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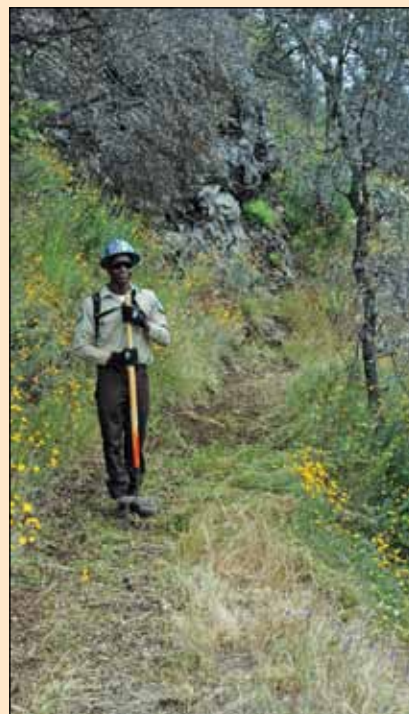
Forest Service

Pacific Northwest
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May 2011

Socioeconomic Assessment of Forest Service American Recovery and Reinvestment Act Projects: Eight Case Studies



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Socioeconomic Assessment of Forest Service American Recovery and Reinvestment Act Projects: Eight Case Studies

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Technical Coordinators

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Abstract

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The American Recovery and Reinvestment Act of 2009 aimed to create jobs and jumpstart the economy while addressing the Nation's social and environmental needs. The U.S. Department of Agriculture, Forest Service, received \$1.15 billion in recovery funding to support projects in wildland fire management, capital improvement and maintenance, and biomass utilization. This volume contains eight individual case-study reports that describe how Forest Service economic recovery projects from around the United States are contributing to socioeconomic well-being in rural communities and investigates how forest restoration, conservation, and rural community development goals can be linked to promote healthy forests and healthy communities. Research findings demonstrate that these projects met several goals of the act: (1) preserve and create jobs and stimulate economic recovery; (2) assist those most impacted by the recession; and (3) invest in transportation, environmental protection, and other infrastructure for long-term economic benefits. A companion synthesis report contains key findings and lessons learned by comparing the eight case studies presented here.

Keywords: American Recovery and Reinvestment Act, national forests, rural communities, economic development, socioeconomic assessment.

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Chapter 1: Introduction

Susan Charnley, Pamela Jakes, and John Schelhas¹

With the passage of the American Recovery and Reinvestment Act (hereafter referred to as the Recovery Act) in February 2009, the U.S. Department of Agriculture, Forest Service was presented the opportunity to contribute to the act's goals of (1) preserving and creating jobs and stimulating economic recovery; (2) assisting those most impacted by the recession; (3) increasing economic efficiency through technological advances in science and health; (4) investing in transportation, environmental protection, and other infrastructure for long-term economic benefits; and (5) stabilizing state and local government budgets. Much of the land managed by the Forest Service and many of its facilities are located near communities affected by the recession, and the \$1.15 billion in recovery funds received by the agency were directed to projects expected to contribute to these goals while addressing needs related to the agency's mission of sustaining and improving the health, diversity, and productivity of the Nation's forests and grasslands. The eight case studies contained in this document describe the benefits and accomplishments for different types of projects implemented in different economic, social, and ecological contexts.

The Forest Service received funding for two types of projects: capital improvement and maintenance (CIM) projects (totaling \$650 million) and wildland fire management (WFM) projects (totaling \$500 million). Projects were developed by all branches and at all levels of the agency, from the district or field station to the national office, with public and private partners brought in to enhance project implementation and broaden the distribution of benefits. Regions and research stations submitted their priority projects to the agency's national headquarters where the final selection for funding was made.

The CIM and WFM projects were evaluated using different criteria. For CIM projects, the focus was on helping the national forests fulfill their desire to provide a place of refuge during challenging times. Priority CIM projects would enhance the visitor experience by improving roads, campgrounds, and trails. The CIM projects were developed in each of five categories: abandoned mine cleanup, road maintenance and improvement, watershed restoration, recreation facilities enhancement, and Forest Service administrative facilities maintenance and improvement. In distributing the \$650 million in CIM funding, preference was given to projects that were located in counties with high economic distress, contributed to the reduction of deferred maintenance, and met requirements of the National Environmental Policy Act (NEPA). To measure economic distress, the Forest Service developed a composite index using four measures of unemployment compiled by the U.S. Department of Labor's Bureau of Labor Statistics.

The Recovery Act specified that the \$500 million in WFM funding be distributed equally between projects that benefited federal lands and those that benefited state and private lands. In addition, up to \$50 million of the total was dedicated to wood-to-energy grants that promoted biomass utilization from all lands. Projects were ranked using a 100-point scale, with the economic distress ranking of the county in which the project was located accounting for 50 percent of the total, fire risk 25 percent, and insect and disease risk 25 percent. Successful projects were determined to fit the intent of the Recovery Act and be NEPA ready. In addition to the above criteria, projects that supported job corps and youth programs, supported tribes and improved tribal lands, could spend the money quickly, and enhanced existing stewardship contracts were encouraged.

