USDA

United States Department of Agriculture

Sierra Nevada Forest Plan Monitoring Accomplishment Report 2013

Forest Service

Pacific Southwest Region

R5-MR-057

June 2014

Front Cover Photo
Spotted Owl: Sheila Whitmore

Sierra Nevada Forest Plan Monitoring Accomplishment Report for 2013

Sierra Nevada Forest Plan Implementation

In 2013 the Forest Service, Pacific Southwest Region, which includes California, Hawaii, Guam, and the Trust Territories of the Pacific Islands, continued several long-term monitoring studies in the Sierra Nevada. The studies focus on developing scientifically valid assessments of the status of several species and increasing understanding of how forest and rangeland management under direction in the Sierra Nevada Forest Plan Amendment (SNFPA) Record of Decision 2004 may affect species, ecosystems, and processes.

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California Spotted Owl in the Eldorado Study Area

Long-term monitoring of California spotted owls (*Strix occidentalis occidentalis*) in the central Sierra Nevada is conducted by Drs. M. Zachariah Peery and R.J. Gutiérrez. This monitoring project is the longest such project on California spotted owls, and our methods are consistent with all other spotted owl monitoring projects (Blakesley et al. 2010). Our monitoring provides essential information about the status of the owl population in this region and facilitates forest management by providing locations and reproductive status of owls on the Eldorado and Tahoe NF. The Eldorado Density Study Area (DSA) is a contiguous area that we have surveyed annually since 1986. The Regional Study Area (RSA) is a group of owl territories surrounding the DSA that we have surveyed since 1997. We have participated in the Sierra Nevada Adaptive Management Project (SNAMP) study since 2007, which is assessing the ecological and social impacts of "strategically placed landscape area treatments" (SPLATS) implemented under the 2004 Sierra Nevada Forest Plan Amendment. The SNAMP study area (Last Chance Study Area) is also a contiguous area, adjacent to and north of the DSA.

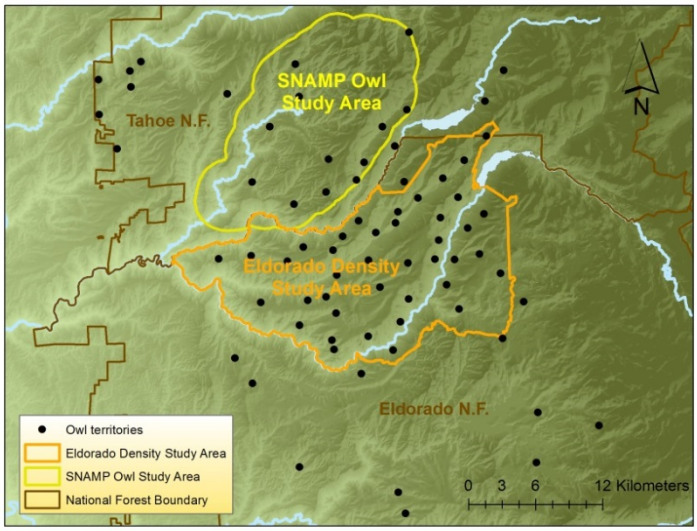

Figure 1. Eldorado Spotted Owl Demography study areas in the Central Sierra Nevada, CA.

2013 Monitoring Results

During the 2013 field season we conducted four sets of complete nighttime surveys across our study areas (DSA, RSA, SNAMP). Forty-two out of 87 territories were occupied (37 pairs and 5 single birds). We resighted or captured 74 adults or sub-adults. We assessed reproduction at 38 territories and found 14 nests. We captured 12 of the 18 fledglings observed (one juvenile was found dead at the nest

Photo 1. California spotted owl nestling (photo by S. Whitmore).

tree). Thus, we continued to observe low territory occupancy (naïve occupancy = 48.2%) and below average reproduction (37.8% of confirmed pairs produced young). We did not detect any barred or sparred owls (spotted x barred hybrid) on any of the study areas in 2013.

Management Applications

By agreement with the SNAMP Science Team and MOU partners, we are bound by a neutrality agreement, which precludes us from providing specific advice on forest management projects within the SNAMP time frame. However, there have been many management implications from our study over the years. Our past studies on habitat conditions associated with spotted owls have provided USFS managers with information that can guide silvicultural prescriptions. In addition, our monitoring in 2013 provided further evidence for a long-term decline in the population rate of change (Tempel and Gutiérrez 2013). These findings suggest prudent management of spotted owl habitat. Our work with SNAMP should provide additional insight on the factors correlated with these declines.

For SNAMP, we completed a habitat map for our study area that incorporated 20 years of annual change in vegetation conditions, primarily because of timber harvests but also because of fires and forest growth. Utilizing this habitat map, we conducted a retrospective analysis to evaluate the relationships between habitat change (fuel treatments, private harvests, etc.) and owl occupancy, survival, and reproduction. These efforts will build upon our past analysis that examined the impact of habitat change on spotted owl territory occupancy (Seamans and Gutiérrez 2007). We currently have a manuscript under peer review with an international journal (Tempel et al., in review), and the results will be available when published.

