French Meadows Forest Restoration Project
First year (2019) Operations Summary Report
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Executive Summary

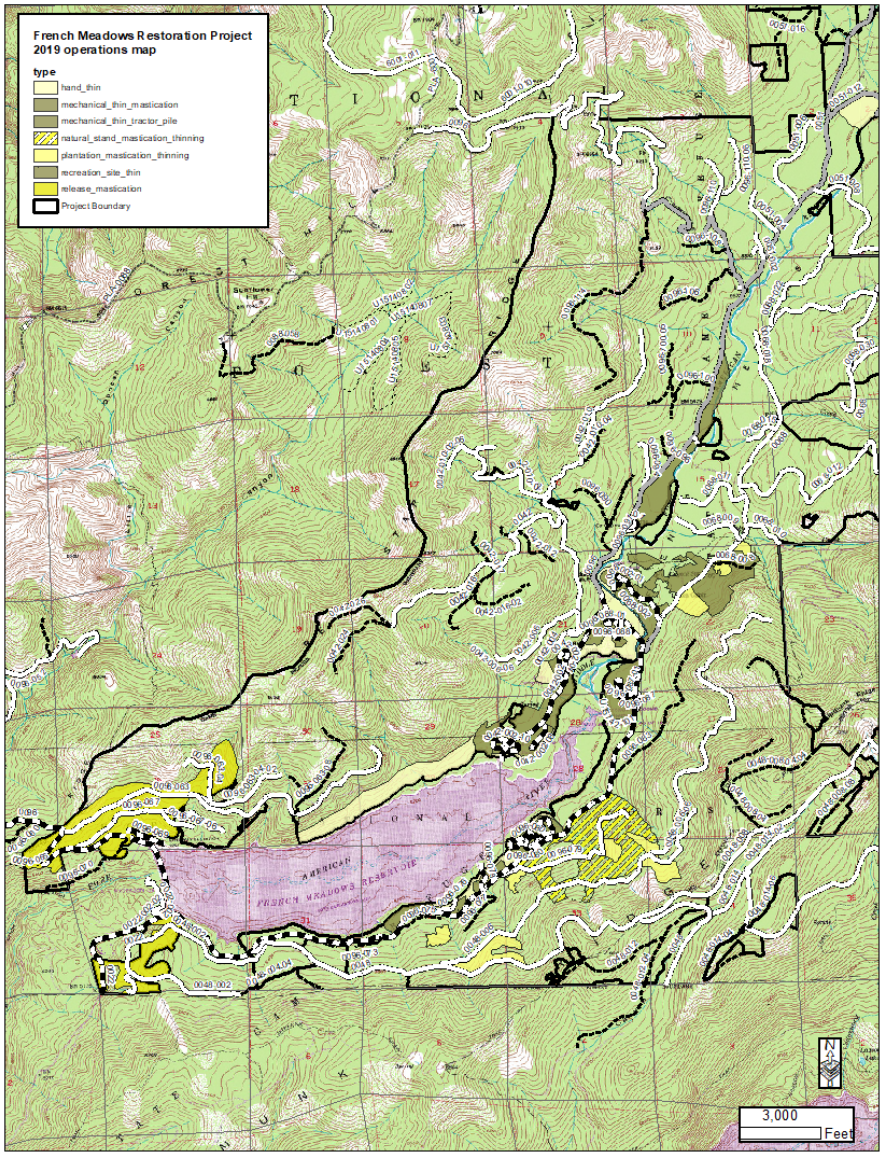
The one-of-a-kind French Meadows partnership restored forest health to 1,066 acres of critical headwaters in the first year of the French Meadows Forest Restoration Project implementation, reducing stand density by over 30% and harvesting over 3 million board feet of timber and 4,200 green tons of biomass. Thus, resulting in net greenhouse gas savings of 46,848 metric tons of CO2, and nearly 1,000 tons of various emissions were reduced due to bio energy creation while generating of over 2,500 MWh of renewable electricity, meeting annual electricity needs of 330 households. In addition, using adaptive management strategies, an alteration of several acres of treatment prevented the loss of unique wet meadow habitat, which can now be restored.