The Forest Service Recovery Act executives requested that the agency's Pacific Northwest Research Station lead an evaluation of the social and economic impacts of agency economic recovery projects. The research team formed for the project identified two study objectives: (1) develop case studies highlighting the contributions of Forest Service recovery project investments to the social and economic well-being of rural counties experiencing

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high economic distress and (2) explore how to better link agency mission-related work to rural community development opportunities. The staff from the Forest Service Economic Recovery Team suggested several states from which to select case studies, based on the level of Forest Service economic recovery spending. The research team contacted the agency's Recovery Act Points of Contact in each Forest Service region affiliated with these states, soliciting recovery projects that were making significant early (winter–spring 2010) progress on the ground. The Points of Contact for the potential projects were then interviewed to gather more information on project type, the local economic and social context (economic diversity, unemployment, rural nature of the county), project partners,

and whether the contact was willing to be part of the study. Finally, the team selected the case studies. The locations of the eight case studies are shown in figure 1-1. The case studies covered a range of scales (individual project, individual county, multiple projects, multiple counties, a state) and project types (industrial infrastructure, hazardous fuel reduction, recreation, invasives control), different Forest Service branches (National Forest System, State and Private Forestry, Research and Development), and a variety of funding mechanisms (temporary direct hires, service and stewardship contracts, agreements, and grants). Table 1-1 gives some background information on each case study. The methods used to conduct the study are detailed in the appendix.

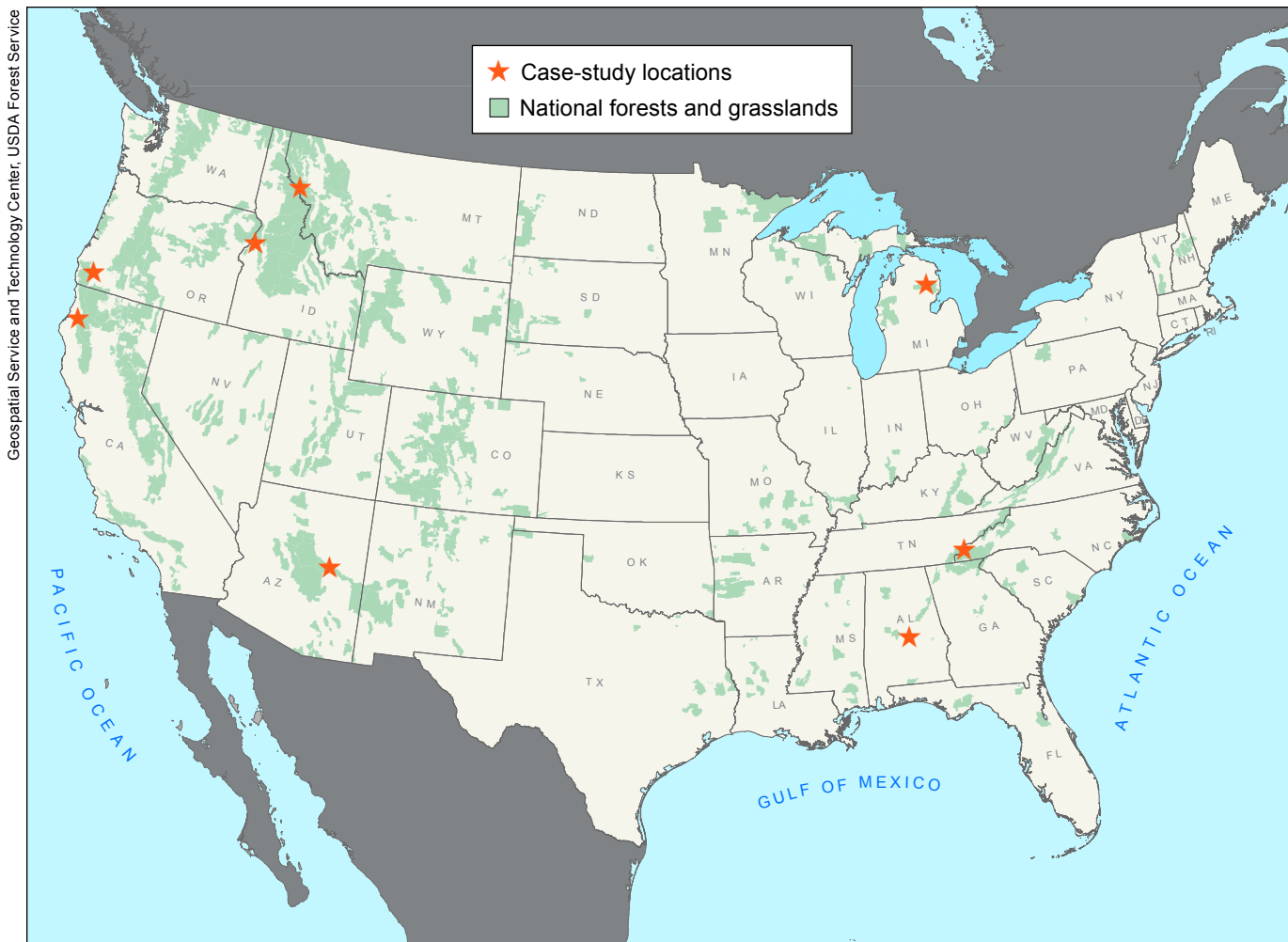


Figure 1-1—Map of the United States indicating the location of the eight case studies.

