

Social and Economic Monitoring for the Lakeview Stewardship Collaborative Forest Landscape Restoration Project

Fiscal Years 2012 and 2013

ERIC M. WHITE, EMILY JANE DAVIS, AND CASSANDRA MOSELEY
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About the authors

Eric M. White is a faculty research associate in the Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon

Emily Jane Davis is assistant professor and extension specialist in the College of Forestry, Oregon State University

Cassandra Moseley is director of the Ecosystem Workforce Program and the Institute for a Sustainable Environment, University of Oregon

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Maps by Nathan Mosurinjohn, Ecosystem Workforce Program.

Photos by Emily Jane Davis, Oregon State University

For more information

Ecosystem Workforce Program
Institute for a Sustainable Environment
5247 University of Oregon
Eugene OR 97403-5247
541-346-4545
ewp@uoregon.edu
ewp.uoregon.edu



Executive summary

The Fremont-Winema National Forest and the Lakeview Stewardship Group were awarded funding under the Collaborative Forest Landscape Restoration (CFLR) Program in 2012 for the 662,289 acre Lakeview Stewardship Project. The CFLR Program, administered by the U.S. Forest Service, seeks to increase restoration activities to improve the ecological conditions of forested landscapes while contributing to the social and economic well-being of communities located around national forests. The outcomes from CFLR project activities are monitored both through a standardized reporting framework established by the Forest Service and a customized, collaboratively-developed multiparty monitoring program developed for each project by local partners. The multiparty monitoring program developed for the Lakeview Stewardship Project examines ecological, social, and economic effects of the CFLR project. This working paper comprises the social and economic components of the multiparty monitoring for the Lakeview Stewardship Project for fiscal years 2012 and 2013. In addition to examining the outcomes of the CFLR project, we also completed

a baseline assessment of patterns of restoration contracting and timber sales on the Lakeview and Paisley ranger districts in recent years.

Baseline conditions

In the years 2007 to 2011, prior to the CFLR project, the Lakeview and Paisley ranger districts spent a total of about \$5 million on service contracts for restoration. Much of that spending happened in 2009 and 2010 with American Recovery and Reinvestment Act (ARRA) funding. Labor-intensive activities, like tree planting and hand thinning, accounted for more than 55% of the value of contracted restoration activity during the period. Non-local businesses did most of that restoration work and, overall, those non-local businesses captured 75% of the value of restoration contracts during the period. However, local contractors were successful in capturing restoration contracts for some equipment-intensive and technical restoration work. In 2007, 2008, and 2011, Forest Service contracts with local businesses for restoration activities on the Lakeview and Paisley ranger districts supported about 1 private sector job and about \$27,000 in

labor income in Lake County each year. In 2009 and 2010—ARRA years—about 6 jobs were supported annually with about \$175,000 in labor income as result of contracts with local businesses for restoration.

The number of companies that have contracted with the Forest Service for restoration work can give some insight into the capacity of the local contractor base. In the 10 years from 2004 to 2013, 13 businesses in Lake County and Bly, Oregon had one or more contracts with the Forest Service, in Lake County and elsewhere, to complete work in support of forest and watershed restoration. For the most part, those businesses did not travel outside Lake County to do restoration work for the Forest Service. Although a number of businesses participate in contracting, just four businesses accounted for 79% of the contract value for restoration work between 2004 and 2013. Local businesses primarily completed technical work, such as invasive weed spraying and surveys and assessments, and equipment work, such as mechanical thinning, grapple piling, and road work. An additional 43 businesses in Lake County and Bly, Oregon had one or more contracts with the Forest Service for fire suppression or support. There was little overlap between companies that had contracts for restoration work and those that had contracts for fire suppression and fire support.

Effects of CFLR project

In the first two years of the Lakeview Stewardship CFLR project (fiscal years 2012 and 2013), more than 23,000 Forest Service acres were treated in one or more CFLR activities. That work was accomplished with in-house Forest Service crews, through service

contracts with private businesses, and through agreements and partnerships with outside organizations. In-house crews were often used for prescribed fire activities. Service contracts were used for work that required specialized equipment or skills or for work that covered large areas. Work most often completed via agreements was relatively smaller in scope, did not require specialized equipment, or was focused on monitoring. For example, the Fremont-Winema NF used an agreement with the Lake County Resources Initiative to help fund the Chewaucan Biophysical Monitoring Team to complete monitoring to inform the CFLR Project efforts.

The Lakeview Stewardship CFLR project spent about \$3.7 million on service contracts with private businesses for restoration work in the two-year period of fiscal years 2012 and 2013. The majority of contracted work was for labor-intensive activities like hand thinning, tree planting, and hand piling. That type of work is typically completed by non-local businesses and, consistent with that, non-local businesses received the majority of the contracted value for restoration work in the first two years of the CFLR project. Local businesses received CFLR contracts for some equipment-intensive and technical work. Those contracts with local businesses supported 5 private-sector jobs lasting one year and provided \$140,000 in labor income. Contracts with non-local businesses for CFLR restoration work also created some economic activity as non-local businesses purchased some supplies and services locally and workers spent some income in the local area. Contracts with non-local businesses for CFLR labor-intensive projects supported an additional 7 private sector jobs and \$121,000 more in labor income in Lake County in fiscal years 2012 and 2013.



The Collaborative Forest Landscape Restoration (CFLR) Program supports “science-based ecosystem restoration of forested landscapes,” and also seeks to encourage economic and social sustainability, leverage local resources with national and private resources, and benefit local rural economies through the utilization of forest restoration by products.¹ In 2012, the Fremont-Winema National Forest and the Lakeview Stewardship Group were awarded funding under this program for the 662,289 acre Lakeview Stewardship Project.

Project monitoring is an integral part of the CFLR Program. Local Forest Service personnel complete annual standardized achievement reports.² In addition, collaborative groups associated with CFLR projects are directed to develop their own multiparty biophysical and social-economic monitoring. Multiparty monitoring is a collaborative process whereby stakeholders share in the development of questions,

methods, and often data collection, and actively use results to adapt management and build trust.

We assisted the Lakeview Stewardship Group with development of social-economic components of their multiparty monitoring plan at their request, then conducted a baseline assessment as well as monitoring for FY 2012-2013. This report has two components:

- A background analysis (see pages 8–12) describes the social and economic conditions in Lake County and assesses the capacity of the local restoration contractor workforce. This analysis provides context for considering the economic outcomes from the CFLR project and gives a picture of the scope and scale of local contractor capacity.
- A FY 2012-2013 impacts report (see pages 13–23) discusses the social and economic outcomes of CFLR projects implemented in that time period and compares it to baseline conditions from 2007 to 2011.

The Lakeview Stewardship Group and context

Community leaders, Fremont National Forest stakeholders, and other partners formed the Lakeview Stewardship Group (LSG) in 1998 to evaluate and support reauthorization of the established Lakeview Federal Sustained Yield Unit on the Lakeview and Paisley ranger districts in Lake County. The Unit was reauthorized in 2001 with a new focus on forest restoration and wildfire risk reduction. The LSG further developed their interests for its management in 2005 through a collaborative long-range management strategy, which was updated in 2010 and 2011.³