Demonstrating a high level of cooperation in a public/private partnership, multiple entities provided funding for this effort including direct funding from partners; the United States Forest Service via the Tahoe National Forest; Placer County and Placer County Water Agency via the Middle Fork Project Financing Authority; The Nature Conservancy providing grant funding from the National Fish and Wildlife Service and private beverage companies; the Sierra Nevada Conservancy providing grant funding from a Proposition 68 grant and in support of the Sierra Nevada Watershed Improvement Program; and a Cal Fire Proposition 1 grant within the California Climate Investments Program. Additionally, revenue from the sale of timber and biomass was used to fund French Meadows Forest Restoration Project operations.

In order to efficiently implement the French Meadows Forest Restoration Project without adding burden to the Tahoe National Forest, Placer County holds a Master Stewardship Agreement with the Tahoe National Forest, which allows Placer County to implement projects on Tahoe National Forest land. Employing over 95 local contractors, the team was able to accomplish most operations at $1,200 per acre, with considerably higher costs for the campground work due to multiple equipment logistics and public safety reasons.

Project Introduction

The Tahoe National Forest (TNF) of the United States Department of Agriculture (USDA), Forest Service in conjunction with partners, Placer County, Placer County Water Agency, The Nature Conservancy, the Sierra Nevada Conservancy, and the Sierra Nevada Research Institute (the Partnership) are working to restore National Forest System (NFS) lands in and around the French Meadows Reservoir.



The French Meadows Reservoir is approximately 20 miles northeast of Foresthill, California with elevations in the area ranging from 5,200 to 7,300 feet (the Project). The Project is projected to take four years of seasonal (June through November) field operations to treat over-crowded stands and several more years of prescribed fire to reduce ground fuels. This report provides a summary of all operational aspects of the first years of operations. Future year operations will be reported in a similar reporting manner by the Partnership.

Forest stand characteristics vary by elevation aspect and historic management activities within the Project area. The westernmost portion of the Project area was affected by the 2001 Star Fire and contain brush, replanted trees or natural conifer regeneration. At lower elevations within the French Meadows Basin, stands are primarily Sierra mixed conifer with a proportionately larger component of true fir as elevation increases. At the highest elevations, mostly in the northeastern and eastern portions of the Project area, the vegetation transitions to red fir dominated stands. South-facing aspects have proportionately more mixed conifer, and the north-facing slopes have more true fir. Much of the area has a history of timber harvest, primarily individual tree selection and salvage treatments with smaller areas of clear-cuts dating back to the 1980s. Most of the area is characterized by heavy surface fuel loadings and dense understory trees.

Several large, stand-replacing wildland fires have occurred in or adjacent to the French Meadows Basin in recent years, including the Star Fire (17,000 acres; 2001), the Ralston Fire (8,400 acres; 2006), the American River Complex Fire (20,541 acres; 2008), the American Fire (27,440 acres; 2013), and the King Fire (97,700 acres; 2014).

During the planning phase, the Partnership used fire modeling to ensure that the treatments would be equal to the reduction in wildfire risk. The analysis supported removal of additional biomass, rather than mastication, to reduce the total biomass left on site in order to achieve desired results from prescribed fire treatments. While biomass removal requires significantly more funding, the Partnership realized it was the only viable option that would result in the desired future stand conditions to allow maintenance treatments (prescribed fire) at regular intervals.

<u>Purpose and Need</u> (as described in the Environmental Assessment for the Project)

The principal goals of this Project are to promote forest resilience to environmental stressors such as wildland fire, insect and disease outbreaks, and climate change; to reduce the risk of uncharacteristic, high-severity wildfire, to protect and restore habitat for fish and wildlife, and to safeguard water supply and resources. Resilience is the ability of an ecosystem to rebound to a healthy, self-sustaining state after being exposed to disturbances such as drought, insects and fire.

Based on this assessment and the goals of the Project, the purpose and need for action are to:

1) Promote long-term forest health, resilience and sustainability while maintaining important habitat for wildlife, including the California spotted owl.
2) Protect forest resources and infrastructure improvements within the project area and beyond from potential severe wildfire effects.

