, oak titmouse, and wrentit, categorized as Category 2, have habitat in the Wildlife Analysis Area. However, they will not be further discussed since the project will have no direct or indirect impact on the habitat factors of the species. Thus, the project will not influence the species or their habitats.

Migratory Landbird Species Potentially Effected

This report is limited to addressing migratory landbird species not addressed in other project reports (BA/BE, MIS reports), and is limited to those species designated by the US Fish and Wildlife Service Bird Conservation Region (BCR) 15. A list of all migratory bird species of particular concern, status, critical habitat description, and their category for project analysis, is included in Table 1.

Black-throated gray warbler, Cassin's finch, evening grosbeak, and olive-sided flycatcher, identified as Category 3 in Table 1, have habitat in the Wildlife Analysis Area that would be either directly or indirectly affected by the project; therefore, they are carried forward in this report. They have suitable habitat within and adjacent to the project area and are on the FWS list of birds of conservation concern for BCR 15 (U.S. Fish & Wildlife Service, 2021).

Direct, Indirect, and Cumulative Effects

The effects of the project on federally-listed and Forest Service sensitive birds and their habitats

are discussed in the project BE/BA. The direct effects that may affect individuals or habitat are the removal of shrubs, small trees, and noise disturbance during construction or maintenance. Vegetation removal will consist of cutting shrubs and small diameter trees, allowing retention of large diameter trees which will preserve tree cavity nesting sites.

The Cassin's finch depends on old growth for nesting and will be directly affected by thinning of old-growth forest, however old-growth cutting will be avoided, and therefore have a minimal cumulative effect. Black-throated gray warblers, evening grosbeaks, and olive-sided flycatchers do not depend on deciduous, old-growth forest. Because cup-nesting birds (black-throated gray warbler, Cassin's finch, evening grosbeak, olive-sided flycatcher) are sensitive to disturbance, nest abandonment is a potential effect of recreational use of trails, trailheads, and parking lots. In compliance with the Migratory Bird Treaty Act of 1918 (MBTA), the Project Action will result in changes to the local habitat, and short-term and localized noise impacts, but these changes will be very minor relative to the total area and will not preclude the use of the forest by native bird species.

All of these bird species typically build cup nests on horizontal branches high in conifer trees. Large tree and snag retention will support nesting habitat. Disturbance by recreation activities could affect nesting sites and foraging for individual birds, but these impacts are minor because recreation activities are dispersed across the project area. Individual birds could avoid trail, trailhead, and campground construction operations, and subsequent human facility use. The reduction of foraging habitat is minor, therefore no significant impact is expected.

The project may affect prey base or foraging habitat for individuals but this is not expected to significantly influence nor have measurable or meaningful effects on migratory landbird species or their habitat.

Conclusion

Although some project actions may have some unintentional short-term adverse effects on some individual birds, eggs or nests, adverse effects at the species population level are not expected due to the amount and variety of avian habitat within and adjacent to the project area and across the forest. Additionally, the project's design and resource protection measures avoid or minimize adverse impacts on migratory birds. The Land and Resource Management Plan (LRMP) Standards and Guidelines for Lassen National Forest helps maintain habitats and habitat diversity through forest management (USDA Forest Service, 1992). With this project being on Lassen National Forest land, these Forest Service public lands and habitats will be perpetually available with a variety of avian habitats through time which helps sustain bird populations. Furthermore, Forest Service science shows the historical use of thinning trees works to promote healthy forests and battle extreme wildfire events (Kouarti, 2022). Overall, forest management creates and maintains both migratory bird habitat heterogeneity (including early and late-seral habitats), as well as habitat resilience to ecosystem stressors such as abnormal high severity fire, insect and disease infestation and prolonged drought.

The potential of unintentional adverse effects to migratory bird species have been reduced through the adherence of Forest Plan standards and guidelines such as: forest management standards, maintenance of canopy closure, implementation of LOPs; snag/down woody debris retention and other measures. Specifically, the project is designed to create, sustain, or enhance a diversity of avian habitats, including the following:

- *Greater forest management standards to ecosystem stressors such as abnormal high severity fire, insect and disease infestation and prolonged drought*

- *The implementation of Limited Operating Periods (LOPs) in designated Protected Activity Centers (PACs) for Northern Goshawk and California Spotted Owls (defined further in the BE/BA) which would therefore benefit other migratory bird species*

- *Retention of snags and downed logs would be retained at 70-90% of the average numbers found within mature stands within the project boundary*

Additionally, in Seattle Audubon Society vs. Evans (952 F.2d 297), the 9th Circuit Court of Appeals ruled that habitat destruction is not “take” as defined under the MBTA (Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703 et seq.).

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Project Management Indicator Species Report

Colby Mountain Recreation Project

Lassen National Forest

Almanor Ranger District

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TABLE OF CONTENTS

TABLES

FIGURES

1. Introduction

The purpose of this report is to evaluate and disclose the impacts of the Colby Mountain Recreation Project on the habitat of the thirteen (13) Management Indicator Species (MIS) identified in the Lassen National Forest (NF) Land and Resource Management Plan (LRMP) (USDA 1993) as amended by the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (USDA Forest Service 2007a). This report documents the effects of the proposed action on the habitat of selected project-level MIS. Detailed descriptions of the Colby Mountain Recreation Project are found in the Colby Mountain Recreation Project National Environmental Policy Act (NEPA) Decision Memo (USDA Forest Service 2024).

MIS are animal species identified in the SNF MIS Amendment Record of Decision (ROD) signed on December 14, 2007, and developed under the 1982 National Forest System Land and Resource Management Planning Rule (1982 Planning Rule) (36 CFR 219). Guidance regarding MIS set forth in the Lassen LRMP as amended by the 2007 SNF MIS Amendment ROD directs Forest Service resource managers to (1) at project scale, analyze the effects of proposed projects on the habitat of each MIS affected by such projects, and (2) at the bioregional scale, monitor populations and/or habitat trends of MIS, as identified in the Lassen NF LRMP as amended.

1(a) Direction Regarding the Analysis of Project-Level Effects on MIS Habitat

Project-level effects on MIS habitat are analyzed and disclosed as part of environmental analysis under NEPA. This involves examining the impacts of the proposed project alternatives on MIS habitat by discussing how direct, indirect, and cumulative effects will change the habitat in the analysis area.

These project-level impacts to habitat are then related to broader scale (bioregional) population and/or habitat trends. The appropriate approach for relating project-level impacts to broader scale trends depends on the type of monitoring identified for MIS in the LRMP as amended by the SNF MIS Amendment ROD. Hence, where the Lassen NF LRMP as amended by the SNF MIS Amendment ROD identifies distribution population monitoring for an MIS, the project-level habitat effects analysis for that MIS is informed by available distribution population monitoring data, which are gathered at the bioregional scale. The bioregional scale monitoring identified in the Lassen NF LRMP, as amended, for MIS analyzed for the Colby Mountain Recreation Project is summarized in Section 3 of this report.

Adequately analyzing project effects to MIS generally involves the following steps:

- Identifying which habitat and associated MIS would be either directly or indirectly affected by the project alternatives; these MIS are potentially affected by the project.
- Summarizing the bioregional-level monitoring identified in the LRMP, as amended, for this subset of MIS.
- Analyzing project-level effects on MIS habitat for this subset of MIS.

- Discussing bioregional scale habitat and/or population trends for this subset of MIS.
- Relating project-level impacts on MIS habitat to habitat and/or population trends at the bioregional scale for this subset of MIS.

These steps are described in detail in the Pacific Southwest Region's draft document "MIS Analysis and Documentation in Project-Level NEPA, R5 Environmental Coordination" (May 25, 2006) (USDA Forest Service 2006a). This Management Indicator Species (MIS) Report documents application of the above steps to select project-level MIS and analyze project effects on MIS habitat for the Colby Mountain Recreation Project.

1(b) Direction Regarding Monitoring of MIS Population and Habitat Trends at the Bioregional Scale.

The bioregional scale monitoring strategy for the Lassen NF's MIS is found in the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (ROD) of 2007 (USDA Forest Service 2007a). Bioregional scale habitat monitoring is identified for all twelve of the terrestrial MIS. In addition, bioregional scale population monitoring, in the form of distribution population monitoring, is identified for all of the terrestrial MIS except for the greater sage-grouse. For aquatic macroinvertebrates, the bioregional scale monitoring identified is Index of Biological Integrity and Habitat. The current bioregional status and trend of populations and/or habitat for each of the MIS is discussed in the 2010 Sierra Nevada Forests Bioregional Management Indicator Species (SNF Bioregional MIS) Report (USDA Forest Service 2010a).