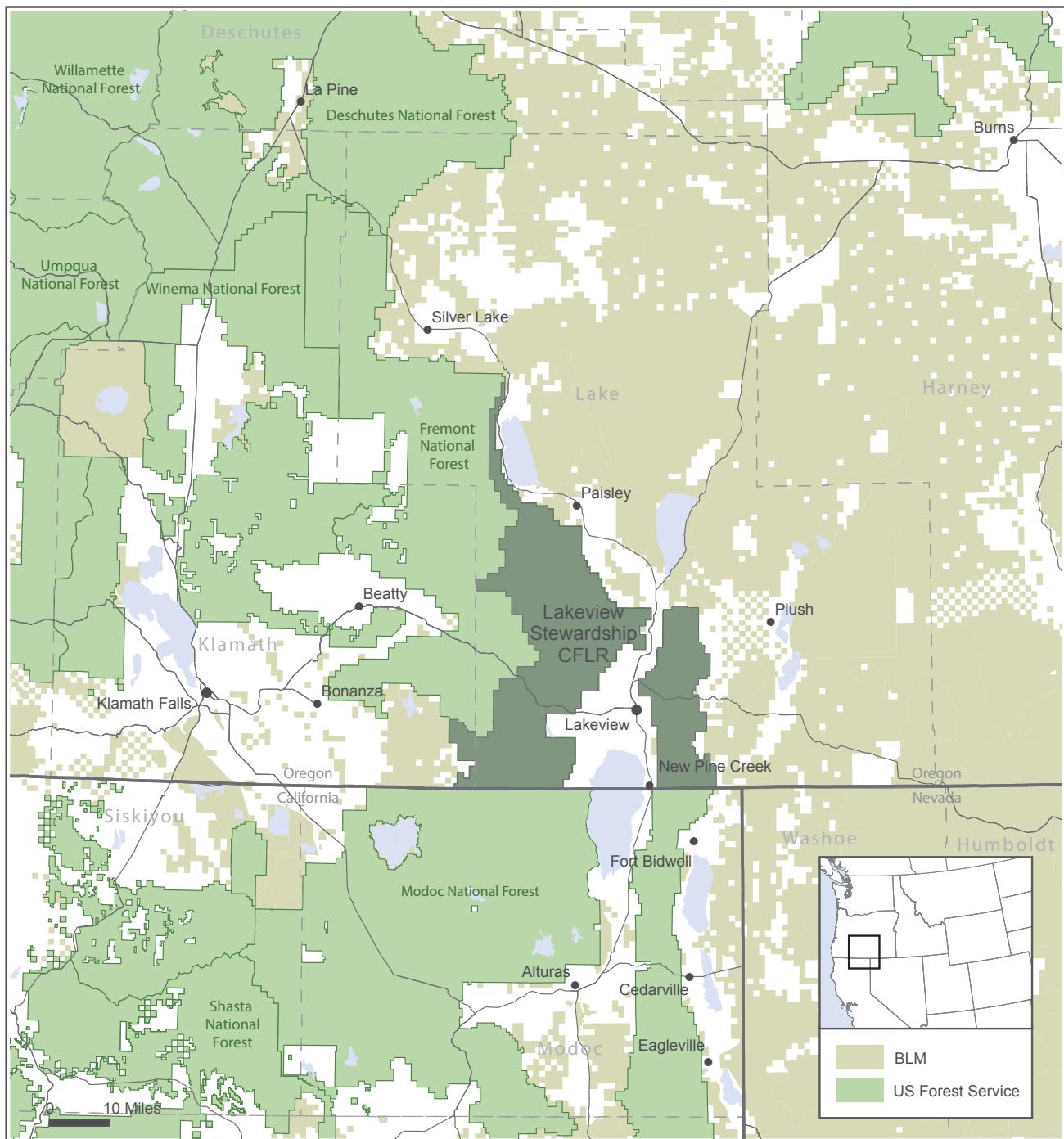
In 2011, the LSG and Forest Service partnered to apply for a CFLR project (see Figure 1, page 5). Through the use of collaboratively-selected, multi-partner efforts, the Lakeview CFLR project was proposed to result in “(a) healthy, diverse, and resilient forest ecosystem that can accommodate human and natural disturbances (and create) opportunities for people to realize their material, spiritual, and recreational values and relationships with the forest.”⁴ The Barry Point Fire of 2012 burned through a number of stands that were included in CFLR workplans for the initial years of the CFLR project. The original workplan was revised

to exclude two project areas originally planned to be treated in FYs 2013 and 2014. Tree planting activities in the burned areas of the CFLR project were added to the CFLR workplan with agreement between the Forest Service and the LSG.

A subset of members of the LSG and several university staff and Forest Service managers, and researchers formed a Science Team to guide development and implementation of the CFLR Project’s multiparty monitoring. The Science Team led a workshop in July 2012 and identified approximately 65 biophysical and social-economic questions of most interest to the group. To aid with development of social and economic questions in particular, we provided a comprehensive list of questions and indicators from other known monitoring guides,⁵ and also drew from a previous study of Lake County’s restoration contracting trends and capacity.⁶ The team then applied a set of criteria to filter all the questions to those of highest priority and develop a final monitoring plan that was approved by the LSG in February 2013.⁷ This resulted in four social-economic questions addressed in this working paper (see Table 1, below).

Table 1 Social and economic monitoring questions and methods for the Lakeview Stewardship CFLR Project multiparty monitoring plan

Question	Indicators
What are the overall economic impacts of the CFLR projects?	Job and labor income creation and retention; direct/indirect/induced effects.
How much and what kinds of CFLR work are captured locally?	Project dollars (timber sales, contracts, agreements, etc.) captured by local businesses; types of work captured and not captured. Jobs and income associated with local companies. The importance of CFLR in the work of local businesses.
What are the costs, local capture, and treatment outcomes of different project implementation mechanisms?	Type of work completed through different implementation mechanisms; number of acres treated; amount of stewardship receipts reinvested in restoration; local capture of work implemented with different mechanisms. Qualitative responses from Forest Service about the costs and benefits of different mechanisms and why they were used. Qualitative responses from contractors that are very satisfied or satisfied with how CFLR projects implemented.
What are the total and matching funds in CFLR?	Use of direct CFLR funds; matching funds provided by the agency; contributed funds by partner organizations; leveraged funds.

Figure 1 Lakeview Stewardship CFLR project area

Methods

Monitoring of forest management activities provides an opportunity to determine whether the desired outcomes are being achieved and to identify opportunities to adapt implementation approaches to improve outcomes. This multiparty monitoring report attempts to assess how Lakeview Stewardship CFLR activities are influencing social and economic conditions in Lake County, Oregon. We focus on understanding the local social economic context in Lake County, describing the capacity of the local workforce to do restoration work, and measuring the social and economic outcomes from CFLR implementation in Lake County.

Data sources and analysis

We used a variety of data and approaches in this analysis. State and federal data were used to describe local social and economic conditions and determine average wages in the study area. Federal records on service contracts (Federal Procurement Data System (FPDS)) and timber sales (Timber Information Management System (TIMS)) were used to quantify the values of Forest Service restoration service contracts and timber sales awarded to businesses, where contract recipients and timber sale purchasers do work, and patterns in contracts and timber sales over time. Restoration work includes activities such as tree thinning using machines or hand crews, piling of cut small diameter material, tree planting, invasive weed control, biological assessments, replacement of culverts, road repair, and other work in support of watershed restoration. We used the economic model IMPLAN[®] and a customized approach to simulate how restoration contractors spend money in local communities to explore how the economy of Lake County is influenced by Forest Service restoration contracting. For the purpose of this study, we assumed contractors whose

businesses were located in Lake County, Oregon or the town of Bly, Oregon were local contractors. The economic impact area for this study was all of Lake County, Oregon. This study does not report the economic impacts from harvesting or processing timber removed from the Lakeview CFLR project area.

In addition to reviewing agency records, we also conducted interviews with local Forest Service personnel and local operator Collins Pine. Those interviews helped us gain insight into agency and business operations and provide context for better understand patterns of contracting, local and non-local contractor capacity, and the role of partners and other cooperators.

Local contractor capacity

From Forest Service records we identified all local contractors who did forest management contract work for any Forest Service office between 2004 and 2013. For each identified business, we gathered all the contracts those businesses had during that period and characterized those contracts by worktype, work location, and contract amount. For Lakeview Stewardship local area (Lake County, Oregon and Bly, Oregon), we described the number of local contractors, the types of work local contractors do for the Forest Service, and where they do that work. Additionally, we used TIMS data to identify Lake County businesses that Forest Service timber between 2009 and 2011. Timber purchasers were identified as being located in Lake County based on their business address. Collins Pine has business headquarters outside of Lake County but they were included as a local business because they own the primary mill within Lake County and are the recipient of timber harvested within the Lakeview Sustained Yield Unit.

Baseline assessment

We compared economic outcomes and local capture of CFLR restoration contracts to conditions in the baseline period 2007 to 2011. We used a baseline to help assess whether the conditions during the first two years of the CFLR project differed from previous conditions.

We used FPDS data to identify contracts with private businesses for Forest Service restoration work in Lake County during the baseline period. We characterized the worktype of the contracts using the Product Service Code for the work being performed and the description of the work, as recorded in the contract record. The information on the vendor address was used to identify whether the business was in the CFLR local area.



Background: social and economic context of the Lake County area

The LSG wished to track social and economic conditions in the Lakeview Stewardship CFLR area over the course of the project to provide context. Social and economic indicators such as the student dropout rate, the numbers of young people in a community, and the unemployment rate are a reflection of broader conditions in rural places in Oregon and the state and national economy. Although the CFLR project may aid in improving some social and economic conditions, the CFLR project itself cannot overcome the effects of the economy and changing rural conditions. However, understanding these conditions provides a useful background for considering social and economic outcomes from the CFLR project.

The population of Lake County has economic and social conditions that differ in several ways from the statewide averages (see Table 2, below). Lake County has an older population, higher unemployment, and a greater percentage of residents in poverty than statewide averages. But dropout rates in

Lake County schools are lower than the statewide average and the school district has experienced a slight increase in enrollment between the 2012/2013 to 2013/2014 academic years that is higher than the statewide average. The share of students eligible for free and reduced lunch is lower (2013/2014 school year) than statewide averages. Average household income in the county is about \$13,000 less than the statewide average and 854 families in the County receive SNAP benefits.

State and federal government, wood products manufacturing, and retail trade account for the majority of employment in Lake County (see Table 3 and Figure 2, page 9). Those employment patterns are generally consistent with patterns of employment found in other rural counties in Oregon. However, relative to statewide patterns, Lake County has greater reliance on employment in government, wood products manufacturing, and animal and crop production and less reliance on employment in financial and professional services.