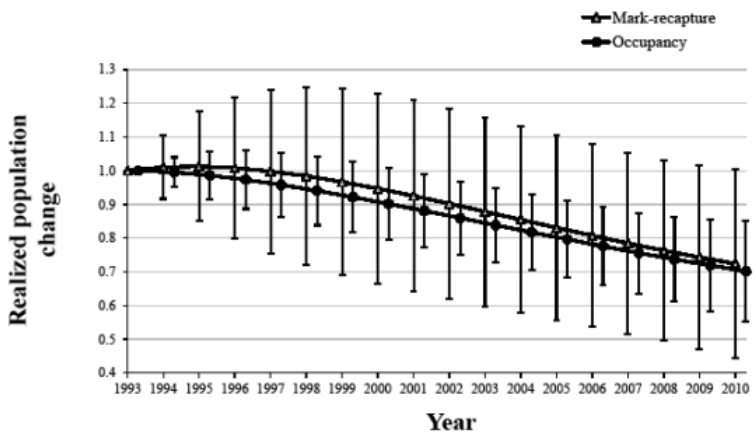

Figure 2. Realized population change (95% CI) with both occupancy and mark-recapture data for California spotted owls on the Eldorado Density Study Area, 1993-2010.

We published a paper in *Conservation Biology* (Tempel and Gutiérrez 2013) in which we compared trends in territory occupancy and population size (estimated from mark-recapture data) and found that trends in occupancy on the Eldorado Density Study Area were closely correlated with population trends (Figure 2). This finding validated our proposed use of occupancy as a metric for assessing the effects of habitat alteration on spotted owls for the SNAMP

retrospective study, but more importantly, suggests that occupancy monitoring is a viable technique for large-scale assessments of owl population trends.

We have a paper in press that investigates the use of private lands for foraging by spotted owls (Williams et al., in press). We used nighttime locations from our previous telemetry study (Canopy Reduction Study from 2006-2007) to model habitat selection based on land ownership (public and private) by foraging owls. Owls used private land less than expected based on availability. The log probability of an owl's foraging location was 15% greater on public land than on private land, indicating that owls preferentially foraged on public land.

Technology Transfer

Photo 2. Adult female California spotted owl (photo by S. Whitmore).

Our 2013 technology transfer activities included a SNAMP scientific meeting and a SNAMP public meeting. In September we attended a SNAMP scientists' meeting, and on October 23 we participated in the annual SNAMP public meeting, which was attended by members of the public, public agency employees, and stakeholders (e.g. private timber companies and environmental groups). We presented our recent findings, answered questions from the audience, and discussed our recent publications and our future plans. Our team had a display at the UC Merced Library SNAMP exhibit over the summer and fall. We also led two field trips with local USFS biologists to breeding owl sites so that they could observe our data collection methods.

We shared 2013 owl survey data (territory occupancy, detection and nest locations, and reproductive status) with the USFS, California Department of Fish and Wildlife, and US Fish and Wildlife Service Bird Banding Laboratory. We continue to maintain the spotted owl research websites of Dr. Gutiérrez and Dr. Peery, which contain links to .pdf files for many of the papers we have published over our 30 years of owl work.

Plans for 2014

We will continue monitoring owls on the Density and Regional Study Areas for reproduction, survival, and territory occupancy from April-August 2014. We will not survey owl territories on the SNAMP study area in 2014, as 2013 was the seventh and final year of data collection for SNAMP. Part of the SNAMP study area experienced a large fire in the fall of 2013. We have

begun collaborating with the Fire and Forest Ecosystem Health team of SNAMP on a prospective analysis of fire effects on owl habitat and demography. We will present the results from this collaboration and from our retrospective analysis in the SNAMP final report in late 2014. Finally, we will continue to be involved in all SNAMP-related events, including an IT meeting planned for the summer.

Literature Cited

Blakesley, JA, ME Seamans, MM Conner, AB Franklin, GC White, RJ Gutiérrez, JE Hines, JD Nichols, TE Munton, DWH Shaw, JJ Keane, GN Steger, and TL McDonald. 2010. Population dynamics of spotted owls in the Sierra Nevada, California. Wildlife Monographs 174.

Seamans, ME, and RJ Gutiérrez. 2007. Habitat selection in a changing environment: the relationship between habitat alteration and spotted owl territory occupancy and breeding dispersal. The Condor 109:566-576.

Tempel , DJ, and RJ Gutiérrez. 2013. Relation between occupancy and abundance for a territorial species, the California spotted owl. Conservation Biology 27:1087-1095.

Tempel, DJ., RJ Gutiérrez, SA Whitmore, MJ Reetz, RE Stoelting, WJ Berigan, ME Seamans, and MZ Peery. Effects of forest management on California spotted owls: implications for reducing wildfire risk in fire-prone forests: in review.

Williams, PJ, RJ Gutiérrez, and SA Whitmore. Use of private lands for foraging by California spotted owls in the central Sierra Nevada. Wildlife Society Bulletin: in press.