MIS Habitat Status and Trend.

All habitat monitoring data are collected and/or compiled at the bioregional scale, consistent with the LRMP as amended by the 2007 SNF MIS Amendment ROD (USDA Forest Service 2007a).

Habitats are the vegetation types (for example, early seral coniferous forest) or ecosystem components (for example, snags in green forest) required by an MIS for breeding, cover, and/or feeding. MIS for the Sierra Nevada National Forests represent 10 major habitats and 2 ecosystem components (USDA Forest Service 2007a), as listed in **Table 1**. These habitats are defined using the California Wildlife Habitat Relationship (CWHR) System (CDFG 2005). The CWHR System provides the most widely used habitat relationship models for California's terrestrial vertebrate species (ibid). It is described in detail in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a).

Habitat status is the current amount of habitat on the Sierra Nevada Forests. Habitat trend is the direction of change in the amount or quality of habitat over time. The methodology for assessing habitat status and trend is described in detail in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a). As of May 2017, the Region is awaiting updated mapping products to facilitate updated habitat status and trend analysis following the recent (2014-2017) drought-induced tree mortality in the

Southern Sierra Nevada. Habitat status and trend information in this report is updated with hypotheses based on suspected mortality effects where applicable and will be updated and confirmed once the maps are complete.

MIS Population Status and Trend.
All population monitoring data are collected and/or compiled at the bioregional scale, consistent with the LRMP as amended by the 2007 SNF MIS Amendment ROD (USDA Forest Service 2007a). The information is presented in detail in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a).

Population monitoring strategies for MIS of the Lassen NF are identified in the 2007 Sierra Nevada Forests Management Indicator Species (SNF MIS) Amendment ROD (USDA Forest Service 2007a). Population status is the current condition of the MIS related to the population monitoring data required in the 2007 SNF MIS Amendment ROD for that MIS. Population trend is the direction of change in that population measure over time.

There are a myriad of approaches for monitoring populations of MIS, from simply detecting presence to detailed tracking of population structure (USDA Forest Service 2001, Appendix E, page E-19). A distribution population monitoring approach is identified for all of the terrestrial MIS in the 2007 SNF MIS Amendment, except for the greater sage-grouse (USDA Forest Service 2007a). Distribution population monitoring consists of collecting presence data for the MIS across a number of sample locations over time. Presence data are collected using a number of direct and indirect methods, such as surveys (population surveys), bird point counts, tracking number of hunter kills, counts of species sign (such as deer pellets), and so forth. The specifics regarding how these presence data are assessed to track changes in distribution over time vary by species and the type of presence data collected, as described in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a).

Aquatic Macroinvertebrate Status and Trend.
For aquatic macroinvertebrates, condition and trend is determined by analyzing macroinvertebrate data using the predictive, multivariate River Invertebrate Prediction and Classification System (RIVPACS) (Hawkins 2003) to determine whether the macroinvertebrate community has been impaired relative to reference condition within perennial water bodies. This monitoring consists of collecting aquatic macroinvertebrates and measuring stream habitat features according to the Stream Condition Inventory (SCI) manual (Frasier et al. 2005). Evaluation of the condition of the biological community is based upon the “observed to expected” (O/E) ratio, which is a reflection of the number of species observed at a site versus the number expected to occur there in the absence of impairment. Sites with a low O/E scores have lost many species predicted to occur there, which is an indication that the site has a lower than expected richness of sensitive species and is therefore impaired.

2. Selection of Project level MIS

Management Indicator Species (MIS) for the Lassen NF are identified in the 2007 Sierra Nevada Forests Management Indicator Species (SNF MIS) Amendment (USDA Forest Service 2007a). The habitats and ecosystem components and associated MIS analyzed for the project were selected from this list of MIS, as indicated in Table 1. In addition to identifying the habitat or ecosystem components (1st column), the CWHR type(s) defining each habitat/ecosystem component (2nd column), and the associated MIS (3rd column), Table 1 discloses whether or not the habitat of the MIS is potentially affected by the Colby Mountain Recreation Project (4th column).

Table 1. Selection of MIS for Project-Level Habitat Analysis for the Colby Mountain Recreation Project

Habitat or Ecosystem Component	CWHR Type(s) defining the habitat or ecosystem component[1]	Sierra Nevada Forests Management Indicator Species *Scientific Name*	Category for Project Analysis[2]
Riverine & Lacustrine	lacustrine (LAC) and riverine (RIV)	aquatic macroinvertebrates	2
Shrubland (west-slope chaparral types)	montane chaparral (MCP), mixed chaparral (MCH), chamise-redshank chaparral (CRC)	fox sparrow *Passerella iliaca*	3
Sagebrush	Sagebrush (SGB)	greater sage-grouse *Centrocercus urophasianus*	1
Oak-associated Hardwood & Hardwood/conifer	montane hardwood (MHW), montane hardwood-conifer (MHC)	mule deer *Odocoileus hemionus*	1
Riparian	montane riparian (MRI), valley foothill riparian (VRI)	yellow warbler *Dendroica petechia*	2
Wet Meadow	Wet meadow (WTM), freshwater emergent wetland (FEW)	Pacific tree (chorus) frog *Pseudacris regilla*	3
Early-seral Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), lodgepole pine (LPN), Jeffrey pine (JPN), tree sizes 1, 2, and 3, all canopy closures	Mountain quail *Oreortyx pictus*	3
Mid-seral Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), lodgepole pine (LPN), Jeffrey pine (JPN), tree size 4, all canopy closures	Mountain quail *Oreortyx pictus*	3
Late-seral Open Canopy Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), lodgepole pine (LPN), Jeffrey	Sooty (blue) grouse *Dendragapus obscurus*	3

	pine (JPN), tree size 5, canopy closures S and P		
Late-seral Closed Canopy Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), lodgepole pine (LPN), Jeffrey pine (JPN), tree size 5 (canopy closures M and D), and tree size 6.	California spotted owl *Strix occidentalis occidentalis*	3
		Pacific marten *Martes caurina*[3]	
		northern flying squirrel *Glaucomys sabrinus*	
Snags in Green Forest	Medium and large snags in green forest	hairy woodpecker *Picoides villosus*	3
Snags in Burned Forest	Medium and large snags in burned forest (stand-replacing fire)	black-backed woodpecker *Picoides arcticus*	2

1 All CWHR size classes and canopy closures are included unless otherwise specified; dbh = diameter at breast height; Canopy Closure classifications: S=Sparse Cover (10-24% canopy closure); P= Open cover (25-39% canopy closure); M= Moderate cover (40-59% canopy closure); D= Dense cover (60-100% canopy closure);
Tree size classes: 1 (Seedling)(<1" dbh); 2 (Sapling)(1"-5.9" dbh); 3 (Pole)(6"-10.9" dbh); 4 (Small tree)(11"-23.9" dbh); 5 (Medium/Large tree)(>24" dbh); 6 (Multi-layered Tree) [In PPN and SMC] (Mayer and Laudenslayer 1988).
2 Category 1: MIS whose habitat is not in or adjacent to the project area and would not be affected by the project.
Category 2: MIS whose habitat is in or adjacent to project area but would not be either directly or indirectly affected by the project.
Category 3: MIS whose habitat would be either directly or indirectly affected by the project.
3 Identified as American Marten (Martes americana) in original MIS designation. Later classified as a separate species by Dawson and Cook (2012).

Greater sage-grouse, and mule deer identified as Category 1 above, will not be further discussed because the habitat factors for these species are not in the Wildlife Analysis Area; therefore, the project will not directly or indirectly affect these species or their habitat.

Aquatic macroinvertebrates, yellow warbler and black-backed woodpecker, identified as Category 2 above, have habitat in the Wildlife Analysis Area but will not be further discussed because the habitat factors for this species would not be either directly or indirectly affected by the project therefore, the project will not affect this species or its habitat.

The MIS whose habitat would be either directly or indirectly affected by the Colby Mountain Recreation Project, identified as Category 3 in Table 1, are carried forward in this analysis, which will evaluate the direct, indirect, and cumulative effects of the proposed action and alternatives on the habitat of these MIS. The MIS selected for project-level MIS analysis for the Colby Mountain Recreation Project are: fox sparrow, pacific tree frog, Mountain quail, sooty (blue) grouse, California spotted owl, Pacific marten, northern flying squirrel, and hairy woodpecker.

