USDA

United States Department of Agriculture

Forest Service

Pacific Southwest Region

July 2007

Status Report to Congress Fiscal Year 2006

Herger-Feinstein Quincy Library Group Forest Recovery Act Pilot Project

Report Preparation & Contact Information

This document was prepared by the Herger-Feinstein Quincy Library Group Pilot Project Implementation Team for the Lassen, Plumas and Tahoe National Forests.

This report will be made available online following finalization. Printed copies or CDs of the document will be available upon request by contacting the team.

Herger-Feinstein Quincy Library Group
Implementation Team
Team Leader - Kurt Winchester
530-283-2050

159 Lawrence St.
P.O. Box 11500
Quincy, CA 95971
www.fs.fed.us/r5/hfqlg

Cover Photos

Clockwise from Top Center: The Toro Defensible Fuel Profile Zone (DFPZ) on the Sierraville Ranger District of the Tahoe National Forest. Aspen regeneration on the Beckwourth Ranger District of the Plumas National Forest. A Quincy Library Group meeting and field trip including Forest Service employees from the Pilot Project area and the Regional Office at the Meadow Valley Project on the Mt. Hough Ranger District of the Plumas National Forest. A group selection unit on the Almanor Ranger District of the Lassen National Forest.

Photo Above: Implementation Team Leader Kurt Winchester on a monitoring field trip.

Photo on Introduction Page: A Forest Service employee takes notes during a monitoring field trip on the Lassen National Forest.

Civil Rights Statement

Introduction & Background

The Fiscal Year 2006 (FY06) Herger-Feinstein Quincy Library Group (HFQLG) Pilot Project Status Report to Congress is the eighth annual status report required by Sections 401 (j)(1)(A-G) of the HFQLG Forest Recovery Act. The Pilot Project covers the Lassen and Plumas National Forests and the Sierraville Ranger District of the Tahoe National Forest.

This report is being presented differently than the previous seven reports. The new format is streamlined, reducing repetition, improving flow, and presenting the information required by the act clearly and concisely. For organizations or individuals looking for more detailed information, a separate FY06 HFQLG Monitoring Report is available at www.fs.fed.us/r5/hfqlg. Printed copies of both documents are also available upon request.

In FY06, the HFQLG Pilot Project area saw a reduction in funding in accordance with Regional and National budget decreases. Accomplishments were affected by litigation and appeals. The Forests in the Pilot Project area shifted to the use of environmental impact statements a few years ago as a result. While these documents take longer to prepare, the more in-depth analysis is typically easier to defend in court.

Implementation of prior-year planning had an impact on both revenue and acres treated accomplishments. Future project planning continues, extending beyond the end of the Pilot Project, as well as continued implementation of prior-year planning. Sustained or improved budget levels will help facilitate implementation.

Continued monitoring efforts are providing effective feedback to adapt planning and implementation of current and future projects. Response to last year's issues with soil compaction and best management practices are addressed, as well as a strategy to address the new issue of smoke effects from prescribed burn activities. Socioeconomic monitoring continues to track the effects of the Pilot Project on local economies using a series of indicators. Local economies appear to be diversifying; however there continue to be concerns about the level of economic activity generated by the National Forests in terms of timber production. Increased appeals and litigation following the 2004 Framework has affected the amount of timber available from the Forests.

Background

The HFQLG Forest Recovery Act became law in October 1998 as part of the Department of the Interior and Related Agencies Appropriations Act. The Pilot Project was extended in 2003 and is scheduled to conclude in September 2009.

The Pilot Project area covers approximately 1.5 million acres in the Lassen and Plumas National Forests and Sierraville Ranger District of the Tahoe National Forest. It is designed to implement and demonstrate the effectiveness of fuels and vegetation management activities to meet ecologic, economic and fuel reduction objectives. These activities include shaded fuelbreaks or Defensible Fuel Profile Zones (DFPZs), group selection (GS), and individual tree selection (ITS). The Record of Decision and Final Environmental Impact Statement for Pilot Project implementation were released in August 1999.

Implementation has been subject to a variety of challenges, including restrictions from land and resource management documents being used at the time. The Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement and Record of Decision signed in January 2004 provides a stronger framework for full implementation of the act.

Currently, the Lassen and Plumas National Forests and the Sierraville Ranger District of the Tahoe National Forest are accomplishing a variety of projects fulfilling the objectives of the act. This includes establishing an all-aged, multi-storied, fire-resilient forest that will provide a continuous supply of forest products and promote community stability. Annual funding of $43.8 million would allow for full implementation and produce approximately 378,000 hundred cubic feet (CCF) of timber and treat 68,800 acres.

Funding

As the HFQLG Pilot Project completes its eighth year of implementation, it has seen fluctuations in funding. However, as implementation continues to improve and become more efficient, the remaining year-end balances have dropped significantly.

Allocation & Expenditures, 1999-2006 (millions)

Fiscal Year	Available Funding	Indirect Cost	Funding to Projects	Total Expenditures	Year End Balance	Not Returned to Project
1999	$ 8.0	$ .0	$ 2.0	$ 2.0	$ 6.0	$ .0
2000	$ 12.2	$ .8	$ 6.4	$ 7.2	$ 5.0	$ 5.0
2001	$ 31.2	$ 3.1	$ 25.1	$ 28.2	$ 3.0	$ 3.0
2002	$ 26.2	$ 3.1	$ 18.4	$ 21.5	$ 4.7	$ 1.3
2003	$ 29.6	$ 3.1	$ 20.0	$ 23.1	$ 6.5	$ 1.9
2004	$ 30.8	$ 3.1	$ 27.0	$ 30.1	$ .7	$ .7
2005	$ 31.0	$ 3.1	$ 26.1	$ 29.2	$ 1.8	$ 1.8
2006	$ 26.2	$ 3.4	$ 22.4	$ 25.8	$ .4	TBD
Total	**$195.2**	**$19.70**	**$147.4**	**$167.1**	**$28.1**	**$13.7**

Note: Numbers have been rounded.

