United States
Department of
Agriculture

Forest Service

Pacific
Southwest
Region

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HERGER-FEINSTEIN QUINCY LIBRARY GROUP FOREST RECOVERY ACT PILOT PROJECT

STATUS REPORT TO CONGRESS FISCAL YEAR 2004

Spanish DFPZ, Plumas National Forest. Spring2004 -treatment.

Spanish DFPZ, Plumas National Forest. Spring 2004 Post-treatment.

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STATUS REPORT TO CONGRESS FISCAL YEAR 2004

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Introduction

The *Herger-Feinstein Quincy Library Group Pilot Project Status Report, Fiscal Year 2004* is the sixth annual status report required by the Herger-Feinstein Quincy Library Group Forest Recovery Act of 1998 (HFQLG Act). It covers the period from October 1, 2003 to September 30, 2004 (FY 04) and describes how, and to what extent, the specific mandates of the Act were accomplished.

In fiscal year 2004 we embarked on the second five years of management under the authority of the Herger-Feinstein Quincy Library Group Forest Recovery Act (the Act). This landmark legislation was approved in October of 1998 and extended for an additional five years with the passage of the fiscal year 2003 Interior and Related Agencies Appropriations Act.

The vision of the Act is to establish an all aged, multi-storied, fire resilient forest that provides a continuous supply of forest products to promote community stability. Much good work was accomplished in the first five years with construction of many acres of Defense Fuel Profile Zones, however, attaining the full vision of the Act was hampered by restrictions of use of certain tools such as group selection harvest by the Sierra Nevada Forest Plan Amendment that was approve in January, 2001, shortly after the Final Environmental Impact Statement and Record of Decision for the Act was approved in August of 1999.

In January, 2004 the Final Supplemental Environmental Impact Statement and Record of Decision was signed providing a stronger framework with which to be able to fully implement the activities as prescribed with the Act. In addition several new tools including new categorical exclusions, the National Fire Plan, and the Healthy Forest Restoration Act have provided more flexibility to accomplish treatments on the ground.

In this report you will already see marked improvement in the number of acres accomplished across all treatment types as envisioned in the Act. We are confident that this trend will continue through the life of the legislation with implementation occurring at a similarly increasing rate leading to much improved conditions on the ground on our path towards healthier forests.

The HFQLG Act was signed into law in October 1998 and is attached in Appendix A. This annual report discloses the status of Pilot Project implementation and accomplishment during FY04, as required by Sections 401 (j)(1)(A-G) of the HFQLG Act (see Appendix A). A brief history of the Pilot Project can be found in Appendix B.

Pilot Project Summary

Since the Herger-Feinstein Quincy Library Group (HFQLG) Final Environmental Impact Statement Record of Decision (ROD) was signed in August 1999, the Pilot Project has accomplished 161 projects consisting of approximately 126,780 acres of Defensible Fuel Profile Zones (DFPZ), 5,032 acres of Group Selection (GS), and 1,991 acres of Individual Tree Selection (ITS). Additionally, the Pilot Project has accomplished 57 riparian restoration projects consisting of 3,004 acres. See Table 1 below.

Table 1. Summary of Allocation, Expenditures and Accomplishments: FY99 to FY04.

Fiscal Year	Allocation (Millions$)	Expenditures (Millions $)	Year End Balance (Millions	Resource Management Activities Accomplished (Acres)				
				DFPZs	GS	ITS	Riparian Restoration	Total Acres
1999	8.0	2.0	6.0	640	0	172	0	812
2000	12.2	7.2	5.0	7,215	200	772	81	8,268
2001	31.2	28.2	3.0	41,197	1,836	528	945	44,506
2002	26.2	21.5	4.7	16,651	1,258	395	838	19,142
2003	29.6	23.1	6.5	24,442	0	44	537	25,023
2004	30.8	30.1	.7	36,635	1738	80	603	39,056
Totals	**138.0**	**112.1**	**25.9**	**126,780**	**5,032**	**1,991**	**3,004**	**136,807**

DFPZ=Defensible Fuel Profile Zone; **GS**=Group Selection; **ITS**=Individual Tree Selection

Use of Funds

This section describes total expenditures, as required by Section 401 (j)(1)(A) and (B) of the HFQLG Act:

(A) A complete accounting of the use of funds made available under subsection (f)(1)(A) until such funds are fully expended.

(B) A complete accounting of the use of funds and accounts made available under subsection (f) (1) for the previous fiscal year, including a schedule of the amounts drawn from each account used to perform resource management activities described in subsection (d).

Fiscal Year 2004

Table 2 below shows how funding was authorized for implementation of the Pilot Project in FY 04. Fund codes identify the primary purpose of appropriated funds. The Pilot Project in FY 2004 used three fund codes. National Forest Timber Management (NFTM) fund code is used for planning, preparing and administering timber sales; the Wildland Fire Hazardous Fuels (WFHF) fund code is used for planning, preparing, implementing, monitoring, and administering fuels reduction projects (DFPZs); and the National Forest Vegetation and Watershed (NFVW) fund code is used to fund planning, preparing, and implementing forest health improvements as well as watershed and riparian restoration projects.

Table 2. FY04 Funding for Pilot Project Implementation.

Fund Code	Enacted Funding
NFTM	**$ 6.1**
WFHF	**$18.7**
NFVW	**$6.0**
Total to Project	**$30.8**

Funds presented in millions of dollars
NFTM = National Forest timber management
WFHF = Hazardous Fuels Reduction
NFVW = National Forest vegetation and watershed management

Table 3 tracks the expenditure of funds in Table 2. FY 04 project expenditures include: 1) administering and monitoring projects from prior years; 2) implementing projects planned in prior fiscal years; 3) planning and accomplishing FY04 projects; 4) planning for projects for FY05 and beyond; 5) responding to appeals; 6) responding to litigation. A detailed accounting of project specific expenditures is attached in Appendix C.

Table 3. Summary of Pilot Project Use of FY04 Funds by National Forest.

Forest/Unit	WFHF	NFTM	NFVW	**Total**
Lassen	$6.0	$1.5	$2.3	$ 9.8
Plumas	$7.6	$3.9	$1.7	$13.2
Tahoe	$1.6	$0.2	$0.9	$ 2.7
HFQLG Implementation Team	$1.3	$0.0	$0.0	$ 1.3
TOTAL EXPENDITURE	***$16.5***	***$5.6***	***4.9***	***$27.0***
12% Indirect Cost	-	-	-	***$3.1***
Remaining Balance	-	-	-	***$0.7***
Total FY04 Budget				**$30.8**

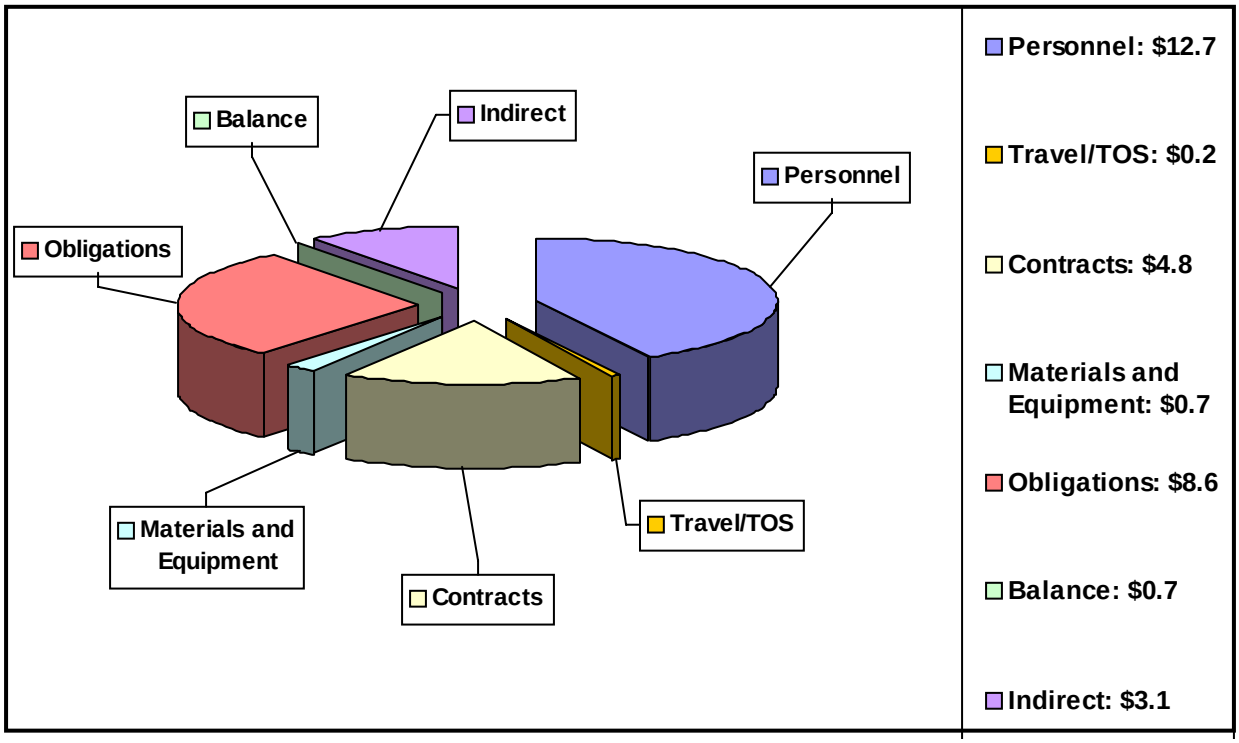
Funds presented in millions of dollars. Numbers have been rounded.

Indirect costs are described as expenses for general administration support, office space, rental agreements, communications, and other expenses. The HFQLG Act requires that indirect costs will not exceed a maximum of 12% of the HFQLG annual budget. In FY 04 the 12% indirect cost was $3.1 million from the current year $26.2million earmark. An additional $4.6 million was returned to the Pilot Project for a FY 04 total of $30.8 million.

Figure 1 displays the FY 04 $30.8 million budget and expenditures. Expense categories include:

1. Personnel expenses: salaries, benefits, unemployment compensation, and other related costs to government.
2. Travel expenses: mileage, per diem, training, and long-term detail costs.
3. Contract expenses: contractual services to develop and implement resource management activities.
4. Materials expenses: supplies and other miscellaneous expenses.
5. Obligations: legally binding documents (such as contracts and agreements) and transaction liability that commit funds for purchases or services not yet received.
6. Remaining Balance: funds that were not obligated before the end of the fiscal year.
7. Equipment expenses: vehicles, capitalized equipment, contracts for equipment, etc.
8. Indirect cost: expenses for general administration support, office space, rental agreements, communications, and other expenses.

Figure 1. Distribution of the FY04 $30.8 million budget.



Funds presented in millions of dollars

Previous Fiscal Years

Table 4 displays the funding and expenditures for the Pilot Project between FY99 and FY04. In FY99 the Forest Service completed the HFQLG EIS and the Forest Supervisors signed the Record of Decision in August as required by the HFQLG Act. The FY99 implementation cost (primarily the cost of the EIS) was approximately $2.0 million. The $6.0 million balance was returned to the Pilot Project in FY00.

All funds were not expended in FY00, and a $5 million balance was realized. This $5 million was retained by the Washington office to assist in the offset of a nation-wide deficit in fire suppression.

At the end of FY01, the Regional Office approved an additional $5.0 million in Title IV funds to cover all hazardous fuels reduction contracts ready to award, which in turn allowed for implementation of the Pilot Project to the fullest possible extent. However, there was a $3.0 million balance in the National Forest Timber Management (NFTM) fund code and the National Forest Vegetation and Watershed (NFVW) fund code. This $3.0 million was retained by the Washington office to assist in the offset of a nation-wide deficit in fire suppression.

At the end of FY02 the Pilot Project carried a balance of $4.7 million. Of the $4.7 million $3.4 was returned to the Pilot Project, the remaining $1.3 million was retained by the Washington office to assist in the offset of a nation-wide deficit in fire suppression.

In FY03 the WO transferred HFQLG funds to assist the nationwide fire suppression efforts. Region 5 redistributed funds to the San Bernadino National Forest to combat severe drought conditions and insect infestation resulting in a high tree mortality rate.

In August 2003 the Pilot Project received national direction to use a Budget Line Item (BLI) NFCC. The primary purpose of this fund code was to finance projects specifically targeted at reducing hazardous fuels on landscapes at the highest risk of catastrophic wildfire. Funding for this BLI came from reprogramming the WFHF fund code.

At the end of FY03 a balance of $6.5 million remained. During FY04 $4.6 million was returned to the Pilot Project, the WO redirected $1.9m million at the national program level.

Table 4. Funding and Expenditures for Pilot Project During FY99 - FY04.

	Base Level Funding	Carry Over Funds	Additional Funds	Total Available for Pilot Project	Indirect Cost	Funding to Projects	Total	Remaining Balance	Redirected by W.O.
1999	**8.0**		0	**8.0**	0	2.0	**2.0**	6.0	**0**
2000	**6.2**	6.0	0	**12.2**	0.8	6.4	**7.2**	5.0	**5.0**
2001	**26.2**		5.0	**31.2**	3.1	25.1	**28.2**	3.0	**3.0**
2002	**26.2**		0	**26.2**	3.1	18.4	**21.5**	4.7	**1.3**
2003	**26.2**	3.4	0	**29.6**	3.1	20.0	**23.1**	6.5	**1.9**
2004	**26.2**	4.6		**30.8**	3.1	27.0	**30.1**	.7	
	119.0	14.0	**5.0**	**138.0**	13.2	98.9	**112.1**	25.9	**11.2**

Funds represented in millions

Fiscal Year 2004 Accomplishments

(C) A description of total acres treated for each of the resource management activities required under subsection (d), forest health improvements, fire risk reductions, water yield increases, and other natural resource-related benefits achieved by the implementation of the resource management activities described in subsection (d).

Acres Accomplished

In FY 04, the Pilot Project accomplished 55 projects consisting of approximately 36,635 acres of Defensible Fuel Profile Zones (DFPZ), and 80 acres of Individual Tree Selection (ITS) and 1738 acres of group selection treatments. There were 15 riparian restoration projects which included restoring 603 acres, eliminating 7 miles of roads, eliminating 24 road crossings, and restoring 8 road crossings. Table 5 is a summary of these accomplishments.

Table 5. Summary of FY04 Accomplishments.

DFPZ Acres	GS Acres	ITS Acres	Sawlog Volume (CCF)	Biomass Volume (CCF)		Riparian Restoration Acres
36,635	**1738**	**80**	**203,312**	**198,204**		**603**

The Pilot Project reports accomplishment when a timber sale is advertised, a service contract is awarded or a force account crew completes work on the ground. There are three types of contracts: Timber Sale (TS), Service Contract with embedded Timber Sale (STS), and Service Contract (SC). A TS is an agreement whereby a purchaser pays the Forest Service for sawlogs and biomass, a STS is a service contract with an embedded timber sale, and a SC is an agreement where the Forest Service pays the contractor to perform activities such as cutting and piling brush or small diameter trees with hand tools or mechanical equipment. Finally, a project can also be accomplished with a force account (FA) crew, which is a group of Forest Service employees that complete work on the ground.

In FY04, the Pilot Project advertised twenty four timber sales (TS), awarded six service contracts with an embedded timber sale (STS), and awarded thirteen service contract (SC). Force account (FA) crews accomplished twelve projects. Table 6 displays the cumulative FY99 through FY04 accomplishments by project type. A detailed list of FY 04 projects can be found in Appendix D, the HFQLG Pilot Project Program of Work.

Sawlog volume is measured in hundred cubic feet (CCF), and is also measured in thousand board feet (MBF). To convert CCF to MBF, divide CCF by 2 CCF/MBF. In FY04, the Pilot Project offered 203,312 CCF, which is approximately equal to 101,656 MBF or 101.7 million board feet (MMBF). In general a standard log truck hauls approximately 5 MBF or 10 CCF/load. Approximately 20,000 log truck loads represent 101.7 MMBF.

Biomass is measured in CCF and is also measured in Green Tons (GT). To convert CCF to GT, multiply CCF by 2.4 GT/CCF. In FY 04, the Pilot Project offered 198,204 CCF of biomass, which is approximately equal to 475,689 Green Tons. In general a chip truck typically hauls approximately 25GT or 10 CCF/load. Approximately 475,689 GT represents 19,027 chip truck loads. Table 6 summarizes all DFPZ, GS, and ITS HFQLG projects (FY 99 through FY 04) reported as accomplished.

Table 6. Summary of Accomplishments by Project Type: FY 99 through FY 04.