3) Promote healthy meadows and riparian areas to support important wildlife and plant habitats and water storage and filtration.
4) Protect individual sugar pine trees that have been demonstrated to have significant genetic resistance to white pine blister rust from loss due to wildfire and environmental stresses.
5) Provide an opportunity for researchers to collect and assess local empirical data on forest water balance that can inform regional (larger scale) hydrologic modeling.
6) Provide safe and sustainable access for the administration, protection and utilization of National Forest System lands for resource management and public use; and
7) Provide for public safety along roads and trails and at recreation facilities.

Proposed Action (as described in the Environmental Assessment for the Project)

The proposed action on the 22,152 acres of National Forest System lands within the French Meadows Project area is to use ecologically-based thinning, prescribed fire, removal of encroaching conifers and similar approaches to address the aforementioned purpose and need. Treatments include a combination of prescribed fire, hand and mechanical thinning, mastication, machine piling and hazard tree removal. In limited areas, tree planting and removal of vegetation competing with planted trees using mechanical or hand grubbing techniques (release) are proposed. In addition, the proposed action includes restoration of meadows, aspen and cottonwood stands; protection of rust resistant sugar pine; building non-motorized trails; making road improvements for access and to enhance hydrologic function; and implementing a research project by University of California (UC) Merced to quantitatively evaluate forest management impacts on hydrology and forest health. In order to respond to the purpose and need of this Project, 19 individual treatment units on approximately 12,183 acres within the Project area are proposed to have one or more activities included.

Project Partners / Roles

While the Project has multiple partners, including the Tahoe National Forest, Placer County, Placer County Water Agency, The Nature Conservancy, the Sierra Nevada Conservancy, and the Sierra Nevada Research Institute, the discussion of this report will revolve around the roles for implementation and funding. Key responsibilities are as follows:

Tahoe National Forest: Overall responsibility for work performed and adherence to the Environmental Assessment (EA) and rules of the Master Stewardship Agreement (MSA) and Supplemental Project Agreements (SPAs) with Placer County.

Placer County: Overall responsibility for implementation, guidance to the Project Forester, management of the field contractors, payments to contractors, and billings to partnership members and grant agencies. Ensures that all contractors meet with guidelines and regulations of the MSA, SPA, EA and other agreed to actions for this Project.

Mason, Bruce & Girard (MB&G): Project Forester with responsibility for direct oversight and coordination of all field contractors and liaison with TNF specialists. Ensures Project work meets contract specifications, USFS requirements, and management requirements of the EA. Provides progress reporting to USFS, Placer County and the Partnership.

Placer County Water Agency (PCWA): Management of campground tree marking contractors and coordination with FERC License implementation issues that occur in conjunction with this Project. Administrative and logistical support coordinating communications with Partnership and outreach activities.

Project Plan

Mechanical operations in the Project area are planned to occur over the course of four operating seasons. The operating season typically begins between May and June and ends between November and December. The goal in year one was to mitigate fire hazard in high-use areas first to prevent these from becoming a fire ignition source from public use. Units completed during the first operating season were the ones closest to recreation facilities and in the recreation facilities themselves. Units completed in the second season expand the area farther out in the watershed, and capture areas requiring treatment for water research conducted by UC Merced. The third and fourth seasons treat the farthest areas of the watershed, with the fourth season primarily directed toward completing areas that may not have been completed on schedule in a prior year due to unforeseen circumstances.

Prescribed Fire Operations Plan

Prescribed fire reintroduces fire, in a controlled manner, to improve forest health and reduce the future risk of high-severity, uncontrolled wildfire. The Project Plan will result in approximately 7,600 acres experiencing a combination of fall and/or spring prescribed fire, including pre-fire preparation of the site (e.g., construction of fire containment lines) and post-fire effects monitoring. Approximately 600 acres were scheduled to be burned in year 1, but unfavorable weather conditions limited progress.