FY06 project expenditures include:

- ✓ Administering and monitoring projects from prior years
- ✓ Implementing projects from prior-year planning
- ✓ Planning and implementing FY06 projects
- ✓ Planning projects for FY07 and beyond
- ✓ Responding to appeals
- ✓ Responding to litigation

Three primary fund codes are used to track project expenditures:

- ✓ Wildland Fire Hazardous Fuels (WFHF) – Fuels reduction project (including Defensible Fuel Profile Zones (DFPZs)) planning, preparation, implementation, monitoring and administration.
- ✓ National Forest Timber Management (NFTM) – Timber sale planning, preparation and administration.
- ✓ National Forest Vegetation and Watershed (NFVW) – Forest health improvement, watershed and riparian restoration project planning, preparation and implementation.

FY06 Pilot Project Expenditures (millions)

Forest/Unit	WFHF	NFTM	NFVW	Total
Lassen	$ 5.270	$1.435	$2.673	$ 9.378
Plumas	$ 7.852	$2.091	$ .356	$10.299
Tahoe	$ 1.571	$ .198	$ .180	$ 1.949
HFQLG Implementation Team	$ 1.2	-	-	$ 1.2
Total	$15.893	$3.724	$3.209	$22.826
12% Indirect Cost	-	-	-	$ 3.144
Rescission (1%)	-	-	-	$ .23
Total FY06 Budget	**-**	**-**	**-**	**$ 26.2**

Indirect costs are expenses for general administration support, office space, rental agreements, communications and other expenses, which are not to exceed 12 percent of the annual HFQLG budget.

In FY06, the HFQLG budget was also affected by a 1 percent national rescission, reducing the budget by $230,000.

Revenue & Resource Accomplishments

To help monitor the effects of the Pilot Project and the level of accomplishment, the HFQLG act requires a report of the revenue, expenditures and timber management activities between 1992 and 1997 for the National Forests in the Pilot Project area.

This information provides a valuable perspective on the activities and accomplishments of the Pilot Project, as well as an opportunity to compare historic and current figures.

Sawlog volume is measured in hundred cubic feet (CCF). A standard log truck hauls approximately 10 CCF per load. Biomass is also measured in CCF and a standard chip truck hauls approximately 10 CCF per load.

Historic Revenue, Expenditures and Timber Activity for the HFQLG Pilot Project Area

Fiscal Year	Revenue (millions)	Expend-iture (millions)	Regen-eration (Acres)	Site Prep (Acres)	Timber Stand Improvement (Acres)	Sawlog Vol. Offered (CCF)	Sawlog Vol. Sold & Awarded (CCF)	Total Area Harvested (Acres)
1992	$67.187	$25.856	8,634	6,176	10,045	426,000	329,400	55,689
1993	$34.408	$18.194	7,853	5,264	10,600	424,000	535,200	70,885
1994	$44.501	$17.376	8,206	4,667	8,740	375,000	332,600	57,922
1995	$52.873	$22.596	7,531	2,363	13,866	555,200	316,400	47,317
1996	$24.590	$20.490	9,063	3,321	15,062	374,200	242,600	38,917
1997	$24.465	$22.207	15,591	3,321	22,646	383,000	353,400	32,223

In FY06 there was an increase in revenue from the completion of prior-year timber sales. Sawlog and Biomass volume are reported as accomplished once a project has been offered. Litigation and appeals had a direct effect on FY06 accomplishments. In FY07 the agency's reporting of accomplishment will shift from timber offered to timber sold.

Revenue, Expenditures and Timber Management for HFQLG Pilot Project

Fiscal Year	Revenue (millions)	Expenditures (millions)	Number of Projects	Sawlog Vol. (CCF)	Biomass Vol. (CCF)	Sawlog & Biomass Vol. Removed (CCF)
1999	$ .000	$ 1.943	1	4,785	4,278	0
2000	$ .020	$ 7.182	10	44,422	64,517	5,754
2001	$ .140	$ 28.267	34	88,802	143,117	33,151
2002	$ .989	$ 21.557	33	37,168	31,354	99,163
2003	$ .960	$ 23.100	28	41,418	44,402	61,810
2004	$ 1.958	$ 30.100	55	203,012	198,204	61,792
2005	$ 2.914	$ 29.200	37	143,373	129,814	222,770
2006	$ 4.613	$ 25.800	23	14,625	25,132	191,875
Total	**$11.594**	**$167.149**	**221**	**577,605**	**640,818**	**676,315**

Photos: (Top) Trees marked on a timber sale on the Hat Creek Ranger District of the Lassen National Forest. (Lower Left) A group selection with slash piled near the wildland-urban interface in Portola on the Beckwourth Ranger District of the Plumas National Forest. (Left) A thinned area in a DFPZ in the wildland-urban interface in Portola.

Accomplishments, cont.

A treated stand in the Toro Project on the Sierraville Ranger District of the Tahoe National Forest.

In addition to tracking accomplishment through sawlog and biomass volume, the Pilot Project is also tracking the number of acres receiving fuels reduction treatments.