PROJECT TYPE	Number of Projects	DFPZ Acres	GS Acres	ITS Acres	Sawlog Volume CCF	Biomass Volume CCF
FY99: Timber Sale	1	640	0	172	4,785	4,278
FY99 TOTAL:	**1**	**640**	**0**	**172**	**4,785**	**4,278**
FY00: Timber Sale	5	5,476	200	772	41,874	48,562
Service Contract with embedded TS	2	665	0	0	2,548	15,955
Service Contract	2	1,024	0	0	0	0
Force Account Crew	1	50	0	0	0	0
FY00 TOTAL:	**10**	**7,215**	**200**	**772**	**44,422**	**64,517**
FY01: Timber Sale	10	10,817	1,836	528	74,841	103,436
Service Contract with embedded TS	10	20,035	0	0	13,961	39,681
Service Contract	11	9,289	0	0	0	0
Force Account Crew	3	1,056	0	0	0	0
FY01 TOTAL:	**34**	**41,197**	**1,836**	**528**	**88,802**	**143,117**
FY02: Timber Sale	19	5,813	1,125	395	32,609	15,845
Service Contract with embedded TS	9	9,259	133	0	4,559	15,509
Service Contract	0	0	0	0	0	0
Force Account Crew	5	1,579	0	0	0	0
FY02 TOTAL:	**33**	**16,651**	**1,258**	**395**	**37,168**	**31,354**
FY03: Timber Sale	6	6,148	0	0	35,103	30,732
Service Contract with embedded TS	9	12,426	0	44	6,315	13,670
Service Contract	9	3,702	0	0	0	0
Force Account Crew	4	2,166	0	0	0	0
FY03 TOTAL:	**28**	**24,442**	**0**	**44**	**41,418**	**44,402**
FY04: Timber Sale	24	18,695	1,738	0	196,858	183,011
Service Contract with embedded TS	6	8,001	0	80	6,154	15,193
Service Contract	13	5,180	0	0	0	0
Force Account Crew	12	4,759	0	0	0	0
FY04 TOTAL:	**55**	**36,635**	**1738**	**80**	**203,012**	**198,204**
PILOT PROJECT TOTAL	**161**	**126,780**	**5,032**	**1,991**	**419,607**	**485,872**

Map 1, in Appendix E, shows the accomplished FY04 DFPZ network.

Riparian Restoration Projects

Fifteen projects to improve forest health through riparian restoration were accomplished on 603 acres in FY 04. Additionally, 7 miles of roads were eliminated, 24 road crossings were eliminated and 8 road crossings were restored. Riparian or watershed restoration projects are considered accomplished when a service contract is awarded or force account crew completes the work on the ground. The FY 04 riparian restoration activities included meadow restoration and enhancement, stream channel improvement, road relocation, road closure, slope stabilization, and aspen enhancement. Map 3, in Appendix E, shows the locations of these riparian restoration projects.

On the Ground Treatments

Through Fiscal Year 2004, the Pilot Project accomplished 161 projects for 126,780 acres of DFPZs, 5,032 acres of GS, and 1,991 acres of ITS. The Pilot Project has accomplished 66 riparian restoration projects

for 3004 acres. 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 are not the same as the acres reported as ***accomplished*** each year. Out of the 161 DFPZ and GS projects reported as accomplished (or under contract), on-the-ground treatments have begun on 139 projects. Table 7 summarizes on-the-ground treatments that have taken place between FY00 and FY04:

Table 7. Summary of Accomplished verses Treated Acres by Ranger District, FY 00 to FY 04.

District	***Accomplished* DFPZ Acres** (i.e. under contract	**Treated DFPZ Acres** (mechanical or hand)	**Treated DFPZs Acres** (with Fire)	***Accomplished* GS Acres** (i.e. under contract)	**Treated GS Acres** (mechanical)	***Accomplished* ITS Acres** (i.e. under contract)	**Treated ITS Acres** (mechanical or hand)
ALRD	**10,371**	**2,905**	**116**	**0**	**81**	**0**	**0**
ELRD	**24,650**	**7,593**	**4,708**	**706**	**682**	**1350**	**635**
HCRD	**22,767**	**7,274**	**1,876**	**1,830**	**34**	**0**	**0**
BRD	**30,299**	**8,901**	**6,540**	**1,159**	**145**	**318**	**322**
FRRD	**13,190**	**1,066**	**837**	**0**	**0**	**0**	**0**
MHRD	**18,280**	**8,476**	**6,611**	**717**	**0**	**0**	**0**
SVRD	**7,223**	**3,950**	**1321**	**377**	**187**	**744**	**1,592**
	126,780	**40,165**	**22,009**	**4,789**	**1048**	**2412**	**2,549**

The Almanor (ALRD), Eagle Lake (ELRD), and the Hat Creek (HCRD) Ranger Districts are in the Lassen National Forest. The Beckwourth (BRD), Feather River (FRRD), and the Mount Hough (MHRD) Ranger Districts are in the Plumas National Forest. The Sierraville Ranger District (SVRD) is in the Tahoe National Forest.

A detailed list of projects and their associated on-the-ground treatments can be found in Appendix D: HFQLG Pilot Project Program of Work (p.17).

Economic Monitoring and Effects

The Forest Service was required under the HFQLG Act to provide status reports to Congress. Section (j)(1)(D) of the HFQLG Act states that "status reports shall include at least the following:"

§401(j)(1)(D): A description of the economic benefits to local communities achieved by the implementation of the pilot project.

The Center for Economic Development (CED) at California State University, Chico was contracted to monitor socioeconomic conditions in local communities impacted by the HFQLG Act and to make a preliminary determination as to the extent to which implementation of the Act influenced local socioeconomic performance.

In order to accomplish this, CED divided the Pilot Project Area out into nine monitored communities defined by zip code areas. Then, with the assistance of Forest Service staff and members of the Quincy Library Group, CED selected ten socioeconomic indicators with data available at the community level that can be used to reasonably determine the extent to which these communities have been affected by implementation of the HFQLG Act. Timber sale activity and the value of service contracts awarded by the Pilot Project forests are included as indicators. These indicators were selected to test the feasibility of community level indicators that could be used to measure the impact of a project running between 1999 and 2009, with peak activity occurring some year within.

The Act requires that the socioeconomic benefits to local communities be monitored annually during the course of a five-year Pilot Project between 1999 and 2004. In 2003, implementation of the Act was extended to 2009. The significance of this extension is discussed in Appendix A of the Social Economic Report.

For each of the twelve monitored indicators in this report, CED attempted to collect community-level data and analyzed its usefulness for measuring the socioeconomic effects of the HFQLG Act. CED took into account the meaning of the indicator, the limitations of the data, and the timeframe for which the data was published. The most recent data available as of November 2004 is presented. Historical data going back as far as 1993 was also presented as long as the data is comparable with the most recent data. Each indicator shows the beginning of the HFQLG Act's implementation using a vertical black line in each chart that shows annual data to provide a breakpoint for analysis.

Monitored Communities

As suggested in the QLG Community Stability Proposal, the Pilot Project was intended to benefit the social and economic environment of rural forest communities. In response to this, CED monitored socioeconomic change in nine communities within the Pilot Project Area. The proposal specifically listed **Bieber, Susanville, Chester, Greenville, Quincy, and Loyalton** as communities that are "highly dependent" on the forest products industry. To enable the study of a congruent area, CED included the communities of **Burney, Westwood**, and **Portola.** These communities, combined with their larger market areas, are defined in this report below with a brief description of each community's most recent economic trend.

In most cases, zip code level data was collected for the community-level analysis. Therefore, each community is defined in this report by zip code boundaries. Zip code data for each community in its market area was combined and included as part of the community analyzed. A map is provided below the list of monitored communities. For each community, an analysis of recent economic events regarding sawmills, cogeneration plants, and tourism is provided.

- **Bieber** includes the Big Valley communities of Adin, Bieber, Lookout, and Nubieber. *Population (2000): 1,774.*

  The smallest community in the Pilot Project Area, Bieber suffers from decline in the livestock and timber industries in the 1990s. This community has been hit hard by the closure of all of its lumber mills between 1996 and 2001. Thirty jobs were lost with the closure in 1996 and the 2001 closures resulted in a loss of 145 jobs[1]. In addition, Bieber lost its one cogeneration plant in 2001, which operated with one of the closed lumber mills.

- **Burney** includes the Hat Creek and Fall River Valley communities of Burney, Cassel, Fall River Mills, Hat Creek, McArthur, and Old Station. *Population (2000): 8,863.*

  Burney has been successful in attracting small employers outside of the forest products industry, which is fortunate because the forest product industry here has been in decline since the mid-1990s. Despite this, overall economic growth has been positive in Burney since 1998. Burney has two lumber mills, one of which is operated by Sierra Pacific. Three cogeneration plants are located in this sub-region.

- **Susanville** includes the Honey Lake Valley communities of Janesville, Litchfield, Milford, Standish, Susanville, and Wendel. *Population (2000): 19,055 (not including incarcerated persons).*

  The economic impact of the High Desert State Prison exceeded its threshold in the late 1990s, meaning that too many businesses moved to this community to serve the local market. Available jobs have declined steadily since 1998. Tourism is attempting to compensate, although newer businesses in this industry have had difficulties and have had to lay off employees. In 2004, a Sierra Pacific mill was closed down in Susanville, leaving 150 workers without jobs[2]. The cogeneration plant at the Sierra Pacific mill closed soon after, although one additional plant remains.

- **Westwood** includes Westwood and the Peninsula plus the east shore of Lake Almanor. *Population (2000): 4,251.*

  In 2001, business investors started to gear up for the anticipated development of the Dyer Mountain ski resort in Westwood as more tourism and other service businesses moved into the area. Currently, the developers of Dyer Mountain are working with Lassen County to acquire approvals and permits. There are no mills in this community, although one cogeneration plant is operational in the Westwood area.

[1] http://www.fseee.org/index.html?page=http%3A//www.fseee.org/forestmag/0203quincy.shtml
[2] http://www.reddingemployment.com/newsarchive/20031217toplo037.shtml

- **Chester** includes Chester, Mill Creek, and Mineral. *Population (2000): 2,747.*

  Chester's economy continues to grow slowly despite gradual decline in the forest products industry since 1996. Tourism has been flat since 1997, so recent growth is due primarily to other industries, which were not analyzed in this year's report. Chester contains one mill in its community which also houses a cogeneration plant.

- **Greenville** includes the Indian Valley communities of Crescent Mills, Greenville, and Taylorsville, and also includes Canyondam on Lake Almanor. *Population (2000): 2,831.*

  Greenville was one of the first communities hit by a mill closure in the late 1980s. The community has recovered somewhat since then, evidenced by small increases in tourism and other industries, leading to an increase in overall jobs between 1995 and 1999. One sawmill remains in Crescent Mills although it is not currently operating. There are no cogeneration plants in Indian Valley.

- **Quincy** includes the Central Plumas County communities of Belden, Meadow Valley, Quincy, and Twain. *Population (2000): 6,475.*

  Quincy has been experiencing a slow but steady decline in the forest products industry since 1996, and in all available jobs since 1998. It has been one of the hardest-hit communities that have retained their lumber mill since 1999. Tourism businesses are looking for their markets, evidenced by sporadic gains and losses in the industry. Quincy contains one Sierra Pacific lumber mill that houses a cogeneration facility.

- **Portola** includes the Upper Middle-Fork Feather River communities of Beckwourth, Blairsden, Clio, Graeagle, and Portola. *Population (2000): 6,277.*

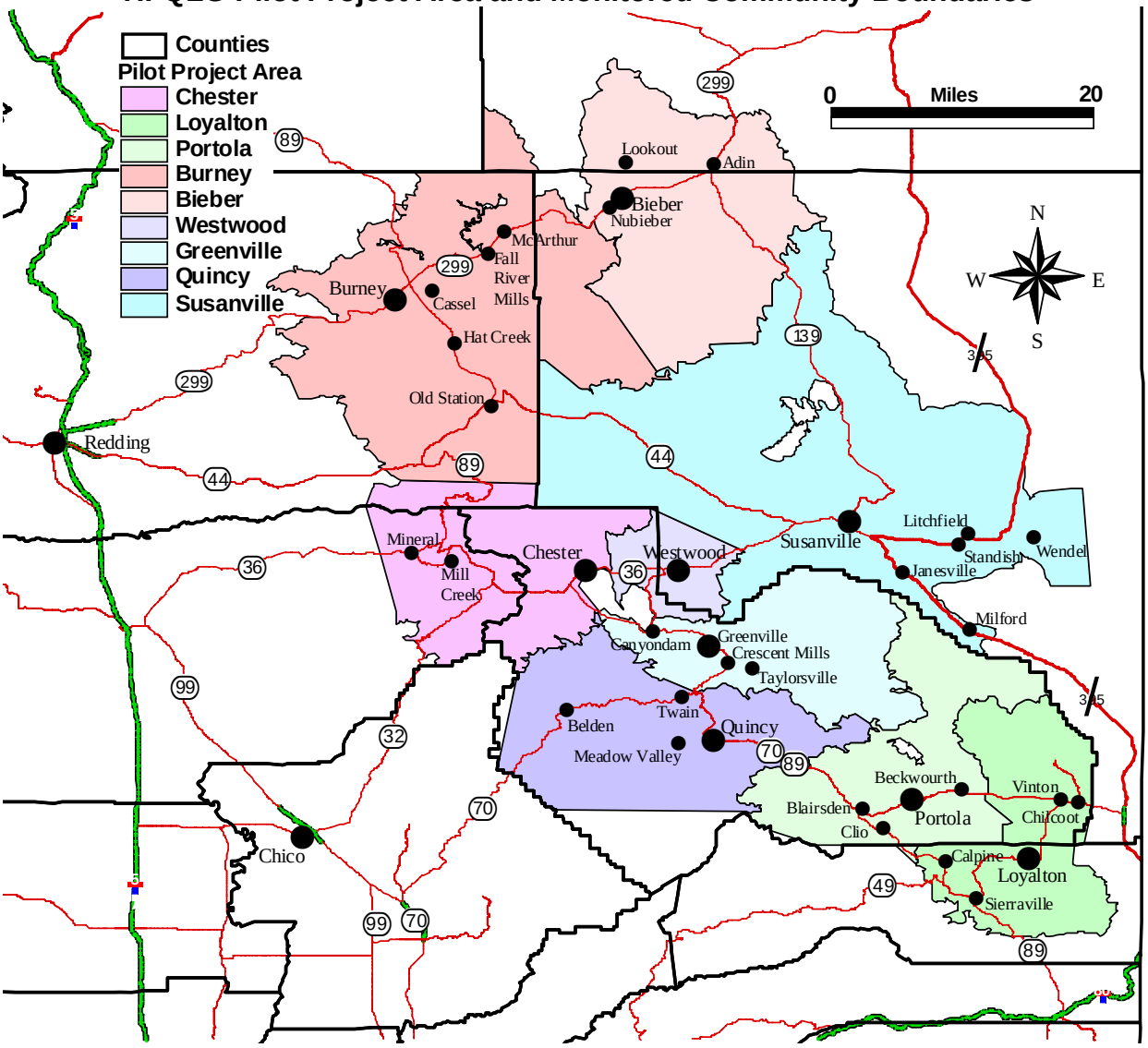
  Portola had seen the most economic success in the Pilot Project Area since 1998. It continues to be the only community that has seen an increase in its forest products industry jobs, even though it has no mill. Tourism, along with other industries, has been gaining steadily here. Graeagle was responsible for many of the local gains in tourism, while Portola is serving commuters traveling to the Reno area with increased retail and personal services. There are no mills or cogeneration plants in the Portola area.

- **Loyalton** includes the Sierra Valley communities of Calpine, Chilcoot, Loyalton, Sierraville, and Vinton. *Population (2000): 2,828.*

  Loyalton is in a transition phase after a mill closure in 2001. The mill was owned by Sierra Pacific and 180 of its workers in Loyalton lost their jobs[3]. The area is becoming more attractive to Reno commuters because of lower home prices. Tourism, or any other industry, has yet to replace forest project jobs here. There is a Sierra Pacific cogeneration plant that continues to operate here despite the 2001 mill closure.

[3] http://www.fseee.org/index.html?page=http%3A//www.fseee.org/forestmag/0203quincy.shtml

HFQLG Pilot Project Area and Monitored Community Boundaries



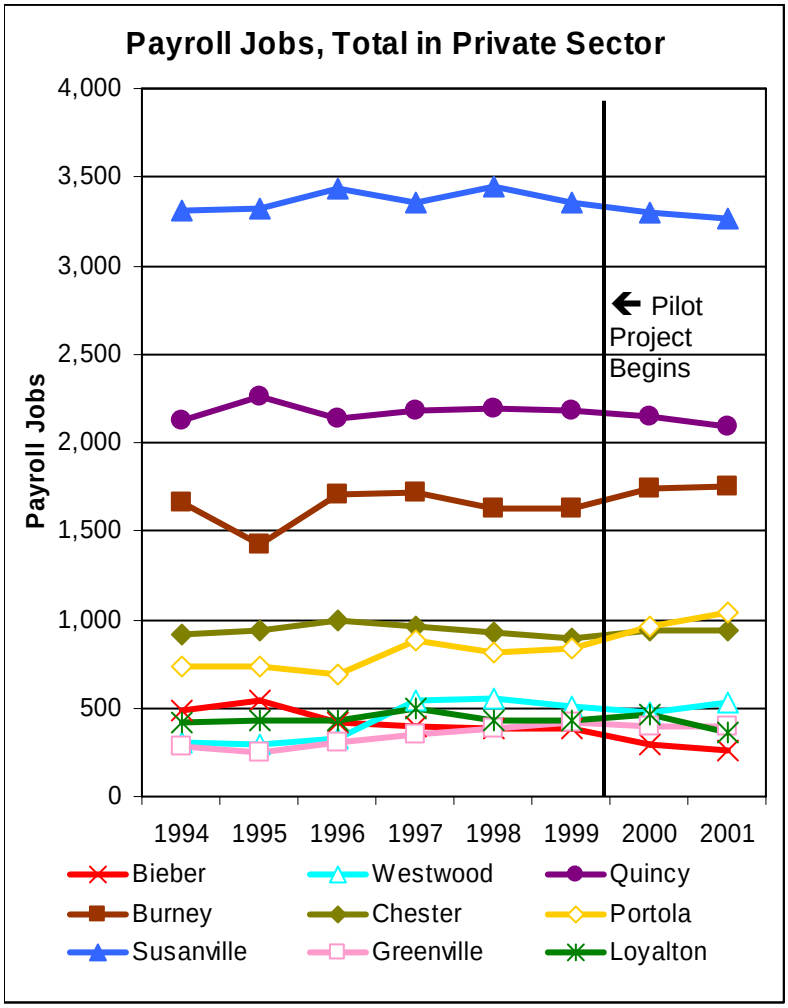
Monitored Indicators

This report contains information on twelve indicators monitored for FY 2004. These indicators continue to be tested as to their reliability as socioeconomic indicators to measure the impact of HFQLG Act implementation.