Implementation of Field Operations Plan

Accomplishments in Year 1 included recreation site thinning, mechanical thinning, hand thinning and mastication in natural and planted stands within and outside the Star Fire burn area. Project work started in the French Meadows campgrounds in late May. Recreation site thinning continued through the operating season in June. Due to elevated soil moisture persisting into the summer, mechanical thinning did not start until mid-July, one month later than is typical for the area, and was finished by November, completing about 30 acres per week. Hand thinning and mastication occurred from July to mid-November. Mastication was suspended on some days toward the end of the season due to high fire danger. Road improvements were ongoing from July to October.

Stewardship Agreements

Placer County holds a Master Stewardship Agreement (MSA, 18-SA-11051700-015, February 2018) with the Tahoe National Forest, which allows Placer County to implement projects on TNF land. In order to implement this Project, Placer County has a Supplemental Project Agreement (SPA, 18-SA-11051700-052, June 2018) tiered to the MSA. Finally, each operational season has its own SPA Modification (18-SA-11051700-052 Mod #1, June 2019). Modification # 1 includes all the proposed treatments and guidelines for the units expected to be accomplished during the

2019 season. Each of these agreements has a tiered responsibility and increasing requirements to perform operations by all federal rules and regulations as well as all Placer County rules and regulations.

Procurement Process

Due to the stewardship agreements with the TNF, Placer County was able to perform this Project with Placer County procurement rules (meeting all USFS regulations and requirements). First a request for proposals was issued to find qualified contractors that have performed similar projects on National Forest Lands in recent years. Rather than a typical timber sale from the TNF, risk was shared between partners and contractors to ensure that the fluctuations of timber and biomass revenue and the estimation of hours and costs were as equitable as possible. The revenue from the sales was paid to Placer County and each contractor was paid for time and materials within a not-to-exceed budget based on performance. The Partnership is providing funding to accomplish the goals from the EA and desires to reduce the risk of delay and performance due to economic circumstances. Often, a timber sale takes longer to award as the USFS has a limit to the budget and other contracting obligations, whereas Placer County is concentrating on bringing on value-added contractors at an appropriate budget to stay on schedule. Once contractors qualified for the list, a bid process commenced. Several bidding rounds were necessary to award the work due to a variety of reasons such as timing, weather and budget, but eventually, work proceeded without issue.

Contractor Roles

Through the procurement process, over 80 local individual workers were hired to directly support the field operations on the acres of land and miles of roads treated. An additional 15 individual workers were hired to support the Project layout, marking and road work.

Mason Bruce & Girard: Responsible for supervision of all implementation activities, and interfacing between USFS, Project partners and contractors. They are also responsible for timber marking and layout of project units.

Cardno Entrix: Responsible for tree marking within the French Meadows campground that corresponds with the environmental analysis by Placer County Water Agency / Placer County, partners in the Middle Fork Project, for the FERC relicensing project.

Landmark Environmental: Responsible for surveying the road system, preparing plans and specifications for contractor repair work.

Robinson Enterprises: Performed the mechanical thinning operations of 440 acres. Additionally, performed all the road improvement work on 18 miles of the Project area.

Volcano Creek Enterprises: Performed mastication on 190 acres.

Tree MD: Performed campground thinning on 100 acres. Additionally, performed some biomass chipping and sawtimber removal.

Red Mountain Resources: Performed hand thinning on 142 acres and piling of materials for later small pile burning, as well as 110 acres of mastication.

California Conservation Corps: Performed hand thinning on 5 acres along the Poppy Trail on the northeast end of the reservoir.

Environmental / Training

All requirements of the NEPA (TNF responsible entity) and CEQA (Placer County responsible entity), which were approved, are being followed for this Project. Placer County has responsibility to provide the TNF with any issues (none were necessary in year 1). Placer County additionally has the responsibility to work with any stakeholder that requires CEQA items to be completed. NEPA and CEQA had essentially identical management requirements for on-the-ground operations.

MB&G provided on-the-ground training to operators where needed to ensure Project specifications were met, particularly regarding selecting cut trees in designation by prescription areas. Sensitive areas, such as archaeological sites, sensitive plant sites, and noxious weed occurrences, were identified in the field by Forest Service specialists. MB&G checked the sufficiency of the flagging and instructed operators on mitigations for those sites.