Table 1-1—American Recovery and Reinvestment Act case study projects

Case study	Case study location		Forest Service recovery funding		Project type
	Counties	Forest Service unit	Statewide (as of 09/08/09)	Case study (as of 06/30/10)	
Alabama Cogongrass Control Center	Statewide	Region 8, State and Private Forestry	~ \$16,594,000 (Ala. projects: \$14,799,000; Ala. share of multistate projects: ~\$1,795,000)	\$6,281,000	Map and monitor cogongrass infestations, raise landowner awareness, cogongrass control and eradication.
Apache-Sitgreaves National Forest and White Mountain Apache Tribe, Arizona	Apache, Navajo, Greenlee	Apache-Sitgreaves National Forest	\$53,142,000	\$25,427,000	Forest restoration, fuel reduction, recreation.
California's North Coast	Del Norte, Humboldt, Siskiyou, Trinity	Six Rivers National Forest, Pacific Southwest Research Station, Region 5, State and Private Forestry	~ \$194,069,000 (Calif. projects: \$186,861,000; Calif. share of multistate projects: ~\$975,170)	\$5,765,444	Roadside brush removal, trail maintenance, refurbish biomass power plant, construct a pole and post mill, addition to Redwood Sciences Laboratory, invasive plant assessment.
Evergreen Forest Products Dry Kiln and Restacker, Idaho	Adams	Region 1, State and Private Forestry	~ \$99,267,770 (Idaho projects: \$98,292,600; Idaho share of multistate projects: ~\$975,170)	\$2,500,000	Build dry kiln and wood restacker at sawmill site.
Huron Fuels Treatment, Michigan	Alcona, Crawford, Iosco, Oscoda	Huron National Forest	~ \$39,382,290 (Mich. projects: \$34,557,000; Mich. share of multistate projects: ~\$4,825,290)	\$3,800,000	Construct new fuelbreaks, maintain existing fuelbreaks, reduce fuel in the wildland-urban interface, improve health of federal forest land.
Route of the Olympian Rails to Trails, Montana	Mineral	Lolo National Forest	\$70,973,300	\$1,064,742	Perform trestle and tunnel repairs on abandoned railroad grades to make new recreational trail.
Cheoah River Nonnative Invasive Plant Control, North Carolina	Graham	Nantahala National Forest	~ \$25,411,000 (N.C. projects: \$23,616,000; N.C. share of multistate projects: ~\$1,795,000)	\$332,911	Nonnative invasive plant control.
Rogue River-Siskiyou National Forest, Oregon	Coos, Curry, Jackson, Josephine	Rogue River-Siskiyou National Forest	~ \$177,027,200 (Ore. projects: \$167,809,700; Ore. share of multistate projects: ~\$9,217,500)	\$45,457,000	Hazardous fuel reduction, habitat restoration, road maintenance and reconstruction, trail maintenance, mine cleanup.

Case-study research was conducted in the early stages of most of the projects, and the full story of project benefits, successes, and challenges will emerge over a period of years as projects are completed and new facilities and healthier ecosystems generate further benefits. But short-term benefits were often identified, and the contours of likely future benefits apparent. We found that Forest Service investments in these projects are producing short- and long-term jobs and health and welfare benefits. In general the people we interviewed felt that investments that built long-term capacity, revitalized existing sectors, and stimulated new capacity were likely to have the greatest impacts. From an agency perspective, critical but previously unfunded work was accomplished, and relationships and partnerships were enhanced or forged.

A companion report (Volume II) to this one summarizes key findings from the eight case studies. This volume (Volume I) contains the full case-study reports and presents detailed information about the cases, including the communities and projects studied; the project recipients and partners; the economic, social, and environmental benefits of the projects; the effects of the projects on the agency; challenges to implementing the projects; key findings from the socioeconomic assessment of the projects; and the lessons learned with regard to creating local community benefits when undertaking Forest Service work in the future.

Chapter 2: A Socioeconomic Assessment of Forest Service Recovery Act Projects: The Alabama Cogongrass Control Center

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Summary

The economic downturn of the past 3 years has had widespread and serious impacts on the timber and forest management industries in Alabama, as demand for forest products has declined causing reverberations in business activities from consultants to landowners. At the same time, Alabama's forested lands face long-term detrimental ecological and economic effects owing to the spread of the nonnative invasive plant, cogongrass (*Imperata cylindrica* L. [Beauv.]), which is considered to be one of the worst weeds in the country and, in fact, the world.

The Alabama Cogongrass Control Center is addressing these two problems simultaneously, with initial programs funded by a \$6,281,000 American Recovery and Reinvestment Act (hereafter referred to as the Recovery Act) grant awarded to the Alabama Forestry Commission (AFC) and managed by a private land management consulting firm (Larson and McGowin, Inc. [LMI]). This project is providing many short-term and seasonal jobs for scouts (generally forestry consultants) and herbicide applicators, making up for work that these businesses have lost during the recession. The temporary project has enabled many of them to continue operating by combining their remaining work with new work related to cogongrass.

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Fast Facts

Total Forest Service Recovery Act Investment, Alabama (as of 09/08/09): ~\$16,594,000
(Alabama projects: \$14,799,000; Alabama share of multistate projects: ~\$1,795,000)

Forest Service Recovery Act Investment, Alabama Cogongrass Control Center: \$6,281,000
(3 years)

Case-Study Location: State of Alabama

Counties: Statewide

Project Type: Mapping and monitoring cogongrass infestations and control activities, landowner awareness raising, cogongrass control and eradication, auditing of control activities, fundraising for future activities.

At the same time, the project is building capacity in invasive plant control and is likely to enhance these businesses over the long term. Threatened jobs in the Alabama Forestry Commission have been saved, as staff serve as monitoring crews gauging success or failures. Education and capacity building will create a niche industry in invasive plant control, providing jobs and environmental benefits long into the future. The project is also testing a strategic, adaptive approach to invasive plant control that will lay the groundwork for controlling cogongrass

and other invasive species in the future, addressing a key ecological threat in the Southeastern United States.

