

Ecological Restoration on the Sierra National Forest

Forest Vision

The Sierra National Forest's vision is an integrated program that reinforces the use of all available tools to achieve vegetation resource objectives. The vegetation treatments would focus on key points of the Healthy Land Initiative and Healthy Forests Restoration Act and the guiding principle to use fire to achieve resource management objectives is well documented in the Forest's Land and Resource Management Plan.



Whisky Ridge Ecological Project Field Trip, June 27, 2012

The state of vegetation and the defensible boundaries on the Forest limit fire use opportunities on both the Forest and adjacent federal lands. Continuous over-mature vegetation provides an avenue for fire to burn from neighboring lands managed for wilderness values through like lands on the Sierra, into high resource value areas, structures and improvements, then onto private lands. Implementing the Forest vision tempers this situation by greatly increasing the Forest's ability to use fire as a primary vegetation management tool.

The Need to Take Action

The Sierra National Forest (SNF) is committed to promoting ecosystem resilience, sustainability, and health under current forest conditions and also changing uncertain future environmental conditions such as those driven by climate change and increasing human use.

The SNF has taken measures to increase integration across programs, increase collaboration with our stakeholders and we are focusing on larger landscape level projects. Integrated projects include watershed restoration, biomass, wildlife and fuel-vegetation management targets. To increase our capacity we have

increased use of volunteer support, additional grants and matching fund opportunities.

Despite these sizable cost saving reductions, the Sierra National Forest is maintaining a Five-Year Plan that delivers an integrated ecosystem restoration program. Funding levels continue to challenge the Forest's ability to hire staff needed to fill skill gaps and manage current program reductions.

The Sierra National Forest Five-Year Plan (Plan) is an integrated program approach to treat vegetation on National Forest System lands to promote the ecological restoration of the Forest. The Plan prioritizes areas of concern to efficiently deliver change in condition and address watershed health.

Overview

High elevation lakes defined by towering conifers, deeply carved river valleys and huge granite monoliths describe the Sierra National Forest and epitomize mountain California landscapes. The SNF is the gateway to the Sierras including the intensely visited Yosemite, Sequoia, and Kings Canyon National Parks. Sierra National Forest ownership totals over 1.3 million acres. The Forest is divided into two ranger districts located in three counties in California.

The Forest provides a diversity of recreation opportunities to local rural residents, nearby communities, towns, and to the highly urban areas along the California coastline. Facilities offer opportunities that range from highly developed campgrounds, and picnic areas to minimally developed overnight and day use areas that serve primarily as access points to trails, creeks, rivers and general forest areas. There are five wilderness areas on the Sierra National Forest. Comprising nearly 50 percent of the Forest, these areas offer solitude and vast open space as part of one of the largest contiguous blocks of wilderness in the continental United States. The forest provides tremendous opportunities for hiking, horseback riding, mountain biking as well as off-road vehicle use on trails jointly maintained by the Forest Service and many partners. The Forest is home to two groves of giant Sequoias, Nelder and McKinley groves. Nelder Grove includes 1,006 mature giant sequoias and features the Shadow of the Giants trail that provides information to hikers on the ecology of the sequoias.



Local residents listen to a presentation during the Whiskey Collaborative field trip.

The forest offers scenic backdrops to the San Joaquin Valley as well as residents living in mountain communities. Extreme elevation changes provide diverse vegetation from grasslands to sub-alpine meadows. The elevation ranges between 900 to 13,986 feet. The Ponderosa pine is the predominant tree species in this forest and can be found between 4,000 and 8,000 foot elevations. This area provides an important component for biological diversity in the landscape of the Western U.S. Sierra National Forest is one of three native sites for the Pacific Fisher, a threatened species whose original range included much of the Western United States and Canada.

Challenges

Our current challenges call for extraordinary levels of teamwork, collaboration, and science integration within our agency. The Sierra National Forest can meet these challenges by taking a proactive approach to changing environmental conditions. The following list provides a set of both near (less than 2 years) and long-term (more than 5 years) approaches.



Down woody material on the Forest floor.

Ecological Restoration: The process of assisting in the recovery of the resilience and adaptive capacity of ecosystems will be a critical first step in preparing our ecosystems to changing climate. Fundamental to this step is the recognition that while our immediate objective may be to restore pre-settlement patterns in ecosystem attributes (such as tree densities and canopy cover), our ultimate goal will need to focus on restoring ecosystem processes (carbon sequestration, nutrient cycling) and services (fresh water, biodiversity, renewable wood products).