Project Field Accomplishments

During the 2019 implementation season, the Project team was able to perform treatments on 1,066 acres of the forest, 18 miles of road improvements and an additional 605 acres of preparation for prescribed fire (no actual prescribed fire performed due to weather / soil moisture conditions).

Activities / Acres

Mechanical Thinning

Over 370 acres of mechanical thinning and hazard tree removal were performed on six units within the Project with over 3 million board feet (MBF) of timber harvested, raising $1,077,501 in revenue to be used for treating additional areas within the Project. The price of timber was lower than expected at $400/MBF for true fir. In a good timber market, white fir ranges from $450 to $500/MBF. Another 4,200 green tons of biomass were also harvested adding $81,996 of revenue. The price for biomass material was about one-half the value historically paid for such material. Mechanical thinning involved thinning of trees greater than 3 inches diameter at breast height (DBH) and less than 30 inches DBH. Hazard trees of all sizes that could strike roadways were also removed. Felling was accomplished using a combination of a feller buncher and hand falling, with hand falling generally reserved for trees greater than 24 inches DBH. Sawtimber and biomass were transported to a landing using rubber-tired grapple skidders and processed into logs or placed in a biomass pile for future chipping. Loading and hauling of logs was completed concurrently with skidding, and chipping and hauling of biomass was completed after log hauling was complete. Following removal of biomass, temporary roads and compacted skid trails were ripped with a dozer equipped with a winged subsoiler. In select areas, forest “slash” (limbs, tops, small diameter stems, and brush) remaining from the logging was masticated flush with the ground with resulting chips no deeper than 6 inches. Mastication was accomplished with a mini excavator equipped with a drum-type masticating head.

Mastication

Over 300 acres of mastication was performed in eight units within the Project. Masticated areas included natural stands with predominantly small timber, stands which were planted following timber harvesting in the late 1980s to early 1990s, and stands planted following the Star Fire. In mastication units, residual logging slash and brush were ground to an average depth of less than 6 inches, and trees were thinned to an average 20-foot spacing. Mastication was accomplished by excavator and tracked carrier-mounted drum-type masticators.

Hand Thinning

Over 225 acres of hand thinning was performed on five units within the Project. Difficult-to-access areas, and areas with wildlife restrictions, were hand thinned. Trees less than 10 inches DBH, or less than 6 inches DBH in Spotted Owl protection areas, were thinned. Thinned trees near major roadways and campgrounds were hand cut and chipped. All areas were hand piled for burning in the 2020 fall season. Areas with burn piles had fire lines constructed where units were not bordered by containment features (ex: river or road).

Recreation Site Thinning

Over 100 acres of campground thinning was performed on four units within the Project. Recreation site thinning involved removal of trees less than 10 inches in DBH, removal of

hazard trees, and in the case of French Meadows campground, removal of trees needed for facility expansion under FERC relicensing. Material was hand cut and moved to a roadside location with a skid steer loader or mini excavator, and then picked up with a self-loading truck and transported to a disposal site within a few miles of the operation. Merchantable logs (logs larger than 6 inches on the small end and 10 feet or longer) were skidded with an excavator to a roadside location and loaded and hauled to a sawmill with a self-loading log truck. Some areas within the recreation sites were broadcast chipped with a tracked chipper where more organic material on the soil surface was desired.

Road Improvements: Over 18 miles of road improvements were performed throughout the Project. Road improvements involved road right-of-way clearing, replacement of failed or likely to fail culverts, and enhancement of drainage facilities such as rolling dips and inside ditches. A variety of equipment was used to accomplish this work, including masticators, graders, excavators, dump and water trucks, dozers, roller, and sweepers. Roadwork was completed to access both units that were active in year 1 and select units that will be active in year 2.