The focus of timber management on the National Forests in the Pilot Project area changed with passage of the Act. Instead of primarily tracking elements like regeneration, site preparation and timber stand improvement, the focus is on different silvicultural treatments. This includes:

- ✓ Defensible Fuel Profile Zone (DFPZ) construction
- ✓ Group Selection (GS)
- ✓ Individual Tree Selection (ITS)

Riparian Restoration is also an important part of the HFQLG Pilot Project. It includes meadow restoration and enhancement, stream channel improvement, road relocation, road closure, slope stabilization and aspen enhancement. In FY06, there were 15 projects restoring 159 acres. Approximately 33 miles of road and 10 road crossings were eliminated, while 15 road crossings were restored.

Acres Accomplished

Fiscal Year	DFPZ	GS	ITS	Riparian Restoration	Total
1999	640	0	172	0	812
2000	7,215	200	772	81	8,268
2001	41,197	1,836	528	945	44,506
2002	16,651	1,258	395	838	19,142
2003	24,442	0	44	537	25,023
2004	36,635	1,738	80	603	39,056
2005	21,073	1,792	2,327	836	26,028
2006	8,503	6	0	159	8,668
Total	**156,356**	**6,830**	**4,318**	**3,999**	**171,503**

Most projects, though reported as accomplished, have contracts that extend for several years. Actual project work may not begin until the next operating season. Thus, the number of acres treated on the ground each year through the activities of harvest, prescribed fire and riparian restoration work varies and is not the same as the acres reported as accomplished annually.

Acres Treated

Fiscal Year	DFPZ (Mechanical)	DFPZ (Fire)	GS	ITS	Total Acres Treated
1999	0	0	0	0	0
2000	366	0	0	64	430
2001	5,109	1,453	17	256	6,835
2002	18,235	3,725	486	785	23,231
2003	4,244	9,816	498	762	15,320
2004	12,211	7,015	47	682	19,955
2005	14,722	7,325	1,379	0	23,426
2006	23,336	6,611	275	0	30,222
Total	**78,223**	**35,945**	**2,702**	**2,549**	**119,419**

FY07 Program of Work

The FY07 enacted budget is estimated to be approximately $23.3 million. This estimate includes a proportionate funding reduction in alignment with the Pacific Southwest Region reduction. The following activities are planned in FY07:

- ✓ Number of Projects: 61
- ✓ Sawlog Vol. (CCF): 237,764
- ✓ Biomass Vol. (CCF): 198,277
- ✓ DFPZ Acres: 29,240
- ✓ GS Acres: 3,812
- ✓ ITS Acres: 5,114
- ✓ Riparian Restoration Acres: 1,683
- ✓ Total Planned Acres: 39,849

Activities planned for FY07 include:

- ✓ Administering current contracts
- ✓ Implementation of vegetation projects planned in previous years
- ✓ Implementation of riparian management projects
- ✓ Environmental analysis for proposed projects
- ✓ Out-year data collection and planning
- ✓ Preparation for beginning work on a plan amendment

Unit 43 on the Hat Creek Ranger District of the Lassen National Forest before treatment (top) and after treatment (bottom).

Antelope Border DFPZ on the Mt. Hough Ranger District of the Plumas National Forest before treatment (top) and one year after treatment (bottom).

Photo (Upper Right): Almanor District Ranger Al Vazquez discusses a diagram in the dirt during a monitoring field trip.

Socioeconomic Monitoring

The socioeconomic monitoring reports the "economic benefits to local communities achieved by the implementation of the pilot project" since the project began in 1999.

Entering Quincy

Pilot Project Area Employment

Total Payroll Jobs: Data for 2002 through 2004 indicates a rebound in the total number of jobs in the Pilot Project area (10 percent in 2002-2003; 2.2 percent in 2003-2004).

Forest Products Industry Job Impacts: The Pilot Project is not offsetting the downturn in the forest products industry within the Pilot Project area.

The most recent published U.S. Census Bureau data indicates that forest product industry employment grew 6.2 percent from 2003 to 2004, prior to the closure of the Sierra Pacific Mill in Susanville and does not reflect the loss of approximately 150 jobs in that community.

Downtown Sierraville

Tourism Industry Job Impacts: Tourism sector employment in the Pilot Project Area has grown steadily since 1999. Tourism job growth has outpaced growth in the forest products industry sector jobs. A tip toward the tourism sector in 2001 indicates a diversification in the local economy.

Transient occupancy tax (TOT) data indicates that revenue has been stable in most communities in the Pilot Project Area; ranging from $19 to $20 million regionwide.

The number of tourism jobs varies significantly among communities. These positions are highly seasonal and the wages are lower than those in the forest products industry. According to the U.S. Bureau of Labor Statistics, the average annual wage for workers in the tourism industry across the nation is approximately $21,000. This is significantly lower than the $31,000 annual wage for workers in the forest products industry.

Local Business Environment

Downtown Susanville

Establishments by Age: All nine Pilot Project Area communities experienced a significant decrease in the number of business establishments of all ages compared to pre-project implementation statistics. The downturn between 1998 and 2005 was as follows: firms 0-5 years old (-52 percent); firms 6-15 years old (-37 percent) and firms 16+ years old (-37 percent).

Nonemployer Establishments: There has been steady growth in the number of nonemployers in the Pilot Project area from 2001 to 2004. These establishments now surpass pre-project implementation levels.

Retail Business Activity: Taxable sales in all three Pilot Project area counties outperformed the rest

of California in 2005. Taxable sales in the cities of Susanville, Portola and Loyalton grew more slowly than the rest of the state in 2005. Lingering effects from sawmill closures may be the cause for this in Susanville and Loyalton.

HFQLG Contract & Sales Activity

Service Contracts: The value of service contracts awarded decreased in FY06.