Monitoring: Monitoring is a hugely important part of managing ecosystems conditions. However, monitoring will require a tiered or prioritized approach in order to make it useful and relevant. For example, Tier 1 (high priority) could consist of the few monitoring indicators that would be prioritized and used to guide management decisions; Tier 2 (medium priority) could be important indicators to be undertaken when funding or expertise is available; Tier 3 (low priority) would not be monitored but considered if future conditions warrant their inclusion to a higher tier.

Science Integration: Science-management integration will need to become stronger in order to meet rapidly changing conditions. This will likely require completely new approaches to closing the science-management information gap.

Uncertainty: We will be dealing with an unprecedented level of uncertainty in our decision making. The Sierra National Forest will need to clearly acknowledge our levels of uncertainty revolving around management decisions, since most decisions will be based on substantial knowledge gaps. Monitoring and science integration will be key components of addressing uncertainty in future conditions.

Funding: The Sierra National Forest has been facing declining funding allocations, yet the scope and scale of volume sales on the forest has increased.

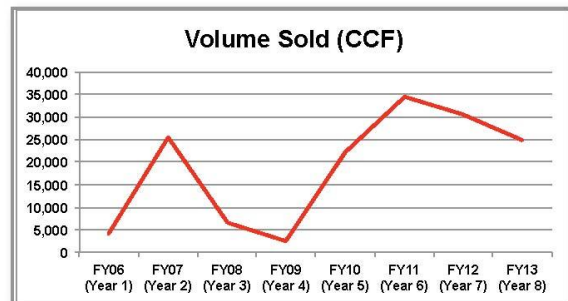
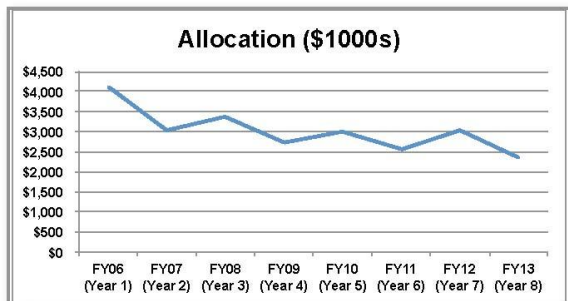
Fiscal Year Allocation (\$K)	FY06 (Year 1)	FY07 (Year 2)	FY08 (Year 3)	FY09 (Year 4)	FY10 (Year 5)	FY11 (Year 6)	FY12 (Year 7)	FY13 (Year 8)
	\$4,124	\$3,032	\$3,386	\$2,748	\$3,007	\$2,566	\$3,044	\$2,346
Final Allocation compared to FY06	100%	74%	82%	67%	73%	62%	74%	57%
Volume Sold (CCF*)	4,140	25,616	6,552	2,527	22,100	34,564	30,656***	25,000***
Volume Sold (WMF**)	2,084	14,903	4,181	2,054	12,950	19,936	15,328***	12,500***
Final Ccf Sale compared to FY06	100%	619%	158%	61%	534%	835%	740%	604%

*CCF – Hundred Cubic Feet

** MBF – Million Board Feet

*** Volume sold for FY 12 and FY 13 are projections

Projections for FY 12 and FY 13 are estimates.



Partnerships & Collaborations: Form lasting regional partnerships that span agencies and stakeholders to bring together scientific researchers and resource managers. A current example of this partnership is the Southern Sierra Conservation Cooperative (under The Strategic Framework for Science in Support of Management in the Southern Sierra Nevada Ecoregion MOU) a collaborative group developed by federal agencies to face climate change challenges.

Climate Vulnerability and Risk Assessments: These new science-based tools will guide management prioritization and help identify locations where key resources are most vulnerable or adaptable to future environmental conditions.

Adaptive Strategies: Climate change will necessitate a broader range of approaches, both current and novel, to management of ecosystems in the future. Currently, ecological restoration represents one such approach, but additional adaptive approaches (e.g., facilitating ecosystem changes to novel conditions) will become increasing important over time.

Strategy

The ecological restoration strategy for the Sierra National Forest is a composite of wildlife, hazardous

fuels and timber vegetation treatment projects. Vegetation treatments are integrated, and focus on a common goal that addresses areas of high risk. The integrated approach stems from respective disciplines identifying low, moderate, and high areas of concern; overlapping areas of high concern are the treatment focus for the next five years.

Treatment preference is based on the proximity to wildland urban interface, at-risk high resource value areas, areas that will increase the opportunity for wildland fire use, and areas of deteriorating critical wildlife habitat.

The integrated treatments will focus on about 75,000 acres of the most critical areas in the next five years. Treatment preferences by priority are wildland urban interface, municipal watersheds, agency improvements, at-risk high resource value areas, areas that will increase the opportunity for wildland fire use, and areas of deteriorating critical wildlife habitat.



Forest staff giving a presentation during the Whiskey Collaborative field trip.