Prescribed Fire Preparation

In the 2019 season, 605 acres (6 miles of control line) were prepped for burning by The Nature Conservancy's contract burn crew, Firestorm Wildland Fire Suppression. The area selected for first ignition was a ridgeline along Red Star Ridge so it could serve as a containment line for future ignitions. Unfortunately, the ridge is one of the windiest and most exposed areas and requires an abundance of caution when making decisions to begin ignitions. Before and during mobilization, a meteorologist was consulted to interpret real time weather modeling results from the National Weather Service (NWS). Prior to mobilization, a significant wind-free window appeared likely. Once the crew and resources were mobilized, the window became too small to feasibly light and safely hold the portion of Red Star Ridge targeted for burning. A test burn was completed, confirming that firing operations should be discontinued due to dry and windy weather conditions. There were no subsequent burn windows in the fall of 2019 to burn the prepped acres, so burning was not accomplished.

Forest Thinning Accomplishments

Prior to operations, mechanical thinning stands averaged 250 square feet of basal area per acre. The treatments reduced this to averages of 150 square feet per acre outside California Spotted Owl Home Range Core Areas (HRCAs), and 180 square feet per acre within HRCAs. This resulted in a 28-40% reduction in basal area, which is an expression of stand density. The thinning focused on removal of smaller trees throughout the Project, and intermediate sized trees where large ponderosa pines were present. Some gaps of less than 1-acre were established over 10% of the Project area to increase heterogeneity. Mechanical thinning reduced density to an average of 100 trees per acre from an initial average of 330 trees per acre. Within hand thinning, recreation site thinning, and mastication stands, thinning was focused on trees less than 10 inches DBH, and trees per acre was reduced in similar quantities to mechanical thinning. Within recreation sites, special attention was paid to visual screening between campsites.