1. Payroll Jobs: Forest Products and Tourism

CED used data on businesses by employee size provided by the U.S. Department of Commerce, Zip-Code Business Patterns to make its estimates of jobs by industry at the community level. Zip-Code Business Patterns data is collected using business tax returns to the Internal Revenue Service. This data does not include self-employment, which is analyzed as a separate indicator because it is not yet available at the community level. Community-level data was only available through 2001 at the time this report was produced.

The data was analyzed in three groups: all private sector jobs, the forest products industry, and the tourism industry. The industries included in the forest product sector are timber tract management, logging, forestry support activities, wood products, paper and allied products, furniture and related products, and truck transportation. The industries included in the tourism sector are arts, entertainment, amusements, recreation, accommodation, eating and drinking places, and sightseeing tours. The casino in Susanville is not included with tourism in this indicator because its employment is classified as tribal government.



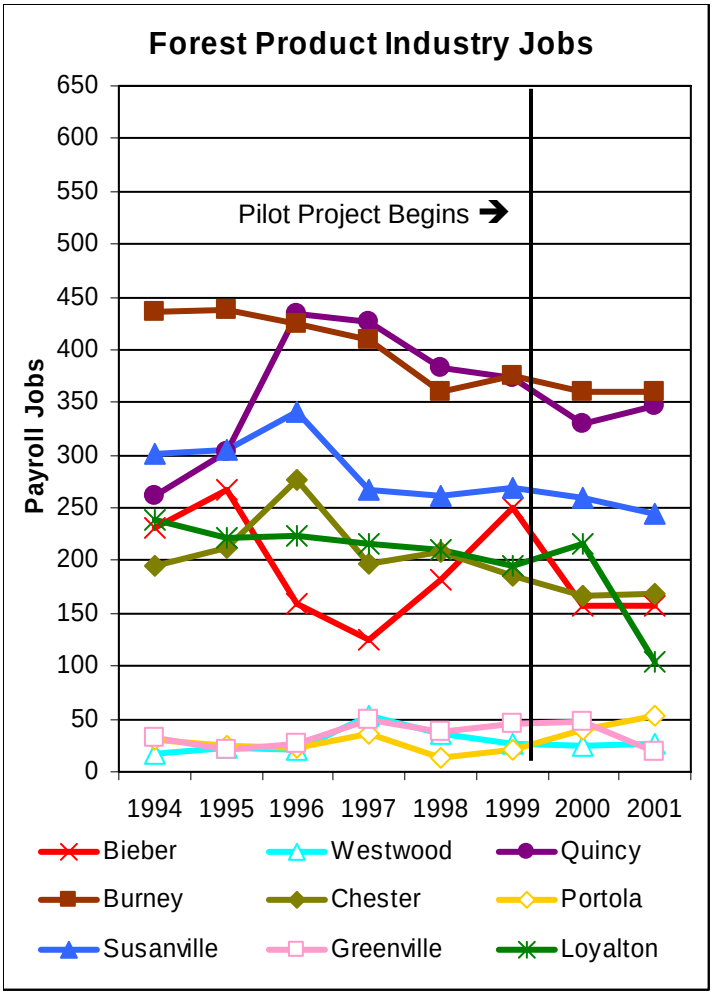
Why is it important?

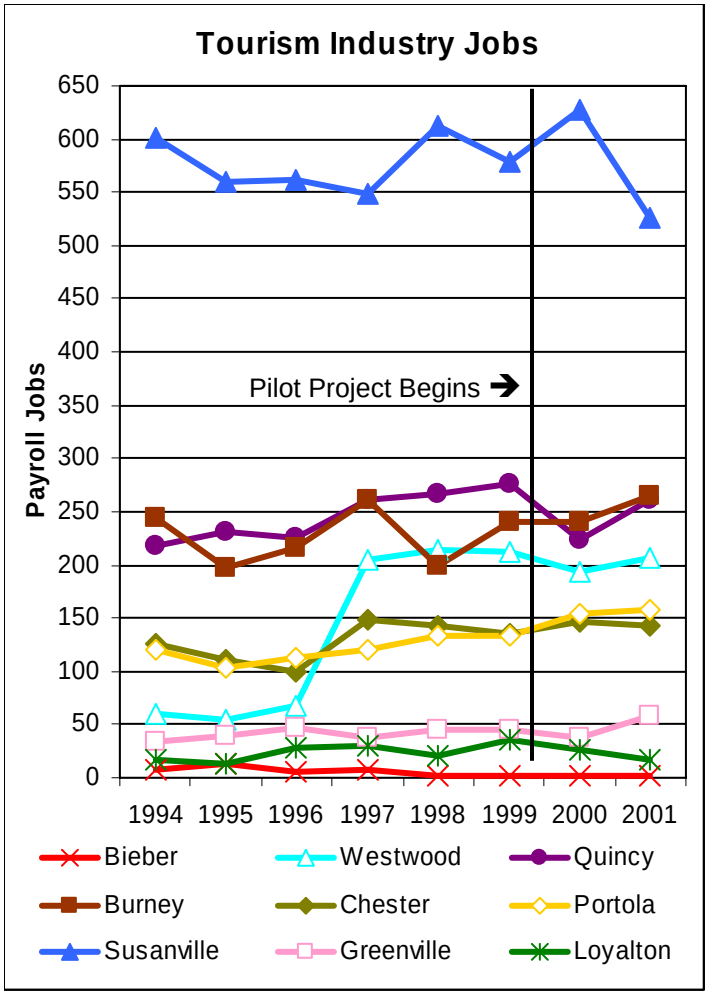
This information is used to empirically test the impact of the HFQLG Act's planning and implementation activities on the local economy. In particular, breakdowns of the forest product and tourism industries show the relative affect planning and implementation of the Act has had on each sector.

How are Pilot Project communities doing?

Between 1995 and 1999, before implementation of the Pilot Project, four of the nine communities showed an upward trend in jobs (Burney, Westwood, Greenville, and Portola), and only the community that lost a lumber mill during that period, Bieber, showed a downward trend.

After implementation began (through 2001), only Portola and Burney continued their upward trends. Growth in Westwood and Greenville was minimal. Growth began to occur in Chester, although Susanville, Quincy, and Loyalton began to show net job losses. Bieber, which experienced another mill shutdown in 2000, continued to experience net job losses.





Throughout the study period, the number of forest product jobs in most communities will rise and fall from year to year. Therefore, communities with a higher percentage of forest product jobs tend to be more vulnerable to shifts in total jobs. The three communities with few forest products jobs, Westwood, Greenville, and Portola, all had stable or increasing job totals during the study period. All other communities experienced decline at some point. All communities except Portola experienced a decline in forest product jobs after implementation of the Pilot Project began.

Mill expansions and closures produced dramatic shifts in community employment. Bieber's mill closures in 1996 and 2000, and Loyalton's mill closure in 2001, produced significant declines in forest product jobs in these communities. A 1996 mill expansion in Quincy added nearly 150 forest product jobs to that community in that year.

Tourism job totals tend to be more stable than job totals in the forest product industry. There are fewer shifts in tourism job totals than in forest products and only Westwood, which includes the east shore of Lake Almanor in Zip Code 96137, experienced such a shift in the Pilot Project Area. However, tourism shows a greater degree of variability between communities. While Bieber had little or no tourist activities available, Susanville had more than twice the tourism jobs than any other community in the Pilot Project Area. Since implementation of the Pilot Project, four communities had a net increase in tourism jobs through 2001 (Burney, Chester, Greenville, and Portola) and four communities had a net decrease (Susanville, Westwood, Quincy, and Loyalton).

In small timber communities, large increases or decreases (generally, shifts of 50 jobs or more) in forest product jobs usually produces sizable changes in the number of all jobs in the community. Larger communities like Susanville are better able to withstand such an event. Tourism has produced a more stable source of jobs over the study period, although five of the nine communities (Bieber, Burney, Chester, Quincy, and Loyalton) depend more upon the forest product industry for economic stability than tourism.

2. Nonemployers in the Forest Product Industry

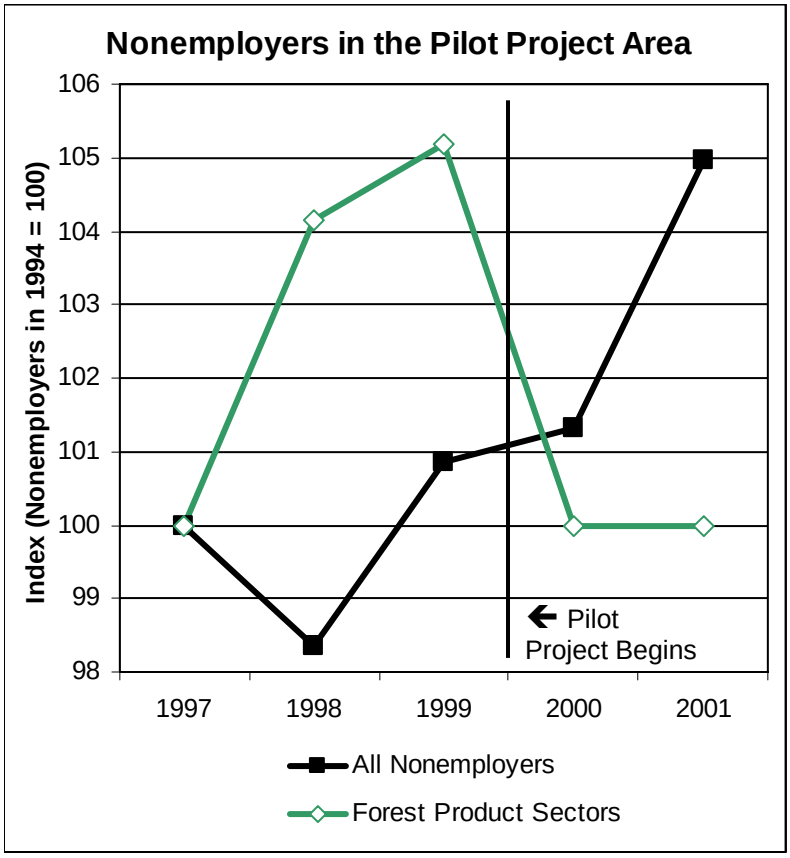
Nonemployers are small business owners and private contractors with no payroll—only income to the proprietor. The data is collected by the U.S. Department of Commerce, Bureau of the Census, and is based on information from self-employment income tax returns to the Internal Revenue Service. Nonemployer data is not available at the community level at this time, although the U.S. Census Bureau Web Site indicates that it may be available in the near future. The data below is the sum of Lassen, Plumas, and Sierra counties. For this indicator, the forest product sector combines forestry, manufacturing, and transportation.

Why is it important?

Historically many timber fallers and log haulers have been private contractors. However, 2003 data from the Forest Products Industry Roster indicates that there are fewer private contractors operating in Pilot Project Area forests, which indicates an impact on local businesses. This indicator provides secondary data upon which to analyze the results of the Forest Products Industry Roster survey.

How are Pilot Project communities doing?

The number of all nonemployers is increasing in the Pilot Project Area. The number of nonemployers that operate in the forest products industry fell after 1999, indicating a decrease in private contractors through 2001. A survey would be required to determine why the number of contractors increased to 1999, then decreased in 2000.



3. Forest Products Industry Roster Survey

Since 2001, the Center for Economic Development (CED), with the assistance of Susie Kocher from the University of California Cooperative Extension, has developed and updated a list of businesses located in the Pilot Project Area that operate in the forest products industry. This list is developed using a combination of the Dun & Bradstreet business database, the contractor's list for HFQLG contracts and timber sales, and other businesses known by CED and Susie Kocher to exist.

Furthermore, a telephone interview was attempted for each member of the roster at the end of 2001, 2003, and now 2004. This year, 292 forest product industry establishments operating in the Pilot Project Area plus the remainder of nine California counties (Butte, Lassen, Nevada, Plumas, Shasta, Sierra, Tehama, and Yuba) were contacted. Interviewed establishments determined not to be involved in the forest products industry were removed, leaving 263 establishments in the 2004 forest products industry roster (Appendix B, Social Economic Report).

There are four forest product industry job variables presented in this indicator: full-time year-round jobs, full-time seasonal jobs, total jobs (including part-time) and jobs with fringe benefits. The remainder category in each chart below refers to interviewed establishments not located in the nine counties surveyed, but not in the Pilot Project Area.

Why is it important?

The survey of forest project industry establishments is the best way to measure direct change in the forest products industry at the time during which events such as the implementation of the HFQLG Act take place. Data provided by the U.S. Department of Commerce is subject to a three-year lag, making recent changes in implementation impossible to measure.

Full-time year-round jobs shows the number of permanent, stable jobs available, seasonal jobs shows the degree of fluctuation in annual employment, jobs with benefits measures a critical component of an economy's jobs, and total jobs provides a comparison with the job totals measured in Indicator 1.

How are Pilot Project communities doing?

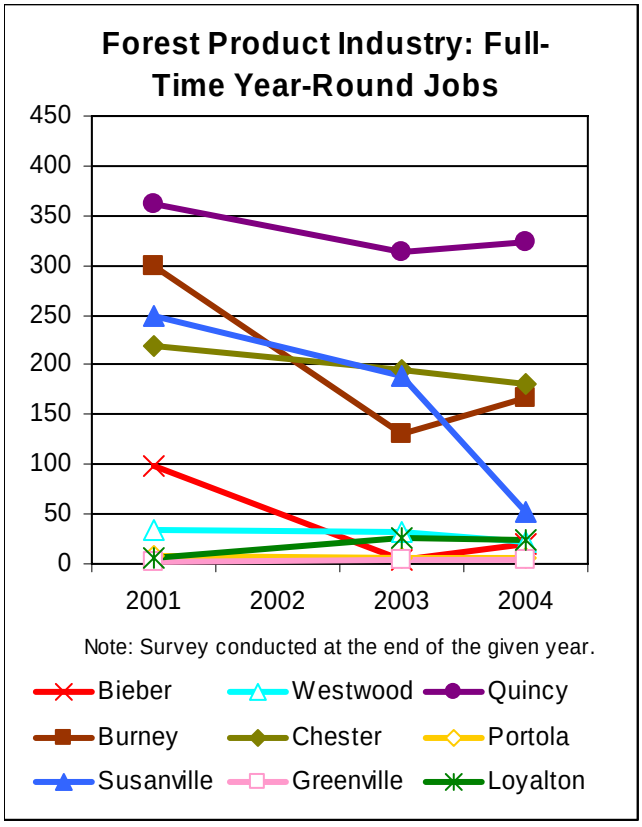
Information provided by those interviewed indicated that the level of economic activity generated by the National Forests in the Pilot Project Area decreased in 2004, continuing a decline shown after the 2003 survey. Those interviewed expressed a high level of frustration and a lack of confidence in the ability of the Pilot Project Area forests to provide commercial products or to complete on the ground fuels treatments. Contractors increasingly shifted their activities away from national forests towards private lands.

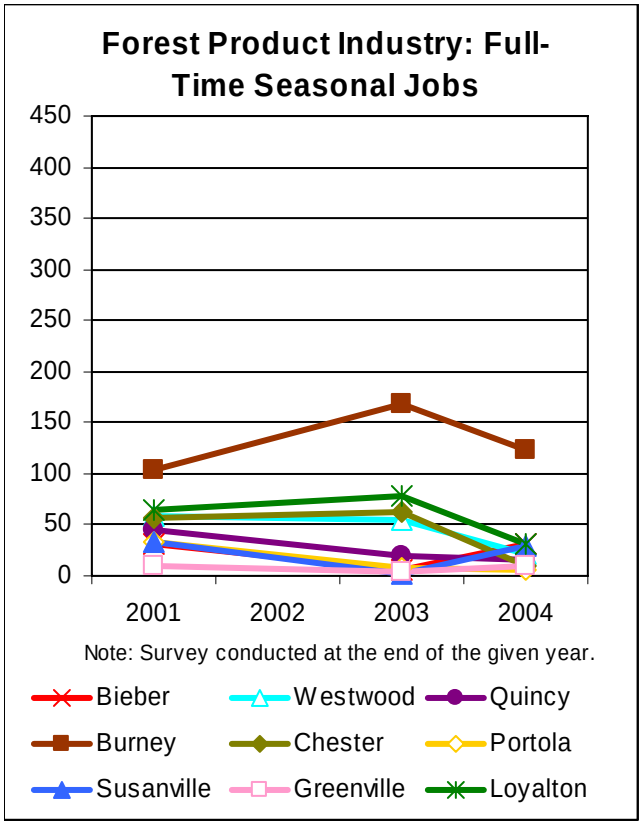
Contracts for professional services such as environmental analysis, inventory, sale layout, and marking seemed to be offered by National Forests in the Pilot Project Area at the same level or slightly below the previous year. However, contracts for log or chip harvesting and service contracts for fuels and silvicultural treatments continued to decline according to the interviews. The decline in contracts, primarily timber sales, was singled out by a majority of contractors as their primary concern.