3. Bioregional Monitoring Requirements for MIS Selected for Project-Level Analysis

3(a) MIS Monitoring Requirements.

The Sierra Nevada Forests Management Indicator Species (SNF MIS) Amendment (USDA Forest Service 2007a) identifies bioregional scale habitat and/or population monitoring for the Management Indicator Species for ten National Forests, including the Lassen NF. The habitat and/or population monitoring requirements for Lassen NF's MIS are described in the 2010 Sierra Nevada Forests Bioregional Management Indicator Species (SNF Bioregional MIS) Report (USDA Forest Service 2010a) and are summarized below for the MIS being analyzed for the Colby Mountain Recreation Project. The applicable habitat and/or population monitoring results are also described in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a) and are summarized in Section 5 below for the MIS being analyzed for the Project.

Habitat monitoring at the bioregional scale is identified for all the habitats and ecosystem components, including the following analyzed for the Colby Mountain Project: shrubland (west-slope chaparral type); wet meadow; early-seral coniferous forest; mid-seral coniferous forest; and late-seral open and closed canopy coniferous forest; snags in green forest.

Distribution population monitoring at the bioregional scale for fox sparrow, pacific tree (chorus) frog, mountain quail, sooty (blue) grouse, California spotted owl, Pacific marten, northern flying squirrel, and hairy woodpecker. Distribution population monitoring consists of collecting presence data for the MIS across a number of sample locations over time (also see USDA Forest Service 2001, Appendix E).

3(b) How MIS Monitoring Requirements are Being Met.

Habitat and/or distribution population monitoring for all MIS is conducted at the Sierra Nevada scale. Refer to the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a) for details by habitat and MIS.

4. Description of Proposed Project.

The Almanor Ranger District, Lassen National Forest proposes to construct approximately 36 miles of new single-track trail out of Jonesville Snowmobile Park, two vault-style bathrooms, one (1) well at the Jonesville Snowmobile Park, an expanded parking lot at Humboldt Summit and a parking lot at the hub of 27N06 and 27N36. This project would include approximately 0.92 miles of pedestrian-only use trails, and 34.77 miles of non-motorized multi-use trails. The trails would be constructed to Trail Development Class 2, Class 3, and Class 4 standards. Standard tread width for the trail would be 24"-36", with the trail widening on steep sidehills and other locations as necessary to promote safety and resource protection issues. Trail grade would average fewer than 7 percent with maximum constructed grades not to exceed 15 percent for more than 150 feet. One 15-foot bridge is proposed along the southern portion of the Home trail that would cross an unnamed drainage. One wet crossing would also be constructed

along the northern portion of the Home trail and one on the Willow Creek trail. The wet crossings would be constructed with hardened entrances to minimize the stream banks' impacts and limit sediment inputs. There would also be exclusionary fencing placed for 20 feet along a section of Home trail to bar access to a sensitive fen area and installation of an information sign. See CEQA documentation for details.

Actions which will modify project-level MIS for the Colby Mountain Recreation Project includes select trees being cut during the construction or maintenance of the trail corridor. Vegetation removal would be in accordance with the trail class. Trees may be cut during the construction or maintenance of the trails' eight-foot-wide corridor, however, as many trees as possible would be retained, and removal of a tree 10-inch diameter at breast height (DBH) and larger would be uncommon. Only in cases where the trail could not be routed around a tree that is 10-inches DBH or larger would it be removed, such as in areas where tree density is high. Best efforts would be made to avoid sugar pine (*Pinus lambertiana*), western white pine (*P. monticola*), Jeffery pine (*P. jeffreyi*), and ponderosa pine (*P. ponderosa*) trees when possible. Vegetation removal will be in accordance with trail class as detailed in the USFS Design Parameters (FSH 2309.18, Section 23.13, Exhibit 01).

Trees that are less than 10-inches DBH and shrubs that are cut would be lopped and scattered to a depth not to exceed 12 to 18 inches. For trees 10-inch DBH to less than 30-inch DBH, once the tree has been cut down, tree branches and tops of trees to a 6-inch diameter would be cut from the bole of the trees and lopped and scattered. Larger bole material would be left on site.

During construction in the Jonesville Snowmobile Park parking lot, trees would be mechanically cut and removed, possibly through a small timber sale, and slash would be piled and burned. Brush would be removed for improvements to the Humboldt Summit trailhead and the construction of the Hub trailhead, but no tree removal would occur at these locations.

Live conifers with a 3-inch and larger stump diameter would be treated with an Environmental Protection Agency (EPA)-approved borate compound which is registered in California for the prevention of annosus root disease. No EPA-approved borate would be applied within 25 feet of known Sensitive and Special Interest (SI) plants or within 25 feet of live streams and meadow/wetlands.

4(a) Geographic Analysis Area

The treatment area, or project area defined as the trailheads and the trail, (approximately 36 miles, and 100 feet on either side), is 822 acres. For this MIS, the wildlife analysis area is the treatment area plus an additional half-mile buffer around the treatment area, approximately 10,824 acres. All potential effects discussed occur within the wildlife analysis area and have been considered in evaluating impacts to threatened, endangered, proposed, or sensitive species. The acres delineated for analysis encompass areas where actions are proposed and/or cumulative effects with the

proposed action are potentially significant. CWHR types and sizes vary throughout the analysis and project areas (Table 2).

Table 2. Summary of California Wildlife Habitat Relationships (CWHR) types within the Colby Mountain Recreation Project wildlife analysis area and project area (10,824 acres in analysis area, 822 acres in project area; all acres are approximate and include National Forest System lands).

Seral Stage	CWHR Code	Acres of existing condition project area	Acres of existing condition in wildlife analysis area
Conifer Forest - Late-seral Closed Canopy	5M, 5D, 6	91	1,357
Conifer Forest - Late-seral Open Canopy	5P, 5S	48	699
Conifer Forest - Mid-seral, Closed-Dense Canopy	4M, 4D	368	4,076
Conifer Forest - Mid-seral, Open-Sparse Canopy	4S, 4P, 4X	120	1,752
Conifer Forest - Early Seral	Size Class 1-3	96	973
Hardwood Forest		0	4
Shrub Dominated		81	1,645
Riparian		0	31
Grassland		8	187
Riverine		0	3
Non-Vegetated		10	97
Total		**822**	**10,824**

Conifer forest includes JPN, LPN, PPN, SMC, RFR, and WFR; Hardwood Forest includes ASP; Shrub dominated includes MCP; Riparian includes MRI; Grassland includes AGS, PGS, and WTM; Riverine includes RIV; Non-vegetated includes BAR; Size Class: 1 = Seedling Tree <1" DBH, 2 = Sapling Tree 1 - 6" DBH, 3 = Pole Tree 6 - 11" DBH, 4 = Small Tree 11 - 24"DBH, 5 = Medium/Large Tree >24"DBH,6 = Multi-layered Tree. Canopy Cover: D = Dense Canopy Cover (> 60%), M = Moderate Canopy Cover (40 - 59%), P = Open Canopy Cover (25 – 39%), S = Sparse Canopy Cover (10 – 24%).

5. Effects of Proposed Project on the Habitat for the Selected Project Level MIS.

The following section documents the analysis for the following 'Category 3' species: fox sparrow, Pacific tree (chorus) frog, mountain quail, sooty (blue) grouse, California spotted owl, Pacific marten, Northern flying squirrel and hairy woodpecker. The analysis of the effects of the Colby Mountain Recreation Project on the MIS habitat for the selected project-level MIS is conducted at the *project* scale. The analysis used the following habitat data: USFS Existing Vegetation (EVeg): Mid Region 5 – North Interior (USFS 2015) (Figure 1). Detailed information on the MIS is documented in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Cumulative effects at the bioregional scale are tracked via the SNF MIS Bioregional monitoring and detailed in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a).