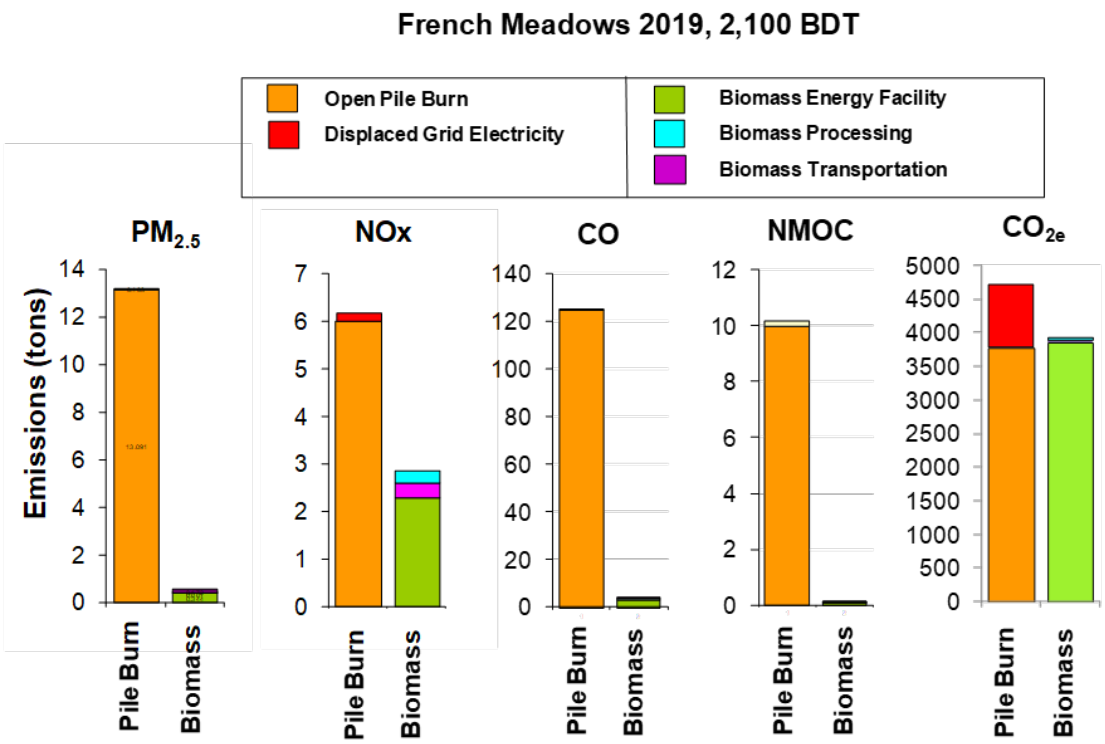
Timber / Biomass

During operations, the contractors were able to harvest and deliver 3.03 MBF of timber to Sierra Pacific Industries operations at Lincoln and Oroville, with small cedar going to Oroville and all other species going to Lincoln. Log haulers included Robinson Enterprises and Tree MD.
Also critical to the Project was the ability to collect, grind and haul 4,200 green tons (equivalent to 2,100 bone dry tons or BDTs) to Rio Bravo, located 75 miles from the Project, and AMR Loyalton, 155 miles from the Project. Biomass was hauled using modified chip vans with a reduced wheelbase to better negotiate curvy mountain roads.

Air Pollution Reduction Metrics

As part of the Project work accomplished in 2019, 2,100 BDT of non-merchantable slash were chipped and transported to Rio Bravo Rocklin and AMR Loyalton for use in their biomass electricity plants. Without this removal, the slash would have been open pile burned at the site of origin, as the cost to process and transport is significantly greater than the market price for use at local biomass electricity generation plants.

This bioenergy effort resulted in the generation of 2,656 MWh of renewable electricity, which meets annual electricity needs of 330 households. It provided significant regional air pollutant emissions benefits, including reductions of 12.6 tons of PM (fine particulate matter), 3.4 tons of nitrogen oxides (NOx), 120 tons of carbon monoxide (CO), 9.9 tons of volatile organic compounds (VOC), and 800 tons of carbon dioxide equivalents (CO2e), based on comprehensive life-cycle analysis modeled after Springsteen et al. (2011) and Springsteen et al. (2015). These reductions are valuable to the Placer County Air Pollution Control District's obligation to meet federal standards for regional ambient ground level ozone and maintain PM attainment.



GHG Reduction Estimates

Thinning treatments accomplished in year 1 resulted in a net greenhouse gas benefit of 46,848 MT CO2e, as calculated using the California Air Resources Board Calculator for the California Department of Forestry & Fire Protection Forest Health Grant Program Quantification Methodology Fiscal Year 2017-2018. The carbon benefit is a result of the thinning creating a stand that would likely have greatly diminished stand mortality if a wildfire were to occur when compared to the projected mortality of an untreated stand. Additionally, converting excess standing trees to lumber results in increased carbon capture from resulting buildings and use of thinned material for biomass fuels can offset use of non-renewable fossil fuels.

Adaptive Management Actions

This first year of operations provided several items that are believed to be beneficial to this Project and potentially other forest restoration projects. Below are three categories that document adaptive management issues and strategies to resolve.

Meadow detections: After the field contractor discovered that the ground was still too wet for operations in late July, our Forester was notified, and after walking the ground he requested that TNF staff review these conditions. A decision was made to stop treatments in this area and consequently a change in treatment has been made for 6 acres of small trees mechanical thinning. Treatment of these acres will be changed to meadow restoration in next year's activities. The area where this will be accomplished is composed of historic wet meadows that

have been encroached by conifers. The treatment will prevent loss of unique wet meadow habitat. It is believed that as operations progress, more wet meadows will be found, and treatments altered to reflect meeting one of the Project goals.

Increased conifer species thinning: After TNF staff reviewed completed mechanical thinning units, more trees near ponderosa pines were harvested to meet the requirements of the thinning prescription. Further, tree removal was increased by 20% in the mechanical thinning units, outside of Northern Spotted Owl Home Range Core Areas, on any trees that were damaged during operations or appeared to be dying after treatments.

Future year pre-operation improvements (Three specific recommendations):

During the first year, an Ev variance (a measure from the fire scale) was not received, which ultimately was unimportant due to the low fire danger throughout the season. However, the operations will need this variance in most years in order to remain productive. Discussions are required regarding which fire hazard mitigation conditions are needed to achieve the variance.