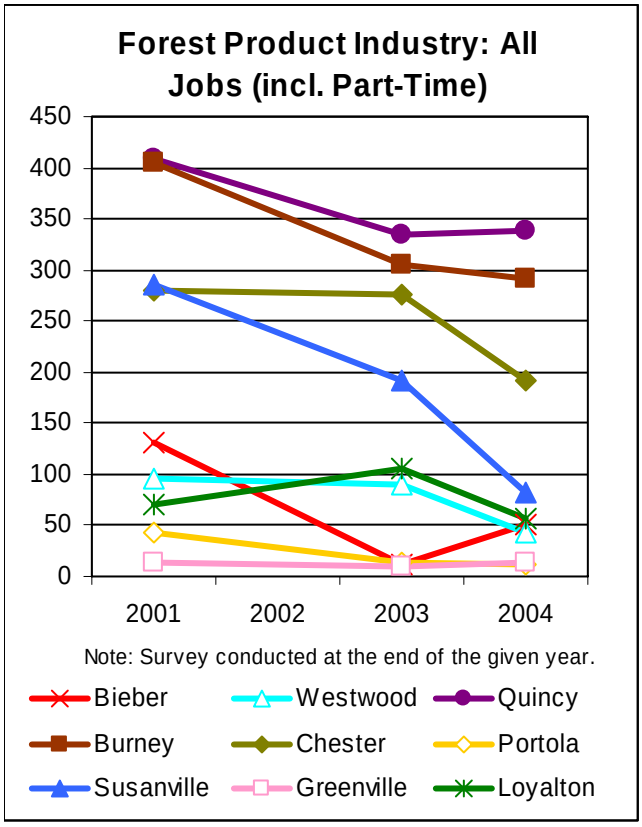
Most harvesting and service work contractors said they are currently facing a shortage of contracts to keep them fully employed. No businesses contacted reported any ability or plans to expand based on HFQLG contracts. Most contractors said they do not expect to have any job openings or to hire additional workers. One exception to this was in the job of truck driver, where some vacancies were reported. Contractors also expressed concern that they continue to lose qualified workers to other fields with more economic promise.

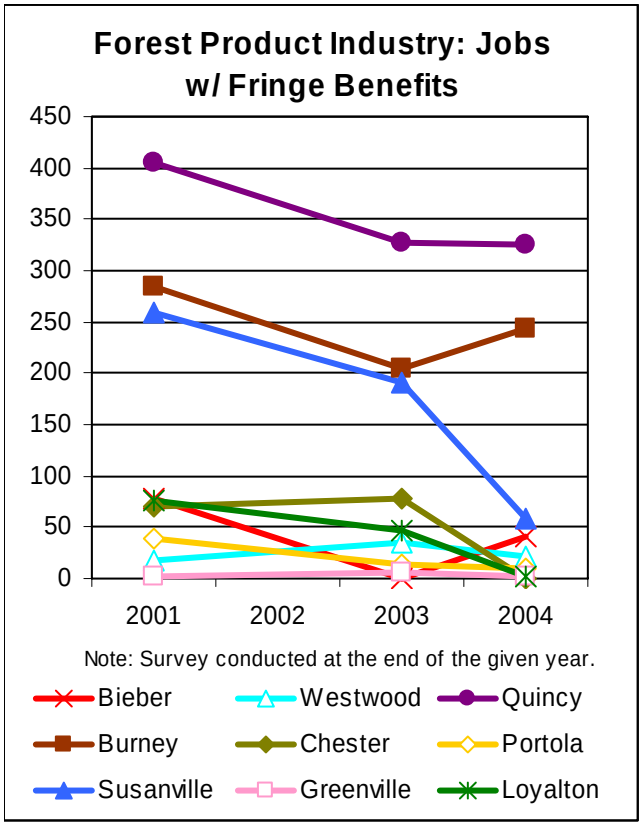
Some respondents from the biomass industry said that their businesses are at a critical point due to a reduction in chip production from the Pilot Project Area. They said that they are already producing electricity at a rate below their facilities' capacity, and if the shortage of biomass continues, they may be forced to close their plants. Furthermore, electrical generating equipment is currently in demand in China, providing further incentive to close these facilities and sell equipment at a good price. Loss of the biomass industry would reduce market incentives for further thinning and fuels treatments.

The overall result of data collected during the interviews show that job totals in the forest products industry are in decline. This includes stable jobs, seasonal jobs in most communities, and jobs with fringe benefits. Surveyed job totals for 2001 are a close match to those estimated by the U.S. Dept. of Commerce during the same year (Indicator 1). This validates the interview methodology employed in the forest product industry survey.






Forest Product Industry: All Jobs (incl. Part-Time)
450
400
350
300
250
200
150
100
50
0
2001
2002
2003
2004
Note: Survey conducted at the end of the given year.
Bieber
Westwood
Quincy
Burney
Chester
Portola
Susanville
Greenville
Loyalton

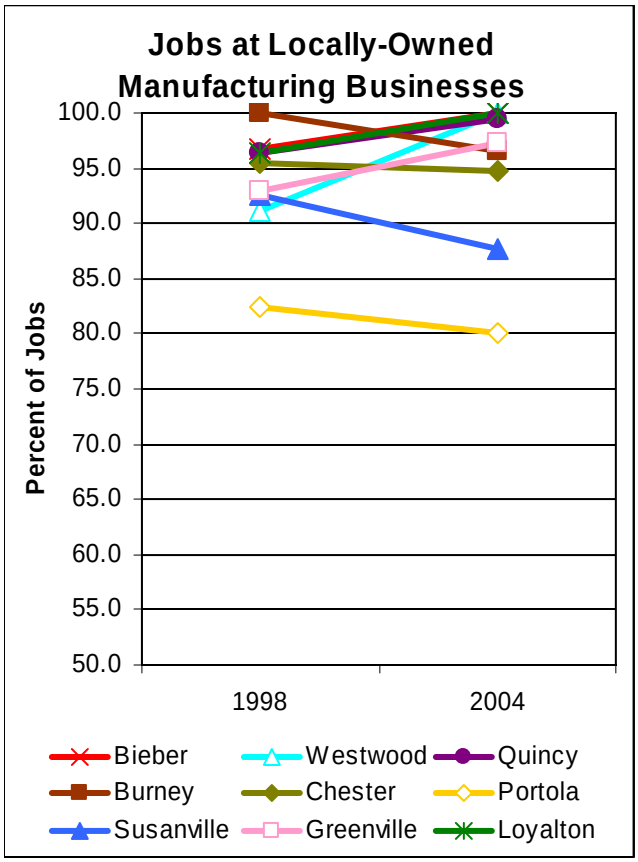

Forest Product Industry: Jobs w/ Fringe Benefits
450
400
350
300
250
200
150
100
50
0
2001
2002
2003
2004
Note: Survey conducted at the end of the given year.
Bieber
Westwood
Quincy
Burney
Chester
Portola
Susanville
Greenville
Loyalton

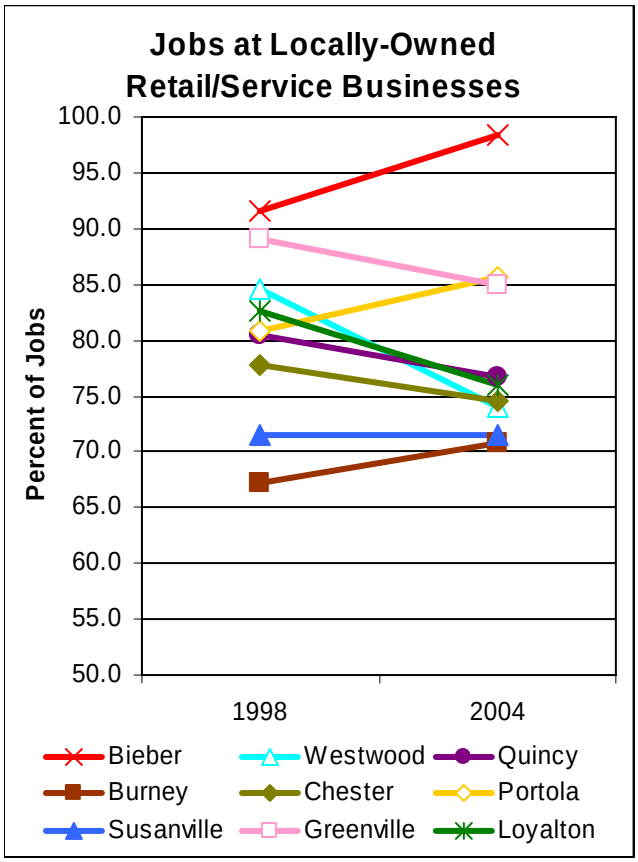
4. Jobs in Locally-Owned Businesses

Locally-owned businesses are likely to capture more economic impact from an event or project, such as the HFQLG Act Pilot Project. The charts below show business establishment data from Dun & Bradstreet (D&B). D&B compiles a database of businesses that have had a credit check run. They indicate whether an establishment is a single location, a headquarters, or a branch location. For this indicator, a locally-owned business is a single location or a headquarters. Establishment data was complied for the manufacturing sector and for the retail/service sector. Jobs data in this section include business-owners.

Why is it important?

Much of the revenue from branch locations is often transferred to a business's headquarters before being spent, producing no benefit to the local economy. Data for the manufacturing sector represents the potential secondary impact of increased forest product industry activity. In the Pilot Project Area, most forest project jobs are in manufacturing, and most manufacturing jobs are in the forest product sector. The retail/service sector represents the potential secondary impact of increased tourism.





How are Pilot Project communities doing?

In most communities, more manufacturing jobs are at locally-owned businesses than retail and service jobs. Therefore, manufacturing, which is dominated by the forest products industry, will have more local benefit than retail and service businesses, which are dominated by the tourism industry.

Burney, Susanville, Chester, and Portola have had decreasing percentages of manufacturing jobs in locally-owned businesses between 1998 and 2004. The percent has increase in the remaining five communities. In the retail and services industries, only three communities had increasing percentages of jobs in locally-owned businesses: Bieber, Burney, and Portola. Susanville experienced no change in its retail and service industry percentage between 1998 and 2004. The remaining five communities had fewer jobs at locally-owned retail and service industry establishments, and are therefore less able to capture economic impact from tourism.

5. Establishments by Years in Business

The following data was collected from the Dun & Bradstreet (D&B) business database. D&B collects business data, including the year during which the establishment began operating. This allows analysis of businesses by age of establishment. Data is given on the number of establishments that are less than five years old, five to fifteen years old, and more than fifteen years old.

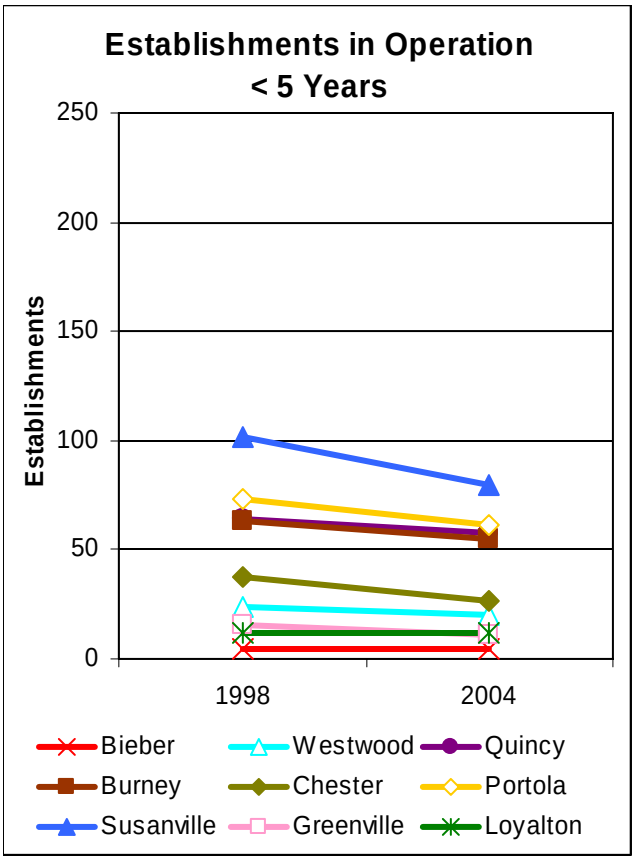
Why is it important?

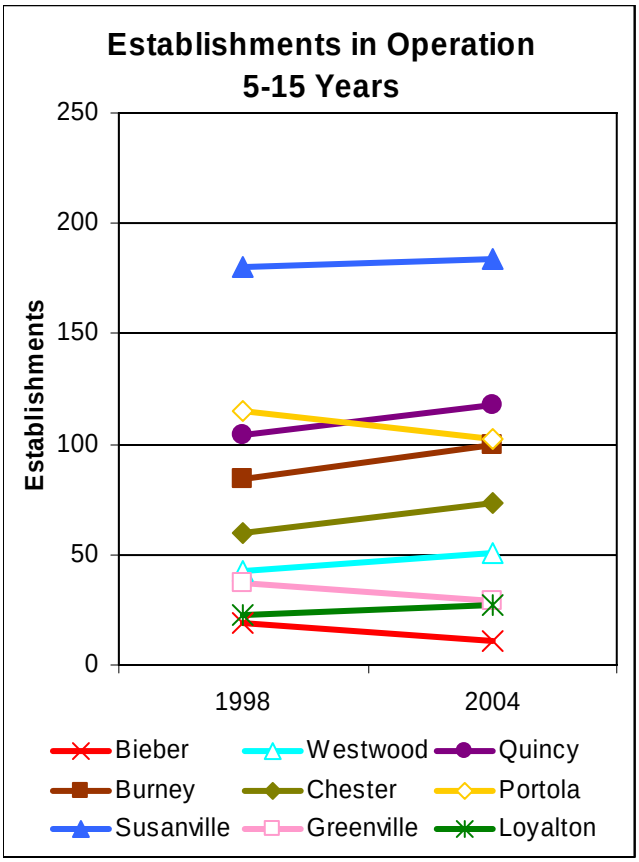
Two important points can be made with business age data. First, increasing numbers of new businesses indicate a growing economy with a lot of activity in business investment. Second, for an economically isolated region like the Pilot Project Area, decreasing numbers of established businesses can indicate a loss of local support for existing businesses or increased competition from new businesses.

How are Pilot Project communities doing?

In seven of the nine Pilot Project Area communities (except Bieber and Greenville) established businesses are remaining open. In most cases, these businesses have not been affected by increasing competition from new businesses.

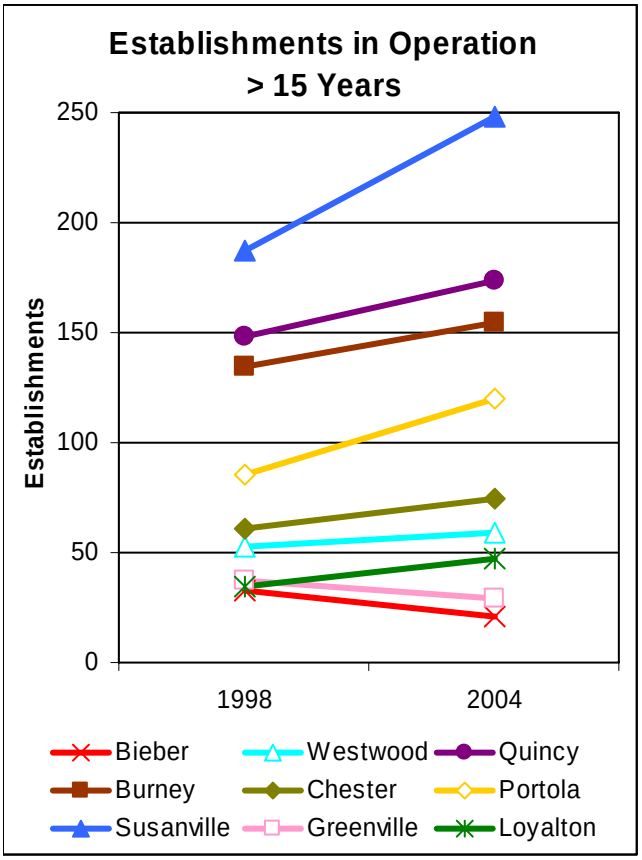
Established businesses in Bieber and Greenville are declining in number, but are not being replaced by newer businesses. In Bieber, this is likely due to declining economic activity after





its mill closures. Greenville has experienced a decline in businesses of all sizes, so it may be losing some business to neighboring communities like Chester and Quincy.

The decline in newer businesses, applicable to all Pilot Project Area communities, is indicative of a lack of business investment in the Pilot Project Area, which demonstrates that investors are generally not confident about the long-term growth prospects of communities in the Pilot Project Area.



6. Lodging Revenue

Lodging revenue subject to transient occupancy tax is a measure of the degree to which tourism is increasing or decreasing in an area. Lodging is purchased for a number of reasons, including family visits, temporary work, and recreation. Lodging for family visits usually changes little from year to year and for temporary work, increases when a large temporary source of employment exists, such as a major construction project. The data was collected using transient occupancy tax collections divided by the transient occupancy tax rate for Lassen, Plumas, and Sierra counties and for the cities of Susanville, Portola, and Loyalton.