Targeting the most critical areas will fashion the way to employ wildland fire use to achieve LRMP objectives on lands that have limited timber harvest opportunities; seventy-five percent of the Forest is not suitable for timber harvest. The treatments focus on modifying potential extreme fire behavior adjacent to at-risk communities, municipal watersheds and agency improvements, and increase the ability to use wildland fire to achieve resource benefits. The treatments also address insect issues on lands that harbor timber commodities; insect spread is managed by generating a mosaic of stand density and age classes.

Tactics

The trend for treating vegetation is an aggressive continuation of outputs over the next five years from with a current annual output of about 4,500 acres to

17,000 acres annually. Fire use acres are not reflected in the outputs due to the uncertainty of projecting annual acres treated in the acres available to use wildland fire to achieve resource benefits.

A number of tools are being employed to address planning and project implementation. The five new categorical exclusions are being applied where appropriate. Stewardship, Service, ID/IQ, and conventional contracts, in concert with the agency’s workforce, will provide the means to accomplish the Plan’s objectives.

The Sierra National Forest Five-Year Plan (Plan) is an integrated program approach to treat vegetation on National Forest System lands to promote the ecological restoration of the Sierra National Forest. The Plan prioritizes areas of concern to efficiently deliver change in condition and address watershed health. It is a composite of wildlife, hazardous fuels, and timber vegetation treatment projects. Vegetation treatments are integrated, and focus on a common goal that addresses areas of high risk. The integrated approach stems from respective disciplines identifying low, moderate, and high areas of concern; overlapping areas of high concern are the treatment focus for the next five years.

Restoration Accomplishments for FY 2012-2013

Increasing the pace and scale of ecological restoration sufficient to reverse current trends is a driving force behind the need for projects on the Sierra National Forest Five Year Plan.

FY 2013 NEPA Project Name	Within Priority Watershed	Volume Sold (CCF)	FP-Fuels-Non-WUI (acres)	FP-Fuels-WUI (acres)
Whiskey Meadow Restoration	N	8,000		
Bass Lake RD Planting and Release for Survival	N		30	
Release for growth and pre-commercial thin	N		100	
Mastication Thin and Release (Madera County Grant)	N		600	
Bass Lake RD road hazard sale	N	2,000	450	
Sugar Pine Prescribed burn	N			215
Soaproot (CFLR)	Y	750		900
Coyote	N	8,000	1,000	3,000
High Sierra Hazard Program	N	750		
Carls & B7 Turtle Under Burn	Y		2,300	
KREW Under Burn	Y		100	100
Dinkey N&S Pile Burns (CFLFR)	Y			800
Total FY 2013		19,500	4,580	5,015

Kings River Experimental Watershed Forest Health and Research Project Environmental Impact Statement (EIS):

The SNF in cooperation with the Pacific Southwest Research Station prepared a Kings River Experimental Watershed Forest Health and Research Project (KREW Project) Environmental Impact Statement (EIS). The KREW Project is now implementing the treatment of the Kings River watershed to improve forest health and to study the short- and long-term effects of these treatments.

Whisky Ridge Ecological Restoration Project: The project would implement a strategy for ecological restoration that emphasizes the ecological role of fire, changing climate conditions, sensitive wildlife habitat and the importance of forest structure heterogeneity and hydrologic function.

Dinkey Landscape Restoration Project: Sierra National Forest's Collaborative Forest Landscape Restoration projects (Dinkey North and Dinkey South) will accomplish vegetative restoration treatments - thinning timber stands, underburning, and reforestation - consistent with the Pacific Southwest Research Station publication "An Ecosystem Management Strategy for Sierran Mixed-Conifer Forests."⁹

Rancheria Campground Rehabilitation: The SNF proposes to improve campground facilities and to protect and/or restore culturally and biologically sensitive resources at the Rancheria Campground. This project is in cooperation with Southern California Edison under FERC license.

Greys Mountain Ecosystem Restoration Project (EIS): The purpose of the project will be to: reduce fuel ladders and ground fuels in a wildland urban interface area, increase vigor and health of mixed conifer stands, restore key ecological watershed components, and restore wildlife structures/habitat.

High Sierra Fuel break Project (EA): This planning effort will create and maintain 3 new fuel breaks and maintain 6 existing fuel breaks in the front country of the High Sierra Ranger District using various mechanical, hand and herbicide methods. Maintain Access roads to fuel breaks.

Willow Creek General Recreation Access Trail Project (EA): Proposed construction of the Willow Creek access trail and an associated access road and parking area.

9. Available for download at www.fs.fed.us/psw/publications/documents/psw_gtr220/

**Sierra National Forest
Ecological Restoration
Implementation Plan
2013-2019**