Meetings with TNF staff onsite before the start of operations each year would be valuable to ensure all parties are on the same page regarding thinning intensity and other treatment variables.

It is proposed that the format for reporting the sale inspections be changed. Currently, the use of FS2400 forms is required, which lack direction on specific reporting parameters. It is believed that a checklist form to use in place of the FS2400 forms would be beneficial for all parties.

Project Costs

The operations resulted in $3,730,073 in contractor costs to the Partnership to complete the 2019 operational season (minus prescribed fire costs, tracked separately). A total of in-kind value from the Partnership was valued at over $330,000. The following is an accounting of those costs and a listed per acre (where applicable) cost for the performance of each treatment category.

Mechanical thinning: 441 acres of mechanical thinning was performed at a cost of $1,631,982 for an average cost of $1,166 per acre. This cost fell within Forester estimates preceding the implementation. Revenue from these activities amounted to $1,064,886 for timber and $75,000 in biomass, although one biomass company defaulted on $20,049 of that revenue due to a Chapter 11 Bankruptcy filing.

Mastication: 300 acres of mastication was performed at a cost of $348,777 for an average cost of $1,163 per acre. This cost fell within Forester estimates preceding the implementation.

Hand Thinning: 225 acres of hand thinning was performed at a cost of $281,116 for an average cost of $1,249 per acre. This cost fell within Forester estimates preceding the implementation.

Recreation Site Thinning: 100 acres of campground thinning was performed at a cost of $391,315 for an average cost of $3,913 per acre. This cost was substantially higher than Forester estimates preceding the implementation. The cost increase was due to having to thin twice, utilizing different equipment each time to work around reservations and to protect the

safety of the camp visitors and the infrastructure within the campgrounds. Revenue from these activities amounted to $12,614 for timber and $6,996 in biomass.

Road Improvements: Approximately 18 miles of road work was completed at a cost of $530,707 with an average cost of $29,483 per mile. This is higher than standard forest road improvement as prevailing wage was required for this work.

Project Layout, Tree Marking, Road Engineering Review: Another $546,176 was used to pay for Project-related activities that allowed the work to be accomplished according to USFS standards.

Project Funding

The first year of operations required $3,730,073 of funding to pay the contractors working the Project. The Partnership has more funding available than shown below from various sources, but this represents where funding originated for the 2019 operational season.

1) The United States Forest Service via the Tahoe National Forest contributed $388,420 in funding and another 868 hours in in-kind work valued at over $40,000.
2) Cal Fire Proposition 1 grant funding within the California Climate Investments Program via the Sierra Nevada Conservancy contributed $1,716,712 in funding.
3) Sierra Nevada Conservancy Proposition 68 grant funding and in support of the Sierra Nevada Watershed Improvement Program contributed $650,815 in funding.
4) Timber / biomass revenues contributed $458,134 in funding.
5) National Fish and Wildlife Service grant funding via The Nature Conservancy contributed $242,674 in funding.
6) Beverage company grants via The Nature Conservancy contributed $142,857 in funding.
7) Placer County and Placer County Water Agency via the Middle Fork Project Financing Authority contributed $130,461 in funding and Placer County provided another 1,035 hours in in-kind work valued at over $140,000; PCWA also provided another 750 hours in in-kind work valued at over $100,000.
8) The Nature Conservancy also provided another 650 hours in in-kind work valued at over $40,000.

Project Contributors

We wish to thank the following individuals for their direct implementation of the Project and for providing great insight to the review and execution of this report:

Tahoe National Forest, Michael Woodbridge, District Ranger; Andrew Mishler, Vegetation Management Officer; Chris Pennington, Timber Sale Administrator; Karen Durand, Sale Prep Forester; and Kelly Pavlica, Silviculturist.

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Placer County Water Agency, Marie Davis, Geologist

Placer County Air Pollution Control District, Bruce Springsteen, Senior Engineer & Compliance and Permitting Manager

Placer County, Chris Gray-Garcia, Public Information Officer; Kathy Kane, Senior Staff Services Analyst; and Michelle Darling, Senior Administrative Clerk.