The Case

Forest-based industries represent one of the largest economic sectors in Alabama, and include employment in forest management, harvesting, processing, and manufacturing as well as economic returns to forest landowners. Timber prices have been declining since 2006 and are near record lows. The recent economic downturn hit the wood processing and manufacturing industry hard owing to declining demand for wood products and mounting foreign competition. Mills have implemented quotas on wood purchases, shut down temporarily, or closed altogether. Declining demand and low prices have limited timber harvesting. Landowners have felt immediate effects from this, as timber often cannot be sold for the price they expected, and many have decided to hold onto their timber in hopes of better prices in the future. Also, necessary thinnings are difficult because low pulpwood prices reduce returns that are typically used to offset costs. The effects of this slowdown have reverberated far beyond landowners and loggers. Consulting foresters working on a commission basis have seen their returns dry up, and tree planters and herbicide applicators have been faced with reduced demand for their services. Mill slowdowns and shutdowns have put thousands of Alabamians out of work. All of these impacts have hit timber-dependent communities with increased unemployment and decreased tax revenues.

At the same time, Alabama has been suffering environmental, social, and economic damage from cogongrass (fig. 2-1), an invasive perennial grass native to Asia (Loewenstein and Miller 2007). Cogongrass is a federally listed noxious weed and considered one of the top 10 most invasive weeds in the world. Since its accidental introduction in southwest Alabama in 1911, cogongrass has become epidemic in southern Alabama, Mississippi, and Florida. It has potential for continued spread into the Eastern United States and Pacific Coastal states unless a sustained campaign is mounted to halt its advancement. Unchecked, cogongrass will dominate the southern landscape, turning a dynamic and diverse ecosystem into a monoculture



James H. Miller, USDA Forest Service, Bugwood.org

Figure 2-1—Cogongrass. *Imperata cylindrica* (L.) Beauv.

unsuitable and unproductive for multiple land use objectives such as recreation, wildlife habitat, hay and sod production, timber management, and biodiversity conservation. It is globally recognized as an ecosystem transformer species that has turned forested lands to inhospitable savannas. Furthermore, cogongrass poses a real danger in the form of a highly flammable fuel promoting catastrophic wildfire that threatens homes, structures, and habitats (fig. 2-2). Whereas cogongrass is unlikely to ever be eradicated from Alabama



Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org

Figure 2-2—Cogongrass wildfire.

or the Southeast United States, its potential economic and ecological impacts are intolerably severe in comparison to other invasive plants. Ongoing containment and restoration of infested lands are necessary to avoid catastrophic losses.

The Forest Service's State and Private Forestry branch made funding available to the Alabama Forestry Commission for this American Recovery and Reinvestment Act project (\$6,281,000 million over a 3-year period). Recovery Act funding started up the Alabama Cogongrass Control Center, a project that builds on earlier work of the State of Alabama's Cogongrass Task Force and collaborative efforts with neighboring states. The project's goals are:

- Create or maintain jobs (expected to be around 75).
- Use education and technology transfer to prevent the further spread of cogongrass.
- Use adaptive management techniques to intervene and quickly treat infested sites as well as restore and maintain treated areas.
- Create a cogongrass-free zone in the northern part of the state and along state borders, halting the spread to other states.
- Create a program that will outlive the grant's initial period by obtaining further funding.

There are more than 7,500 documented cogongrass infestations in the AFC geographic information system (GIS) database. It is estimated that there are 10 to 50 times that amount in the entire state, with the majority in the southern counties (south of Montgomery). In a carefully planned strategy to best contain and combat cogongrass, the project divided Alabama into several zones and the project into subprograms. The project has two primary zones, north and south, with the demarcation line of the advancing invasion front approximately in the center of the state (Columbus-Montgomery-Tuscaloosa; subject to change as more is learned about actual cogongrass infestations) (fig. 2-3). In the northern zone, the objective is to contain the spread by the eradication of scattered outlying infestations. This serves many purposes. Most importantly, it will effectively stop the spread of cogongrass into Tennessee and the Mid-Atlantic States. In the southern zone, cogongrass effects will be mitigated through spraying a portion of infestations while educating landowners about their

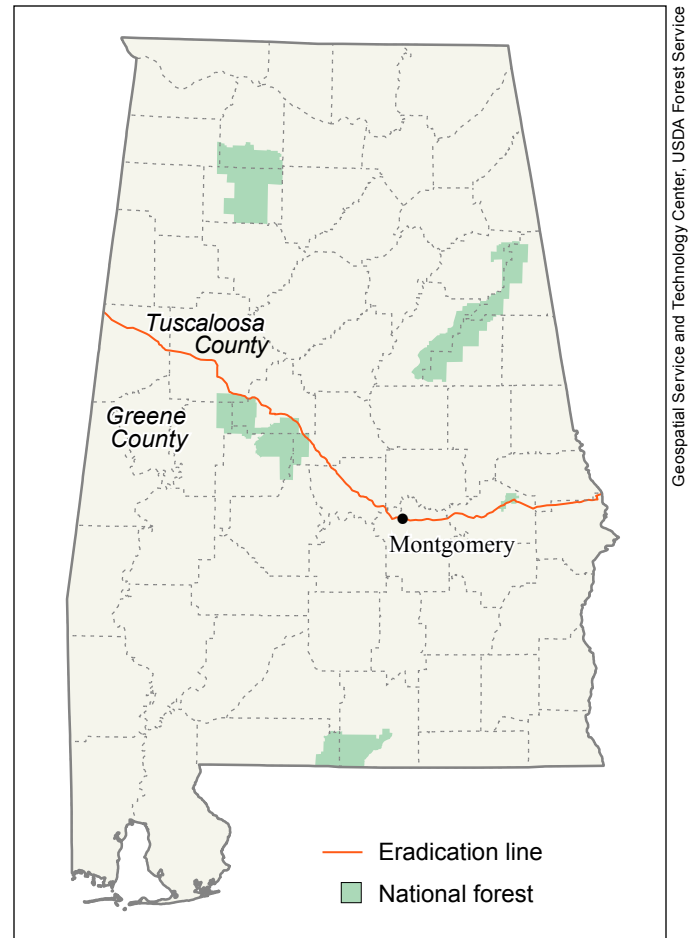


Figure 2-3—Alabama case study, showing counties in which project work began. The goal is to eliminate cogongrass north of the eradication line.