Fisher and Marten Status and Trend Monitoring

This project, led by Dr. Jody Tucker, conducts annual, systematic surveys across the national forests of the Sierra Nevada to track the status and trend of carnivore populations, specifically Pacific fisher (*Pekannia pennanti* formerly *Martes pennanti*) and American marten (*Martes americana*). Data are also routinely collected using the same survey techniques for a suite of other co-occurring carnivores and small mammals including gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), ringtail (*Bassariscus astutus*), spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), black bear (*Ursus americanus*), and weasels (long-tailed and ermine; *Mustela spp*.).

Sampling is focused on the southern Sierra Nevada as the existing native fisher population is limited to this area. Sample units are located on a modified version of the Forest Inventory and Analysis (FIA) grid, with center points of the units offset from the FIA points by 100 m in a random direction. During 2002-2009, intensive population monitoring was conducted during what is now referred to as Phase I. 2013 was the third year of full scale implementation of Phase II, which is a change from the intensive monitoring conducted during Phase I to a less intensive annual resample of the same sites. This design was discussed more fully in the 2011 SNFPA annual report.

Figure 3. Photos of 6 different species taken by remote cameras within a single monitoring unit on the Sierra National Forest. The photos show a piece of wire on the center of the tree used to hold bait, surrounded by gun brush hair snares used to collect genetic samples. Clockwise from the top left the species shown are mountain lion, fisher (with collar), black bear, ringtail, western gray squirrel, and gray fox.

Accomplishments

The carnivore monitoring program completed 96 sample units in the southern Sierra fisher zone during 2013. Fishers were detected at 25 of these 96 units for a naive occupancy rate of 0.26. An additional eight sample units were completed in the Eldorado and Tahoe National Forests to

monitor marten populations, for a total of 104 sample units completed in 2013. Marten were detected at 18 of these 104 sample units. Genetic samples were collected at sample units with either fisher or marten detections and are currently being genotyped to identify unique individuals and their gender.

In 2013 the monitoring program also established marten hair-snare stations in targeted areas with the aim of filling in spatial gaps in marten genetic data to facilitate a future analysis of marten population genetic structure. These hair snare stations consisted of a string of remote sensor camera + hair snares deployed ~1 km apart opportunistically along roads or trails in areas identified as having high quality marten habitat. Hair snare networks were installed in five geographic areas on the Tahoe, Eldorado, and Stanislaus National Forests. A total of 84 hair snare stations were completed, of which 49 stations photographically detected marten. Genetic analysis of hair samples collected at these stations is currently underway.

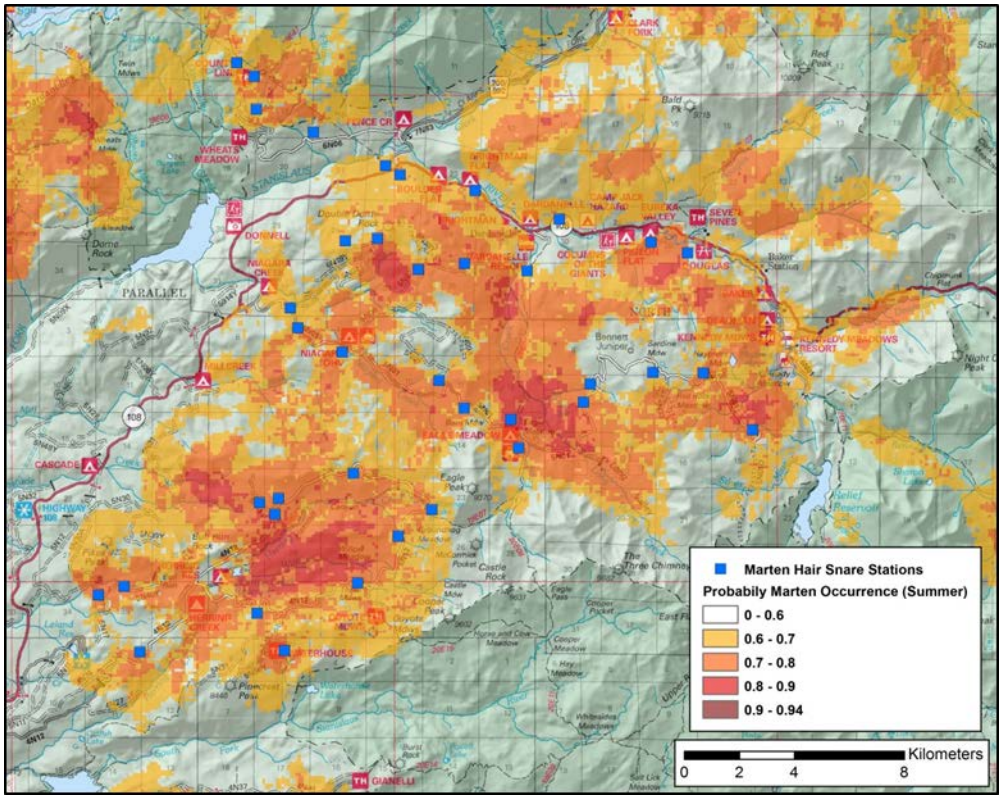

Figure 4. Map showing marten hair snare stations completed in the Pinecrest- Kennedy Meadows area of the Stanislaus National Forest. Areas with a high probability (>0.60) of marten occurrence during summer are show in orange and red (model developed by the Conservation Biology Institute (www.databasin.org).