Table 2 Comparison of key social and economic characteristics

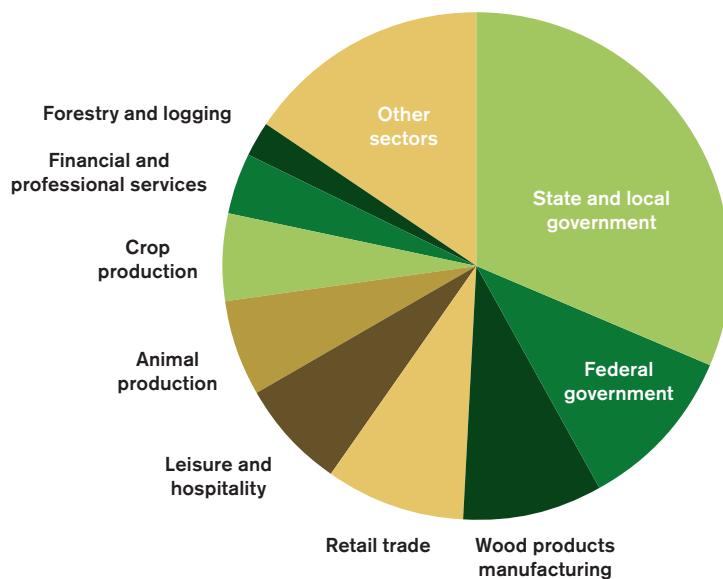
Characteristics	Lake County	Oregon
Median age (2007-2011)	46.8	38.2
School enrollment (change from previous year—2012/2013 to 2013/2014)	+1.2%	+0.6%
Dropout rate (2012/2013)	2.3%	4.0%
Percent of students eligible for free and reduced lunch (2013/2014)	51.8%	53.7%
Median household income (August 2014)	\$36,583	\$49,850
Unemployment rate (August 2014)	9.5%	7.2%
Percent of population in poverty (2007-2011)	18.7%	14.8%
Families receiving SNAP benefits (2013)	854	44,618

Sources: Oregon Department of Human Services, Oregon Department of Education, and Oregon Rural Explorer

Table 3 Top employment sectors in Lake County, 2013

Economic sector	Sector employment	Percent of Lake County employment	Percent of employment in Oregon
State and local government	738	32%	14%
Federal government	242	10%	2%
Wood products manufacturing	211	9%	1%
Retail trade	204	9%	11%
Leisure and hospitality	164	7%	10%
Animal production	140	6%	<1%
Crop production	134	6%	2%
Financial and professional services	92	4%	17%
Forestry and logging	<52	<2%	1%

Source: State of Oregon Employment Department

Figure 2 Employment in key economic sectors in Lake County, 2013

Background: Local contractor capacity

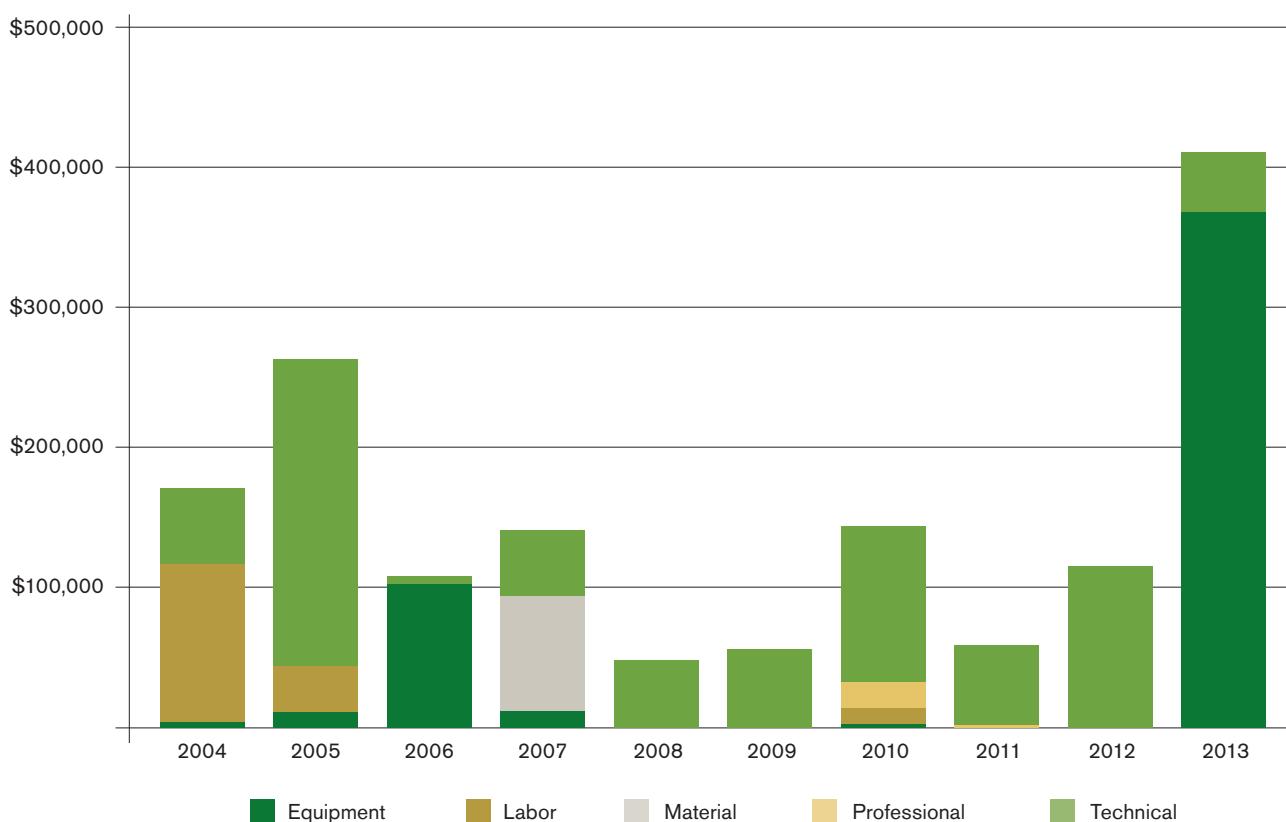
Forest and watershed restoration

In the 10 years from 2004 to 2013, 13 businesses in Lake County and Bly, Oregon have had one or more contracts with the Forest Service to do forest and watershed restoration. In any given year, about 4 local businesses have an active contract with the Forest Service for restoration work. The average number of businesses each year with active contracts has remained fairly steady over time.

During the 2004 to 2013 period, local businesses had restoration service contracts with the Forest Service worth about \$1.5 million. The value and

worktype of contracts obtained by local businesses for Forest Service restoration work has remained fairly steady over time (see Figure 3, below). On average, in any given year, local businesses had contracts worth, in total, about \$75,000. An increase in contract value in 2013 was caused by a single contract for equipment-intensive work within Lake County. Early in the last decade, local businesses did complete some labor intensive restoration work for the Forest Service. In recent years, however, local businesses have not captured labor-intensive restoration work for the Forest Service in Lake County or elsewhere.

Figure 3 Contract value and worktype for local businesses having contracts for Forest Service restoration in Lake County and elsewhere, 2004–13



Source: Federal Procurement Data System records

Although a number of restoration contractors in Lake County have worked with the Forest Service, most of the value from restoration contract work has accrued to a handful of local businesses. Two local businesses doing technical and equipment-intensive work received 56% of the contracted value for restoration work during the 2004 to 2013 period. Just four businesses accounted for 79% of the restoration work value during the period.

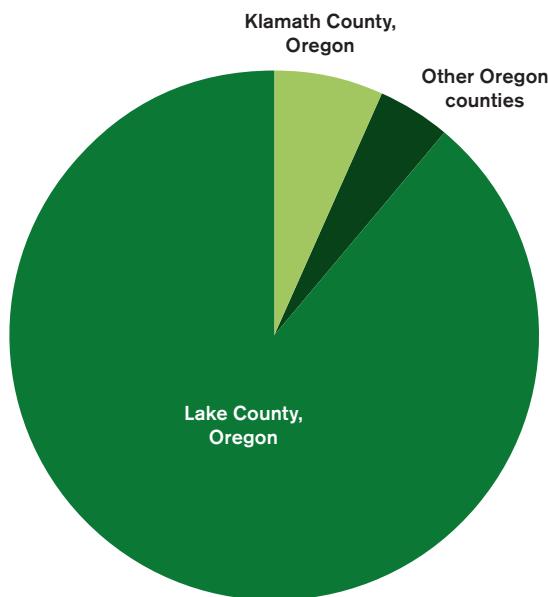
Local businesses doing restoration work for the Forest Service work almost exclusively in Lake County (see Figure 4, right). When traveling outside of Lake County, local businesses have worked in Klamath County (road work and weed spraying) and in Tillamook County (tree thinning). For the most part, local businesses have not been successful in securing restoration contract work outside Lake County.

Timber harvesting

Operators who are purchasing, or completing, timber harvests on Forest Service lands are also part of the local contractor base. Tom Harmon Logging and Collins Pine have purchased timber sales from the Forest Service in recent years. Tom Harmon Logging purchased Forest Service timber only from the Fremont-Winema NF during the period 2009 to 2011. Over the same period, Collins Pine purchased timber from both the Fremont-Winema NF and the Lassen NF in California.

Collins Pine has purchased the bulk of the timber sales offered on the Lakeview and Paisley ranger districts and all of timber sales within the Lakeview Sustained Yield Unit—consistent with the terms of the Unit—between 2009 and 2011 (see Table 4, page 12). Collins Pine relies mostly on Lake County and Bly, OR contractors to complete their Forest Service timber harvesting. A timber sale associated with the Ruby Pipeline installation in 2010 accounted for about half of the timber value on the Paisley and Lakeview ranger districts during the 2009 to 2011 period. Local companies completed harvesting activities for the Ruby Pipeline sale and the processing of harvested timber.