In FY06 the percent share of total contract dollars awarded to local companies was 58 percent (Pilot Project area 21.6 percent plus Remainder of Sierra Cascade 35.9 percent).

Sierra Pacific Industries log deck in Quincy

Overall (FY00-FY06), approximately 64 percent of contract value has been awarded to local contractors (Pilot Project area 24.6 percent plus Remainder of Sierra Cascade 39.9 percent).

Timber Sales: Following the 2004 Sierra Nevada Forest Plan Amendment Record of Decision, timber sales recovered in FY04 and surged in FY05, reaching new peaks for volume and value for both sawlogs and biomass since implementation of the Pilot Project.

In FY06, appeals, litigation and court decisions delayed timber sales, including 12 timber sales and 10 service contracts.

Timber & Biomass Removal: More sawlogs were removed in FY06 than in the HFQLG program's first five years combined and more than tripled from FY04 to FY06. The volume of biomass removed dropped in FY06, but was the second-highest level in the program's history.

Biomass Electricity Generation: Electric power generation from biomass declined in all Pilot Project Area communities in FY05-FY06. The volume of biomass removed under HFQLG contracts was nearly halved (-46 percent) during FY05-FY06, forcing facilities to obtain feedstock from distant locales. High diesel fuel prices increased the costs of harvesting, processing and transporting feedstock for the power plants. Plant managers stated excess demand for feedstock is a long-term concern. Some biomass plants are seeking permission from regulators to burn agricultural and urban waste. Some facilities are operating at a loss, but continue to produce power because shutdown is prohibitively costly under their long-term contracts with utilities.

Forest Products Industry Roster Survey

Logging truck near Quincy

In a November 2006 telephone survey of the Forest Product Industry, most survey respondents indicated that the level of economic activity generated by the National Forests in the Pilot Project Area either slightly decreased or remained the same in 2006. Continuing a multi-year trend, respondents added that they continued to shift their activities away from National Forests towards private lands.

Social Health

There is little statistical connection between implementation of the Pilot Project and change in the two social indicators (Youth Education and Family Poverty). The percentages of high school dropouts and enrollment in the free/reduced lunch programs have remained relatively stable across all nine communities.

These social indicators will be evaluated in the future regarding their pertinence to the Pilot Project and if monitoring of these indicators will be continued.

Environmental Monitoring & Effects

A key part of the HFQLG Pilot Project is monitoring the effects of the variety of treatments being implemented. This monitoring effort is looking for benefits to the range of ecosystems in the Pilot Project area, as well as to report on adverse impacts and recommend actions to mitigate these effects. Following are the monitoring results for FY06:

Habitat Concerns

The HFQLG Record of Decision requires that suitable habitat for old forest-dependent and aquatic/riparian-dependent species not be reduced by more than 10 percent of levels originally measured in 1999 within three specific old forest types, totaling 186,394 acres across the Pilot Project. A cumulative total of reductions in habitat is tracked to monitor this. To date, 3,296 acres (1.8 percent) have, or will have, a reduction based on projects with a signed Record of Decision. For comparison, wildfire reduced an additional 5,667 acres (3 percent), totaling 4.8 percent.

Timber Stand Structure

A treated timber stand on the Almanor Ranger District of the Lassen National Forest.

Only 23 percent of the pre-treatment monitored Defensible Fuel Profile Zone (DFPZ) units are fully implemented and none of the monitored group selection units are fully implemented. Comprehensive results will not be available until a larger post-treatment sample size has been monitored. The timber stand structure for California Spotted Owl was not analyzed because no units were treated in suitable California spotted owl habitat.

Monitoring field trip on the Beckwourth Ranger District of the Plumas National Forest.

Snag numbers were reduced to below what the prescription recommended for DFPZ treatments. Large wood was generally less abundant than prescribed both pre- and post-treatment.

Stand restructuring objectives are being accomplished whether for fuels and canopy reduction or aspen regeneration. Results to date show large trees are being retained, ladder fuels are being reduced, down woody fuels are being reduced to desirable levels and canopy cover is being reduced to meet objectives of less than 40 percent canopy cover.

Best Management Practices Implementation and Effectiveness

Watershed Task Group Findings of 2005 BMP Re-evaluation

A Watershed Task Group was formed to evaluate Best Management Practices (BMPs) as recommended in the FY05 HFQLG Status Report to Congress. The group evaluated BMP implementation, effectiveness and monitoring and reviewed the results of past performance and recommended corrective actions. The task group found that the FY05 report misrepresented the actual implemented and effectiveness data. In fact, the data shows that BMP practices were implemented and are effective approximately 90 percent of the time, meeting the target goal. No significant corrective actions are recommended.

2006 BMP Evaluations

Best Management Practices continue to be an effective method for effectively reducing risks to water quality. For the majority of sites, the target goal of 90 percent or better in both implementation and effectiveness has been met. While there are areas where improvement can be realized (stream course protection, road decommissioning, prescribed fire, etc.), the results of this year's monitoring efforts indicate that by following BMPs, risks to water quality were effectively reduced across the Pilot Project area.

Soil Monitoring

Soil compaction, soil displacement, soil disturbance, soil ground cover and large down woody material data is collected to evaluate soil conditions. In the 2006 field season, 13 of 19 units were available for post-treatment monitoring comparison. All of the units (including group selections) met the recommended thresholds in the Land Management Plans' soil quality standards except for compaction. The level of area observed with soil disturbance increased compared to pre-treatment monitoring, but appears to be acceptable within the normal range of controlled logging activities. Soil compaction varied widely and is discussed below.