In 2013, we produced one paper that was published in the peer-reviewed journal *Conservation Genetics* (Tucker et al. 2014). This research article was published online in September 2013, and subsequently published in the print version of the journal in January 2014. This manuscript reported the results of an analysis of the genetic population structure of the southern Sierra

Nevada fisher population based on genetic samples obtained through the monitoring program from 2006-2009.

This research revisited a previous study (Wisely et al. 2004) that had found a high amount of genetic subdivision within the southern Sierra Nevada population using a much larger and geographically diverse set of genetic samples than was previously available. The amount of population subdivision we detected was much lower than previously found and indicated that while certain landscape features may reduce gene flow, these landscape features may be less of a barrier than initially thought. Our analysis found three primary genetic clusters associated with areas around the Kings River and Mountain Home State Demonstration Forest. Additional fine scale sub-division was also detected north of the Kings River that may be evidence of founder effects from a recent population expansion.

One dissertation was also completed (Tucker 2013), which was primarily based on data from this monitoring program. This dissertation included research on the historical and current genetic connectivity of fisher in California, and identified landscape features that influence gene flow for fisher, with a primary focus on the southern Sierra Nevada. Additionally, one final dissertation chapter examined a spatially explicit power analysis of the fisher monitoring program sampling scheme.

Management Applications

We responded to data requests for monitoring program data from forest biologists on the Lassen and Sequoia National Forests to inform project planning. We also contributed to the development of a statistical program "rSPACE" designed to aid researchers and managers in designing population monitoring programs by providing a spatially explicit framework to conduct power analyses (Ellis et al. 2014). rSPACE is planned to be released as an R package in the future. This program is currently in a testing phase and is available on software development website GitHub.com.

Plans for 2014

We will continue to focus monitoring efforts on the southern Sierra fisher occupied area, and will resample a portion of the sample units used by Zielinski et al. (2013) to assess population trend. We also plan to continue marten monitoring in the central and northern Sierra for all forests for which marten is designated a Management Indicator Species (MIS). Sampling will continue using the same protocol that has been employed since beginning Phase 2 in 2011 (remote cameras, track plates and hair snares).

Publications

Tucker, JM 2013. Assessing changes in connectivity and abundance through time for fisher in the southern Sierra Nevada. Dissertation, University of Montana, Missoula, MT, USA.

Tucker, JM, MK Schwartz, RL Truex, SM Wisely, and FW Allendorf. 2014. Sampling affects the detection of genetic subdivision and conservation implications for fisher in the Sierra Nevada. Conservation Genetics 15: 123-136.

Literature Cited

Ellis, MM, JS Ivan, MK Schwartz. 2014. Spatially explicit power analyses for occupancy-based monitoring of wildlife: a case study of wolverines in the U.S. Rocky Mountains. Conservation Biology 28: 52-62.

Wisely SM, SW Buskirk, GA Russell, KB Aubry, WJ Zielinski (2004) Genetic diversity and structure of the fisher (*Martes pennanti*) in a peninsular and peripheral metapopulation. Journal of Mammalogy, 85, 640-648.

Zielinski, WJ, JA Baldwin, RL Truex, JM Tucker, and PA Flebbe. 2013. Estimating Trend in Occupancy for the Southern Sierra Fisher (Martes pennanti) Population. Journal of Fish and Wildlife Management 4(1):3-19.

Amphibian Status and Trend Monitoring

A paper describing the design used for this regional monitoring program conducted 2002-2009 was published in 2013:

C Brown and AR Olsen. 2013. Bioregional monitoring design and occupancy estimation for two Sierra Nevadan amphibian taxa. Freshwater Science, 32(3):675-691.

An additional paper was published in 2014:

C Brown, LR Wilkinson, and KB Kiehl. 2014. Comparing the Status of Two Sympatric Amphibians in the Sierra Nevada, California: Insights on Ecological Risk and Monitoring Common Species. Journal of Herpetology 48(1): 74-83.

Sierran Treefrog

Sierran treefrog (Pacific treefrog) was selected as Management Indicator Species (MIS) for wet meadows in the 2007 Sierra Nevada Forests Management Indicator Species Amendment. This

amendment applied to the nine forests in California and the Lake Tahoe Basin Management Unit. Through 2012, this monitoring was conducted coincidentally with the amphibian status and trend monitoring for Yosemite toad and Sierra Nevada and mountain yellow-legged frog. Results were published in Brown et al. (2014).

Starting in 2013, the monitoring design was modified and monitoring is now accomplished in collaboration with the meadow (range) monitoring program that has been ongoing since 1999. The population monitoring strategy for this MIS is distribution population monitoring, which tracks changes in the presence of Sierran treefrog across a number of sample locations. These results should not be compared with those from prior years.