Figure 4 Value of Forest Service restoration service contracts by project location for local businesses completing restoration contracting



Fire suppression

In addition to those businesses doing restoration work on Forest Service lands, an additional group of local businesses complete fire suppression and support services for the Forest Service. Between 2004 and 2013, 43 businesses in Lake County and Bly, Oregon had one or more contracts with the Forest Service for fire suppression or support. Many contracts are established in preparation for fire season and some of those are never obligated funding because of lack of fire suppression need. Although 43 local businesses had contracts for fire suppression or fire support, just 13 local businesses actually received funds under those contracts. There was little to no overlap between companies that had contracts for restoration work and those with contracts for fire suppression and fire support.

Local businesses providing helicopter services and food catering received the greatest contract values during the 2004 to 2013 period. Other local businesses provide fire engines, water tenders, and heavy equipment for fire suppression. Because of how fire contracts are recorded in Forest Service contract databases, it is hard to determine specifically where fire suppression and fire support activities are performed. However, relative to restoration contractors in Lake County, fire suppression contractors in Lake County were much more likely

to have Forest Service contracts for work to be performed outside the local area.

The total value of fire-related contracts between 2004 and 2013 was \$44.8 million. However, two businesses accounted for \$44.7 million of that contracted amount. Excluding those businesses with the greatest contract values, the average local businesses receiving funds for fire suppression or support had fire contracts worth about \$75,000 during the 2004 to 2013 period.

Table 4 Timber sales on the Paisley and Lakeview ranger districts purchased by Lake County buyers, 2009–11

Year	Name	Purchaser	Purchaser location	Sale value
2009	Launch SYRS task order	Collins Pine	Lakeview	\$17,083
2009	Dent North SYRS	Collins Pine	Lakeview	\$21,277
2010	Stack SYRS task order	Collins Pine	Lakeview	\$40,945
2010	Dent South SYRS	Collins Pine	Lakeview	\$14,994
2010	High Salvage	Tom Harmon Logging	Lakeview	\$1,085
2010	Rip Salvage	Tom Harmon Logging	Lakeview	\$48,056
2010	Ruby Pipeline	Ruby Pipeline	Colorado	\$571,567
2011	LA Stewardship	Collins Pine	Lakeview	\$195,972
2011	LA SYRS task order	Collins Pine	Lakeview	\$90,317

Source: USDA FS Timber Information Management System

CFLR project impacts, FY 2012–13

What are the overall economic impacts of the CFLR projects?

We used a multi-step process to estimate the economic impact in Lake County of restoration service contracts for CFLR restoration work. We first identified the contract values and types of work (e.g., thinning, planting, invasive weed spraying, road work, culvert replacement, etc.) that the Forest Service, using CFLR funds, has contracted with private businesses based on records in the Federal Procurement Data System (FPDS). Next, for each worktype, we estimated how much the business had to spend on salaries for workers, on supplies like fuel, hand tools, tires, metal, wood, and on services like accounting, contract review, and banking. We then input those business expenditures into an economic model developed in IMPLAN specifically for the Lake County economy. Output from the economic model was used to estimate the number of jobs and income supported by CFLR contracting activity. The analysis includes economic activity associated with both the original money awarded to the business as well as all the multiplier activity created in the local economy. We considered

both contracts with local and non-local businesses. For contracts with non-local businesses, we only counted a portion of their work as having economic impact within Lake County.

Service contracts with local businesses

Forest Service CFLR contracts with local businesses were primarily for technical services such as weed abatement and equipment-intensive projects like road work (see later analysis on Page 17). For the two-year period in FY 12 and 13, CFLR contracting with local businesses supported 5 private-sector jobs lasting one year and provided \$140,000 in labor income (see Table 5, below). Jobs estimates are in terms of year-long jobs. In many cases, jobs to complete restoration work will last less than one year. Jobs that last less than 1 year are combined to develop the year-long job figure. That is, two jobs that last 6 months each that are created from this contracting activity are counted as 1 year-long job. The number of people employed to work on CFLR projects at any one point during the year may likely have been more than five people.

Table 5 Total Lake County private sector jobs and income from the first two years of CFLR Project service contracting (FY 2012–13) with Lake County businesses

Economic effects	Total
Direct jobs from completing work	2.0
Direct income from completing work	\$70,000
Secondary jobs from suppliers, retailers, and service providers	3.0
Secondary income from suppliers, retailers, and service providers	\$70,000
Total jobs	5.0
Total income	\$140,000

Sources: IMPLAN analysis of service contracts in the Federal Procurement Data System

Two of the annual jobs supported by CFLR contracting were associated directly with forest and watershed restoration work. The other 3 jobs supported by CFLR contracting were in Lake County and were associated with the secondary effects of CFLR contracting. Those secondary jobs were associated with suppliers, retail establishments, grocery stores, service providers like banks and accountants, and other general sectors of the economy.

Service contracts for CFLR projects with nonlocal businesses

In traditional analyses of Forest Service contracting for CFLR work, contracts with businesses from outside the local area are assumed to generate no local economic activity. That approach assumes that money spent with non-local businesses is fully lost to the local economy. This is likely not accurate because non-local contractors will probably buy some supplies—such as fuel and some materials—as well as some services—such as equipment repair—in the local project area. Additionally, employees of non-local businesses who spend time in the project area during the course of their work will likely spend some of their income in the local area for things like food, entertainment, and retail goods. Although purchases in Lake County by non-local businesses and their non-local employees would not likely match the impacts resulting from a contract with a local business, there would be some economic activity generated in Lake County when non-local businesses do restoration.

Contracts with non-local businesses for CFLR activities are most commonly for labor-intensive work. These activities are things like tree planting, hand thinning, and hand piling. A labor-intensive business could be expected to make local purchases for things like fuel and equipment repair. Assuming that non-local businesses make small purchases in Lake County and employees spend some money locally (and using those assumptions in the economic model), contracts with non-local businesses for CFLR labor-intensive projects supported about 7 private sector jobs and \$121,000 in labor income in Lake County. The jobs supported by contracts with non-local businesses are associated only with secondary effects in the local economy. That is, contracts with non-local businesses support businesses in Lake County such as equipment supply and repair, retail stores selling fuel and goods, and restaurants and grocery stores.

Combined economic impacts in Lake County from local and non-local CFLR service contracting

In total, contracting for CFLR activities with local and non-local businesses in FY 12 and 13 supported at least 12 private sector jobs and \$260,000 in labor income in Lake County (see Table 6, below). Because local businesses are assumed to hire local workers (with high pay compared to workers in other types of jobs) to do the work, contracts with local businesses yield more labor income per job.

Table 6 Lake County private sector jobs and income from the first two years of CFLR Project service contracting

Economic effects	Total
Direct jobs from completing work	2.0
Direct income from completing work	\$70,000
Secondary jobs from suppliers, retailers, and service providers	10.0
Secondary income from suppliers, retailers, and service providers	\$191,000
Total jobs	12.0
Total income	\$261,000

Sources: IMPLAN analysis of service contracts in the Federal Procurement Data System

CFLR comparison to the 2007 to 2011 baseline

We used FPDS data and the economic model IMPLAN to characterize restoration contracting work in Lake County and to estimate the local economic impact of that work for the period 2007 to 2011. The Lakeview and Paisley ranger districts entered into contracts with local businesses worth about \$50,000 per year in 2007, 2008, and 2011 and about \$500,000 per year in the ARRA years of 2009 and 2010 (see Table 7, below). In 2007, 2008, and 2011, Forest Service contracts with local businesses for restoration activities on the Lakeview and Paisley ranger districts supported about 1 annual job and about \$27,000 in labor income—mostly for technical services—in Lake County (see Table 7, below). In the ARRA years, about 6 jobs were supported annually with about \$175,000 in labor income each year in Lake County.

Excluding the ARRA years of 2009 and 2010, the economic impacts in Lake County from restoration service contract work were greater in years 1 and 2 of the CFLR project than in previous years. The local economic effects from CFLR work are even greater when one also considers the spending in Lake County by non-local contractors awarded CFLR restoration contracts.

Economic impact from the Treatment for Restoration Economic Analysis Tool (TREAT)

The Forest Service uses the TREAT model to estimate the economic impact of CFLR activities in the

Forest Service annual reports on the CFLR project. We reviewed the previous TREAT models used for the Lakeview Stewardship CFLR annual reporting, in the course of developing the economic impact estimates shown above, and identified recommendations for future analyses.

Previous TREAT analyses for the CFLR project have assumed:

- 10% or less of contracted funds went to businesses in Lake County,
- work contracted with local contractors was primarily for hand thinning, piling and burning, and roads and trails work,
- no commercial products were generated from activities paid for with CFLR funds,
- commercial products generated from activities associated with the overall project but paid for with non-CFLR funds were processed by sawmills.

Reports from TREAT analyses indicate that contracts with local businesses to complete CLFR projects supported about 27 jobs, each lasting one year, during the two-year period for FY 12 and 13 (see Table 8, page 16). In this monitoring report, we have developed a lower job estimate of 5 jobs, each lasting one year, supported by CFLR contracting with local businesses in FY 12 and 13 (see Table 5, page 13).