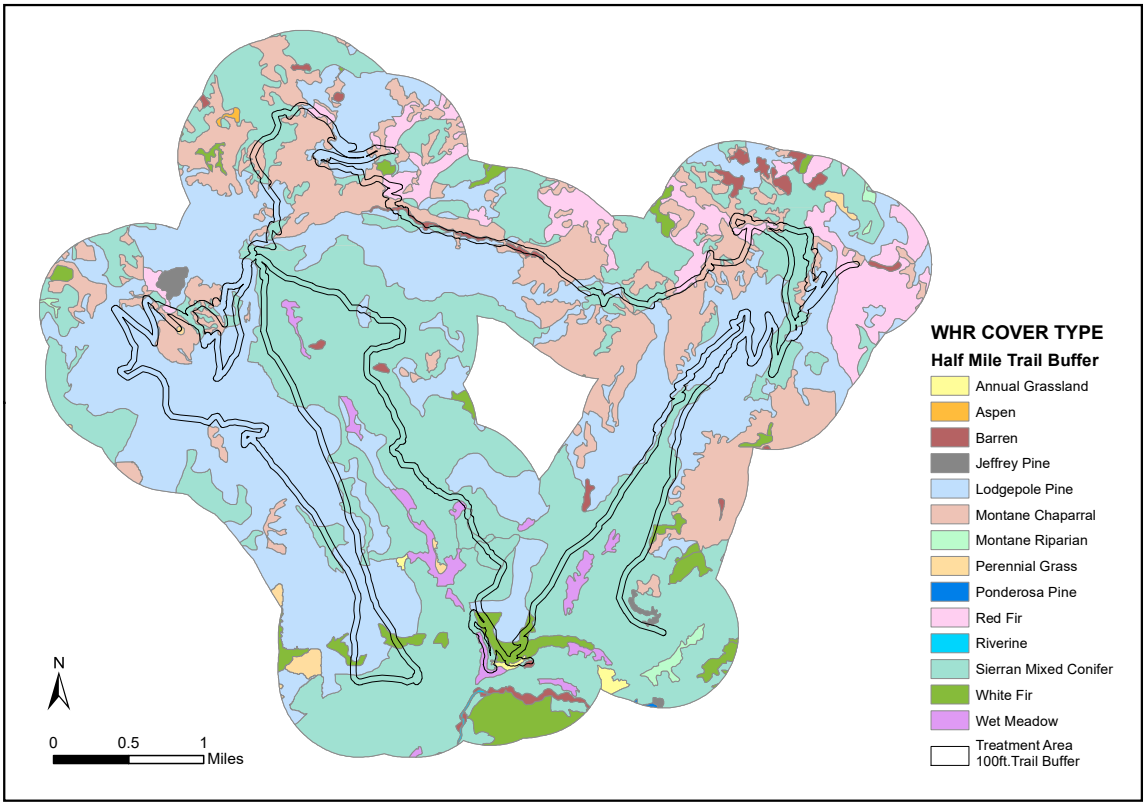

Figure 1. Colby Mountain Analysis Area showing wildlife habitat relationship cover types within 0.5 miles of the proposed trail system.

5(a) Shrubland (West-Slope Chaparral) Habitat (Fox sparrow)

Habitat/Species Relationship.

The fox sparrow was selected as the MIS for shrubland (chaparral) habitat on the west-slope of the Sierra Nevada, comprised of montane chaparral (MCP), mixed chaparral (MCH), and chamise-redshank chaparral (CRC) as defined by the California Wildlife Habitat Relationships System (CWHR) (CDFG, 2005). Recent empirical data from the Sierra Nevada indicate that, in the Sierra Nevada, the fox sparrow is dependent on open shrub-dominated habitats for breeding. The empirical data include six years of point count vegetation data and analysis from the Lassen National Forest (Burnett and Humple 2003, Burnett et al 2005) and analysis of the 2002-2006 data from the Plumas-Lassen Study (Sierra Nevada Research Center, 2007).

Project-level Effects Analysis – Shrubland (West-Slope Chaparral Types)

Habitat Factor(s) for the Analysis.

(1) Acres of shrubland (chaparral) habitat [CWHR montane chaparral (MCP), mixed chaparral (MCH), and chamise-redshank chaparral (CRC)]. (2) Acres with changes in shrub ground cover class (Sparse = 10-24 percent; Open = 25-39 percent; Moderate = 40-59 percent; Dense = 60-100 percent). (3) Acres with changes in CWHR shrub size class (Seedling shrub (seedlings or sprouts less than 3 years); Young shrub (no crown decadence); Mature Shrub (crown decadence 1-25 percent); Decadent shrub (greater than 25 percent).

Current Condition of the Habitat Factor(s) in the Project Area.

The project area currently supports approximately 81 acres of shrubland (chaparral) habitat within the proposed 822 acre trail corridor, making up approximately 10% of all existing habitat types within the project area and approximately 5% of total shrubland habitat in the wildlife analysis area. This habitat primarily occurs in the north and northeastern quadrants of the project area. Habitats are mixed with patches of montane riparian and coniferous forest habitat throughout the project area. Shrubland habitats in the project area contain montane chaparral of various sizes and species representative of chaparral habitat.

Proposed Action

Direct and Indirect Effects to Habitat.

Proposed activities will remove a small amount of shrubland habitat where proposed trails and trailheads overlap this habitat type, however, a reduction in up to 5% of chapparal habitat is not a significant reduction compared to the available chapparal habitat in the wildlife analysis area. Indirect effects include reduction of understory shrub closure. The removal of individual shrubs may reduce the overall acreage of the shrubland habitat type (montane chaparral), but this will likely not be significant enough to impact the overall shrubland community. Over 95% of total chapparal shrubland will still be available in the wildlife analysis area.

Cumulative Effects to Habitat in Project Area.

Past, present, and reasonably foreseeable future actions affecting the habitat in the project area have been identified in the Colby Mountain Recreation Project BE. The cumulative effects analysis for MIS habitat is restricted to the analysis area. The analysis area was selected because there is a low probability of activities outside of this area that would result in effects on this habitat (e.g., wildfire, forest treatments). In addition, most activities would have a neutral effect on this habitat if implemented following standards and guidelines. Within this analysis area, the primary actions that could represent cumulative effects are increased visitor usage of the habitat, creating long term anthropomorphic effects.

Cumulative Effects Conclusion.
The Colby Mountain Recreation Project will only reduce up to 5% of shrubland (chaparral) habitat available in the analysis area leaving 95% of this habitat available post-treatment. Future projects such as Upper Butte Creek Forest Health Project may have a more significant impact on shrubland habitat, but this will be analyzed in the project's BE and MIS reports. The proposed action is not expected to add cumulatively to the reduction in habitat, and therefore the proposed project would not alter the existing trend in the habitat.

Summary of Fox Sparrow Status and Trend at the Bioregional Scale
The Lassen NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the fox sparrow; hence, the shrubland effects analysis for the Colby Mountain Recreation Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the fox sparrow. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend.
There are currently 1,009,681 acres of west-slope chaparral shrubland habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend is slightly increasing (changing from 8% to 9% of the acres on National Forest System lands).

Population Status and Trend.
Monitoring of the fox sparrow across the ten National Forests in the Sierra Nevada has been conducted since 2009 in partnership with Point Blue Conservation Science, as part of a monitoring effort that also includes mountain quail, hairy woodpecker, and yellow warbler (USDA Forest Service 2010a, Roberts and Burnett 2016). Fox sparrows were detected on 36.9% of 1659 point counts in 2009 and 38% of 2394 point counts in 2015, with detections on all ten national forests in all years. From 2010 – 2015, occupancy ranged from 0.47-0.49, highest in 2010 and lowest in 2014 (Roberts and Burnett 2016). These data indicate that fox sparrows continue to be distributed across the 10 Sierra Nevada National Forests, although occupancy is higher in the central and southern Sierra than in the Northern Sierra. In addition, the fox sparrows continue to be monitored and surveyed in the Sierra Nevada at various sample locations by avian point count, spot mapping, mist-net, and breeding bird survey protocols. These are summarized in the 2008 Bioregional Monitoring Report (USDA Forest Service 2008). Current data at the range wide, California, and Sierra Nevada scales indicate that, although there may be localized declines in the population trend, the distribution of fox sparrow populations in the Sierra Nevada is stable (Roberts and Burnett 2016).

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Fox Sparrow Trend.
The proposed projects effects, and those planned for the future in the analysis area, would result in very little impact to shrubland (chaparral) habitat. The removal of 5% of montane chaparral habitat in the Colby Mountain Recreation Project Analysis Area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of fox sparrow across the Sierra Nevada bioregion.