Selection of sample meadows was coordinated with the Region 5 Meadow Condition and Trend Monitoring Program, which has established over 500 permanent plots that are read on a 5-year cycle. MIS surveys were performed in meadows where rooted frequency plots were scheduled for reading in 2013. Population data was collected during field surveys using timed visual encounter surveys (VES) as well as auditory surveys using playback of recorded Sierran treefrog calls to stimulate adult calling (Heyer et al. 1994, Olson et al. 1997). VES efforts targeted preferred aquatic habitats including wetted meadow, pond edges, slow-moving streams and side channels, but moist and dry habitats were searched when time allowed.

From June 19 through August 19, 2013, surveys for the Sierran treefrog were conducted in 45 meadows in the Lassen, Plumas, Sequoia, Sierra, Stanislaus, and Tahoe National Forests (Figure 5). Overall, Sierran treefrogs were detected in 18 meadows, 40% of the total surveyed; occupancy rates varied by forest (Table 1). Differences in occupancy are partially due to the number of meadows surveyed on each forest and to different detection probabilities through the two-month season.

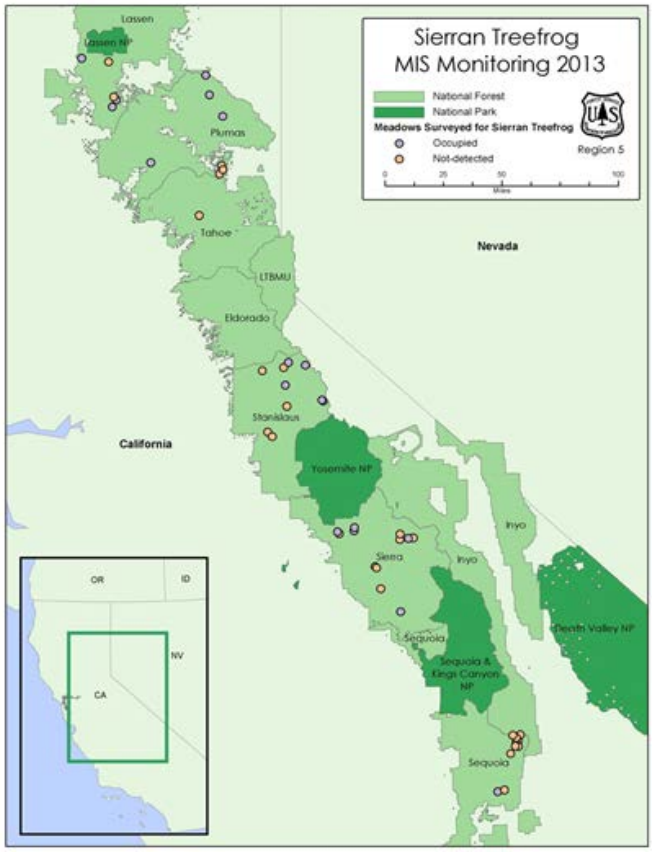

Figure 5. Meadows surveyed for Sierran treefrogs June 19 – August 19, 2013 on Sierra Nevada National Forests.

Table 1. Occupancy in meadows surveyed for Sierran Treefrogs on Sierra Nevada National Forests.

Forest	Number meadows surveyed	Number meadows occupied	% Occupied
Lassen	6	4	67%
Plumas	4	3	75%
Sequoia	10	1	10%
Sierra	12	5	42%
Stanislaus	10	5	50%
Tahoe	3	0	0%
TOTAL	45	18	40%

Willow Flycatcher Demographic Study

This monitoring study was completed in 2010. A monograph reporting results was published during 2013:

Mathewson, HA, ML Morrison, HL Loffland, and PF Brussard. 2013. Ecology of Willow Flycatchers (*Empidonax traillii*) in the Sierra Nevada, California: Effects of Meadow Characteristics and Weather on Demographics. Ornithological Monographs 75(1):1-32. http://www.jstor.org/stable/10.1525/om.2013.75.1.1

Sierra Nevada Adaptive Management Project

The Sierra Nevada Adaptive Management Project (SNAMP) was initiated in 2007 and is a joint effort by the University of California, University of Wisconsin, state and federal agencies, and the public to study management of forest lands in the Sierra Nevada. The intended result is a multi-resource assessment of effects of Forest Service fuel treatments on water, wildlife, fire, forest health, and public participation on a fireshed scale using an adaptive management framework, innovative research, and stakeholder participation.

During 2013, data collection was completed for SNAMP and preparation of the final report initiated. The project maintains a website that is frequently updated with results of the monitoring they do.

Management Indicator Species

Reports for MIS monitoring are available from several sources:

- American marten
- Aquatic (benthic) macroinvertebrates

- Black-backed woodpecker
- California Spotted Owl
- Fox Sparrow, Hairy Woodpecker,Mountain Quail, and Yellow Warbler
- Sierran Treefrog

Forest Monitoring Summary

October 1, 2012 to September 30, 2013 (FY 2013)

This summary is based on reports from all ten national forests and the Lake Tahoe Basin Management Unit (LTBMU). Sierra Nevada NFs have completed nearly all FACTS (Forest Activity Tracking System) database entry for projects through FY13.

The LTBMU, Plumas NF, Sequoia NF, Sierra NF, Stanislaus NF, and Tahoe NF generally conducted landscape-level assessments in designing fuel treatments that are reported as accomplished in FY13.