Table 7 Estimated jobs and income in Lake County from restoration contracting with locally-based businesses, 2007–2011

Lake County economic effects	2007	2008	2009	2010	2011
Value of service contracts with local businesses	\$58,418	\$47,893	\$520,489	\$501,336	\$59,377
Resulting annual jobs from contracts with local businesses	1	1	6	6	1
Resulting labor income from contracts with local businesses	\$26,888	\$24,162	\$173,915	\$179,501	\$29,939

Source: Analysis using IMPLAN and contracting figures from the Federal Procurement Data System

There are three key points to consider when interpreting previous estimates from TREAT. First, jobs reported in TREAT analyses are only from work contracted with Lake County contractors; no non-local contractors or Forest Service employment is included in the TREAT estimate. Second, the assumed percentage of funds spent on local contractors (about 10%) appears consistent with Forest Service contracting records. And third, the assumption in the TREAT analysis of the amount of work contracted locally that is hand thinning, piling, and burning is likely overestimated. The type of work actually contracted locally for the CFLR project likely has job effects that are about 60% lower than what was estimated from the TREAT analyses.

Based in part on this monitoring work, the TREAT model is currently being revised by Forest Service economists to better measure the economic impact of restoration. Data provided by the Ecosystem Workforce Program, and tested in this analysis, is being used in that revision. The revised TREAT model should yield more accurate estimates of jobs associated with CFLR work.

How much and what kinds of CFLR project work are captured locally?

We reviewed the service contracts for forest and watershed restoration activities funded by CFLR and recorded in FPDS. We identified the businesses awarded those contracts and classified them as local businesses if they were located in Lake County, Oregon or Bly, Oregon. All other businesses were classified as non-local. Each contract was classified into a work type based on the amount of labor, equipment, supplies, and services needed to complete the restoration work. Restoration work is grouped into five worktypes for this analysis: equipment-intensive, labor-intensive, material-intensive, professional services, and technical services.

For CFLR contracts in fiscal years 12 and 13, local contractors have been successful in capturing equipment intensive work and most technical work (see Table 9, page 17). Thus far, all labor intensive work has been contracted with non-local businesses. The observed pattern of local capture by work-type for CFLR activities is generally consistent with the pattern typically found for restoration activities on other national forests in eastern Oregon.

Table 8 Jobs supported in Lake County from CFLR efforts contracted or completed by partners as estimated from the Forest Service Treatments for Restoration Economic Analysis Tool, FY2012 and FY2013

	FY12	FY13
CFLR funds only		
Commercial forest product processing	0	0
In-woods restoration work	18.0	9.3
Total	18.0	9.3

Jobs reported do not include Forest Service employment

Source: Lakeview Stewardship CFLR reports

Table 9 Local capture and worktype for service contracting with CFLR funds, FY2012 and FY2013

Contracted worktype	Contract value		Percentage	
	Non-local	Local	Non-local	Local
Equipment (e.g., mechanical thinning, grapple piling)	\$257,790	\$367,932	41%	59%
Labor (e.g., tree planting, hand thinning)	\$3,050,397	\$0	100%	0%
Material (e.g., culvert replacement, fencing)	\$0	\$0	NA	NA
Professional (e.g., engineering, design)	\$0	\$0	NA	NA
Technical (e.g., invasive weed treatment, plant surveys)	\$6,768	\$49,141	12%	88%
Total	\$3,314,955	\$417,073	89%	11%

Source: Federal Procurement Data System records and Lakeview Stewardship CFLR annual reports

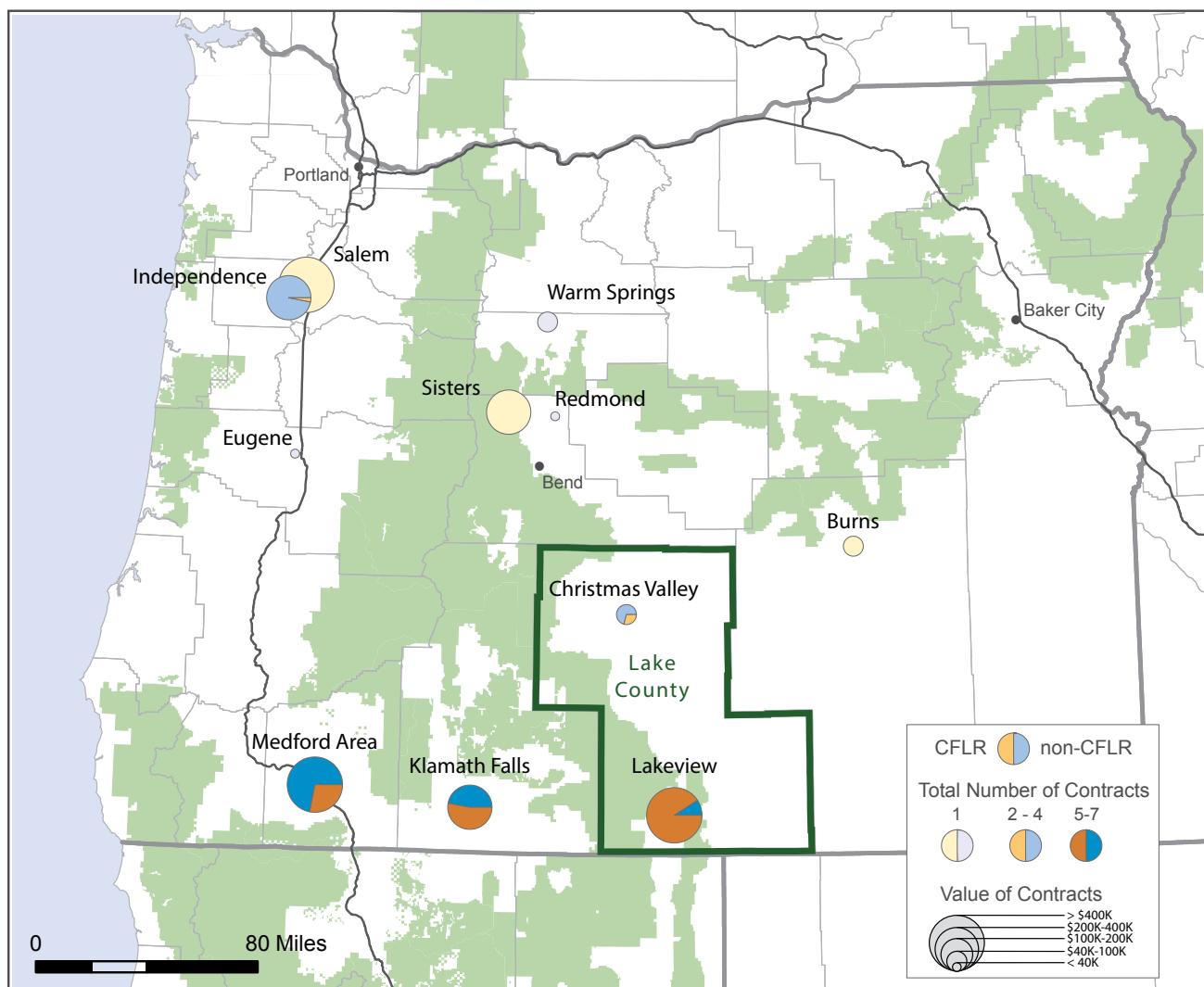


Businesses located throughout Oregon have received contracts to complete CFLR work in Lake County (see Figure 5, below). Contractors located in Medford and the Salem area have captured large shares of CFLR contract values. This pattern is consistent with what might be expected as companies located in those towns are common contractors for labor intensive work on federal land throughout Oregon and Washington.

CFLR comparison to the 2007 to 2011 baseline

Between 2007 and 2011, prior to the CFLR project, the Lakeview and Paisley ranger districts spent a total of about \$5 million (about \$1 million per year) on service contracts with local and non-local businesses for restoration in Lake County (see Figure 6, page 19). Restoration contracting in Lake County was a bit more than half of the \$9.7 million spent on restoration contracting by the entire Fremont-

Figure 5 Locations of contractors awarded CFLR and other restoration contracts for work in Lake County, FY12 and FY13