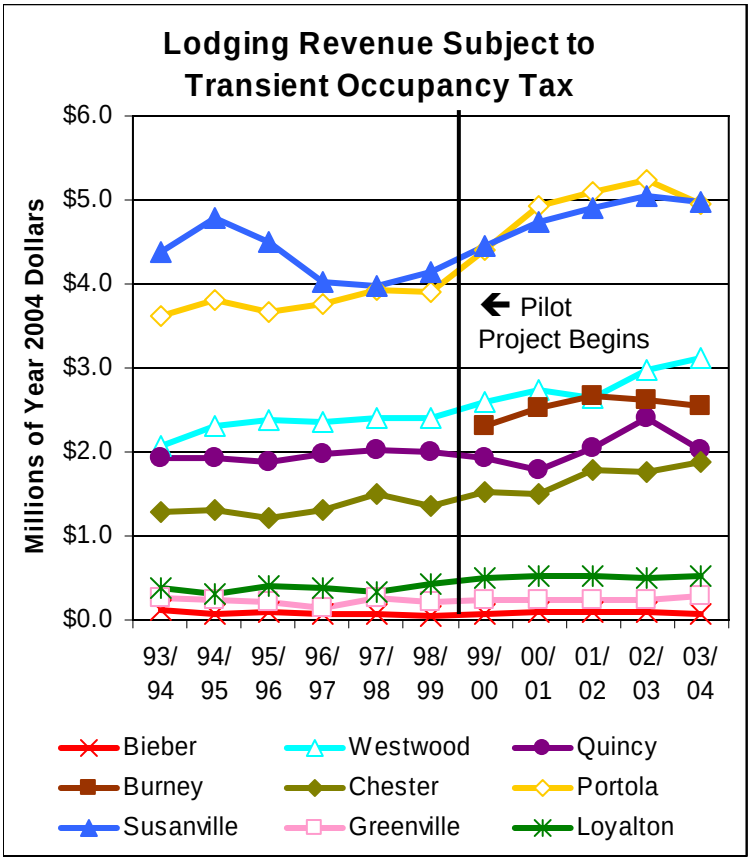
Why is it important?

Increasing revenue from lodging, if the chance of temporary work and family visits can be discounted, is a direct result of increasing tourism. Tourism that utilizes lodging is important because, unlike day trips, overnight stays often involve additional purchases such as meals and entertainment.

How are Pilot Project communities doing?

Adjusted for inflation, lodging revenue has been increasing almost every year in most communities in the Pilot Project Area. Therefore, tourism in the region is increasing. Four of the nine communities clearly show an upward trend after the start of the Pilot Project in 1999: Susanville, Westwood, Chester, and Portola. No Pilot Project Area community has experienced a downward trend since 1999.

A major construction project that attracted non-local workers (High Desert State Prison) is responsible for the rise in Susanville's lodging revenue prior to 1996.



7. Electricity Generated From Biomass

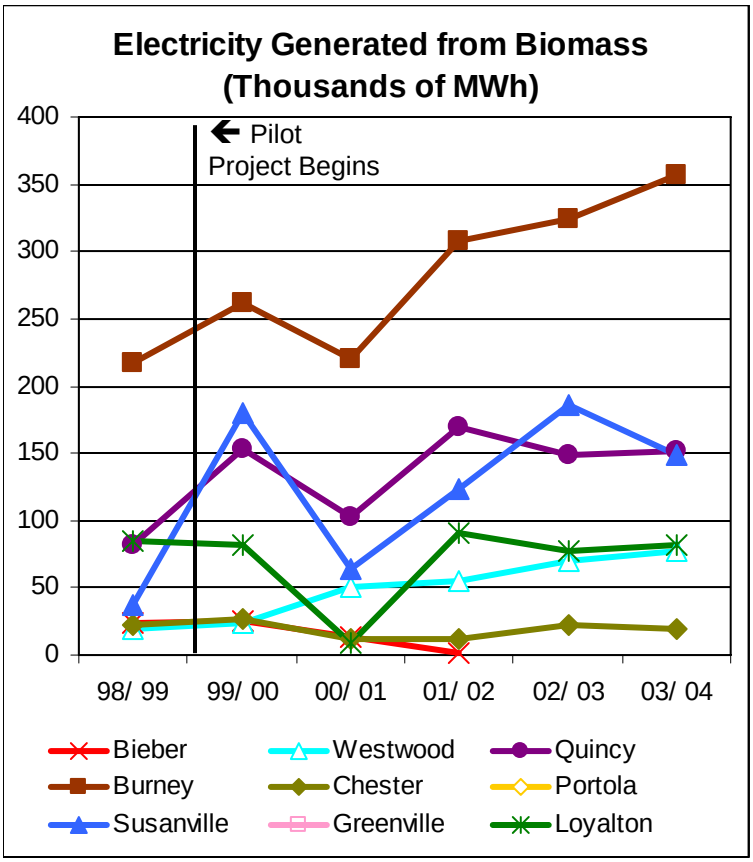
The following data is from the California Energy Commission (CEC). The CEC collects data on the amount of electricity generated using biomass because of a state program guaranteeing reimbursement when the wholesale price of electricity is below a certain level. During parts of 2001, wholesale electricity prices exceeded that level and, therefore, most power plants did not submit their electricity generation levels to the CEC. This resulted in an artificial drop in 2001. Greenville and Portola do not house a cogeneration plant that uses woodwaste. The time period represents July-to-June fiscal years so that the most recent data can be included.

Why is it important?

The Pilot Project is anticipated to increase woodwaste available in the Pilot Project Area for uses such as the generation of electricity. It is anticipated that most woodwaste would go toward electricity generation rather than other uses, such as the production of fiberboard. Therefore, electricity generated from woodwaste can be used as an indicator of the degree to which implementation of the Pilot Project has increased the amount of woodwaste available for industrial use.

How are Pilot Project communities doing?

In most Pilot Project Area communities, electricity generated from woodwaste has increased since the Pilot Project began in 1999. Chester has seen little change, although its cogeneration facility may have already been operating near capacity. No new facilities have been built during the study period, although the facility in Bieber closed in 2001 and one of the facilities in Susanville closed just before the end of FY 2003-04.



8. Youth Education

Youth education is measured in this report using high school dropout rates. Data on high school dropouts is available from the California Department of Education. Data shown here reflects the one-year dropout rate, which is the number of dropouts divided by total enrollment in grades 9-12. The three-year average is shown because annual variation in dropout rates is high in some areas. Presentation of the data in this manner increases its statistical significance.

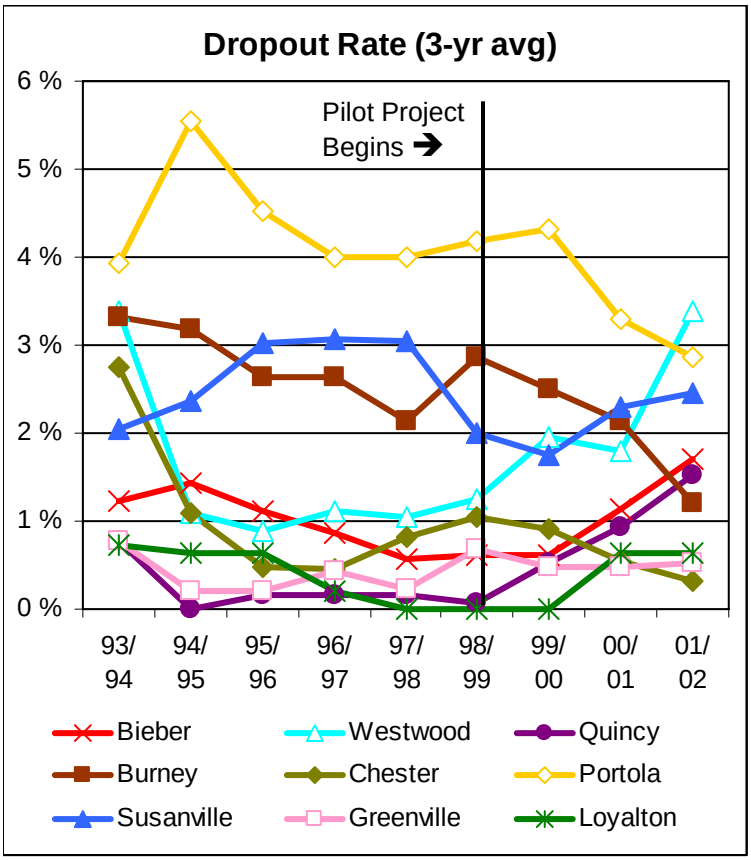
Why is it important?

High school students who drop out before graduating have fewer opportunities for employment and social advancement. Higher dropout rates indicate a young population that is less prepared to enter the workforce and a community that is less prepared to capture local economic impact (because of fewer local educated workers qualified to accept new jobs).

How are Pilot Project communities doing?

Since the Pilot Project began, five communities have had increasing dropout rates (Bieber, Susanville, Westwood, Quincy, and Loyalton), including the two communities that have lost a mill through 2002. Three communities have had improving dropout rates (Burney, Chester, and Portola).

In four communities, dropout rates after the start of the Pilot Project improved. In Burney and Portola, improving rates before the Pilot Project continued after 1999. In Chester a previously rising dropout rate began falling and in Greenville, a rising dropout rate began to stabilize.



9. Family Poverty

Family poverty is measured in this report using enrollment in free and reduced-price breakfast and lunch programs. Enrollment figures for these programs are available for all public schools in the Pilot Project Area from the California Department of Education. Participants must claim income eligibility to be accepted into the program.

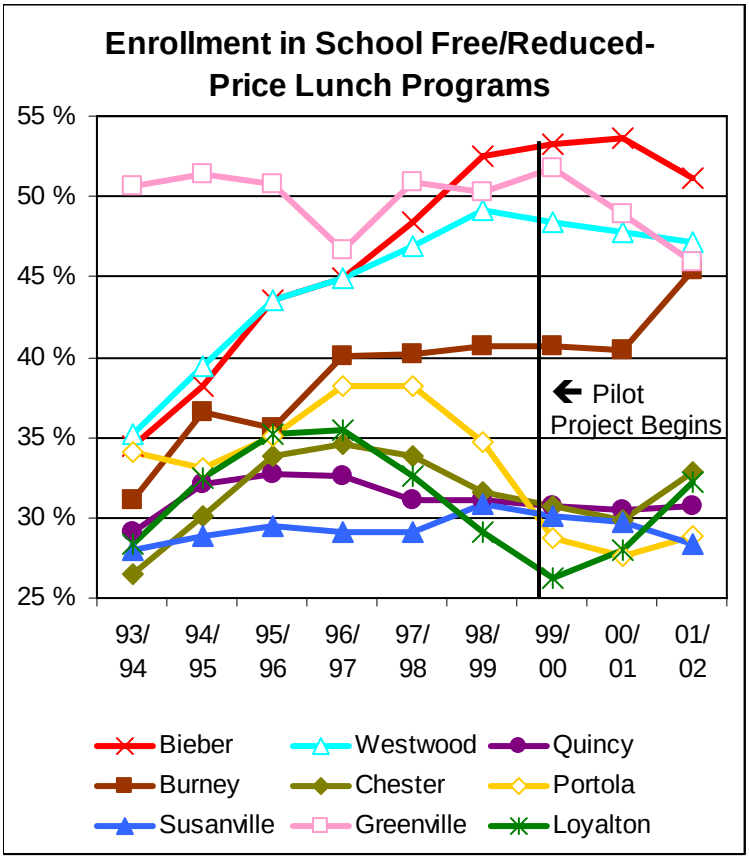
Why is it important?

Families with income levels that are low enough to be accepted into free and reduced-price school meal programs can be considered poor families. Most of these families are living below the poverty line, while the remaining families are living just above it. Higher participation levels indicate higher family poverty levels. Measuring the number of poor families is a way to gauge local economic performance.

How are Pilot Project communities doing?

Because school lunch enrollment in most of the Pilot Project Area's communities follow regional economic performance trends, regional performance may play a large role in the performance of the local economy[4]. However, school lunch program enrollment trends changed in most communities in 1999 at the start of the Pilot Project.

Increasing school lunch program enrollment stabilized or decreased after 1999 in four communities: Bieber, Susanville, Westwood, and Greenville. An improving trend reversed or stabilized in three communities: Chester, Portola, and Loyalton. Trends in Burney and Quincy showed no change after 1999.



[4] According to the California Economic Development Department Labor Market Information Division, employment growth in the North State was minimal until 1996, when growth accelerated through 2003. http://www.calmis.ca.gov/htmlfile/subject/indtable.htm

10. Population Age Structure

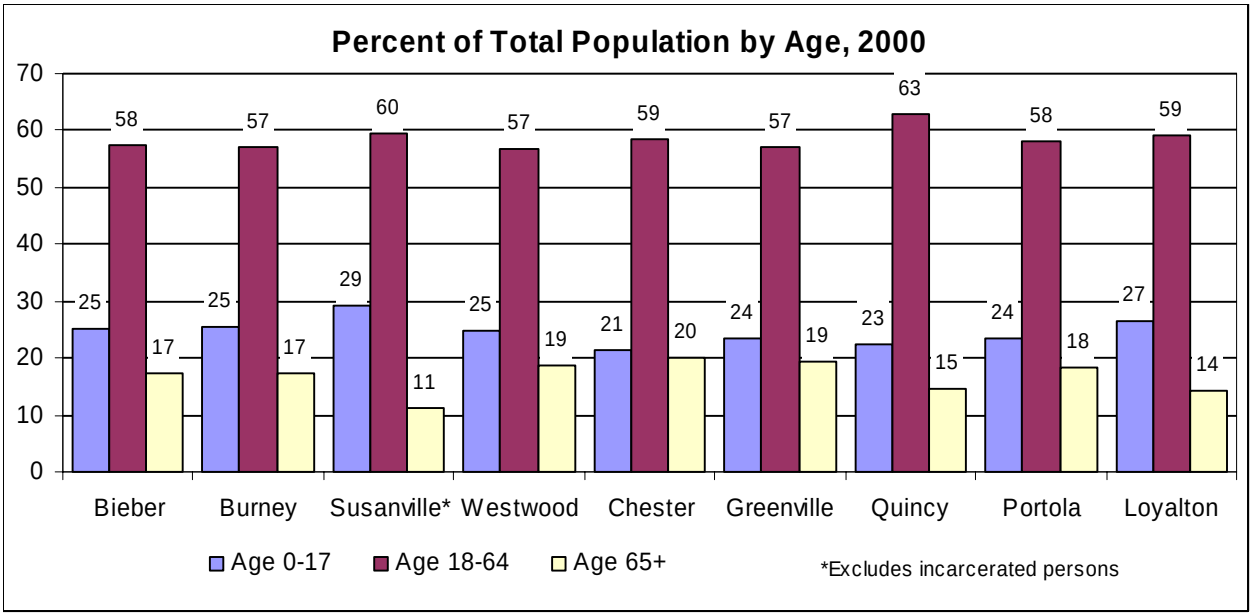
Age distribution of the population is provided by the U.S. Census. The decennial census is the only base data on population by age collected at the community level. Three age groups are given below: children (Age 0-17), working-age adults (age 18-64), and senior citizens (age 65+).

Why is it important?

Age structure indicates the degree to which communities have a higher concentration of families, non-family workers, or retired citizens. Higher percentages of children indicate a concentration of families, higher percentages of working-age adults (without the high percentage of children) indicate a concentration of non-family workers, and a high percentage of senior citizens indicate a concentration of retired persons. Increasing employment is more likely to benefit communities with families and non-family workers and less likely to benefit communities with higher concentrations of retirees.

How are Pilot Project communities doing?

The highest concentration of families is in Susanville and Loyalton, two communities that have lost a mill since the Pilot Project began. Non-family workers are more concentrated in communities where lumber mills dominate employment (Chester and Quincy). Retired citizens are more concentrated in communities around Lake Almanor (Chester, Westwood, and Greenville).



11. Timber Sale and Harvest Activity

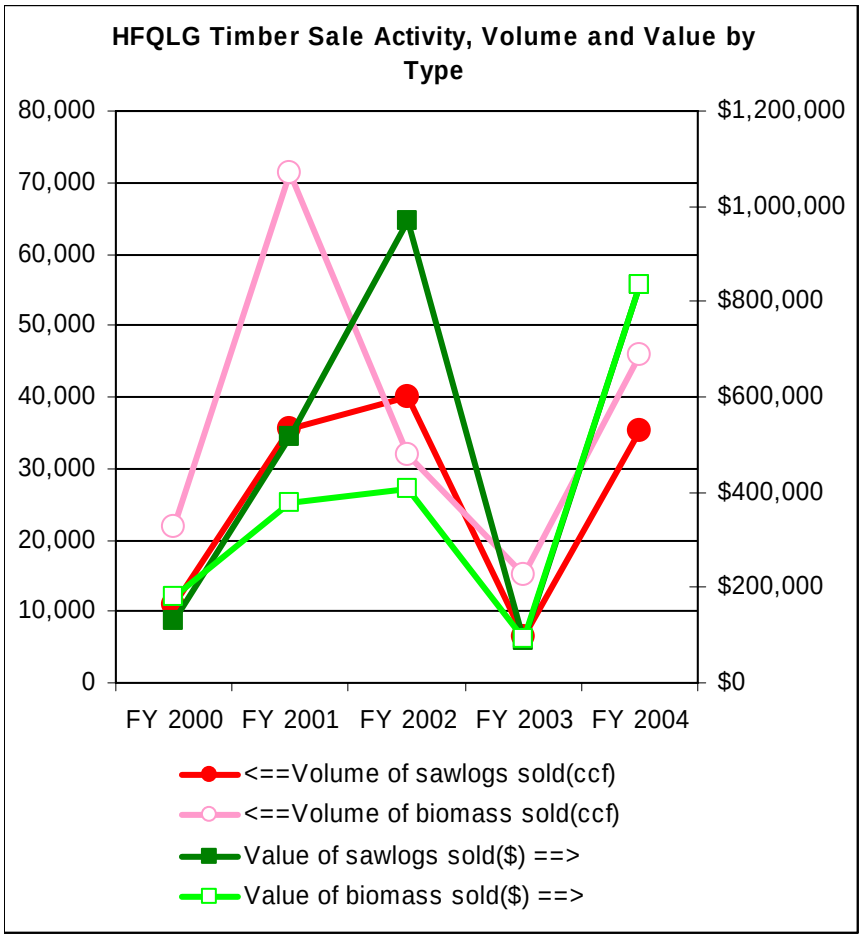
Timber sales are offered by the Forest Service for purchase by companies on contract to remove marketable timber. Timber can include sawlogs and biomass. The following data is from Forest Service timber sale accounts. The Forest Service invoices contractors every quarter as marketable timber is removed.