options. Control activities are limited to 10 acres on any one landownership and are enacted in concert with other agency programs such as the Natural Resource Conservation Service's EQUIP Program, Alabama Department of Conservation and Natural Resources, and Alabama Department of Transportation. Because current funding is inadequate to treat every known infestation in this zone, treatments will be more selective.

The ACCC project is much smaller than the scope of the cogongrass problem in Alabama. Estimates of the total cost of bringing cogongrass under control range from \$40 to \$100 million. To have the greatest effect with the limited funds available, the project is designed to touch different segments of the state's landowner population. It will enroll people of diverse backgrounds and those with diverse

management objectives. The project has six subprograms that are being made available to private, nonindustrial landowners:

- **Survey and spray.** The project deploys teams across the northern zone to find and eradicate the relatively small cogongrass infestations found there.
- **State borders.** The project is working with agencies in Mississippi, Georgia, and Florida to combat cogongrass infestations immediately along state borders to effectively create a band of cogongrass-free areas.
- **Underserved and limited-income landowner service.** Central Alabama counties are among the poorest in the Nation. Many landowners do not have access to land management professionals or the funds to adequately take care of their land. The project is providing mapping and treatment services to enrolled landowners in the poor counties of Alabama's Black Belt (named for its dark, fertile soil) in which the population is predominantly African-American.
- **Stop the spread.** In addition to the eradication zones in the north and along state borders, a small, narrow belt has been designated immediately along the eradication line where lands along roads and contiguous land ownerships will be treated.
- **Threatened and endangered species and habitat protection.** Habitats that are classified as G1 and G2, as defined by the Endangered Species Act, receive high priority for treatment.
- **Landowner selection.** In the southern zone where cogongrass is widespread, landowners may apply and will be accepted into the project based on several factors, including proximity to high-threat spread routes such as state highways, existence and history of an active cogongrass program, and spatial analysis of proximity to other infestations. A spatially weighted grade is generated for each landowner applicant, and those with the highest grade in an area will be accepted into the project. Of those accepted, there is a cap of 10 acres of cogongrass treated per landowner.

The project is organized in a way to strategically address cogongrass control in the long term. The project includes the development of a GIS database to map known and newly detected infestations using scout reconnaissance data, aerial imagery, and spatial modeling. The GIS will also be used to determine an applicant's placement in the different subprograms, record progress, and make decisions at multiple landscape scales. Project implementation is designed to put into place a long-term capability for cogongrass management. Forestry consultants have been contracted as cogongrass scouts, work that supplements their normal business. Cogongrass treatment using herbicide is effective from June to October, with July to September being optimum, and is inherently seasonal work. Local herbicide applicators have been contracted across the state. Applicators are hiring spray crews and using this work to replace work lost because of the recession. All of these contractors will add cogongrass suppression skills to their portfolio as a part of the project, which will benefit future control efforts. Finally, the project includes a fundraising component to obtain the additional funds needed for a comprehensive cogongrass control program in the state.

The project has operated statewide in carrying out educational activities, mapping, and identifying interested contractors and landowners. Project field work began in fall 2009 with pilot cogongrass mapping and spraying in Greene County, extending to Tuscaloosa County in early 2010. Scouting and eradication efforts are expanding from these pilot counties to cover the entire eradication line. The 2010 spraying season began in late July, timed to begin work in the optimum spraying period and following recruitment and contracting of applicators. As of August 2010, project accomplishments include:

- **Identifying and mapping cogongrass.** The project has mapped over 2,500 new infestations across more than 25 counties. The scout contractors have worked mainly in the central tier of Alabama counties but have also covered southwest and northern Alabama (fig. 2-4). Integration of global positioning system (GPS) and GIS technology has enabled the project to quickly pinpoint newly found locations and assign work regions to the scouts, applicators, and inspectors.

John Schelhas



Figure 2-4—Cogongrass scout mapping an infestation.

- Educational programs. Project staff have given more than 40 presentations to various groups, written six articles for publishing in a range of magazines geared toward landowners, been written about by several newspapers including a feature story by the *New York Times*, and given a radio interview. The communications director of the project regularly participates in landowner “field days,” reaching out to landowners with assistance in identification, prevention, and treatment of cogongrass.
- Spraying. The project has sprayed approximately 1,000 infestations across the state totaling about 100 acres. All of these infestations are newly found by this project, although the project is using the AFC cogongrass database to pinpoint other areas for treatment.
- Hiring. Three LMI staff members are coordinating the project. Additionally, six scouts, two herbicide applicator vendors, five spray crews, two inspectors, four GIS analysts and programmers, and three part-time administrative support staff are currently working on the project.
- New technology. Proprietary GPS and GIS technology has been customized by two private companies (one in Alabama, one in Georgia). This technology is used to manage the data from the first contact by a landowner to the final reports generated after treatments have been completed.