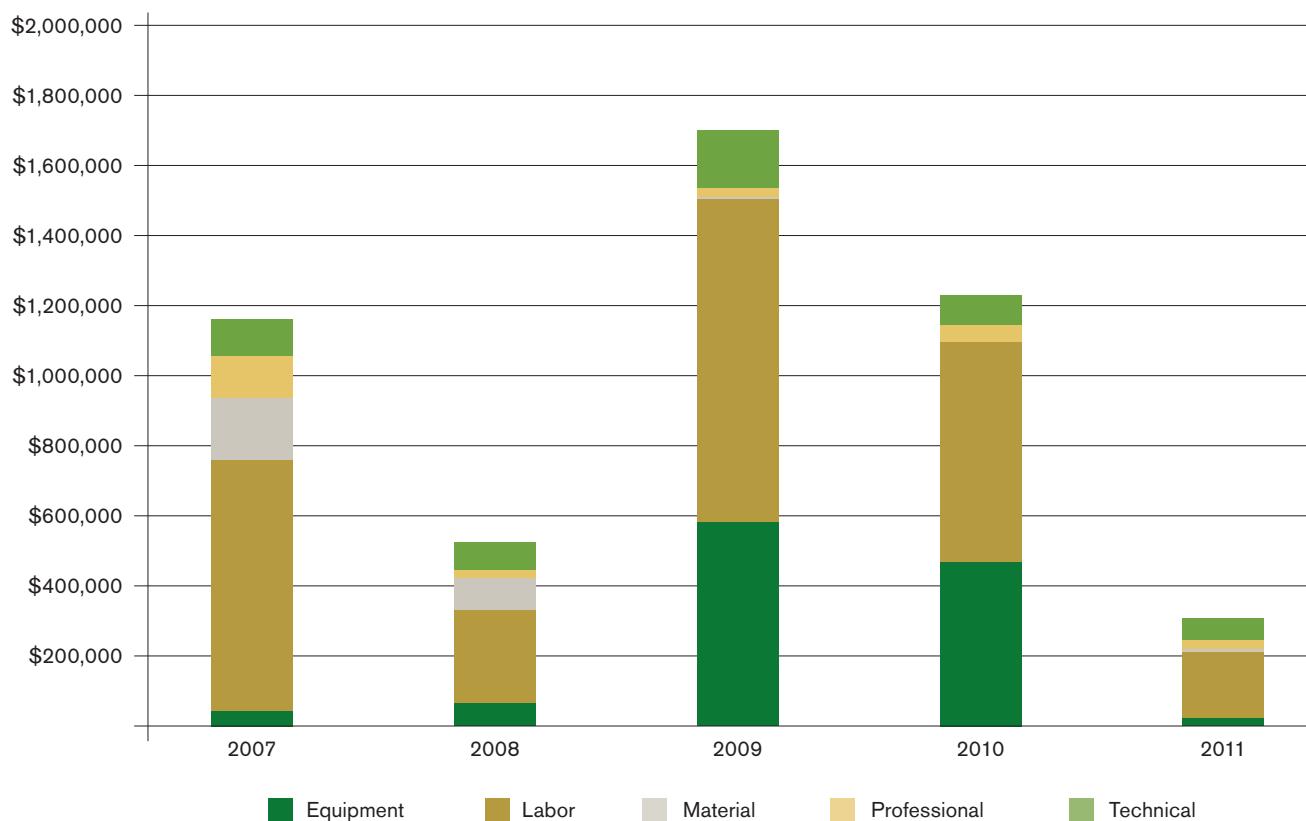
Winema National Forest between 2007 and 2011. However, the value contracted each year was variable with the greatest spending in 2009 and 2010 when spending was influenced by ARRA. Labor-intensive activities, such as hand thinning, tree planting, and hand piling, accounted for the greatest contract values each year. In total, more than 55% of the restoration activity contracted between 2007 and 2011 was for labor-intensive work.

About 75% of the total \$5 million service contract value between 2007 and 2011 was awarded to non-local businesses (see Table 10, page 20). Contracts for labor-intensive contract work were almost exclusively awarded to non-local businesses. Non-local businesses also captured most of the value

for contracts for material intensive (e.g., road work, culvert work) and professional services (e.g., computer studies, engineering design). Local contractors captured the majority of contracts and contract value for equipment and technical service contracts (see Table 10, page 20). Most of the technical service contracts were for invasive weed treatment. A similar pattern of high local capture of equipment and technical service contracts is also found on other eastern Oregon national forests.

Local businesses awarded contracts were located primarily in Lakeview and Silver Lake. Locations of non-local businesses historically awarded restoration service contracts included Medford, Klamath Falls, and Salem (see Figure 7, page 20). Those cit-

Figure 6 Restoration contracts by worktype for the five-year period 2007–11



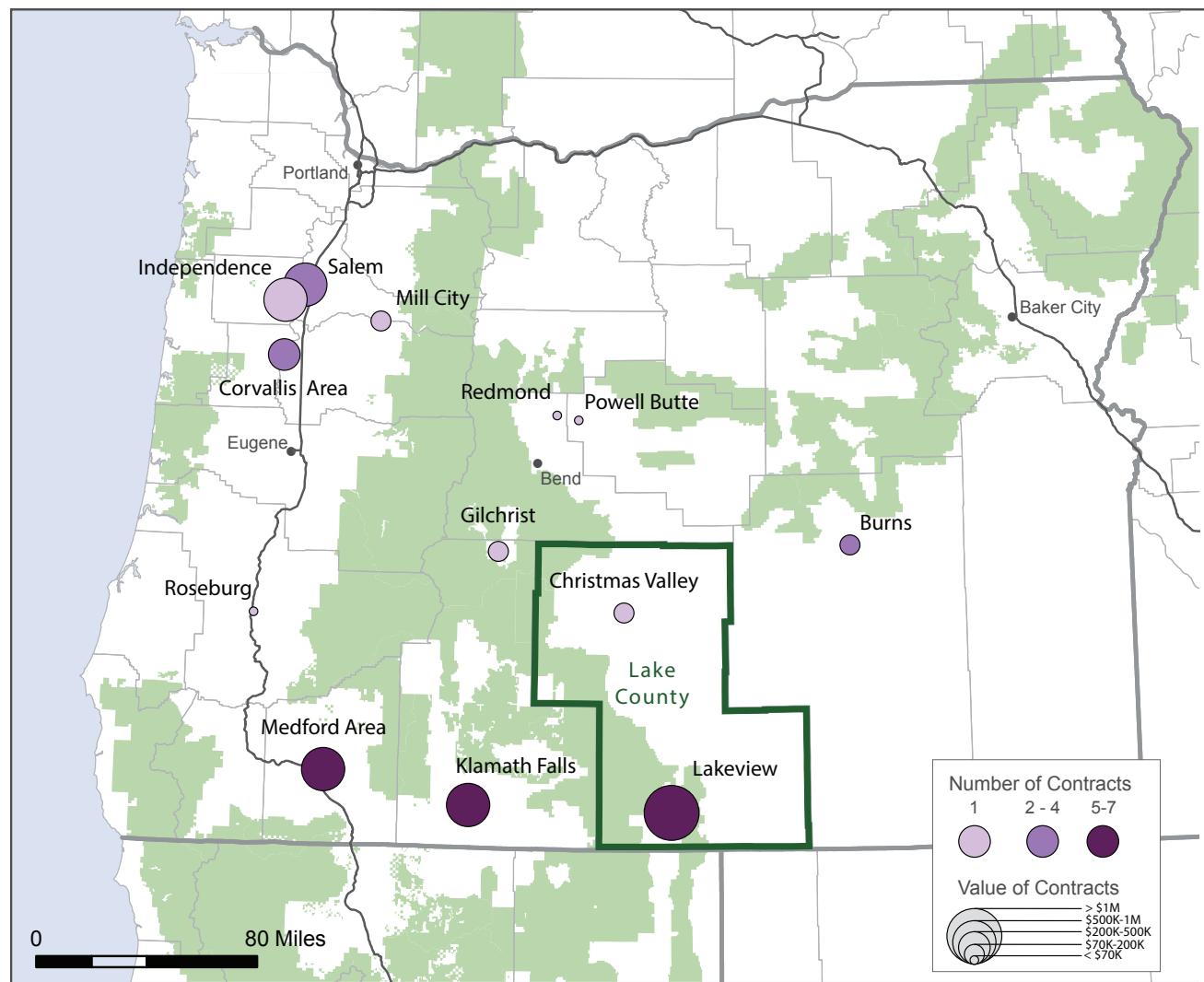
Source: Federal Procurement Data System records

Table 10 Baseline contracting for restoration work on Forest Service land in Lake County, Oregon, 2007–2011

	Total contracts	Contracts with local contractors	Total contract value	Contract value with local contractors	Local capture
Equipment	18	7	\$1,194,814	\$843,736	71%
Labor	64	1	\$2,760,586	\$11,655	0%
Material	6	1	\$278,973	\$11,765	4%
Professional	9	1	\$241,760	\$19,885	8%
Technical	38	28	\$506,988	\$300,475	59%
Total	135	38	\$4,983,121	\$1,187,516	24%

Source: Federal Procurement Data System records

Figure 7 Contractors for restoration work on Forest Service land in Lake County, 2007–11



ies are home to a number of contractors that complete labor intensive Forest Service restoration work throughout Oregon, California, and Washington.

The types of restoration work contracted in Lake County is similar in the CFLR and baseline years. The types of CFLR restoration work captured by local contractors follows a pattern similar to the baseline. Local contractors are most successful in capturing equipment intensive and technical (mostly invasive weed spraying) work. Like in the baseline years, local contractors most commonly captured CFLR contracts that lasted for a year or less.

What are the costs, benefits, and outcomes of different project implementation mechanisms?

Work in support of the CFLR project was accomplished with in-house Forest Service crews, through service contracts with private businesses, and through agreements and partnerships with outside organizations. Service contracts were typically used for work that required specialized equipment or skills or for work that covers large areas (see Table 11, below). Contracts for CFLR work were typically awarded for one year or less. Multi-year

contracts were most likely to be awarded to non-local contractors. Two of these multi-year contracts were also modified to include additional activities. Modifications have been used to a limited extent in contracts with local businesses, most often for invasive weed treatment.