Why is it important?

The emphasis of the Pilot Project, along with improving forest health, is to maintain local economic stability by removing marketable timber from designated areas (intended to restore fire-adaptive ecosystems). Increased volume and value of timber indicate the extent to which the project is being implemented as planned, as well as the extent to which implementation produces marketable timber that can benefit local communities.

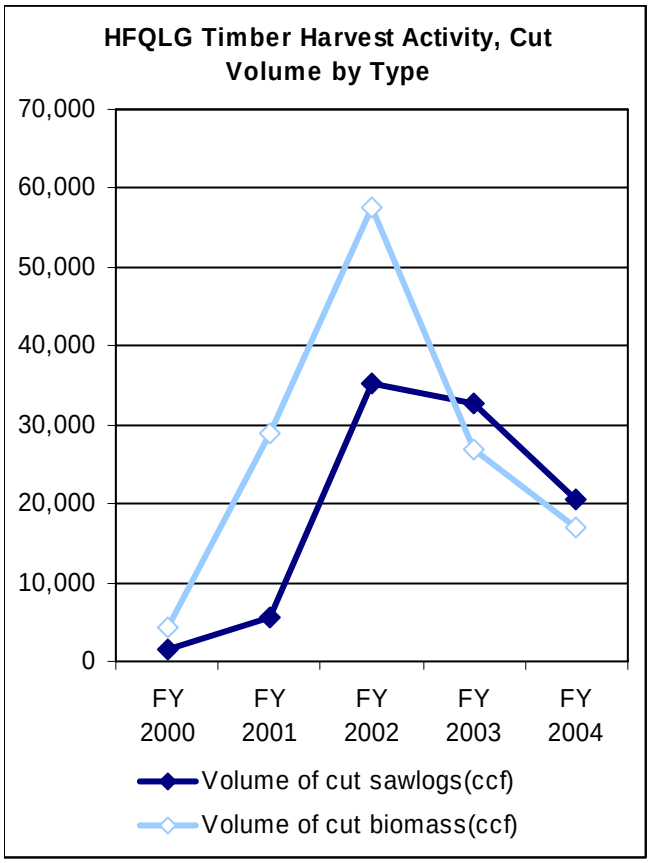
How are Pilot Project communities doing?

Data for this indicator cannot be broken down by community at this time because some establishments, like Sierra Pacific Industries, operate multiple establishments in the Pilot Project Area while their headquarters is located in the Redding area.



Overall, timber sale activity lagged in FY 2003 as Pilot Project implementation was delayed, pending an environmental impact statement and record of decision for the Sierra Nevada Forest Plan Amendment, which includes forest service land in the Pilot Project Area. During this period, the Pilot Project forests placed an emphasis in service contracts. Sales recovered in FY 2004 as implementation continued once again. The value of sawlogs and biomass in FY 2003 and 2004 were nearly equal, resulting in overlapping lines between these two years in the chart above.

There is a disconnect between volume sold (indicated by the chart above) and volume harvested (indicated by the chart below) because timber sold is usually extracted over the next one to three years. Harvest activity had declined through FY 2004 as a result of the FY 2003 delay in implementation and with the delay in implementation, the potential economic impact of the Pilot Project has been much less than anticipated in the Act thus far.



12. Value of Service Contracts

Service contracts are awarded by the Pilot Project forests to do planning work including environmental studies and surveys and some implementation work including prescribed burns and removal of underbrush. These contracts are awarded to qualified firms located throughout the western United States. This indicator measures whether firms awarded service contracts are located within the Pilot Project Area.

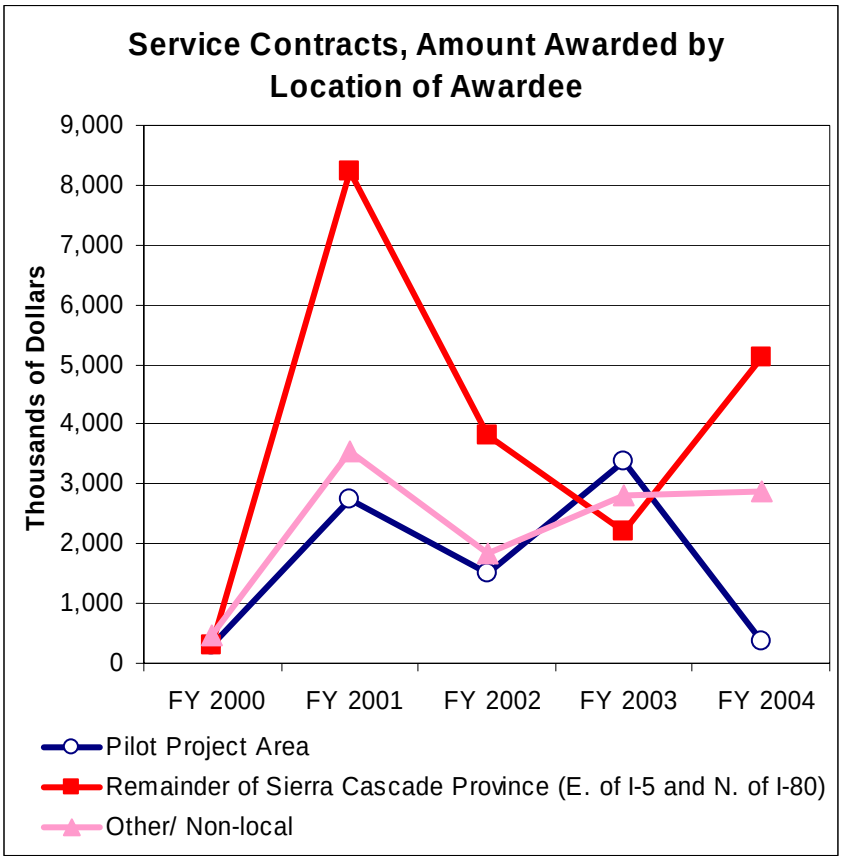
Why is it important?

The dollar value of contracts awarded to firms located in the Pilot Project Area will have a greater local economic impact than the value of contracts awarded to firms located elsewhere. While outside firms will spend some money locally at hotels, restaurants, and some hired labor, local firms will spend much more in payroll, business, and living expenses. Fewer dollars awarded to Pilot Project Area firms will be exported. Distant firms may spend more locally than those located nearby (in the Sierra Cascade Province, defined as California east of Interstate 5 and north of Interstate 80), because of the need to stay overnight near a project site. In addition, the Forest Service considers a local contractor as one located in the Sierra Cascade Province, and therefore, this indicator also measures the degree to which the Forest Service is successful in meetings its goal of awarding 80% of contract value to local contractors.

How are Pilot Project communities doing?

Thus far, 71 percent of service contract value is awarded to local companies as defined by the Forest Service. This is short of its 80 percent goal. About 21 percent of contract value is awarded to Pilot Project Area contractors, which means that half of all service contract value, 50 percent, has been awarded to other Sierra Cascade Province contractors.

In FY 2004, very little contract value was awarded to Pilot Project Area contractors, with a majority awarded to contractors in the remainder of the Sierra Cascade Province. Therefore, in this year, the Pilot Project Area will capture less impact from service contract spending than in any previous year.



Economic Overview and Community Benefit

To date, implementation of the HFQLG Act has not been sufficient enough to offset decline in the forest products industry in the Pilot Project Area. Mills continued to shut down, such as the Sierra Pacific facility in Susanville, and small businesses in the industry have to search for work in other areas or shut down.

There is some disagreement between Pilot Project Area contractors and the Forest Service regarding the management of the Pilot Project contracting process. Local perceptions are important because they may affect what local companies report forest product industry roster survey, that is, they may underreport economic activity if they feel like nothing is happening with Pilot Project implementation. Most of the disagreement regards the extent to which the Forest Service favors Pilot Project Area contractors in their awarding of contracts, which is largely because Pilot Project Area contractors and the Forest Service have different ideas about what is considered "local." To a Pilot Project Area contractor, local is defined as the Pilot Project Area, whereas to the Forest Service, local is defined as the Sierra Cascade Province, which extends to the Oregon and Nevada borders, Interstate 80, and Interstate 5 to the north, east, south, and west, respectively. This is why Pilot Project Area contractors claimed that the Forest Service is not contracting enough work locally, including both timber sales and service contracts.

The economic benefit of contracts awarded and timber sold to companies located outside of the Pilot Project Area is less than those that involve companies with locations within the area. While non-local forest workers are likely to stay in the Pilot Project Area for the duration of the project, much of their income will go home with them, as will much of their contract and timber sales profits.

It is not likely that implementation of the Pilot Project has had a negative effect on the tourism industry. Tourism jobs through 2001 had increased since the beginning of the Pilot Project and lodging revenue experienced a substantial increase between 1999 and 2003. While lodging revenue decreased slightly in 2004, this is not likely due to implementation of the Pilot Project, simply because implementation activity decreased then and in the previous year.

At this time, there is little statistical connection between implementation of the Pilot Project and change in any of the social indicators. Social indicators are improving in some Pilot Project communities and worsening in others. The most noteworthy trend in the social indicators is that Portola, the Pilot Project Area community least dependent upon the forest products industry, has shown improvement in both social indicators analyzed since 1999. This is likely because of the increasing number of commuters living here and traveling to work in Reno. This indicates that the Pilot Project may not be the only means for improving social conditions in the Pilot Project Area.

Because implementation of the Pilot Project has yet to reach the level intended in the Act, no conclusion regarding the relationship between implementation of the Act and community stability can be set in stone. This situation will remain until implementation is allowed to occur as intended.

Revenues and Expenses

Section (j)(1)(E) of the HFQLG Act requires:

(E) A comparison of the revenues generated by, and the costs incurred in, the implementation of the resource management activities described in subsection (d) on the Federal lands included in the pilot project area with revenues and costs during each of the fiscal years 1992 through 1997 for timber management of such lands before their inclusion in the pilot project.

Table 8A displays FY92 to FY97 revenues and expenses associated with timber management activities prior to the HFQLG Act. Table 8B displays FY99 to FY04 revenues and expenses associated with the HFQLG Act. The summary for FY04 expenditures is located in Table 3 above.

Tables 8A and B. FY92 to FY97 Revenues and Expenses Associated with Timber Management Activities (A), and FY99 to FY04 Revenues and Expenses Associated with HFQLG Activities (B)

A. Lassen, Plumas, and Sierraville District of the Tahoe National Forests Resource Management Activities of Timber Harvest, Timber Stand Improvement, Site Preparation and Tree Planting		
Fiscal Year	Revenue (Thousands $)	Expenditures (Thousands $)
1992	67,187	25,856
1993	34,408	18,194
1994	44,501	17,376
1995	52,873	22,596
1996	24,590	20,490
1997	24,465	22,207

B. HFQLG Pilot Project Resource Management Activities of DFPZ Construction, Groups Selection and Individual Tree Selection		
Fiscal Year	Revenue (Thousands $)	Expenditures (Thousands $)
1999	0	1,943
2000	20	7,182
2001	140	28,267
2002	989	21,557
2003	960	23,100
2004	1958	30,100

Sawlog and Biomass Volume

Table 9 displays the of activities that generated revenue between FY92 and FY97

Table 9. FY92 to FY97 Acres Harvested and Volume Offered and Sold Associated with Timber Management Activities

TIMBER MANAGEMENT ACTIVITIES on the Lassen, Plumas, and Sierraville District of the Tahoe National Forests PRIOR to the HFQLG Act (FY92 to FY97) :						
	FY92	***FY93***	***FY94***	***FY95***	***FY96***	***FY97***
Regeneration (Acres)	8,634	7,853	8,206	7,531	9,063	15,591
Site preparation (Acres)	6,176	5,264	4,667	2,363	3,321	3,321
Timber stand improvement (Acres)	10,045	10,600	8,740	13,866	15,062	22,646
Sawlog volume offered (CCF)	426,000	424,000	375,000	555,200	374,200	383,000
Sawlog volume sold & awarded (CCF)	329,400	535,200	332,600	316,400	242,600	353,400
Total area harvested (Acres)	55,689	70,885	57,922	47,317	38,917	32,223

Note: The Act required a comparison of FY92 - FY97; therefore, no figures for FY98 are displayed.

During FY04, Pilot Project timber sales generated $1,277,662 in revenues. Revenues were realized from harvest activities on 27 timber sales, and 6 service contracts with nested timber sales that were active in FY04. Sawlog and Biomass volumes have been combined and the Timber Sale Accounting (TSA) system reflects that 61,792 CCF removed generated the $1,277,662 in revenues for FY04. Table 18 displays the resource management activities (acres) and associated volume (CCF) from FY99 through FY04. Table 10 displays the cumulative FY99 to FY04 volume offered and volume removed (or harvested) associated with the HFQLG Pilot Project resource management activities.

Table 10. FY 99 to FY 04 Acres Harvested and Volume Offered and Removed Associated with HFQLG Pilot Project Resource Management Activities

HFQLG Pilot Project resource management activities described in subsection (d) of the HFQLG Act, volume and acres: FY99 to FY03							
	FY99	***FY00***	***FY01***	***FY02***	***FY03***	***FY04***	***Total FY99-FY04***
DFPZ Acres Accomplished	640	7,215	41,197	16,651	24,442	36,635	**126,780**
Group Selection Acres Accomplished	0	200	1,836	1,258	0	1738	**5,032**
Individual Tree Selection Acres Accomplished	172	772	528	395	44	80	**1991**
Riparian Restoration Acres Accomplished	0	81	945	838	537	603	**3004**
Sawlog volume offered (CCF)	4,785	44,422	88,802	37,168	41,418	203,312	**419,907**
Biomass volume offered (CCF)	4,278	64,517	143,117	31,354	44,402	198,204	**485,872**
Sawlog and Biomass volume removed (CCF)	0	5,754	33,151	99,163	61,810	61,792	**261,670**

Fiscal Year 2005 Activities

Section (j)(1)(F) of the HFQLG Act requires:

(F) A proposed schedule for the resource management activities to be undertaken in the pilot project area during the 1-year period beginning on the date of submittal of the report.

The proposed Program of Work for FY05 Table 11 is a summary of the Proposed FY 05 HFQLG Program by Project Type:

Table 11. Proposed FY05 Program of Work by Project Type.

Project Type	Number of Projects	DFPZ Acres	GS Acres	ITS Acres	Sawlog Volume CCF	Biomass Volume CCF
Timber Sale	24	**10,672**	**1,777**	**3,665**	**195,209**	**108,950**
Service Contract with embedded timber sale	10	**12,947**	**2440**	**4,519**	**131,007**	**45,460**
Service Contract	8	**6,085**	**0**	**0**	**0**	**0**
Force Account Crew	11	**4,875**	**0**	**0**	**0**	**0**
TOTALS FOR FY05	**53**	**34,579**	**4,217**	**8,184**	**326,216**	**154,410**

A detailed description of the FY05 program can be found in Appendix D.

The FY 05 program of work also includes: 1) Administering current contracts; 2) Implementation of projects planned in previous years; 3) Environmental analysis for proposed projects; 4) Implementation of FY 05 riparian management projects; 5) Out-year data collection and planning; and 6) Development of a work plan and schedule for the Plan Amendment/Revision required by Section 401 (i) of the HFQLG Act. All work will be conducted at a level commensurate with the $31.0 million FY05 projected available funding.

Four riparian restoration projects are planned for accomplishment in FY05, with an expected 591 acres of restoration. These projects will include meadow restoration and enhancement, stream channel improvement, road relocation, road closure, and slope stabilization. .
Outyear planning and data collection is included in Appendix D in the 2006 – 2009 Forest Summary. Due to 2005 Program of work changes, specific 2006 -2009 outyear projects will be identified during FY 2005.
Fiscal Year 2008 will be the start of a two year schedule for the Plan Amendment/Revision according to Region 5 budget direction.

Environmental Monitoring and Effects

Other natural resource-related benefits associated with the Pilot Project are confirmed by monitoring the activities required by the HFQLG Act. Additionally, Pilot Project monitoring will facilitate the Final Report as required the Act (Sec. 401(k)(1)). More details about the Final Report can be found in the Act located in Appendix A.

The HFQLG Pilot Project Monitoring Plan was initiated in FY 00 and provides a structure, in the form of questions, to gain information about 1) habitat concerns; 2) effects of implementing Pilot Project activities; 3) effectiveness of those activities, and 4) economic well-being. The Monitoring Plan, which includes a full description of these questions and their monitoring protocols, is available at the Pilot Project office located at the Plumas National Forest Supervisors Office.