Work on this project began in earnest in 2010, and employment is expected to increase dramatically from this point on as spraying begins and the geographical work area is widened. Much of the employment is seasonal, but during spraying season, employment will be high. The project has been structured so that most jobs go to local consultants and contractors who add project work to their existing portfolios. This, in turn, helps them weather the economic downturn while at the same time preparing to modify and increase their work in the future in several ways. They are learning about the cogongrass problem, becoming able to identify it, learning treatment protocols, and adding a new type of service to their businesses. Furthermore, landowners are becoming more aware of cogongrass and invasive plants in general, and are expected to contract more control services in the future.

The project is not expected to eradicate cogongrass in Alabama, given the financial resources required to adequately address the issue head on. Continual control efforts will be needed. The ACCC Recovery Act project includes mapping, educational programs, and refining of protocols that provide a foundation for future work. The project involves sufficient cogongrass eradication and control such that demonstrated success will make the case for additional funding at the state level in the future. Furthermore, landowner education and skill development for applicators is expected to jump-start a new business opportunity in control of cogongrass and other invasive weeds.

Methods

This case study was conducted using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act project. A total of 21 individuals were interviewed for this case study. Interviewees included Forest Service employees who helped develop or implement the projects, Alabama Forestry Commission employees, Larson and McGowin, Inc. employees, contract scouts and applicators, and landowners. Interviews were conducted with project employees around the state, with a concentrated interview effort in Greene and Tuscaloosa Counties, the location of

the most intensive work during the first year of the project. Many of these individuals represented jobs created or retained, and others received economic benefits from project activities. Additional qualitative data were obtained from published sources such as newspapers and local government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods and data sources see the appendix.

Project Recipients

The Forest Service, as part of a nationwide effort to redesign its State and Private Forestry branch, had previously funded a four-state cogongrass project. Under this project, the AFC had developed a framework for identification, mapping, and education related to cogongrass control. The AFC used funding from the earlier project only for planning and not for actual cogongrass control, thus when the Forest Service put out a call for proposals for economic recovery funds, the earlier project provided a foundation that enabled the AFC to quickly propose the Alabama Cogongrass Control Center project (table 2-1). Because of the size and scope of the project, and the requirements of Recovery Act funding, AFC decided to contract the work. They issued a call for proposals to Alabama companies to coordinate the state’s efforts at combating cogongrass. Of several companies who submitted proposals, LMI, a land management and forestry consulting firm headquartered in Mobile, Alabama, was selected to administer the project. Larson

and McGowin, Inc. immediately assigned a project leader and communications director to bring the ACCC to life, and later assigned another employee to coordinate spraying operations. Larson and McGowin, Inc. is hiring contract scouts and applicators from around the state, and ultimately project work will affect thousands of landowners and tens of thousands of acres in Alabama.

Beyond the many organizations and individuals that are directly involved in the project, the principal collaborator is the Technical Committee of the Alabama Cogongrass Task Force. The task force was formed in 2008 when 22 agencies and organizations signed a memorandum of understanding to work collaboratively to combat short- and long-term negative impacts of cogongrass in Alabama. The technical committee, in particular Jim Miller of the Forest Service and Stephen Enloe of Auburn University, has provided assistance to the project ranging from strategic approaches for cogongrass control to prescriptions for herbicide application.

Other Recovery Act Projects

The AFC has two additional statewide Recovery Act projects funded by Forest Service State and Private Forestry, although all projects are managed independently. The Alabama Prescribed Burning and Hazard Fuel Reduction project, funded at \$5 million, reintroduces fire to forests on private land. Alabama is also a part of the five-state Regional Longleaf Pine Restoration Initiative and Fuels Management Project (\$8,975,000), which puts people to work restoring what were once extensive longleaf pine forests in the South. This project includes restoring longleaf pines (*Pinus palustris* Mill.) and native understory plants, coordinating efforts across broad partnerships, and providing educational materials and training to the public and individuals working with longleaf pine.

Table 2-1—Project recipient and funding

Recipient	Project name and description	Total funding amount	Funding mechanism
Alabama Forestry Commission	Alabama Cogongrass Control Center, WFM-0825-02FHC. Funds will support efforts to eradicate cogongrass, a federally listed invasive weed, using methods such as mechanical treatment, prescribed burning, and herbicide application throughout Alabama.	\$6,281,000	Grant

The historical range of longleaf pine in Alabama coincides with the area of greatest cogongrass infestation, and longleaf restoration is an appropriate option following cogongrass eradication, although it can be difficult to manage because of residual herbicides and limited shading during the longleaf grass stage. But because cogongrass eradication takes 2 to 3 years, these two efforts cannot be coordinated within the short timeframe of the economic recovery projects. By the time that the cogongrass is eliminated, the longleaf project will be over. Nevertheless, postrecovery synergies can be expected in restoring longleaf pine in areas that are now dominated by cogongrass.

Socioeconomic Benefits

Alabama is a diverse state with its economic roots in agriculture and forestry. Although Alabama as a whole follows national trends in population, averages mask great diversity among counties in the state (fig. 2-5). The ACCC project was initiated in Greene and Tuscaloosa Counties, which illustrate this socioeconomic diversity. The Black Belt region, where rich soils once supported plantation agriculture, is now marked by poverty and declining population and is largely dependent on timber and agriculture. Black Belt counties, such as Greene County, illustrate this trend in population decline and economic distress. In contrast, adjacent Tuscaloosa County (home to the University of Alabama and a Mercedes-Benz manufacturing plant) characterizes Alabama's more economically diverse counties (see figs. 2-6 through 2-10). Forest Service economic distress rankings, which were used for Recovery Act project selection and designed to capture recent economic downturns and not persistent poverty, ranged from 3 to 10 in the state of Alabama (Greene County's ranking was 6 and Tuscaloosa County's was 5).²