A group selection treatment on a slope on the Mt. Hough Ranger District of the Plumas National Forest.

Two mastication units were monitored. Both units met all of the soil quality standards. Compaction increased only slightly.

Soil Porosity

Soil compaction (loss of soil porosity) has been viewed as a major factor affecting soil productivity. The Land Management Plans for the HFQLG area generally limit detrimental soil compaction to no more than 15 percent of an activity area, excluding the transportation system or roads.

Findings for soil porosity (compaction) data: The comparison of pre- and post-sampling of the 2006 units shows that the overall trend is to increase the level or extent of compacted ground with new entries. Seven of 11 units that exceeded the threshold post-treatment started with a significant amount of legacy compaction from previous treatments. This year only one unit of the 11 reported changes from the pre-treatment condition of "meets" to "does not meet" the standard or threshold in post-treatment monitoring. Twenty-five units sampled after treatment between 2004 and 2006 showed an increase in compaction between 2 and 40 percent, averaging 13.5 percent.

Significance of the Findings for Soil Porosity (Compaction): Recent findings on the affect of compaction on total biomass productivity (soil productivity) indicate that for soils with texture classes grouped as "sandy" (coarse sandy loams or sandier), a decline in total biomass productivity is not expected. On soils grouped as "loamy", compaction did not appear to significantly decrease or increase total biomass productivity. On soils grouped as "clayey" (such as clay loams or more clay), total biomass productivity declined when compacted. Soils monitored during the 2006 period can be characterized as being in either the "sandy" or "loamy" soil texture groupings. In 2006 a random sample of units available for post-treatment monitoring did not include any "clayey" soils.

In summary, although seven of the units exceeded the 15 percent standard for compaction, a decrease in soil productivity would not be expected.

Botany and Noxious Weeds

The HFQLG Pilot Project area botanists made significant improvements in 2006 with 100 percent of threatened and endangered species (TES) plant control areas protected compared to 76 percent of control areas protected in monitored sites between 2002 and 2005.

Threatened and endangered plant species responded to the following resource management activites:

- ✓ Underburning did not impact *Cardamine "marmorata" species novum, Fritillaria eastwoodiae* or *Lupinus dalesiae*.

Monitoring, cont.

- ✓ Mastication had strong negative effects on *Cypripedium fasciculatum*, but had positive effects on *Fritillaria eastwoodiae.*
- ✓ *Arabis constancei* is tolerant of low intensity fire of short duration, but intolerant of high intensity fire of long duration.

There were no new occurrences of TES plant species found in monitored units during or following project implementation.

Noxious weed preventative measures were completed in all project areas. Control or avoidance management strategies were followed on existing occurrences. These efforts were successful on smaller infestations. Less success has been realized in larger populations or species more difficult to eradicate. Additional efforts are needed particularly with Medusahead, whitetop and yellow star thistle.

New noxious weed species were found at four of seven units monitored, including bull thistle and cheat grass. Bull thistle is not a species of great concern as it generally becomes less common as other vegetation becomes established. Cheat grass responds positively to wildfires, therefore it is likely to continue its expansion whether the landscape is treated or not.

View of the Boulder Fire burn area on the Mt. Hough Ranger District of the Plumas National Forest across Antelope Lake.

Fire/Fuels and Air Quality

In 2006, the presence of recently completed DFPZs aided in the suppression efforts of both the Boulder and Hungry Fires due to lower fire intensities within the treated DFPZs.

Since 1900, the average yearly acreage burned within the HFQLG Project area has ranged from less than 10 in 1909 to over 100,000 acres burned in 1999. Within 5 year averages, there appears to be a steady decline in the number of acres burned from around 1916 through 1990. A large increase in the number of acres burned is evident between 1991 and 2000.

Two notices for noncompliance with air quality regulations during fuel reduction have been issued since the Pilot Project began:

- ✓ 2005 – Notice of Violation was issued for the Greenflat project underburning, which was outside the wildland urban interface (WUI). Air quality impacts to communities resulted from smoke accumulation, as well as a number of prescribed burns being conducted on the Plumas, Lassen and Tahoe National Forests and Lassen National Park.
- ✓ 2006 – Notice to Comply was issued for Mabie project handpile burning within Sierra Valley WUI areas. Smoke from the pile burning, combined with residential burning and wood stoves, exceeded National Ambient Air Quality Standards.

Smoke over Quincy during the Boulder Fire in June 2006.

In an effort to minimize air quality impacts to populated areas, the Northeast Air Alliance (NEAA) developed a "Pre-Burn Communication Operating Plan" last winter, which the Forests followed for the spring and fall burn seasons. This plan will minimize the occurrence of cumulative smoke impacts within the Pilot Project area. However, the Public Education and Awareness Strategy has not been fully developed on the Lassen, Plumas and Tahoe National Forests. Currently, each Ranger District communicates with the public project-by-project.

Action Item 1 – Forest public information officers will work with fire managers to develop a strategy as outlined in the NEAA operating plan.

- ✓ Utilize each underburn as an opportunity to help the public understand fuel treatment and to listen to concerns, adapting practices where feasible.

- ✓ Apply successful methods several ranger districts in the Pilot Project area are using to reduce complaints through direct, personalized contact with the public (phone calls, personal visits, posters, newspaper, etc.) for specific burn projects, providing an informal forum for public education.
- ✓ Contacting neighbors by phone, door-to-door, and, if necessary, post a public information officer in a visible location near the underburn itself during implementation.
- ✓ Develop a brochure for the fuel treatment/ prescribed fire program.

Forest Service employees discuss the effects of wildfire during a field trip on the Plumas National Forest.