The Habitat Concerns section includes methods to assess habitat connectivity, old forest habitat and aquatic/riparian dependent species monitoring. This section meets the requirement in the 1999 HFQLG ROD that states that "over the course of the Pilot Project, suitable habitat for old forest-dependent species and aquatic/riparian-dependent species (including amphibians) shall not be reduced by more than ten percent below 1999 levels."

The Implementation Monitoring section has three levels of assessment: project evaluations, interagency project reviews, and topic specific questions. This section provides information about the degree to which treatments are implemented according to standards and guidelines set forth in the HFQLG EIS, each forest's land management plan, and site-specific direction. There are ten topic specific questions concerning forest structure, best management practices, soil quality, sensitive plants, noxious weeds, and air quality. These questions include information on objectives, scale, monitoring protocol, and estimated cost.

In the Effectiveness Monitoring section, twenty-one topic specific questions address: 1) old forest values and old forest-dependent species; 2) watershed effects; 3) wildfire protection and fuels reduction; 4) threatened, endangered, and sensitive plants, and 5) noxious weeds. These questions assess the degree to which implemented treatments meet resource objectives. All the

topic specific questions also include information on objectives, scale, monitoring protocol, and estimated cost.

The Economic Well-Being section has been contracted to the Center for Economic Development, in Chico, CA. to collect and analyze data.

Environmental Findings

The following are summaries of FY04 monitoring activities and results:

Habitat Concerns: The HFQLG Record of Decision (ROD) requires that habitat connectivity be maintained to allow movement of old forest or aquatic/riparian-dependent species between areas of suitable habitat. It further requires that suitable habitat for old forest-dependent species and aquatic/riparian-dependent species shall not reduced by more than 10% below 1999 levels Pilot wide. California Wildlife Habitat Relationship (CWHR) labels 5M, 5D, and 6 are used to represent habitat required by old forest-dependent species.

Each project planned in FY04 was evaluated to determine the reduction, if any, in the vegetation strata in CWHR labels 5D, 5M and 6. The vegetation strata CWHR size class 5 represents a single-story, predominantly large tree (greater than 24-inch Diameter at Breast Height (DBH) stand. Density class D has a 60-100% canopy cover and density class M has a 40-59% cover. CWHR size class 6 represents a multi-layered stand where CWHR size class 5 is over a distinct layer of size class 4 (11" - 24" DBH) or size class 3 (6" - 11" DBH) and where total tree canopy is greater than 60% or greater canopy closure.

Reductions are documented and a cumulative total is tracked to ensure that no greater than a 10 percent reduction occurs over the life of the Pilot Project. Less than 1 percent of the acres accomplished to date have resulted in a reduction in vegetation strata in CWHR labels 5D, 5M and 6.

Implementation and Effectiveness Monitoring: In FY04, project evaluations were combined with interagency reviews each district conducted an on-site evaluation of at least one of the projects implemented within the last year. These included vegetation management or riparian/watershed improvement projects. The reviews took place at the project site and specialists from other agencies as well as the public were invited to participate. The primary purpose of the reviews is for District Rangers to interact with the inter-disciplinary team to make an on-site assessment of the outcomes from the various treatments. In FY04, eight project evaluation/interagency reviews took place. These reviews are documented and signed by the District Ranger and kept in the monitoring project file.

Topic Specific Questions:

Forest Service and contracted personnel collected the pre-treatment data for both the implementation and effectiveness monitoring questions. The information gathered includes:

Stand structure attributes (Questions 1-4)**:**

Information regarding tree size, canopy cover, surface fuels, ladder fuels, and understory structure and composition is collected from units randomly selected across the Pilot Project. This will serve as baseline data from which post harvest conditions will be compared. Most of the implementation projects consist of a mechanical or hand treatment followed by prescribed burning.

***DFPZ Treatment Units*:** The first stage of work has been completed in many of the units. The progress of completing all of the treatment stages continues to be slow. The delays are associated with a narrow weather window to accomplish underburning. Several units have other stages completed for over a year and require underburning before the unit is reported as being completed.

One of the monitored DFPZ units was reported as completed and ready for re-measurement in 2004. This was Waters 8D located on the Mt Hough Ranger District. The re-measurement was done in September 2004 to match the dates of the original data gathering. This unit was originally planned to be underburned after biomass / mastication however the burning was cancelled due to the favorable results from biomass / mastication treatment.

***Group Selection Treatment Units*:** Last years monitoring report discussed the potential to expand the sample pool to monitor effects of group selection on stand structure. A decision was made to establish a second set of 70 plots specifically focused on group selection. The sampling strategy used for the DFPZ monitoring is being repeated to monitor the group selection treatments. Group selection units will be randomly selected at a rate of ten units per project until the desired total of 70 is reached. This set of data for group selection treatments will be considered as a discrete sample pool. The results from the group selection monitoring should not be combined with the results of the DFPZ monitoring.

Ten group selection units in the Meadow Valley project were randomly selected for monitoring in 2004. The forest stands being monitored in this sample set are not limited to the actual group selection units since the effects of treatment activities will extend beyond the boundary of each 0.5 to 2.0 acres unit. Potential changes to the stand structure of adjacent areas may result from construction of skid trails and landings to remove harvested trees; potential damage of adjacent trees from timber falling; and potential wind throw of trees along the edge of group selection units.

The stands where the plots are established consist of an entire vegetation polygon from the Plumas Lassen Administrative Study (PLAS) vegetation map developed by VESTRA Resources containing the selected group selection units. In some instances a subdivision of a vegetation polygon may be selected. The criteria for selection of a subdivision of a vegetation polygon is based on other topographic (ridge / drainage) or cultural features (road / trail) that would limit the extent of the treatment activities to only a portion of a vegetation polygon. Plots are randomly located within the vegetation polygon and may or may not actually intersect the group selection unit. The data was processed in the FIAS program and loaded into data tables in Oracle. District personnel provided additional information regarding the existing condition and treatment objectives for the units being monitored.

The progress of stand structure monitoring will continue to be gradual due to limited burn windows for underburning DFPZ units and the recent litigation of group selection treatments. Of the seventy DFPZ units sampled to date, only seven units (10 percent) have been completed. Two units were determined to not need underburning and were subsequently identified as completed units.

Best Management Practice (BMP) Implementation and Effectiveness During Project Activities (Question 5 and 21)**:**

Six BMPs have been selected for on-site evaluations. They are Streamside Protection (T01), Timber Skid Trails (T02), Timber Landings (T04), Roads and Road Crossings (E08-09), Road Decommissioning (E10), and Prescribed Fire (F25). A pool is developed for each of the BMPs that contain the units appropriate for evaluation. Treatment units must over winter to have a sufficient amount of time pass before ground conditions can be evaluated for monitoring. From each pool 30 units for each BMP is randomly selected.

In 2004 BMP monitoring was not conducted. There was insufficient activity across the Pilot Project in 2003 to provide the requisite number of units from which to develop a sufficient pool.

Soil Quality Standards (Question 6)**:**

Each year between 20 and 30 units are randomly selected from separate pools of units of DFPZ and Group Selection units. These units are surveyed with three separate 20 point transects randomly stratified to occur within the lower, middle and upper portion of the units. Information on soil compaction, soil cover, and large woody material is collected. These attributes of the Region 5 Soil Quality Standards (SQS) are evaluated to assess effects of management activities on soil resources. Twenty thinning units and twenty one group selection units were monitored prior to harvest activity for existing condition documentation. This baseline data will used for comparison when post-treatment conditions are resampled. Post-treatment monitoring occurred in nine thinning units.

***Soil Compaction*:** The threshold that indicates a significant impairment to soil productivity is 15 percent or more of an activity area having detrimental compaction. Detrimental compaction occurs when soil porosity is reduced more than 10 percent as compared to undisturbed conditions.

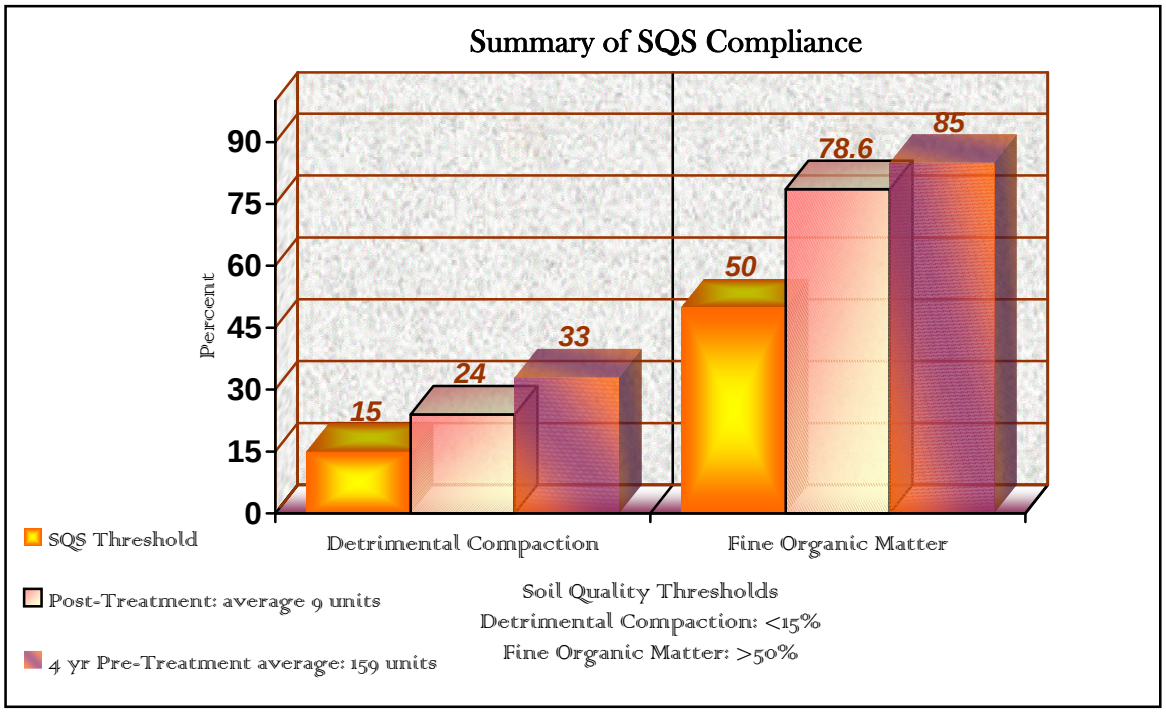
2004 is the first year that post-treatment sampling occurred allowing a comparison of pre-treatment and post-treatment conditions. Nine DFPZ thinning units were resampled post-treatment. Six of the units were at or over threshold for detrimental compaction due to previous activity – legacy compaction. The pre-treatment values ranged from 15 to 33 percent. Post-treatment the values ranged from 20 to 58 percent. These findings are consistent with other soil monitoring studies that have found varying degrees of detrimental compaction occurring from management activities, (Westmoreland 1998, Wayne Johannson 1991, Froelich 1979, T.E. Sullivan 1988).

The other three units occur on coarse-grained granitic materials. They were below threshold pre-treatment (average of 3 percent) and remained so post-treatment (average of 4 percent). The low values for the granitic soils are consistent with findings from the national Long Term Soil

Productivity (LTSP) study developed and managed by Dr. Bob Powers of the Pacific Southwest Range and Experiment Station. The LTSP has found coarse-grained granitic soils are generally not as susceptible to compaction.

Group selection units, pre-treatment data - 10 units (48%) had no detrimental compaction, 5 units (24%) had some level of detrimental compaction (1-15%), and 6 units (29%) exceeded the threshold for detrimental compaction (>15%). The range was 19 to 48 percent.

Thinning units, pre-treatment data - 9 units (45%) had no detrimental compaction, 11 units (55%) had some level of detrimental compaction (1-15%), and no units had detrimental compaction.



Soil Cover: The threshold is for fine organic matter to occupy over 50 percent of an area. Fine organic matter includes plant litter, duff, and woody material less than 3 inches in diameter.

All post-treatment sampled units and all but two of the pre-treatment units met the standard. Two group selection units were below the standard with 48 percent fine organic matter. Recent harvest activity resulted in the short fall on the two group selection units.

***Large woody Material*:** The standard is for 5 logs/acre, at least 20 inches in diameter and 10 feet long representing the range of decomposition classes 1-5.

Thinning units, post-treatment data – 3 units (33%) met the standard. 6 units (67%) had no large down logs, while pre-treatment 4 of these units had met the standard.

Group selection units, pre-treatment data - 3 units (15%) met the standard. 18 units (85%) did not meet the standard, five of those units had some large down wood.

Thinning units, pre-treatment data – 7 units (35%) met the standard.

13 units (65%) did not meet the standard, six of those units had some large down wood.

Threatened and Endangered Species (TES) plants and noxious weeds (Question 7 & 8)**:**

Randomized pools of units from completed projects were used to select the candidate pool. The Biological Evaluations and Botany input were reviewed for each selected project to see that that TES plant and weed recommendations were carried over into the EA for each project. Selected treatment units were assessed whether TES or weeds had been identified in them. When identified units were field checked to gauge the success of implementing the resource management activities as designed. The following is a summary of results from the 2004 TES plants and noxious weeds monitoring:

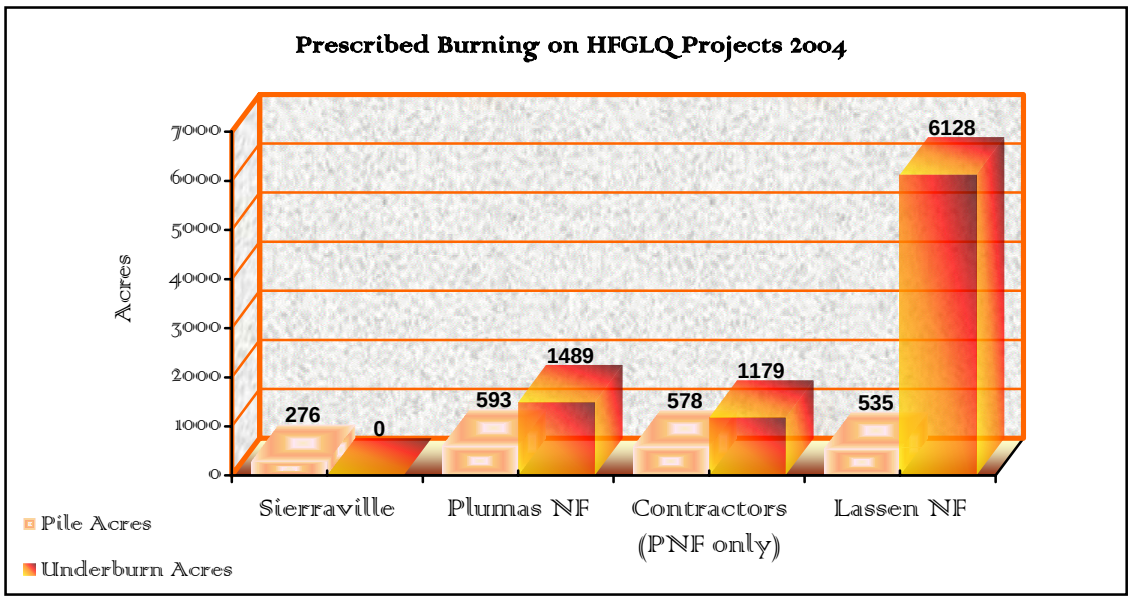
Sensitive Plants: 23 projects and 84 units were assessed. 28 occurrences were identified for field review. 27 occurrences required avoidance. 24 plant occurrences were avoided and 3 were impacted against prescription.

One impaction occurred from hand thinning entering boundary, plant appears unaffected. Another occurred when mastication occurred through a flagged area. Site will be monitored to assess effects of mastication. The third impact was more serious. A site was heavily impacted when no flagging or identification on the control occurred. A road was relocated within the occurrence and mechanical harvest occurred throughout the remainder of the occurrence. Monitoring occurred too late in season to adequately assess extent of impact.

Noxious Weeds: 26 projects and 24 units were assessed. 9 units had occurrences of noxious weeds documented in the project record. One unit identified a past occurrence. All units had proper enforcement of noxious weed policy. Contract administrators maintained copies of equipment cleaning documentation in their contract folders.

Smoke Management (Question 9)**:**

In 2004, 27 projects on the Plumas NF were implemented in accordance with the Forest's Smoke Management Plan (SMP). During 164 days of prescribed burning there was 100% compliance with the SMP and there were no smoke impacts to.or complaints to smoke sensitive areas. No Class I Airsheds were impacted. A total of 10,778 acres were burned, 8,796 acres were underburned and 1982 acres of piles were burned.



Protection of Small Aquatic Habitats (Question 10)**:**

Both presence/absence and disturbance evaluations were conducted on randomly selected units for springs, seeps, or other small aquatic habitats. Disturbance evaluations were conducted by reviewing project maps and developing a pool of 30 randomized units with aquatic features. The units were assessed in the field to determine if identified features were protected. All identified features were protected.

A second group of randomized units (30) was developed from all available units. They were checked to determine whether any of these features, not having been identified in the planning stage, were present, and if so, were they protected during project implementation. No additional features were found.

California Spotted Owl (Questions 11-14 Subsequent to the development of the HFQLG monitoring Plan, the Plumas-Lassen Study was formulated to address the effects of HFQLG implementation on select resources, including effects on California spotted owls and their habitat. The Plumas-Lassen Study is addressing six specific questions related to the effects of HFQLG Project implementation on California spotted owls. Given the broader scope and intensity of the Plumas-Lassen Study questions and associated research effort, these six questions replace questions 12-14 identified in the original HFQLG monitoring plan. California spotted owl research on the Lassen-Plumas Study is being conducted by scientists from the Sierra Nevada Research Center – Pacific Southwest Research Station, Colorado State University, Humboldt State University, and University of California, Davis.