Fuel treatments in California spotted owl (CSO) and northern goshawk Protected Activity Centers (PACs) and in the wildland urban interface (WUI) during FY13 are summarized in Table 2. Treated acres represent less than 0.4% of CSO PACs and less than 0.4% of goshawk PACs.

Table 2. Fuel treatments in California Spotted Owl and Northern Goshawk PACs and WUI by forest for 2013.

Forest	Treatment Acres in California Spotted Owl PAC*	Treatment Acres in Goshawk PAC*	Acres treated in WUI	Percent of total treated in WUI
Eldorado	3	2	575	6%
Inyo	0	0	1,814	67%
Lake Tahoe Basin	60	0	2,884	29%
Lassen	12	0	0	0%
Modoc	0	0	6,215	100%
Plumas	101	50	2,597	100%
Sequoia	277	0	4,556	65%
Sierra	807	258	2,869	93%
Stanislaus	38	0	3,486	52%
Tahoe	129	4	1,621	91%
Humboldt-Toiyabe	0	0	**	**
TOTAL	1,427	314	26,617	49%

* Data pulled from FACTS January - March, 2014.
** Treatment acres are not reported for the Humboldt-Toiyabe NF because only a very small portion of the forest is in the Sierra Nevada.

In 2013, fuel treatments were conducted on 54,647 acres on the Region 5 Sierra Nevada national forests. Of those acres, 49% were located in the wildland-urban interface (WUI). The regional goal was to have 50% of all initial fuel treatments in the WUI (SNFPA ROD, page 5), and we have now completed many of those treatments.

Treatments within California spotted owl PACs have occurred on eight of the national forests in the Sierra Nevada bioregion since 2004:

- 2,130 acres on the Eldorado NF,
- 1,004 acres on the Lake Tahoe Basin Management Unit,
- 178 acres on the Lassen NF,
- 804 acres on the Plumas NF,
- 1,883 acres on the Sequoia NF,
- 4,841 acres on the Sierra NF,
- 2,806 acres on the Stanislaus NF, and
- 654 acres on the Tahoe NF.

The total of 14,301 acres treated within CSO PACs since 2004 (one decade) is about 3% of the 421,780 acres of CSO PACs designated within the Sierra Nevada. The ROD for SNFPA limits vegetation treatments to no more than 5% of the acres in CSO PACs per year and 10% per decade (page 61).

A number of treatments have been conducted in Northern goshawk PACs since 2004:

- 693 acres on the Eldorado NF,
- 200 acres on the Humboldt-Toiyabe NF (but reporting is incomplete),
- 24 acres on the Inyo NF,
- 262 acres on Lake Tahoe Basin Management Unit,
- 917 acres on the Lassen NF,
- 1,705 acres on the Modoc NF,
- 400 acres on the Plumas NF,
- 215 acres on the Sequoia NF,
- 1,007 acres on the Sierra NF,
- 764 acres on the Stanislaus NF, and
- 759 acres on the Tahoe NF.

The total of 6,948 acres treated in goshawk PACs since 2004 (one decade) is about 6% of the approximately 108,158 acres in goshawk PACs. The ROD for SNFPA limits vegetation treatments to no more than 5% of the acres in goshawk PACs per year and 10% per decade (page 61).

These cumulative estimates of treatment acres in CSO and goshawk PACs probably represent an overestimate of actual acres treated because some treatments are implemented over more than one year. In recent years, data have been extracted from FACTS, our corporate database, and we have been able to eliminate duplication within a single year.

The ROD requires evaluation of CSO PACs after potentially stand replacing fires to determine whether PACs or PAC acres that may have become unsuitable should be replaced (SNFPA ROD, page 37). For FY 2012 (allowing a 1-year delay to assess effects):

- On the Lassen NF, 141 acres in nine CSO PACs were rendered unsuitable and replacement acres have been found.
- On the Plumas NF, 20 CSO PACs were affected by stand-replacing fires as described in Table 3.

Table 3. CSO PACs significantly diminished by wildland fire on the Plumas NF during 2012.

PAC	Acres burned at moderate – high severity	Disposition
002	28.7	Modified
093	96	Modified
098	74.1	
103	116.2	Possibly retire
108	263.5	Modified
116	33.6	
124	29.8	
127	132.9	Modified
128	2.2	
224	29.8	
246	82.9	Modified
278	3.5	Possibly modify after 2014
279	303.5	Modified
280	78.4	
296	138.1	Possibly modify after 2014
346	153.3	Possibly retire
347	78.1	Possibly modify after 2014
349	35.9	Possibly modify after 2014
350	0.1	
354	121.1	

- On the Stanislaus NF, 260 acres in the CAL0037 (Ramsey South) PAC were rendered unsuitable and replacement acres have been found.

The Sierra Nevada national forests identified fuels treatments in great grey owl PACs and fisher den site buffers; none in marten den site buffers:

- Sierra NF treated 504 acres in great grey owl PACs.
- Sierra NF also treated 358 acres in fisher den buffers.

The ROD allows some vegetation treatments in these areas (SNFPA ROD, pages 61-62).