Action Item 2 – Forest Fuel Specialists will explore other methods of biomass removal and disposal in the WUI

- ✓ Green firewood sales focused on small material in the WUI
- ✓ Encourage small-scale biomass chipping and hauling operations
- ✓ Work with the City of Portola and the Northern Sierra Management District to analyze benefits of an air curtain burner for use in Sierra Valley
- ✓ Explore options for small, community level biomass plants through the U.S. Department of Agriculture "Fuels for Schools" (http://www.fuelsforschools. org/) or similar program.

Special Aquatic Habitats

Twenty-one special aquatic habitats were monitored to determine if they received adequate protection during project implementation. All aquatic habitats were protected during project activities.

Landbirds

Three habitats were monitored during the 2006 season: riparian, conifer/oak and conifer. The riparian habitat was monitored as part of a series of aspen enhancement projects and the conifer/oak habitats were monitored under an ongoing oak enhancement project that is part of the overall DFPZ strategy outlined in the HFQLG Final Enviornmental Impact Statement. The Oak Enhancement DFPZ project has not had the post-treatment data analyzed to date. The conifer habitats have been monitored as part of a large DFPZ project which has yet to be implemented.

Monitoring findings to date emphasize that riparian habitats, including aspen, remain one of the most important habitats for birds. Several key elements of riparian management have been confirmed, including:

- ✓ Manage for multiple-age and cover classes to maintain avian richness.
- ✓ Manage for a dense and diverse understory.
- ✓ Post-treatment it may be necessary to protect treated areas from grazing and overbrowsing to maximize aspen regeneration.

The monitoring data showed that several woodpecker species (hairy woodpecker and red-breasted sapsucker) had significantly higher populations in treated aspen stands than in untreated aspen stands and non-aspen stands. In addition to increases in woodpeckers, mountain bluebird and chipping sparrow populations increased over baseline populations when compared to untreated stands.

Stream Condition Inventory

Comparisons of reaches monitored in 2006 before and after implementation of HFQLG projects showed no adverse impacts. Eight vegetation treatments were monitored. Sediment from one measure (pool tail fines) increased substantially in Summit Creek. The increase in sediment at this site appeared to be the result of increased road erosion upstream of the site, rather than from the vegetation treatments. There were either no changes to sediment or reduced in-channel sediment in other monitored vegetation and fuels projects.

Reaches downstream of two riparian restoration projects showed no substantial changes following implementation of the project.

Monitoring, cont.

Water Yield Summary

HFQLG fuels reduction treatments on 13,403 acres across five watersheds totaling 363,000 acres with appropriate available data were modeled using the WRENSS Hydrologic Model. Hydrologic response to treatment, particularly at the landscape level, was not particularly large. However, the proposed treated area is not extensive and the treatments were not particularly invasive, so a large increase in water yield could not be expected. However, some increase in water yield will occur. What is significant is the documentation indicating that the proposed treatments will have an effect on water yield, at least at the project level. The increases, although not measurable, are likely to occur and be present in the system. The original HFQLG proposal was to treat 200,000 to 300,000 acres of forest. Such treatments, if implemented at the scale of those proposed for the five watersheds, would yield anywhere from 17,000 to 26,000 acre-feet of additional water yield on an annual basis. Such an increase, if perpetuated over time by additional management, would represent a sizeable amount of water. The hydrologic model used to simulate water yield and the effect of the treatments is defensible, as are the increases in water yield, measurable or not. The spatial capability of both the database and the model should be useful in planning the hydrologic outcome of future management alternatives.

A riparian restoration project on the Beckwourth Ranger District of the Plumas National Forest.

California Spotted Owl Monitoring

Knowledge regarding the effects of fuels and vegetation management on California spotted owls (CSO) and their habitat is a primary information need in addressing conservation and management objectives in Sierra Nevada forests. Specific research objectives of the CSO module are identified and described in the Plumas-Lassen Study Plan.

Current information on the distribution and density of CSOs across the HFQLG study area is required to provide the data necessary to build predictive habitat models and provide baseline population information against which we will assess post-treatment changes in CSO populations and habitat. Continued monitoring in the Lassen Demographic Study Area is critical for estimating CSO population trends and status. The focus in 2006 was to conduct landscape inventories of CSO distribution and abundance, and continue banding to provide the required data and baseline information to meet the objectives of research objectives one through four. Efforts were made to monitor the pair and reproductive status of each owl, and to capture, uniquely color-mark and collect blood samples from each individual owl. Capture and color-marking are necessary to estimate survival and population trend, and to assess exposure to West Nile Virus. All barred and hybrid barred-spotted owls encountered in the study area were also recorded and synthesized to all existing barred owl records for the northern Sierra Nevada.

CSO Numbers, Reproductive Success, Density and Population Trends

A total of 66 territorial CSO sites were documented in 2006 across the study area. This total consisted of 56 confirmed pairs, two unconfirmed pairs and eight territorial single CSOs. Eight pairs successfully reproduced in 2006 (14 percent of confirmed/unconfirmed pairs). A total of 12 fledged young were documented in 2006 (1.5 young per successful nest). CSO reproduction in 2006 was similar to 2005, with reproduction in both years lower than 2004. CSO reproduction is known to vary with Spring weather and other factors. The spring of 2004 was relatively dry, while those of 2005 and 2006 had higher levels of precipitation from March through May.