5(b) Wet Meadow Habitat (Pacific tree (chorus) frog)

Habitat/Species Relationship.
The Pacific tree frog (now known as the Pacific chorus frog) was selected as an MIS for wet meadow habitat in the Sierra Nevada. This broadly distributed species requires standing water for breeding; tadpoles require standing water for periods long enough to complete aquatic development, which can be as long as 3 or more months at high elevations in the Sierra Nevada (CDFG 2005). During the day during the breeding season, adults take cover under clumps of vegetation and surface objects near water; during the remainder of the year, they leave their breeding sites and seek cover in moist niches in buildings, wells, rotting logs or burrows (ibid).

Project-level Effects Analysis – Wet Meadow Habitat

Habitat Factor(s) for the Analysis.
(1) Acres of wet meadow habitat [CWHR wet meadow (WTM) and freshwater emergent wetland (FEW)]. (2) Acres with changes in CWHR herbaceous height classes [short herb (<12”), tall herb (>12”)] and changes in CWHR herbaceous ground cover classes (Sparse=2-9%; Open=10-39%; Moderate=40-59%; Dense=60-100%) (4) Changes in meadow hydrology.

Current Condition of the Habitat Factor(s) in the Project Area.
There are 5 acres of wet meadow and no documented freshwater emergent wetland in the proposed project area. The analysis area contains 127 acres of wet meadow and 187 acres of grassland overall including wet meadow.

Proposed Action

Direct and Indirect Effects to Habitat.
The 5 acres of wet meadow in the project area footprint represents approximately 3% of available grassland in the analysis area. Though some of these 5 acres will change wet meadow into barren ground where the proposed trail overlaps this habitat type, the change in habitat type is not expected to impact long-term meadow hydrology. Construction of the trail may temporarily increase sedimentation, but trail building will follow best management practices to reduce sedimentation and other impacts over the long-term.

Cumulative Effects to Habitat in the Analysis Area.
Past, present, and reasonably foreseeable future actions affecting the habitat in the project area have been identified in the Colby Mountain Recreation Project BE. The cumulative effects analysis for MIS habitat is restricted to the analysis area. Actions affecting wet meadow habitat include trail construction which would convert up to 5 acres of this habitat to barren ground or dirt, and continued trail use which will not allow those acres to become wet meadow in the future. Herbaceous cover for the affected area would be converted from existing conditions to no cover, effectively removing herbaceous cover. This change is not expected to influence meadow hydrology overall since it is a small percentage of available grassland in the analysis area. Cumulative effects from overlapping projects may temporarily increase sedimentation during trail construction in addition to sedimentation and disruption caused by the Storrie Meadows Restoration Project, but the effects of both projects are not expected to last beyond implementation.

Cumulative Effects Conclusion
The change in herbaceous ground cover of 5 acres out of 187 acres of habitat will not alter the existing trend in the habitat.

Summary of Pacific Tree (Chorus) Frog Status and Trend at the Bioregional Scale
The Lassen NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the Pacific tree (chorus) frog; hence, the wet meadow effects analysis for the Colby Mountain Recreation Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the Pacific tree (chorus) frog. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend.
There are currently 61,247 acres of wet meadow habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend is stable.

Population Status and Trend.
Since 2002, the Pacific tree (chorus) frog has been monitored on the Sierra Nevada forests as part of the Sierra Nevada Forest Plan Amendment (SNFPA) monitoring plan (USDA Forest Service 2006b, 2007b, 2009, 2010b; Brown 2008). These data indicate that Pacific tree (chorus) frog continues to be present at these sample sites, and current data at the rangewide, California, and Sierra Nevada scales indicate that the distribution of Pacific tree (chorus) frog populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Pacific Tree (Chorus) Frog Trend.
The change in 5 acres of wet meadow in the Colby Mountain Recreation project area out of 127 acres of wet meadow habitat available in the wildlife analysis area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of Pacific tree frogs across the Sierra Nevada bioregion."

5(c) Early and Mid-seral Coniferous Forest Habitat (Mountain quail)

Habitat/Species Relationship.
The mountain quail was selected as the MIS for early and mid-seral coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat in the Sierra Nevada. Early seral coniferous forest habitat is comprised primarily of seedlings (<1" dbh), saplings (1"-5.9" dbh), and pole-sized trees (6"-10.9" dbh). Mid-seral coniferous forest habitat is comprised primarily of small-sized trees (11"-23.9" dbh). The mountain quail is found particularly on steep slopes, in open, brushy stands of conifer and deciduous forest and woodland, and chaparral; it may gather at water sources in the summer, and broods are seldom found more than 0.8 km (0.5 mi) from water (CDFG 2005).

Project-level Effects Analysis – Early and Mid-seral Coniferous Forest Habitat

Habitat Factor(s) for the Analysis.
(1) Acres of early (CWHR tree sizes 1, 2, and 3) and mid-seral (CWHR tree size 4) coniferous forest (Jeffrey pine, lodgepole pine, ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat [CWHR Jeffrey pine (JPN), lodgepole pine (LPN), ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree sizes 1, 2, 3, and 4, all canopy closures]. (2) Acres with changes in CWHR tree size class. (3) Acres with changes in tree canopy closure. (4) Acres with changes in understory shrub canopy closure.

Current Condition of the Habitat Factor(s) in the Project Area.
The project area currently supports approximately 96 acres of early-seral and 488 acres of mid-seral coniferous forest. There are approximately 973 acres of early-seral and 5,828 acres of mid-seral coniferous forest existing in the analysis area. This habitat occurs throughout the project area. Habitats are mixed with patches of montane chaparral in the north and northeastern quadrants of the project area. Forest habitats intersect with wet meadow throughout the southern quadrant. Forest habitats in the project area contains trees of various sizes and species representative of coniferous forest habitat.

Proposed Action

Direct and Indirect Effects to Habitat.
Early seral habitat in the project makes up approximately 10% of early-seral habitat in the analysis area. Mid-seral habitat in the project area comprises approximately 8% of mid-seral habitat in the analysis area. Direct and indirect effects of project actions in these habitat types includes a small reduction in early- and mid-seral habitat acres and shrub cover along the proposed trail footprint but will not result in a significant change to each of the habitat factors. Post-implementation, 90% of early-seral coniferous forest and 92% of mid-seral coniferous forest in the analysis area will be unchanged.

Cumulative Effects to Habitat in the Analysis Area.
Past, present, and reasonably foreseeable future actions affecting the habitat in the project area have been identified in the Colby Mountain Recreation Project BE/BA. The cumulative effects analysis for this and all alternatives is restricted to the analysis area. The analysis area was selected because there is a low probability of activities outside of this area that would result in effects on this habitat (e.g., wildfire, forest treatments). In addition, most activities would have a neutral effect on this habitat if implemented following standards and guidelines. Within this analysis area, the primary actions that could represent cumulative effects are increased visitor usage of the habitat, creating long term anthropomorphic effects.

Cumulative Effects Conclusion.
As a result of proposed actions on USFS lands within the project area, cumulatively there would be a change in canopy closure of less than or equal to 10% of total acres of available early and mid-seral conifer forest habitat in the analysis area. Therefore, the proposed action is not expected to add cumulatively to the reduction in habitat, and therefore the proposed project would not alter the existing trend in the habitat.

Summary of Mountain Quail Status and Trend at the Bioregional Scale
The Lassen NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the mountain quail; hence, the early and mid-seral coniferous forest effects analysis for the Colby Mountain Recreation Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the mountain quail. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend.
There are currently 530,851 acres of early seral and 2,776,022 acres of mid-seral coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend for early seral is decreasing (changing from 9% to 5% of the acres on National Forest System lands) and the trend for mid-seral is increasing (changing from 21% to 25% of the acres on National Forest System lands). Due to recent (2014-2017) extensive tree mortality in the Southern Sierra Nevada, as well as large fires in the Central Sierra, the decreasing trend in early seral habitat may now be reversing. However, we cannot yet quantify this change, and will update this information when the vegetation mapping products currently in development allow for more direct comparison between pre- and post- mortality conditions. Mid-seral conditions likely continue to increase, as older/larger trees are disproportionately dying, leaving the younger, smaller trees on the landscape.