Forests used the flexibility in S&G #71 to change CSO and goshawk PAC boundaries to implement projects during 2012:

- Lake Tahoe Basin Management Unit increased the Incline Creek northern goshawk PAC by 102 acres to account for mechanical fuel treatments from the Incline Hazardous Fuels Reduction and Forest Health Restoration Project.
- Lassen NF modified CSO PACs as described in Table 4. These PACs were modified as a result of the Reading Fire, Hat Creek Ranger District.

Table 4. Modifications to CSO (SOPAC) and Goshawk (GPAC) PACs on the Lassen NF.

Name of PAC	Original Acres	Acres Lost	Action	Comment
Badger SOPAC	301	160 acres severely burned; 141 acres remapped into new PAC	Remapped	Presently has 543 acres for SOPAC; portions will go to Badger GPAC post-survey 2014.
Badger GPAC	206	57 acres remaining; mapped into reserve acres for new Badger SOPAC	To be remapped	Will be remapped from Badger SOPAC post-survey, 2014.
Raker GPAC	201	All acres severely burned including nest site.	Remapped east of old PAC; presently has 398 acres	Sighting occurred in fall 2012. To be surveyed, 2014
South Prospect GPAC	194	All acres severely burned	Removed from network; no suitable acres within ½ mile of AC within project area	Area east of project minimally suitable.

- Tahoe NF modified CSO PACs as described in Table 5.

Table 5. Modifications to CSO PACs on the Tahoe NF.

Site Name	Current Acres	Previous Acres	Acres Overlap
NEV0021	300	301	66
PLA0029	300	308	242
PLA0030	300	316	228
PLA0060	300	331	204
PLA0070	301	332	133
PLA0078	305	329	193
PLA0082	300	314	285
PLA0083	300	308	262
PLA0085	300	323	275
PLA0094	300	331	291
PLA0101	318	0	New

Site Name	Current Acres	Previous Acres	Acres Overlap
PLA0118	301	306	242
PLA0125	300	304	254

Implementation monitoring was conducted on projects during 2012 as follows:

- Inyo NF reports that some level of implementation monitoring was conducted for 75 to 100% of projects.
- Lake Tahoe Basin Management Unit monitored 100% of projects.
- Modoc NF reports monitoring on 95% of vegetation and fuels projects.
- Plumas NF conducts monitoring on 98% of vegetation and fuels projects.
- Sequoia NF reported monitoring on 10% of projects.
- Sierra NF conducted monitoring on 100% projects.
- Stanislaus NF reports monitoring for 40% of projects.
- Tahoe NF conducted BMP monitoring on 100% of projects with silvicultural waivers and additional BMP monitoring on a portion of activities to meet assigned BMPEP monitoring targets.

Forest Relations with Tribes

Sierra Nevada national forests maintain Government-to-Government relationships with the tribes in the region. They consult and cooperate with tribes on culturally important vegetation, prescribed burning and fuel reduction, and other forest management activities. Forests protect and provide access to sacred and ceremonial sites and tribal traditional use areas. Some specific new instances where the forests worked with tribes on projects in 2012 include:

Humboldt-Toiyabe NF

The Humboldt-Toiyabe NF has hired full time Tribal Liaison. This liaison is expected to work with local line and Forest Supervisor to help build stronger ties with tribal communities and elected Tribal Officials.

The forest has delegated Tribal Consultation authority to District level line officers to improve and encourage contact between local line and elected Tribal leaders. The expectation is that local line's proximity to the Tribal communities with which they consult will provide opportunities for more consistent and frequent contact.

Inyo NF

The Inyo NF consulted with and collaborated with tribal governments and tribal communities in the monitoring of the ARRA Department of Commerce (National Telecommunications and Information Agency) Digital 395 Broadband fiber-optic cable project. Sensitive and proprietary

information was discussed with the tribes and the forest ensured that paid tribal monitors were on site at all times during construction when cultural sites were identified, construction was occurring, or issues arose.

The forest worked with a local tribe for the return of an artifact that is considered sacred to the Mono Basin Indian Community. The artifact had been housed at University of California for over 40 years. We are in the process of transferring the possession of the artifact from UCLA back to its place of origin in the Mono Basin – a sacred site.

The forest maintained appropriate tribal access to sacred and ceremonial sites and to tribal traditional use areas, specifically during FY13:

1. The Bishop Paiute Tribe was allowed to perform ceremonial activities that included an open fire pit in a traditional use pinyon pine forest, even though the public was under severe fire restrictions at the time.
2. The tribe requested approval to build temporary shelters of willow and perform youth ceremonies in a forest service wilderness area. These activities were approved by the District rangers involved, and the forest worked collaboratively with the tribes to mutually identify locations that were appropriate. At these locations, camps could be set up in order to have a meaningful ceremonial site.
3. The Forest and local tribes are in on-going discussions regarding travel management decisions, appropriate public access, and traditional access to pine nut gathering areas – considering contemporary uses as well as traditional uses. The District Rangers hosted multiple field trips with tribes to discuss project planning and these issues, as well as fuels projects.