California spotted owl reproduction on the Plumas and Lassen National Forests 2004-2006

Year	Percent of confirmed/ unconfirmed pairs with successful nests	Young fledged per successful nest
2004	49.4%	1.61
2005	18.3%	1.53
2006	13.8%	1.50

The crude density of CSOs was estimated based on the number of territorial owls detected in each of nine survey areas sampled during 2006. The estimated crude density across the overall study area in 2006 was 0.061 territorial owls/km^2, as compared to a crude density of 0.075 territorial owls/km^2 in 2005. The lower crude density observed in 2006 may suggest a decline in CSO numbers or could reflect lower detection rates for individual CSOs during a second year of low reproduction and high spring precipitation.

In January 2006, a meta-analysis conducted by Jennifer Blakesley and others was conducted to estimate CSO population trends and to assess population status in response to a petition submitted to the U.S. Fish and Wildlife Service to list the CSO under the Endangered Species Act. Data collected between 1990 and 2005 from four CSO demographic studies across the Sierra Nevada and southern Cascades, including the Lassen Demographic Study Area, were analyzed as part of the meta-analysis workshop. Across the four study areas, results indicated that the Lassen Study CSO population exhibited the strongest evidence for a population decline between 1990 and 2005. Mean lambda for the Lassen Demographic Study was 0.973, with 95 percent confidence limits ranging from 0.946-1.001.

The population trend estimated through the meta-analysis of the Lassen Demographic Study data and the overall lower densities observed in 2006 warrant close continued monitoring of the status of CSOs within the study area and continued management focus on providing high-quality CSO habitat.

Mean estimated population lambda (population change) for California spotted owls on four study areas in the southern cascades and Sierra Nevada, 1990-2005

Study Area	Lambda	Standard Error	95% Confidence Interval
Lassen National Forest	0.973	0.014	0.946-1.001
Sierra National Forest	0.992	0.013	0.966-1.018
Sequoia-King Canyon National Park	1.006	0.031	0.947-1.068
Eldorado National Forest	1.007	0.029	0.952-1.066

Vegetation Sampling – Nest Plots

Vegetation plot sampling was conducted at a total of 102 CSO territories from 2005 through 2006 for development of CSO habitat models that can be used as adaptive management planning tools. Habitat models are currently being evaluated that can be used to assess projected changes in CSO nesting habitat suitability under varying fuels and vegetation treatment scenarios.

A California spotted owl

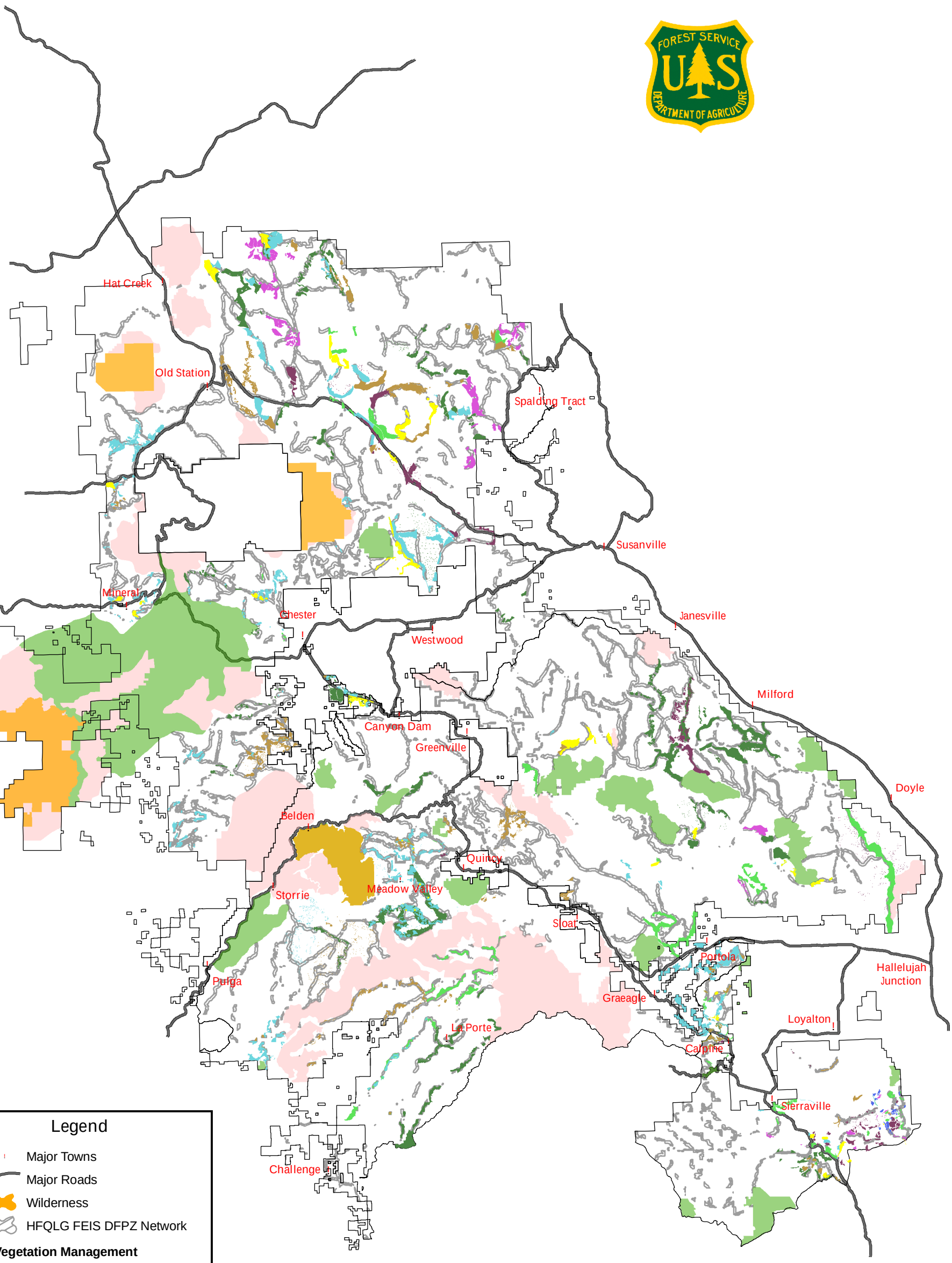
Banding, Blood Sampling, West Nile Virus Monitoring

Thirty-one owls were captured and banded in 2006. Blood samples were collected from 16 individuals in 2006 and have not been analyzed to date. None of the 76 individuals tested at the University of California, Davis for West Nile Virus antibodies tested positive in 2005.