Population Status and Trend.
Monitoring of the mountain quail across the ten National Forests in the Sierra Nevada has been conducted since 2009 in partnership with PRBO Conservation Science, as

part of a monitoring effort that also includes fox sparrow, hairy woodpecker, and yellow warbler (USDA Forest Service 2010a, Roberts and Burnett 2016). Mountain quail were detected on 40.3 percent of 1659 point counts in 2009 and 47.4% of 2266 point counts in 2010. Methodology shifted slightly after initial years to consider transects, rather than points, as independent samples and Mountain Quail were detected at 28% of 474 transects in 2014 and 29% of 474 transects in 2015, with detections on all 10 national forests across years. Occupancy was steady across years, ranging from 0.63-0.65 between 2010 and 2015 (Roberts and Burnett 2016). These data indicate that mountain quail continue to be distributed across the ten Sierra Nevada National Forests. In addition, mountain quail continue to be monitored and surveyed in the Sierra Nevada at various sample locations by hunter survey, modeling, and breeding bird survey protocols. These are summarized in the 2008 Bioregional Monitoring Report (USDA Forest Service 2008). Current data at the range wide, California, and Sierra Nevada scales indicate that the distribution of mountain quail populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Mountain Quail Trend.

The proposed projects effects, and those planned for the future in the analysis area, would result in a neutral impact on the trend of early and mid-seral coniferous forest habitat. The removal of select trees in the early and mid-seral coniferous forest habitat in the Colby Mountain Recreation Project Area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of mountain quail across the Sierra Nevada bioregion.

5(d) Late-Seral Open Canopy Coniferous Forest Habitat [Sooty (blue) grouse]

Habitat/Species Relationship.

The sooty grouse was selected as the MIS for late-seral open canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat in the Sierra Nevada. This habitat is comprised primarily of medium/large trees (equal to or greater than 24-inches DBH) with canopy closures less than 40%. Sooty grouse occurs in open, medium to mature-aged stands of fir, Douglas-fir, and other conifer habitats, interspersed with medium to large openings, and available water, and occupies a mixture of mature habitat types, shrubs, forbs, grasses, and conifer stands (CDFG 2005). Empirical data from the Sierra Nevada indicate that Sooty Grouse hooting sites are located in open, mature, fir-dominated forest, where particularly large trees are present (Bland 2006).

Project-level Effects Analysis – Late-Seral Open Canopy Coniferous Forest Habitat

Habitat Factor(s) for the Analysis.

(1) Acres of late-seral open canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat [CWHR ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree

size 5, canopy closures S and P]. (2) Acres with changes in tree canopy closure class. (3) Acres with changes in understory shrub canopy closure class.

Current Condition of the Habitat Factor(s) in the Project Area.
There are approximately 699 acres of late-seral open canopy coniferous forest habitat in the analysis area, 48 of which are in the project area.

Proposed Action

Direct and Indirect Effects to Habitat.
Though 48 acres of late-seral open canopy coniferous forest habitat exists in the project area, it is assumed this forest type would have sufficient tree spacing to route the trail footprint around most large trees and canopy cover would not change. Removal of trees greater than 10-inches DBH will be uncommon and would likely not occur in open canopy stands. If it does occur in these stands, project actions would not change the habitat type into a more sparse category than the stand already is, nor would it change the CWHR stand size category (i.e. Size class 5 would remain 5 post-treatment). Acres of late-seral open canopy coniferous forest in the project area represent approximately 7% of this total habitat type in the analysis area. Project actions may reduce understory shrub canopy closure slightly, but this change would not be significant as it is only expected to occur within the trail's 100-foot buffer. The proposed action would not change any of the habitat factors for analysis resulting in no reduction of acres of this habitat type.

Cumulative Effects to Habitat in the Analysis Area.
Past, present, and reasonably foreseeable future actions affecting the habitat in the project area have been identified in the Colby Mountain Recreation Project BE/BA. The cumulative effects analysis for MIS habitat is restricted to the analysis area. Project actions that will affect the habitat include removal of understory shrub cover since large trees are not expected to be removed at a volume that would reduce existing CWHR values for each stand that overlaps the project area. Where coniferous forest is dense (as in canopy closure category D which is canopy closures greater than 60%), removal of large trees may occur more frequently but would likely not change habitat type, size class or density since trees would be removed in the trail corridor only, and would need to be approved by a USFS biologist if removed in a CSO PAC.

Cumulative Effects Conclusion.
The change in canopy closure of up to 48 acres out of 699 acres of habitat will not alter the existing trend in the habitat.

Summary of Sooty Grouse Status and Trend at the Bioregional Scale
The Lassen NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the sooty grouse; hence, the late-seral open canopy coniferous forest effects analysis for the Colby Mountain Recreation Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population

status and trend data for the sooty grouse. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend.
There are currently 63,795 acres of late seral open canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend is decreasing (changing from 3% to 1% of the acres on National Forest System lands). Due to recent (2014-2017) extensive tree mortality in the Southern Sierra Nevada, the decreasing trend in open canopy late seral habitat may now be reversing, as tree mortality in older stands creates more open canopy conditions. However, we cannot yet quantify this change, and will update this information when the vegetation mapping products currently in development allow for more direct comparison between pre- and post- mortality conditions.

Population Status and Trend.
The sooty grouse has been monitored in the Sierra Nevada at various sample locations by hunter survey, modeling, point counts, and breeding bird survey protocols, including California Department of Fish and Game Blue (Sooty) Grouse Surveys (Bland 1993, 1997, 2002, 2006); California Department of Fish and Game hunter survey, modeling, and hunting regulations assessment (CDFG 2004a, CDFG 2004b); Multi-species inventory and monitoring on the Lake Tahoe Basin Management Unit (LTBMU 2007); and 1968 to present – BBS routes throughout the Sierra Nevada (Sauer et al. 2007). These data indicate that sooty grouse continue to be present across the Sierra Nevada, except in the area south of the Kern Gap, and current data at the range wide, California, and Sierra Nevada scales indicate that the distribution of sooty grouse populations in the Sierra Nevada north of the Kern Gap is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Sooty Grouse Trend.
The change in understory shrub canopy closure of 48 acres out of 699 acres of late seral closed canopy coniferous forest habitat available in the Colby Mountain Recreation wildlife analysis area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of sooty grouse across the Sierra Nevada bioregion."

5(e) Late-Seral Closed Canopy Coniferous Forest Habitat (California spotted owl, Pacific marten, and northern flying squirrel)

Habitat/Species Relationship.

California spotted owl.

The California spotted owl was selected as an MIS for late-seral closed canopy coniferous forest (Jeffrey pine, lodgepole pine, ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat in the Sierra Nevada. This habitat is comprised primarily of medium/large trees (equal to or greater than 24-inches DBH) with canopy closures above 40% within ponderosa pine, Sierran mixed conifer, white fir, and red fir coniferous forests, and multi-layered trees within ponderosa pine and Sierran mixed conifer forests. The California spotted owl is strongly associated with forests that have a complex multi-layered structure, large-diameter trees, and high canopy closure (CDFG 2005, USFWS 2006). It uses dense, multi-layered canopy cover for roost seclusion; roost selection appears to be related closely to thermoregulatory needs, and the species appears to be intolerant of high temperatures (CDFG 2005). Mature, multi-layered forest stands are required for breeding (Ibid). The mixed-conifer forest type is the predominant type used by spotted owls in the Sierra Nevada: about 80 percent of known sites are found in mixed-conifer forest, with 10 percent in red fir forest (USDA Forest Service 2001).

Pacific Marten.

The Pacific[1] marten was selected as an MIS for late-seral closed canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat in the Sierra Nevada. This habitat is comprised primarily of medium/large trees (equal to or greater than 24-inches DBH) with canopy closures above 40% within ponderosa pine, Sierran mixed conifer, white fir, and red fir coniferous forests, and multi-layered trees within ponderosa pine and Sierran mixed conifer forests. Martens prefer coniferous forest habitat with large diameter trees and snags, large down logs, moderate-to-high canopy closure, and an interspersion of riparian areas and meadows. Important habitat attributes are: vegetative diversity, with predominately mature forest; snags; dispersal cover; and large woody debris (Allen 1982). Key components for westside and eastside marten habitat can be found in the Sierra Nevada Forest Plan Amendment FEIS (USDA Forest Service 2001), Volume 3, Chapter 3, part 4.4, pages 20-21.

Northern flying squirrel.