Lake Tahoe Basin Management Unit

The LTBMU provided technical assistance to the Washoe Tribe in preparing environmental documentation for a fuels treatment project on Washoe property adjacent to Forest Service lands at Skunk Harbor, Lake Tahoe.

The Basin coordinated with the Washoe Tribe in development of a nomination to the National Register of Historic Places for a Traditional Cultural Property.

Finally, the Basin provided the Washoe Tribe the opportunity to consult on the LTBMU Land and Resource Management Plan Revision.

Lassen NF

The Lassen NF entered into the Pit River Tribe Communications Protocol MOU between the Pit River Tribe and the Shasta-Trinity, Lassen, and Modoc National Forests. What makes this MOU

unique is the collaborative manner in which it was developed. The Tribe not only had a considerable input regarding the MOU, but also wrote a preamble that clearly identifies the trust responsibility that the Forest Service has with the Pit River Tribe.

The Brokenshire Project Traditional Timber Product Collection is a collaboration with the Redding Rancheria to authorize the Tribe to collect timber products from a fuels reduction project utilizing the Farm Bill. Tree products to be removed are cedar bark and small diameter trees for bark houses and change huts. Large cedar trees were identified to be removed for dugout canoe construction.

The forest maintained close consultation and communication with Susanville Indian Rancheria regarding restoration of Papoose Meadow, located on Eagle Lake RD. This meadow has a significant and tragic history with the people of the Susanville Indian Rancheria and required a great deal of sensitivity and involvement. This last year was the actual implementation of the restoration, and the Tribe was very happy with the results and the manner in which the Forest Service consulted with them.

The Pit River Tribe, Greenville Rancheria, Susanville Indian Rancheria, and Mechoopda Tribe were all part of various wilderness trails maintenance projects implemented on the LNF. With the use of Participating Agreements and Challenge Cost-Share Agreements, tribal crews started trail work in the Ishi, Thousand Lakes, and Caribou Wilderness Areas. This collaboration provided training to the tribal crews in the use of cross-cut saws and trail construction. Tribal youth were also involved in this project, which is still ongoing.

Modoc NF

The Modoc NF is partnering with the BIA to employ a Tribal Relations Technician on the forest to assist the Tribal Relations Program Manager.

The forest entered into a new Three-Forest (with the Lassen and Shasta-Trinity NFs) Communication Protocol MOU with the Pit River Tribe, described above in the Lassen NF report. This MOU was prepared in a truly collaborative manner in which the Tribe wrote much of the language about Trust Responsibility.

The Modoc NF entered into a new Forest-wide Master Participating Agreement with the Pit River Tribe.

Plumas NF

The Plumas NF collaborated with local Mountain Maidu Tribes and organizations to conduct a bear grass burn at Mt. Hough Ranger District. The burn plan from Mt. Hough Ranger District had significant tribal input. Along with Forest Service staff, the Greenville Rancheria Tribal Fire

Crew was heavily involved in the implementation of the burn. Tribal elders and traditional practitioners were involved with monitoring the burn.

Through a slow but meaningful consultation process, two derogatory place names on the Plumas NF visitors map have been proposed to be changed. The place names "Digger Creek" and "Digger Ravine" (where "digger" is the derogatory word) have been proposed by the Maidu Summit Consortium to be changed to "Bey Cha Creek" and "Bey Cha Ravine". "Bey Cha" is a Maidu word with the meaning of "they used to dig here". The forest provided coordination, facilitation and support to the Maidu People in researching, deliberating, and submitting the place name change proposal.

The forest conducted a field trip to the Chips Fire area specifically for tribal representatives and members to share with tribes the diverse impact of the burn, salvage operations, and restoration strategies. Together on the bus tour, tribal leaders, representatives, elders and general members of the various Mountain Maidu Tribal Communities spent the day with the Forest Supervisor, District Ranger, and Plumas NF staff members discussing the severity of the burn, cultural significance of certain areas, and strategies to best manage the fire damaged areas. During the tour, the forest also addressed tribal questions and concerns and gathered input and comments. In a letter to the forest from a tribal representative, the visit was described as "making the Maidu representatives feel comfortable with sharing information at the tour and will facilitate open dialogue in the future."

Sequoia NF

The Sequoia National Forest Tribal Relations Program (TRP) continues its strong tradition of consultation and collaboration with Tribes and quarterly Tribal Forums reported in previous years. In FY13, these activities included consultation and collaboration in the Forest Plan Revision process.

Sierra NF

The Sierra NF is working with the Heritage Resources Program to jointly rewrite the Culture History of the forest, incorporating the Native Californian experience and tribal definitions of cultural resources into the forests heritage program management.

The forest incorporated tribal beliefs, concerns, and recommendations into a ground-breaking forest-wide NAGPRA Plan of Action that protects these highly sensitive items and saves money.

The Tribal Relations and Heritage Resources Programs share knowledge about project activities with key contacts, technical details and close coordination and timing of the proposed actions.

The forest is working with tribal governments to develop economic enhancements to the rural communities. We established Memoranda of Understanding and Agreement to establish smooth communications and promote of potential business operations involving grants, contracts, and procurement with Indian Tribes.