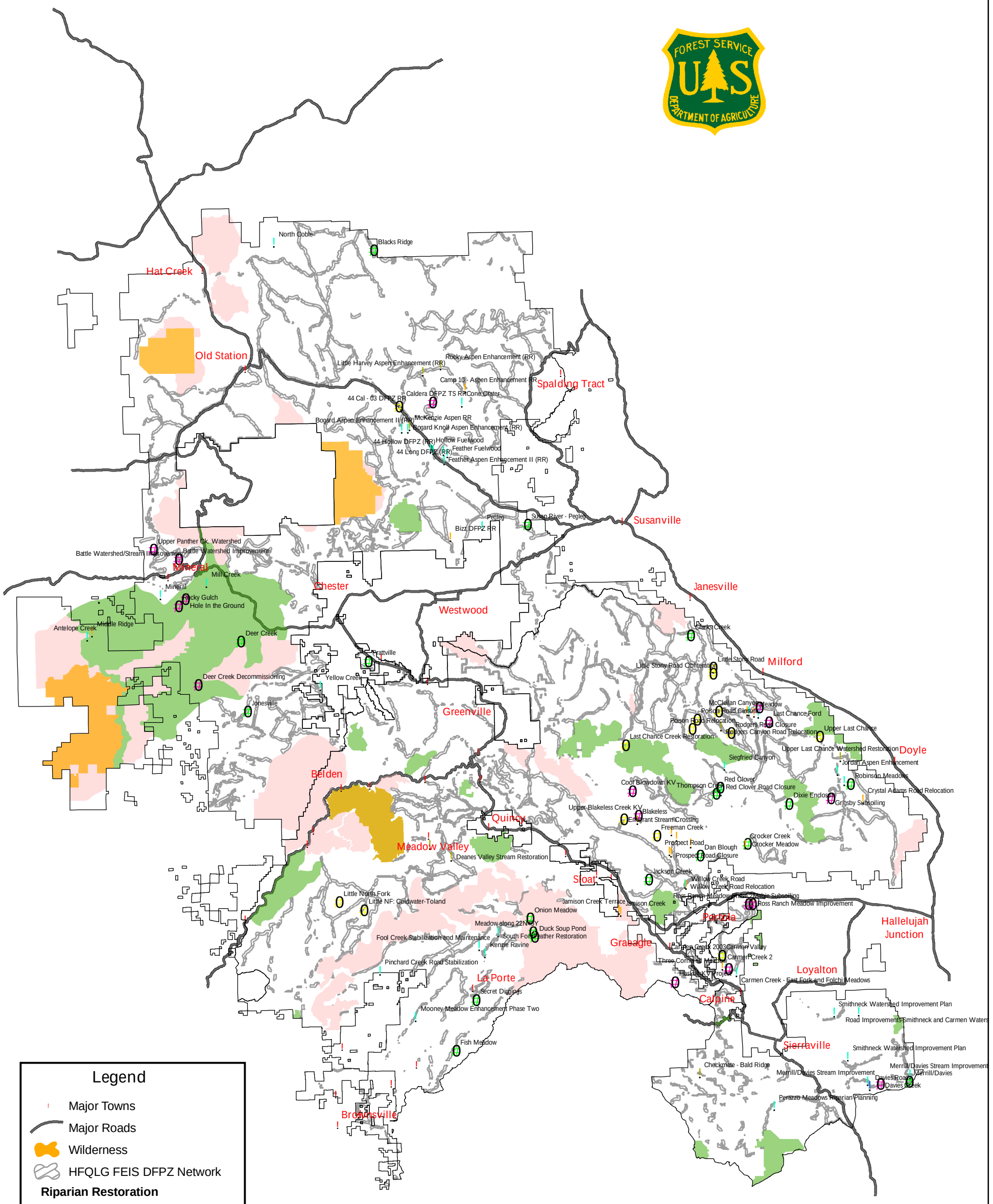
Barred and Sparred (spotted-barred hybrid) Distributional Records:

Five barred owls and three sparred owls were detected during 2006 surveys within the study area. The synthesis and update of barred-sparred owl records through 2006 based on Forest Service and California Department of Fish and Game databases indicates that there are a minimum of 36 individual site records across the northern Sierra Nevada. This includes 17 records that have been documented within the HFQLG intensively surveyed study area. The first barred owl in the region was reported in 1989. Twenty-one of the 36 site-records were recorded and known occupied between 2002 and 2006. The pattern of records suggests that barred-sparred owls have been increasing in the northern Sierra Nevada between 1989 and 2006.

Herger - Feinstein Quincy Library Group
FY99 - FY06 Vegetation Management Projects



Herger - Feinstein Quincy Library Group
FY99 - FY06 Riparian Restoration Projects



Plumas & Lassen National Forests
Sierraville Ranger District, Tahoe National Forest

USDA Forest Service
Pacific Southwest Region - February 2007