The northern flying squirrel was selected as an MIS for late-seral closed canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat in the Sierra Nevada. This habitat is comprised primarily of medium/large trees (equal to or greater than 24-inches DBH) with canopy closures above 40% within ponderosa pine, Sierran mixed conifer, white fir, and red fir coniferous forests, and multi-layered

[1]Formerly identified as the American Marten, reclassified as a separate species following Dawson and Cook 2012. http://explorer.natureserve.org/servlet/NatureServe?searchSciOrCommonName=marten&x=0&y=0;

trees within ponderosa pine and Sierran mixed conifer forests. The northern flying squirrel occurs primarily in mature, dense conifer habitats intermixed with various riparian habitats, using cavities in mature trees, snags, or logs for cover (CDFG 2005).

Project-level Effects Analysis – Late-seral Closed Canopy Coniferous Forest Habitat.

Habitat Factor(s) for the Analysis

(1) Acres of late-seral closed canopy coniferous forest (Jeffrey pine, lodgepole pine, ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat [CWHR Jeffrey pine (JPN), lodgepole pine (LPN), ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), tree size 5 (canopy closures M and D), and tree size 6]. (2) Acres with changes in canopy closure class (D to M). (3) Acres with changes in large down logs per acre or large snags per acre.

Current Condition of the Habitat Factor(s) in the Project Area

The Analysis Area currently supports approximately 1,357 acres of late-seral closed canopy coniferous forest habitat, 91 of which are in the Project Area footprint. This habitat occurs throughout the project area. Habitats are mixed with patches of montane chaparral habitats in the north and northeastern quadrants of the project area. Forest habitats intersect with wet meadow habitats throughout the southern quadrant.

Proposed Action

Direct and Indirect Effects to Habitat.

Late-seral closed canopy forest in the project area represents approximately 7% of the total late-seral closed canopy forest in the wildlife analysis area overall. Indirect effects include reduction of canopy closure and understory shrub closure. The removal of individual trees may reduce the overall acreage of the forest habitat type (early/mid-seral conifer forest), but this will likely not be significant enough to move the stand into a different CWHR category, since cutting trees over 24-inches DBH for this project would be uncommon. In other words, acres of class 5 trees in canopy closure classes of M or D will remain size class 5 with no change to canopy closure category.

Cumulative Effects to Habitat in the Analysis Area.

Past, present, and reasonably foreseeable future actions affecting the habitat in the project area have been identified in the Colby Mountain Recreation Project BE/BA. The cumulative effects analysis for this and all alternatives is restricted to the analysis area. The analysis area was selected because there is a low probability of activities outside of this area that would result in effects on this habitat (e.g. wildfire, forest treatments). In addition, most activities would have a neutral effect on this habitat if implemented following standards and guidelines. Within this analysis area, the primary actions that could contribute to cumulative effects are increased visitor usage of the habitat, creating long term anthropomorphic effects. The Upper Butte Creek Forest Health Project would add cumulative effects by reducing acres of this habitat type in

the analysis area; direct/indirect and cumulative effects of that project will be disclosed in the project's BE/BA and MIS reports. Because the Colby Mountain Recreation Project actions will not change CWHR types and is not expected to create a reduction in canopy cover overall in the analysis area, the effects of this project will not significantly contribute to cumulative effects in late-seral closed canopy forest types.

Cumulative Effects Conclusion.
As a result of proposed actions on USFS lands within the project area, this project would only affect about 7% of total acres of available late-seral conifer forest habitat in the analysis area. Furthermore, this project's proposed actions will not likely cause a significant reduction to overall canopy closure in the analysis area since few trees in the late-seral closed canopy category would be removed, thus not causing a shift from CWHR canopy D to M. Therefore, the proposed action is not expected to add cumulatively to the reduction in habitat, and therefore the proposed project would not alter the existing trend in the habitat.

Summary of Status and Trend at the Bioregional Scale

California spotted owl, Pacific marten, and Northern flying squirrel.
The Lassen NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the California spotted owl, Pacific marten, and northern flying squirrel; hence, the late-seral closed canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat effects analysis for the Colby Mountain Recreation Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend.
There are currently 1,006,923 acres of late-seral closed canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend is slightly increasing (changing from 7% to 9% of the acres on National Forest System lands); since the early 2000s, the trend has been stable at 9%. Due to recent (2014-2017) extensive tree mortality, the increasing trend in closed canopy late-seral habitat appears to be reversing in the Southern Sierra, as tree mortality in older stands creates more open canopy conditions. This may be the case for mixed conifer and pine forests, and less so for white and red fir habitats. However, we cannot yet quantify this change, and will update this information when the vegetation mapping products currently in development allow for more direct comparison between pre- and post-mortality conditions.

[2] Identified in these references as American marten, prior to nomenclature change (Dawson and Cook 2012)

Population Status and Trend – California spotted owl.
California spotted owl has been monitored in California and throughout the Sierra Nevada through general surveys, monitoring of nests and territorial birds, and demography studies (Verner et al. 1992; Gutierrez et al. 2008, 2009, 2010; USDA Forest Service 2001, 2004, 2006b; USFWS 2006; Sierra Nevada Research Center 2007, 2008, 2009, 2010). Current data at the range wide, California, and Sierra Nevada scales indicate that, although there have been localized declines in population trend [e.g., localized decreases in "lambda" (estimated annual rate of population change) within three of the four demographic study areas (Tempel et al. 2014, Tempel et al. 2016)], the distribution of California spotted owl populations in the Sierra Nevada is stable and relatively contiguous (Gutierrez et al. in Press).

Population Status and Trend – Pacific marten.
Pacific marten has been monitored throughout the Sierra Nevada as part of general surveys and studies since 1996 (e.g., Zielinski et al. 2005, Moriarty 2009). Since 2002, the Pacific marten has been monitored on the Sierra Nevada forests as part of the Sierra Nevada Forest Plan Amendment (SNFPA) monitoring plan (USDA Forest Service 2005, 2006b, 2007b, 2009, 2010b)[2]. Current data at the range wide, California, and Sierra Nevada scales indicate that, although marten appear to be distributed throughout their historic range, their distribution has become fragmented in the southern Cascades and northern Sierra Nevada, particularly in Plumas County. The distribution appears to be continuous across high-elevation forests from Placer County south through the southern end of the Sierra Nevada, although detection rates have decreased in at least some localized areas (e.g., Sagehen Basin area of Nevada County).

Population Status and Trend – Northern flying squirrel.
The northern flying squirrel has been monitored in the Sierra Nevada at various sampling locations by live-trapping, ear-tagging, camera surveys, snap-trapping, and radiotelemetry: 2002-present on the Plumas and Lassen National Forests (Sierra Nevada Research Center 2007, 2008, 2009, 2010), and 1958-2004 throughout the Sierra Nevada in various monitoring efforts and studies (see USDA Forest Service 2008, Table NOFLS-IV-1). These data indicate that northern flying squirrels continue to be present at these sample sites, and current data at the range wide, California, and Sierra Nevada scales indicate that the distribution of northern flying squirrel populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Trends.

California spotted owl.
The removal of select trees along the trail corridor would not affect the overall acreage of late-seral closed canopy coniferous forest habitat in the Colby Mountain Recreation Project Area and Analysis Area. Therefore, there will be no alteration of existing trend in the habitat, nor will it lead to a change in the distribution of California spotted owl across the Sierra Nevada bioregion.

Pacific marten.
The removal of select trees would not affect the overall acreage of late-seral closed canopy coniferous forest habitat in the Colby Mountain Recreation Project Area. Therefore, there will be no alteration of existing trend in the habitat, nor will it lead to a change in the distribution of Pacific marten across the Sierra Nevada bioregion.

Northern flying squirrel.
The removal of select trees would not affect the overall acreage of late-seral closed canopy coniferous forest habitat in the Colby Mountain Recreation Project Area. Therefore, there will be no alteration of existing trend in the habitat, nor will it lead to a change in the distribution of Northern flying squirrel across the Sierra Nevada bioregion.

5(f) Snags in Green Forest Ecosystem Component (Hairy woodpecker)

Habitat/Species Relationship.
The hairy woodpecker was selected as the MIS for the ecosystem component of snags in green forests. Medium (diameter breast height between 15 to 30 inches) and large (diameter breast height greater than 30 inches) snags are most important. The hairy woodpecker uses stands of large, mature trees and snags of sparse to intermediate density; cover is also provided by tree cavities (CDFG 2005). Mature timber and dead snags or trees of moderate to large size are apparently more important than tree species (Siegel and DeSante 1999).

Project-level Effects Analysis – Snags in Green Forest Ecosystem Component

Habitat Factor(s) for the Analysis.
(1) Medium (15-30 inches DBH) snags per acre. (2) large (greater than 30-inches DBH) snags per acre.