The timber industry is a major economic player and employer in many counties in Alabama. Most of those working for the ACCC project have their employment roots

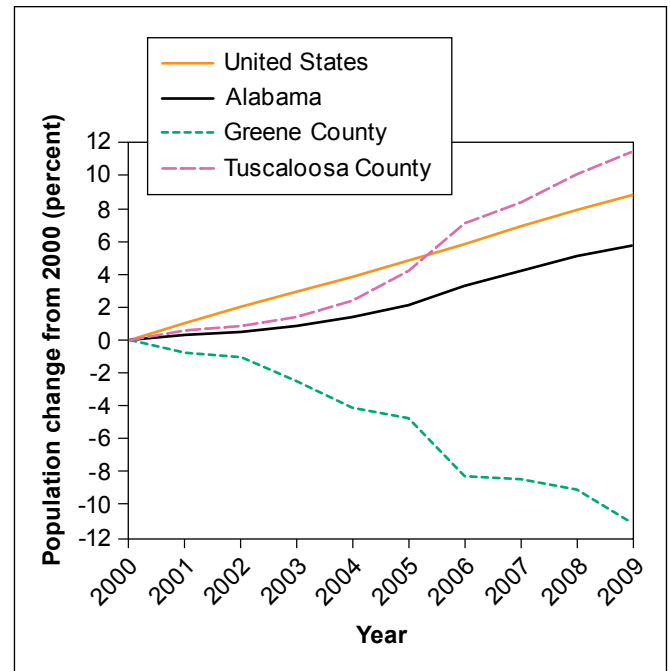


Figure 2-5—Change in population for the United States, Alabama, and each Alabama case-study county, 2000–2009 (USDC BC 2010a).

and training in timber-related jobs, and most also live in timber-dependent counties that were economically weak even before the recession (with some suffering from mill closures in the textile industry as well). The timber industry in Alabama has been affected by the recent recession, with layoffs and mill closings. Low pulpwood and timber prices have led to much less timber harvesting, which negatively affects the many forestry consultants that work for landowners (including those that organize site preparation and replanting operations), as well as the landowners themselves, who do not receive the income from timber harvests. Interviewees universally talked about economic impacts from decline in the wood product industry. Sawtimber prices have been particularly impacted, with pulp doing relatively better in many places. Landowners have been holding on to their high-value timber in expectation of a stumpage price increase while continuing to harvest pulp to provide some income or to perform necessary thinning of their forest stands.

² The Forest Service calculated economic distress rankings for every county in the United States, and used these rankings as the main criterion for making Recovery Act project funding decisions. Rankings are on a scale from 1 to 10 with 10 signifying the highest level of economic distress. See USDA FS (2009) for information on how the rankings were developed.