The Fremont-Winema National Forest has attempted to increase the awareness of local contractors to contracting opportunities and procedures. In FY 2014, the Fremont-Winema NF held a workshop to provide information to local contractors on how to compete for contract funds and how to enroll in the Strategic Asset Management system. Changes in the last six months in the contracting offices that the Fremont-Winema NF uses are anticipated to result in greater use of contracting mechanisms that may support increased use of local contractors. The Fremont-Winema NF is working towards increasing the local capture of service contracting in support of the CFLR contracted activities.

Agreements with non-profits and the Warner Creek Correctional Facility have been used to fund a variety of CFLR work (see Table 11, below). Work most often completed via agreements were projects that

Table 11 Example outcomes from contracts and partner agreements reported by the Forest Service, FY2012 and FY 2013

	2012	2013
Contracts	<ul style="list-style-type: none"> • Pre-commercial thinning on 3,256 acres in Jakabe and Launch projects • 3 miles of streambank stabilization and 15 acres of riparian restoration • 315 acres of aspen restoration • 1,171 of juniper thinning 	<ul style="list-style-type: none"> • Pre-commercial thinning of 376 acres in the Burnt Willow EA • Pre-commercial thinning on 693 acres in the Jakabe project • Pre-commercial thinning on 1,619 acres in Foster and Wooley Creek subwatersheds
Partner agreements	<ul style="list-style-type: none"> • 67 sites established or resurveyed, new landscape monitoring sites established, and 500 toe plots completed by the Chewaucan Biological Monitoring Team (CBMT) • 153 miles of trail restoration by Northwest Youth Corps (NWYC), Central Oregon Intergovernmental Council (COIC), and others • Material, fencing, and labor in the Chewaucan Aquatic Habitat Restoration project w/ local ranchers/landowners 	<ul style="list-style-type: none"> • 68 sites established, 40 soil disturbance surveys, and stream water sampling completed by the CBMT • 86 miles of trail restoration by NWYC, COIC, and others • 5 acres of hand piling of slash, 38 acres of juniper slash reduction, 138 acres of aspen enhancement, 10 acres of fuels treatment, and recreation site fence repair by Warner Creek Correctional Facility crews

were relatively smaller in scope that did not require specialized equipment, or were focused on monitoring. Agreements with the Central Oregon Intergovernmental Council (COIC) and the Northwest Youth Corps have been used to complete trail restoration work. The Fremont-Winema NF also has used an agreement with LCRI to help fund the Chewaucan Biophysical Monitoring Team. That team completed a monitoring project that helped to inform management of the CFLR Project landscape and the Lakeview Stewardship Unit.

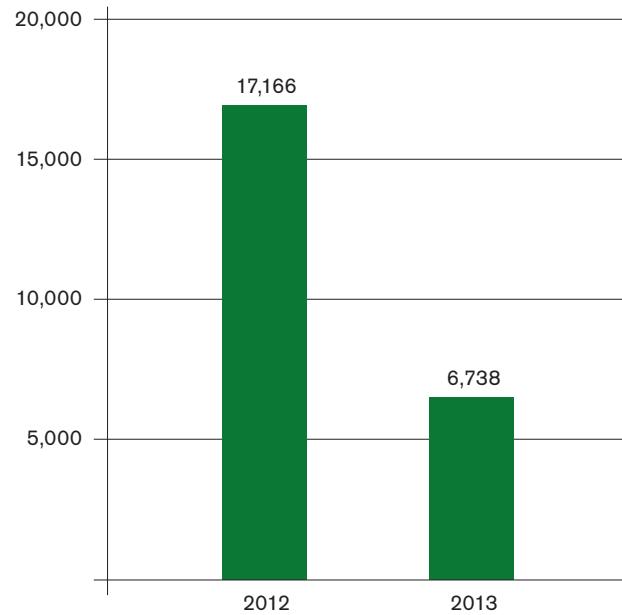
Multiple restoration treatments are typically completed on a single area of ground. For example, mechanical harvesting and thinning, piling of small diameter material, pile burning, and broadcast burning might all occur in the same area sequentially. For some restoration projects in the Lakeview Stewardship CFLR Project, different groups may have been responsible for completing a select set of activities on a site using varying contractual or agreement frameworks. For example, an equipment contractor might have harvested and thinned standing timber through a timber sale, stewardship agreement, or service contract. A crew from Warner Creek Correctional Facility, operating under an agreement with the Forest Service, may have then cut up and piled the small diameter timber that was thinned. Finally, an in-house Forest Service crew, paid for with non-CFLR, matching Forest Service funds, might have burned the piles of small-diameter trees or completed a larger prescribed burn on the site.

The total area of the landscape that has been treated with one or more CFLR activities was greater in year 1 of the Lakeview Stewardship CFLR project than in year 2 (see Figure 8, right). The decline in acres treated in year 2 was mostly attributed to disruption in the CFLR workplan by the Barry Point fire. Adjustments to the CFLR workplan in response to the Barry Point fire and a reduction in the backlog of salvaged sawtimber material that needs to be processed should result in increased area treated under the Lakeview Stewardship CFLR project in future years.

What are the total and matching funds used in the CFLR Project?

We reviewed existing Lakeview CFLR annual reports and communicated with Forest Service personnel to identify the amount of non-CFLR funds used in support of CFLR activities. By using internal matching funds from other funding sources, the Forest Service has more than doubled the amount of Forest Service funding available to complete CFLR work (see Table 12, page 23). In FY 13 alone, the Forest Service contributed more than \$5 million in matching funding to CFLR work. Much of the matching activity in 2013 was associated with planning rehabilitation and post-fire activities associated with the Barry Point fire. State, local, and non-profit partners have also contributed significant funds in support of projects. The contributions of these partners has helped in project implementation as well as monitoring. The amounts contributed by CFLR partners increased between years 1 and 2.

Figure 8 Total acres treated under the CFLR program in the Fremont-Winema NF, FY12 and FY13



The ability of partners to leverage CFLR funds can increase the capacity to accomplish work in support of CFLR Project goals. Key leveraging activities in years 1 and 2 of the Lakeview Stewardship

CFLR project included the funding of a youth crew with COIC and a successful partnership with Lake County to apply for a \$4 million Federal Highways project.

Table 12 Direct, matching, and contributed funding in support of CFLR projects, FY12 and FY13

	2012	2013
Direct CFLR funds expended	\$2,088,646	\$2,037,204
Forest Service matching funds	\$2,474,267	\$5,278,075
Contributed funds via agreements	\$243,246	\$682,134
In-kind contributions	\$18,909	\$14,700

Source: Lakeview Stewardship CFLR annual reports

Conclusions

Management actions on Forest Service land in Lake County influence the social and economic conditions in nearby local communities. Forest and watershed restoration activities completed by private businesses have supported jobs and income for workers in Lake County.

Much of the restoration service contracting in support of the CFLR project and other activities has been for labor-intensive work. On the Paisley and Lakeview ranger districts (and on other national forests in Oregon) that sort of work tends to be completed by contractors based outside the local area. In recent years, local businesses have been especially successful in capturing work to complete technical services, such as weed spraying and site assessments. Collins Pine and other local businesses have also captured equipment-intensive work for activities like mechanical thinning, mechanical piling, and road work. Local subcontractors working for Collins Pine are typically using heavy equipment to harvest trees, deck non-merchantable material at landings, complete road work, and other restoration activities. Because of Collins Pine's long relationship with local contractors and the company's capacity to work through the administrative requirements of working with the Forest Service, Collins

Pine serves as a bridge between local contractors and restoration work opportunities on Forest Service land. Restoration work order contracts with Collins Pine likely provide the key way to increase the role of local equipment contractors in CFLR restoration activities.

Relative to baseline conditions in non-ARRA years, the first two years of the CFLR project has slightly increased the number of local jobs supported by restoration contracting with businesses in Lake County. Contracts for CFLR-restoration with non-local businesses has also supported jobs and income in Lake County for support activities and general retail and services. Forest Service personnel are taking actions to increase the opportunity for local businesses to successfully obtain contracts for restoration activities in support of the CFLR project. Social and economic monitoring of the Lakeview Stewardship CFLR project will continue in the coming years. Future monitoring will provide indication of the effectiveness of efforts to increase the rate of local contracting for CFLR projects. An additional focus of future monitoring will be developing a more complete picture than reported here of how Forest Service partners help to accomplish CFLR work and achieve project goals.

Appendix A: Local businesses contracting with the Forest Service for restoration and fire suppression and fire support

A variety of Lake County, Oregon and Bly, Oregon businesses work with the Forest Service in Lake County and elsewhere to complete restoration projects, timber sales, and participate in fire suppression or fire support (see Table 14, pages 26 and 27). We separated local businesses into those completing restoration work, those purchasing timber sales, and those completing fire suppression or support activities. Only a few businesses have completed multiple kinds of projects.

In recent years, local businesses have most often completed technical and equipment work in support of restoration activities. Many of those contracts have been for invasive weed treatment, stand surveys, mechanical thinning, road work, and culvert replacement. Few local contractors have completed labor-intensive work like hand thinning or tree planting.

Collins Pine and Tom Harmon Logging have purchased timber sales from the Forest Service in most recent years. Collins Pine remains the largest purchaser of timber from the Forest Service in Lake

County, consistent with the presence of the Lakeview Sustained Yield Unit.