Current Condition of the Habitat Factor(s) in the Project Area.
There are 8,857 acres of green (unburned) coniferous forest potentially supporting medium and large snags in the Colby Mountain Recreation Analysis Area, 723 of which are in the Project Area.

Proposed Action

Direct and Indirect Effects to Habitat.
It is assumed snags exist within coniferous forest in the Analysis Area and snags will only be removed if they are in or near the proposed trail corridor where they pose a hazard. Coniferous forest supporting snags in the project area makes up approximately 8% of coniferous forest in the wildlife analysis area. Snags in green forest are generally not considered hazardous to humans/infrastructure until implementation of an avenue for human travel such as a trail is built, or parking lots established or expanded. Snags in green forest then become hazard trees causing a need to mitigate the hazard where humans may be present. Ideally the trail would be routed around existing snags, especially large snags with wildlife components such

as cavities, but in some cases, snags may need to be removed where it becomes infeasible to re-route the trail or where a snag could come into contact with a trailhead or the parking lot. Instances where snags, especially large snags, need to be removed are expected to be uncommon and would occur only along the 100 ft trail corridor or outside the corridor where there is potential for the snag to hit the trail if it were to fall. Situations like this are expected to be rare and the availability of snags in the 92% of coniferous forest unaffected by snag removal for the proposed project should be able to achieve minimum snag retention standards in accordance with the SNFPA 2004 ROD which is 4 snags per acre for westside mixed conifer and ponderosa forest types.

Cumulative Effects to Habitat in the Analysis Area.
The existing condition reflects the changes of all activities that have occurred in the past. The analysis of cumulative effects of the Proposed Action evaluates the impact on MIS habitat from the existing condition within the wildlife analysis area. The overlapping Upper Butte Creek project has several proposed actions that may negatively affect the availability of snags in green forest, including mechanical and hand thin, prescribed burning and road maintenance. Effects of UBC project would be analyzed in the project's BE/BA. The fuelwood gathering and Christmas tree cutting programs on the Lassen NF are ongoing programs that have been in existence for years and are expected to continue. The past and future effect of these actions has been to reduce the number of snags and down logs within reasonable distance from roads, while generally retaining continuous forest cover, which would negatively affect snags in green forest habitat.

Cumulative Effects Conclusion.
It is anticipated that implementation of proposed actions in combination with present and reasonably foreseeable future actions (namely UBC project actions along with woodcutting), would have some cumulative effect to the population and habitat distribution across the Lassen National Forest. However, actions from this project potentially changing the number of medium snags per acre on 723 acres out of 8,857 acres will not alter the existing trend in the ecosystem component.

Summary of Hairy Woodpecker Status and Trend at the Bioregional Scale
The Lassen NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the hairy woodpecker; hence, the snag effects analysis for the Colby Mountain Recreation Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the hairy woodpecker. This information is drawn from the detailed information on habitat and distribution population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Ecosystem Component Status and Trend.
The current average number of medium-sized and large-sized snags ($\geq$ 15-inch DBH, all decay classes) per acre across major coniferous and hardwood forest types (westside mixed conifer, ponderosa pine, white fir, productive hardwoods, red fir, eastside pine) in the Sierra Nevada ranges from 1.5 per acre in eastside pine to 9.1

per acre in white fir. In 2008, snags in these types ranged from 1.4 per acre in eastside pine to 8.3 per acre in white fir (USDA Forest Service 2008).

Data from the early-to-mid 2000s were compared with the current data to calculate the trend in total snags per acre by Regional forest type for the 10 Sierra Nevada national forests and indicate that, during this period, snags per acre increased within westside mixed conifer (+0.76), white fir (+2.66), productive hardwoods (+0.35), and red fir (+1.25) and decreased within ponderosa pine (-0.16) and eastside pine (-0.14).

Detailed information by forest type, snag size, and snag decay class can be found in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a). Due to recent (2014-2017) extensive tree mortality in the Southern Sierra Nevada, it is likely that significant increases in snags per acre have occurred in the pine and mixed conifer forest types, particularly in the Southern Sierra National Forests. Other national forests within the Sierra Nevada also may have significant increasing trends. However, we cannot yet quantify these changes, and will update this information when the vegetation mapping products currently in development allow for more direct comparison between pre- and post- mortality conditions.

Population Status and Trend.
Monitoring of the hairy woodpecker across the ten National Forests in the Sierra Nevada has been conducted since 2009 in partnership with PRBO Conservation Science, as part of a monitoring effort that also includes mountain quail, fox sparrow, and yellow warbler (USDA Forest Service 2010a, Roberts and Burnett 2016). Hairy woodpeckers were detected on 15.1% of 1659 point counts (and 25.2% of 424 playback points) in 2009 and 16.7% of 2266 point counts (and 25.6% of 492 playback points) in 2010, with detections on all ten national forests in both years. Methodology shifted slightly after initial years to consider transects, rather than points, as independent samples and Hairy Woodpeckers were detected at 54% of 474 transects in 2014 and 58% of 474 transects in 2015. Hairy Woodpecker population distributions have shown a slow but significant increase from 2010 to 2015 (Roberts and Burnett 2016). These data indicate that hairy woodpeckers continue to be distributed across the ten Sierra Nevada National Forests. In addition, the hairy woodpeckers continue to be monitored and surveyed in the Sierra Nevada at various sample locations by avian point count and breeding bird survey protocols. These are summarized in the 2008 Bioregional Monitoring Report (USDA Forest Service 2008). Current data at the range wide, California, and Sierra Nevada scales indicate that the distribution of hairy woodpecker populations in the Sierra Nevada is stable or increasing.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Hairy Woodpecker Trend.
The direct, indirect, and cumulative effects of the Colby Mountain Recreation Project, in terms of potential medium-sized and large-sized snags per acre within green forest habitat, would change with time, the amount and distribution of snags in green forest habitat within the wildlife analysis area. However, it will not lead to a change in the distribution of hairy woodpecker across the Sierra Nevada bioregion.

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APPENDIX E: CONSTRUCTION EMISSIONS

Colby Mtn Summary Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Colby Mtn
Construction Start Date	4/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	58.4
Location	40.14479950165588, -121.49002651767256
County	Tehama
City	Unincorporated
Air District	Tehama County APCD
Air Basin	Sacramento Valley
TAZ	278
EDFZ	3
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

User Defined Recreational	4,000	User Defined Unit	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.52	3.84	4.91	0.01	0.20	0.41	0.62	0.19	0.06	0.24	—	763	763	0.03	0.01	0.35	766
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.61	0.51	3.86	4.80	0.01	0.20	0.41	0.62	0.19	0.06	0.24	—	753	753	0.03	0.01	0.01	756
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.27	0.23	1.73	2.15	< 0.005	0.09	0.18	0.28	0.08	0.02	0.11	—	339	339	0.01	< 0.005	0.07	341
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.04	0.32	0.39	< 0.005	0.02	0.03	0.05	0.02	< 0.005	0.02	—	56.1	56.1	< 0.005	< 0.005	0.01	56.4

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6. Climate Risk Detailed Report

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	5	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	5	1	1	4
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	45.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

Colby Mtn Butte Co. Summary Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Colby Mtn Butte Co.
Construction Start Date	4/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	66.6
Location	40.11636536692163, -121.47277698108502
County	Butte
City	Unincorporated
Air District	Butte County AQMD
Air Basin	Sacramento Valley
TAZ	213
EDFZ	3
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

User Defined Recreational	20.0	User Defined Unit	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.42	1.20	10.9	11.6	0.02	0.46	5.02	5.48	0.42	2.55	2.97	—	1,814	1,814	0.08	0.02	0.52	1,822
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.15	0.97	9.47	9.51	0.01	0.40	4.97	5.37	0.37	2.54	2.91	—	1,533	1,533	0.06	0.01	0.01	1,539
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.29	0.25	1.97	2.56	< 0.005	0.11	0.76	0.84	0.10	0.39	0.46	—	385	385	0.02	< 0.005	0.06	386
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.05	0.36	0.47	< 0.005	0.02	0.14	0.15	0.02	0.07	0.08	—	63.7	63.7	< 0.005	< 0.005	0.01	64.0

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6. Climate Risk Detailed Report

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	5	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	5	1	1	4
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	13.0
Healthy Places Index Score for Project Location (b)	70.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.