The mitigation in the HFQLG ROD required "At the site-specific project level, defensible fuel profile zones, group selection harvest areas, and individual tree selection harvest areas will be designed and implemented to completely avoid suitable California spotted owl habitat, including nesting habitat and forging habitat". Hence, no project activities have occurred within these habitats. In FY02, intensive survey of owls commenced as part of the proposed Plumas/Lassen Administrative Study. The surveys will be conducted to elicit territorial responses. Follow-up visits will be conducted following all detections to determine status (nonterritorial single, territorial single, pair, reproductive pair) and reproductive success. Territories will be monitored annually to determine occupancy and reproduction. A full description of the Plumas Lassen Study Owl module can be found in Appendix G.

Abundance and Distribution of Forest Carnivore Habitat (Question 15)**:**

In 2001, researchers from the Pacific Southwest Experiment Station (PSW) selected three large landscapes to check for presence or absence of forest carnivores using the track-plate inventory method. Researchers placed 150 track plates in three separate areas, with the goal of determining presence or absence of American pine marten. No marten were detected. PSW researchers were unable to continue the effort in FY02 and collected no additional data. This condition remained static in FY03 and FY04. Consideration is being given for personnel from PSW to conduct this effort.

Landbird Surveys (Question 16):

Landbird monitoring is being completed through a Challenge Cost/Share agreement with Point Reyes Bird Observatory (PRBO). Fourteen Transects have been established on the Almanor Ranger District of the Lassen National Forest to track species diversity over time. Data collection must occur over a period of years before correlations can be made between treatment and bird populations.

The annual monitoring of migratory land birds was completed in August. This year the monitoring was augmented by work completed under the Administrative Study carried out on the Plumas National Forest.

Monitoring has centered on documenting species abundance and richness occurring within various habitat types. These habitat types include coniferous forest, shrub lands, meadow, and riparian hardwood habitats. The 2003 report summarized several key findings that appear to be supported by the 2004 data (the full 2004 report has not yet been completed). The findings include:

- Recognition that this area has a very diverse landbird population.
- Meadows and riparian habitats are highly important habitats. Areas where watershed improvement activities have taken place (such as those completed through HFQLG funding either through watershed improvement funding or as part of a vegetation management program) have lead to increases in species richness and diversity. Willow flycatcher populations, for example, continue to be stable or increasing as compared to a downward trend for the remainder of the Sierra. Support of watershed enhancement (such as aspen restoration) as part of an overall vegetation management program is benefiting a wide range of species.

- Thinning, particularly white fir stands, is proving highly beneficial, as most species prefer more open stands. This appears to be particularly applicable around meadows and other natural openings.

Loss of shrub habitat due to fire exclusion (leading to higher stand densities that decrease the forest shrub component) has adversely affected populations. Treatments such as group selections and treatment of shrub fields will be monitored for impacts to nesting and reproduction.

Current data shows that dense fir forests have few of the habitat characteristics preferred by the majority of migratory landbirds. Further data collection will help to corroborate the theory that thinning dense stands (generating a more open canopy) increases bird richness and diversity.

Effect of Activities on Indicators of Watershed Condition (Question 17)**:**

Monitoring relies on Equivalent Roaded Acre (ERA) methodology of R5. ERA model applies coefficients to land disturbing activities as surrogates to represent the hydrologic effect of a road. Typically values of 12-15% are considered a level of disturbance that represents a threshold of concern and alerts managers to increased risk of cumulative watershed effects. This question focuses on numbers and location of roads with watersheds. Near-stream roads generate more effects and are tracked as a separate category.

Data regarding this question in not available to include at this time.

Trends in Channel Conditions, Riparian Attributes, and Macro-invertebrates in Sub-watersheds with High Concentrations of HFQLG Activities (Question 18 & 19)**:**

Stream Condition Inventory (SCI) data was collected from twenty-three stream reaches on twenty-one streams. Eleven streams were surveyed for baseline data in 2004 prior to project implementation. Three streams were measured post-project to compare condition to pre-HFQLG condition. Six of the twenty-one were replicated reference streams. Two Streams were randomly selected and surveyed twice during the 2004 field season. The purpose of the repeat sampling was to assess the amount of error associated with surveyors and measurement techniques.

The monitoring objective centers on changes to attributes of stream channels over time. A system of reference stream reaches was established in the HFQLG project area to assist in assessing change in channel attributes resulting from natural processes. This information is needed to accurately address changes resulting from management activities. Reference reaches were selected by a team of aquatic specialists from the HFQLG Forests to represent the range of ecological and watershed types across the project area. District aquatic specialists select the streams for project monitoring from watersheds with the highest concentration of HFQLG activities. Selected stream reaches are measured before and after treatment.

Attributes measured are: gradient, entrenchment, shade, maximum and residual pool depths, percent pool tail fines, particle counts, channel bankfull width to depth ratio, bank angle, bank stability, temperature, and large wood. Benthic invertebrates were also collected but lab analysis had not been completed.

Almost all of the reference streams have now been visited at least twice and data regarding their year-to-year variability is now available. Prior to the 2005 sampling, a task group of specialists from the HFQLG Forests will meet to review the current reference stream designations and revise the list as necessary.

Results:

Lower Pine Creek (Eagle Lake RD, Lassen NF) was sampled before and after implementation of an aspen enhancement project adjacent to the sampled stream reach. The aspen stand was harvested in the winter of 2003-04 using a boom-mounted feller-buncher over the snow. Results indicate no increase in any measure of sediment in the channel (particle count, pool tail fines, residual pool depth). Measures of channel morphology remained unchanged from pre project conditions.

Scotts John Creek (Almanor RD, Lassen NF) had several non-system roads and old landings located close to the creek decommissioned during 2001. Areas treated were between 25 and 75 feet of the creek an included about a mile of road and landings totaling about 2 acres in area. Treated areas were ripped and drained with some recontouring. Additionally, road reconstruction (not QLG funded) activities were undertaken in 2002. No fuels or vegetation treatments were conducted in the watershed between pre and post sampling periods (2000 and 2003-04). As in 2003, results do not give a clear picture of trend. As the restoration project was aimed at reducing sediment, those attributes are discussed. Surface fines are a measure of the amount of particles less than 2mm on pool tails. Results for surface fines were higher in 2004 than in either 2000 or 2003. The percentage of fines (particles less than 2 mm) measured by the particle count (taken at riffles rather than pool tails) was lower in 2004 than in previous years. One additional measure of sediment in the stream channel is residual pool depth (maximum pool depth minus pool tail water depth). As sediment is increased in channels, pool depths tend to decrease). Mean residual pool depth was substantially greater (indicating less sediment) in 2003 and 2004 than in 2000.

Overall, the data indicates no change as a result of the restoration actions. Scotts John Creek was sampled in 2003 with similar results and was sampled again in 2004 to confirm these findings. The lack of clear improvement is most likely the result of the continued presence of FS road 26N11, located within 50 feet of the creek for several miles. Continued sediment production from this road is probably masking sediment reductions from other sources. Other non-sediment related measures (shade, W/D, stability, etc.) showed little change between years.

Jones Creek (Almanor RD, Lassen NF) had two near stream landings and approximately a mile of abandoned near stream road rehabilitated in 2000. Areas were ripped, drained and recontoured. These sites were located within 50 feet of the creek. An upstream road (County Road 91423) in poor condition remains untreated, and probably serves to mask any changes resulting from the actions taken in 2000. Measures of sediment in the channel showed almost no differences between 2000 and 2004. Residual pool depth, fines on pool tail surfaces and the percent of the particle count less than 2mm showed minor differences, but trended in different directions. Shade and channel stability increased slightly, but not significantly (t-test, p=.05).

Water Yield and Soil Moisture Characteristics (Question 20)**:**

Water yield is to be modeled at the subwatershed scale. A model has not been developed, but is currently be researched. Soil moisture is being sampled at treatment units within selected subwatersheds. Samples with occur pre-treatment and post-treatment both within and outside of units.

Pre and post treatment soil moisture data has been collected from two subwatersheds. Values within and outside of treatment units show no difference in amount of available water. At both the Poison/Last Chance site and the Prattville site the average available water was the same regardless of whether the site was within a thinned a unit or from a corresponding control. The absolute values were higher in the post-treatment sampling, +3-4% for the Poison/Last Chance site and +8-9% for the Prattville site. This indicates a higher level of soil moisture across the board for the sampling year, without a difference between treatments versus no treatment.

Amphibian Persistence (Question 22)**:**

This question addresses distribution of Forest Service sensitive amphibian species within the project area. Thirty-six sites for long-term monitoring were identified by aquatic biologists from Lassen, Plumas, and Tahoe National Forests as areas of historical site locations, or areas of suitable habitat for foot-hill yellow legged (*Rana boylii*), mountain yellow legged (*Rana muscosa*), and Cascades frogs (*Rana cascadae*).

Eight amphibian species were encountered in the surveys, including all three Forest sensitive frog species. These were located in historical site locations and one previously undocumented location. No sensitive amphibian species were found at 13 surveyed sites. Absence of sensitive species does not appear to be the result of management activities. Of the 12 other unoccupied sites, two were dry at the time of the survey. Four sites were found to have suitable habitat for sensitive frog species. Five sites were found to have poor habitat conditions for sensitive frog species. Bull frogs (*Rana catesbeiana*) have been shown to negatively impact native frog species. They were abundant at the Middle Fork Feather River in Humbug Valley site location.

Trend in Large Fire Frequency (Question 23)**:**
Trend in Severity of Large Fires on Acres Burned (Question 24)**:**

As identified in the Monitoring Plan these two questions can be best answered at least 25 years from the time the Pilot Project has been completed. Using a threshold size of 100 acres, fire occurrences between 1985-2010 and 2011-2036 would be analyzed by comparing weather and suppression resources.

Region 5 began the Landscape Level Fire Monitoring program in 1999.
It objective is to quantify the number of acres burned at different severity levels by fire and vegetation. Two recent fires (Stream and Dow) have been sampled.

Effect of Treatments on Fire Behavior and Suppression (Question 25)**:**

The Stream and Dow fires burned in projects that were designed prior to implementation of the Pilot Project, but the DFPZ designs are similar. The objectives of DFPZs are:

1. Reduce the potential for crown fire and to bring oncoming crown fires from untreated areas to the ground
2. Allow fire suppression personnel a safer location from which to take action against a wildfire.

Dow Fire - occurred on the Eagle Lake District of the Lassen National Forest in 1999. The fire started approximately 200 feet outside an uncompleted DFPZ and burned through both the untreated and treated sections of the DFPZ. It provides a good comparison on the fire behavior outside and within a DFPZ and the resulting fire effects.

Conclusions of Larry Hood, the Incident Commander, District Fuels Officer and Fire Behavior Analyst:

- Fire that burned through the completed DFPZ exhibited lower intensity fire behavior with lower flame lengths and reduced rates of spread. This resulted in significantly lower scorch heights and mortality than surrounding areas.

- The lower intensity fire behavior and fire effects within the completed DFPZ was due to the combination of:
    1. Treatment of surface fuels by prescribed burning to reduce fuel loadings.
    2. Removal of ladder fuels by biomass thinning which increased the live crown base height.

- The partially completed DFPZ did not allow fire suppression personnel a safer location to control the fire because the fire spotted above the DFPZ.

- DFPZ design and width specifications need to take into account the effects of spotting from outside the DFPZ. Even if this DFPZ had been completed, the ¼ mile (1300 feet) width would not have been a sufficient fuelbreak taking into account the fire behavior and spotting distances experienced.

- DFPZs wider than ¼ mile would have reduced the potential for crown fire and reduced the number of acres of high intensity stand replacement fire.

Stream Fire - occurred on the Mt. Hough District of the Plumas National Forest in 2001. Fire spread was predominately associated with medium to long range spotting. Observed spotting distances ranged from 2000 feet to 4000 feet. These spots when established burned back into the main fire while forward spread lofted embers, which created additional spot fires. Intense surface fire, large-scale torching, dependent and independent crown runs were also mechanisms of fire spread.

Conclusions of Sid Beckman, Fire Behavior Analyst:

- The predominate mechanism of fire spread on the Stream fire was moderate to long range spotting. This was perpetuated by the receptive fuelbed comprised of large woody debris with low fuel moistures. Multistoried timber stands also provided adequate ladder fuels that led to large scale torching and eventually dependant and independent crown fire. Strong afternoon slope and canyon winds also influenced fire spread.

- The fire entered treated Jeffery Pine stand and surface intensity decreased and as a result crown scorch diminished. Areas of treated Jeffery Pine to the east, above and below Road 2N803 were severely damaged due to the intensity of the main fire as it entered the stand.

- In the White Fir stand (which had been hand piled & thinned) damage was a result of high intensity crown fire entering the area. Surface fuel treatments did not have any effect on reducing fire spread or stand damage.

- Damage to treated stands within the fire was a result of high intensity crown and surface fire entering them from adjacent untreated stands. DFPZs provided adequate points to stop low to moderate intensity fire. They were inadequate to stop high intensity crown and surface fires that burned into them from adjacent untreated stands. Firebrand production in combination with strong afternoon terrain winds caused mid to long range spotting that exceeded the width of DFPZs.

Prescribed Fires Activities and Air Quality Standards (Question 26)**:**

The objective is to meet provisions of the SMP and air quality standards. The monitoring protocol is to assess adherence to Smoke Management Plan provisions for all burns. Utilize data from Air Quality Management District (AQMD) recorders and/or portable recorders to assess impacts to air quality at receptor sites. In 2004 stationary AQMD monitors did not record any violations of air quality standards associated with any prescribed burns. No portable recorders were set-up in any smoke sensitive areas that had the potential to be impacted, based on previous data recorded from prescribe burn projects and wildfire it is unlikely standards were exceeded. As previously mentioned, all projects were implemented in accordance with their SMP.

Prescribed Fires and Nuisance Complaints in Terms of Air Quality (Question 27)**:**

The objective of this monitoring question is to limit or reduce the number of prescribed burns discontinued due to complaints. The monitoring protocol is to log the number of complaints (date, time, telephone number, address, type of impact, response given, complaint resolution) date and time relayed to AQMD, and track the number of projects discontinued due to complaints about air quality resulting from prescribed burns.
Approximately 10,800 acres in HFQLG projects were burned in 2004 and no complaints were filed. The six Districts that conducted burning in HFQLG projects, reported a total of 166 days of burning. This number of burn days however is overstated, because it was reported as number of day's per/project, and it is common to be burning on a number of different projects on one day.

Response of TES Plant Species Response to Resource Management Activities (Question 28)**:**

This monitoring commences three years after a project has been completed. At this time there are not any projects that have had a sufficient length of time passed after completion for post treatment evaluation.

Elimination or Containment of New and Existing Noxious Weeds (Question 29-31)**:**

This monitoring commences three years after a project has been completed. At this time there are not any projects that have had a sufficient length of time passed after completion for post treatment evaluation.

Environmental Impacts

The HFQLG Pilot Project seeks to improve environmental health with prescribed silviculture treatments and riparian restoration projects. The HFQLG Monitoring Plan provides guidance for identifying and monitoring any adverse environmental impacts caused by HFQLG projects. Section (j)(1)(G) of the HFQLG Act requires:

(G) A Description of any adverse environmental impacts from the pilot project.

Adverse Environmental Impacts

Cumulatively, 57 of the 159 units (33 percent) sampled for existing condition (pre-treatment) have detrimental legacy compaction. Pilot Project Forests define detrimental compaction as when 15 percent or more of a treatment area has had soil porosity decreased more than 10 percent over natural conditions.

The HFQLG FEIS (Environmental Consequences, p. 3-11,14, and 15) identified detrimental compaction as an expected outcome of implementing the Pilot Project. "One primary impact of all alternatives would be a change in the existing density of permanent and temporary roads, skid trails, landings … due to heavy equipment. This increase in area treated by heavy equipment could increase cumulative watershed effects, detrimental soil disturbance such as compaction erosion, diminish long-term soil productivity and infiltration capacity..."

The Annual Report to Congress 2002 p. 28 noted, "Without mitigation activity, a high percentage of treatment units can be expected to exceed the detrimental compaction threshold."

Initial post treatment monitoring has occurred and early results are consistent with expectations, i.e., some units have elevated levels detrimental compaction. Nine units were resampled in 2004, six of the samples were over threshold in the pre-treatment sampling and all six were over threshold post-treatment.

Two of the post-treatment units sampled this year (Red Clover DFPZ units 49 and 54) had been subsoiled by the contractor as a mitigation. Subsoiling describes a procedure where a specially designed and manufactured implement (shanks with wings) is attached to the back of a dozer and pulled through the soil to loosen and fracture compacted soil. The method employed did not make a substantive difference. On unit 49 the pre-treatment value was 33 percent and 25 percent post-treatment, on the other the pre-treatment value was 33 percent and 42 percent post-treatment. Possible reason for lack of success would be with either/both design or technique. Observation of the subsoiling after the fact found where the shanks moved through the soil a partial loosening occurred, however the majority of skid trails were essentially undisturbed.

Detrimental soil compaction is a preliminary monitoring finding and is currently being reviewed by the Lassen, Tahoe and Plumas Forest Supervisors. If the 2005 monitoring is consistent with the previous finding in 2004, an adaptive management strategy will be developed.

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