Although most of the local fire businesses focus on contracts in Lake County, fire suppression and fire support contractors do regularly have contracts with national forests outside Lake County. Two businesses—Stewart's Firefighters Food Catering and Withrotor Aviation—have typically had high-value, national-level contracts with Forest Service in most years. Other local businesses have had contracts for fire activities both in Lake County as well as national forests elsewhere.

This vendor and purchaser list was developed from USDA FS databases of primary contractors and timber purchasers. Collins Pine and other vendors subcontract with other local businesses to complete work on Forest Service land. Thus, there are other businesses in Lake County who do not enter into direct contracts with or purchases from the Forest Service and don't appear in this listing. Those other local companies are also important components of the local contractor base.

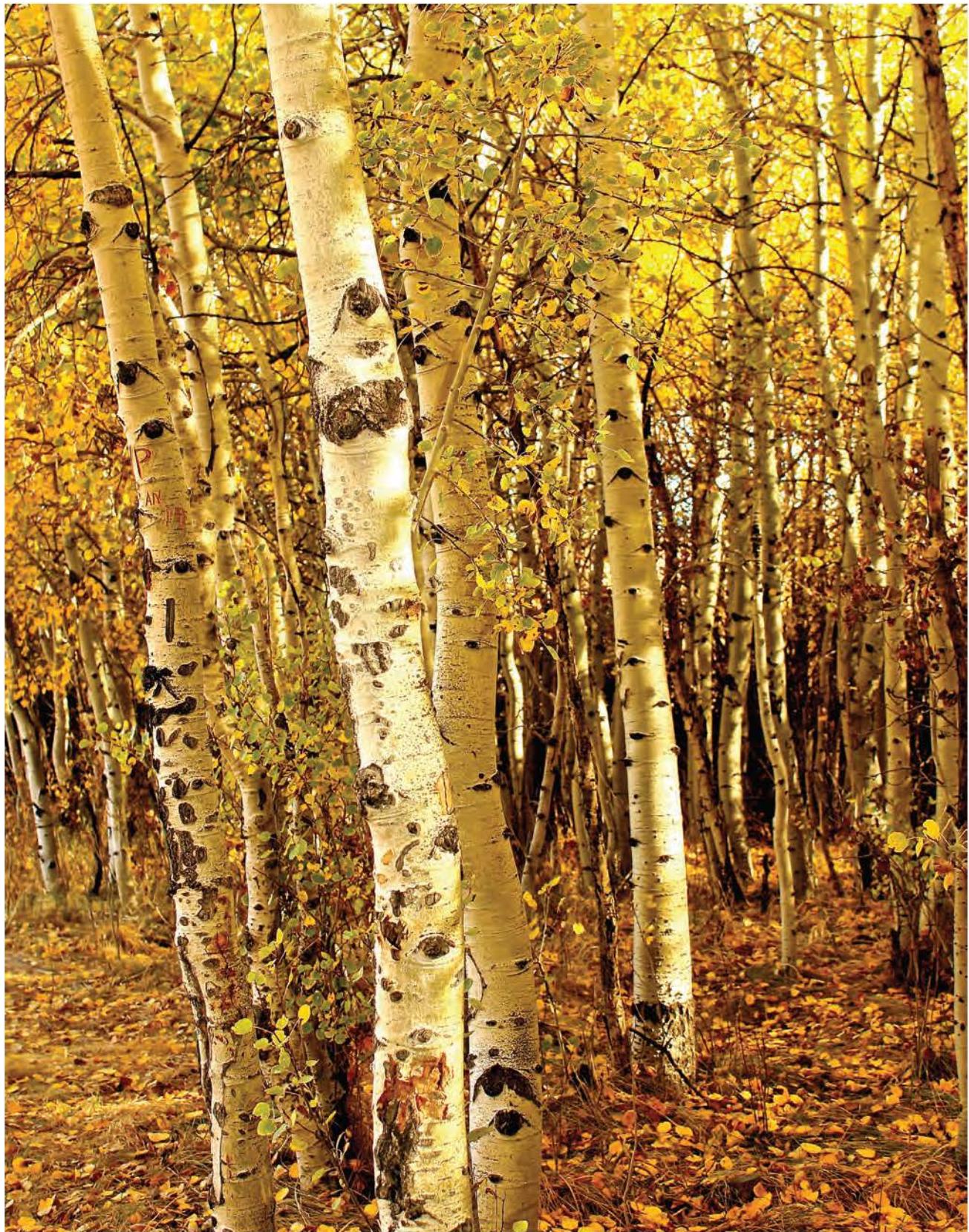


Table 13 Service contracts and timber sales with Lake County and Bly, Oregon, businesses for restoration, timber harvest, and fire suppression by contract year

Business*	Activity	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Restoration</i>											
Anderson Engineering and Surveying Inc.	Professional						●	●			
Dame Joseph	Labor						●				
Dog Lake Construction LLC	Equipment	●	●	●							
Ecosystems Management Inc	Technical		●	●	●	●	●	●	●	●	●
High Grade Contracting	Equipment										●
Jacobs Kenneth Wayne	Equipment					●					
Lockett Trucking Inc.	Equipment			●				●			
Lytle A. Simms	Labor	●									
Natural Resource Innovations LLC	Technical							●			
Perry Watson	Labor	●	●								
Perry Watson	Technical	●	●								
Richmond, John F. Contracting	Material				●						
Shari Reed	Technical			●	●	●	●	●	●	●	
Tall Town Equipment	Technical										●
Terrence R. Murray	Equipment	●		●							
Zamudio, Karen A.	Technical								●		
<i>Timber purchasers (2009 to 2013 only)</i>											
Collins Pine	Timber	-	-	-	-	-	●	●	●	●	●
Tom Harmon Logging	Timber	-	-	-	-	-	●	●	●		

* Business names are those entered in the Federal Procurement Data System records

continued on next page >

Table 13, Service contracts and timber sales with Lake County and Bly, Oregon, businesses continued for restoration, timber harvest, and fire suppression by contract year

Business*	Activity	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Fire suppression</i>											
Bradley Forest	Fire		●								
Blackhawk Enterprises	Fire					●	●				
Cobian Gabe Trucking	Fire				●						
Danny Lee	Fire		●								
David L. Holgate	Fire		●								
Davidson Floyd	Fire	●	●								
Desert Springs Trucking LLC	Fire	●					●	●			
Dog Lake Construction LLC	Fire							●			
Donald T. O'Connor	Fire		●								
Gearhart Events	Fire		●								
Elliot, Rick D.	Fire					●		●		●	
Gary McCleese and Son Equipment	Fire		●								
Gloria Babb	Firel		●								
Harlan Ray Logging Inc.	Fire							●			
Hartman Willmetta	Fire		●								
Jacobs Kenneth Wayne	Fire		●						●		
James M. Nottier	Fire	●	●	●							
Lee Wayne	Fire	●	●								
Lindsey, John E.	Fire	●	●	●							
Lockett Trucking Inc.	Fire			●				●			
Montgomery Montie Inc.	Fire		●								
Northwest Forest Industries LLP	Fire		●								
O'Leary Equipment	Fire		●								
Ortega, Pamela	Firel		●								
Partridge Warren Contracting	Fire							●			
Robinson, Jimmy D.	Fire		●								
Sheridan and Messner Joint Venture	Fire		●								
Stewarts Firefighters Food Catering	Fire	●	●	●	●	●	●	●	●	●	●
Fish and Fire LLC	Fire									●	
Ward, John	Fire							●			
Wayne Eleehmann Contractor	Fire		●					●	●		
Wessel, Jeff and Billi	Fire								●		
Withrotor Aviation Inc.	Fire		●			●		●	●	●	●

* Business names are those entered in the Federal Procurement Data System records

Endnotes

- 1 For an overview of the Collaborative Forest Landscape Restoration Program see: <http://www.fs.fed.us/restoration/CFLRP/overview.shtml>
- 2 For Collaborative Forest Landscape Restoration Program results reports see: <http://www.fs.fed.us/restoration/CFLRP/results.shtml>
- 3 Lakeview Stewardship Group. 2011. 2011 Long range strategy for the Lakeview Sustained Yield Unit. Available at <http://www.scribd.com/doc/93674224/2011-LONG-RANGE-STRATEGY-FOR-THE-LAKEVIEW-FEDERAL-STEWARDSHIP-UNIT>.
- 4 Lakeview Stewardship Group. 2011. Lakeview Stewardship Landscape. Available at <http://www.fs.fed.us/restoration/documents/cflrp/2011Proposals/Region6/FremontWinema/Lakeview.docx>.
- 5 Davis, E.J. and C. Moseley. 2013. Socioeconomic monitoring of public lands management: A compilation of measures. Ecosystem Workforce Program, University of Oregon. Briefing Paper #55. Available at http://ewp.oregon.edu/sites/ewp.oregon.edu/files/BP_55.pdf
- 6 Kauffman, M. 2001. An analysis of Forest Service and contractor capacity in Lake County, Oregon. Lakeview, Oregon. Sustainable Northwest.
- 7 Lakeview Stewardship Monitoring Group. 2014. Lakeview Collaborative Forest Landscape Restoration Project (CFLRP) monitoring plan. Unpublished plan of the Lakeview Stewardship Group
- 8 For information and data see: <http://implan.com/>.