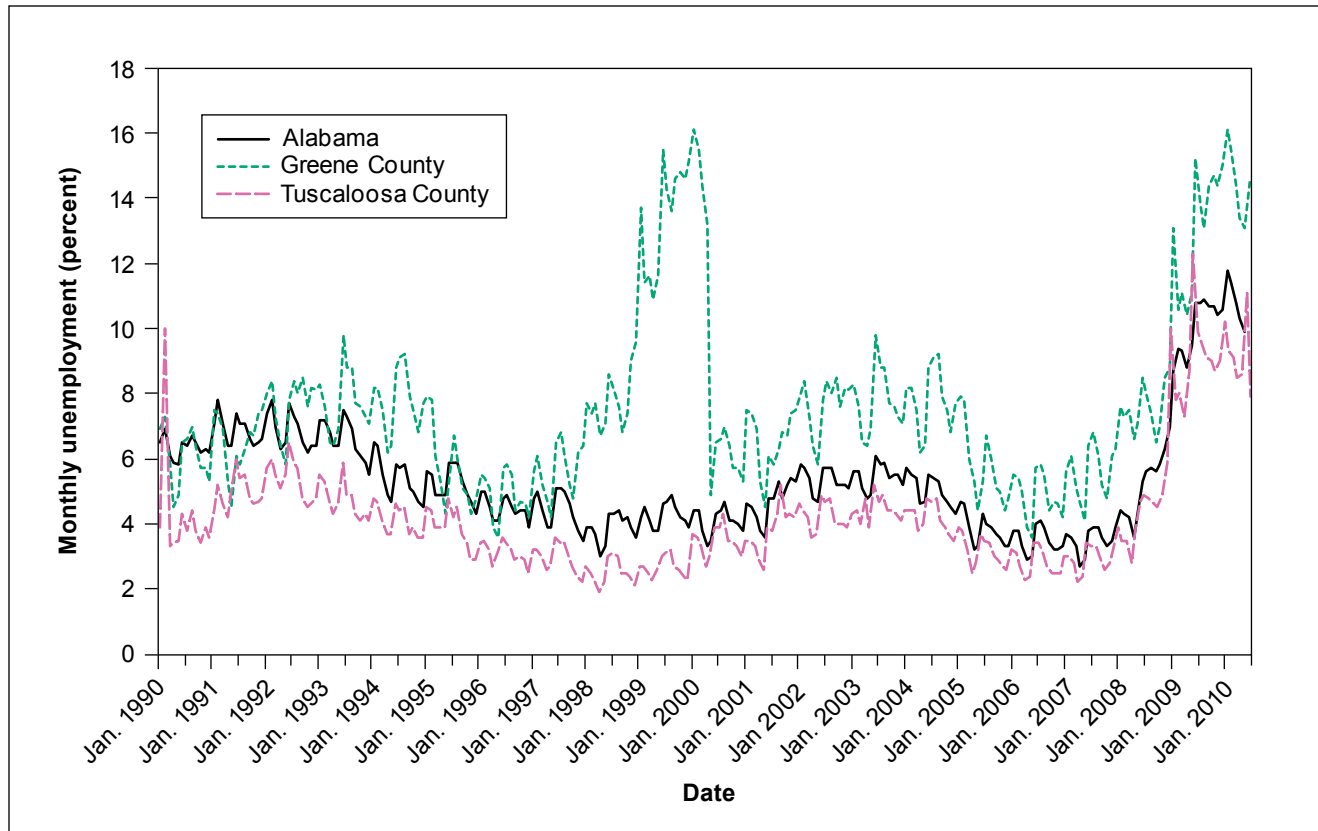


Figure 2-6—Monthly unemployment rates for Alabama, and Greene and Tuscaloosa Counties, 1990–2010 (USD L BLS 2010).

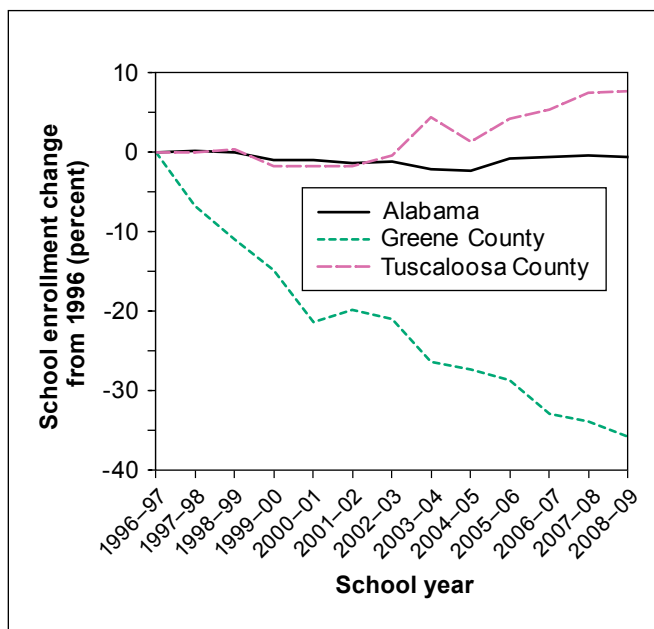


Figure 2-7—Change in school enrollment for Alabama, and each Alabama case-study county, 1996–2008 (USDE NCES 2010).

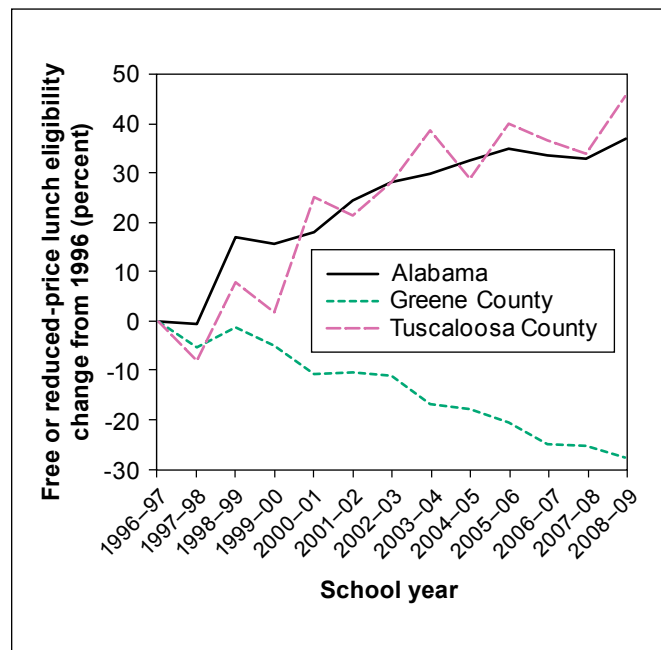


Figure 2-8—Change in number of students eligible for free or reduced-price lunch programs in Alabama, and each Alabama case-study county, 1996–2008 (USDE NCES 2010). Note: Reduced-price lunches were made available after 1999.

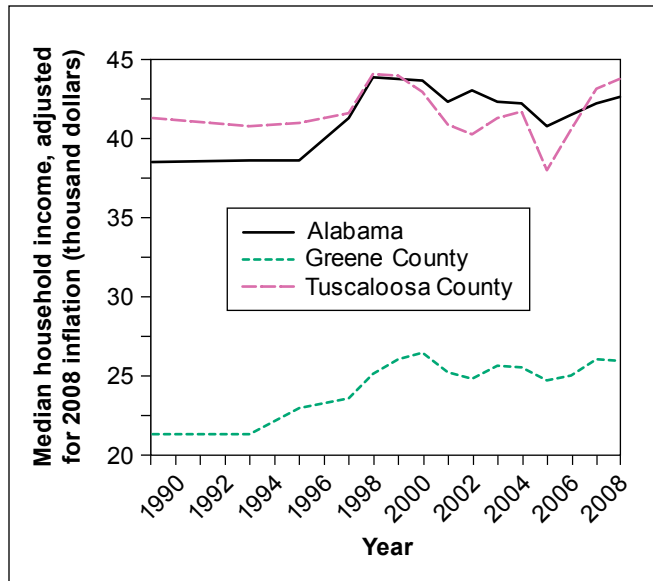


Figure 2-9—Median household income for Alabama, and each Alabama case-study county, in 2008 dollars, 1989–2008 (USDC BC 2010b).

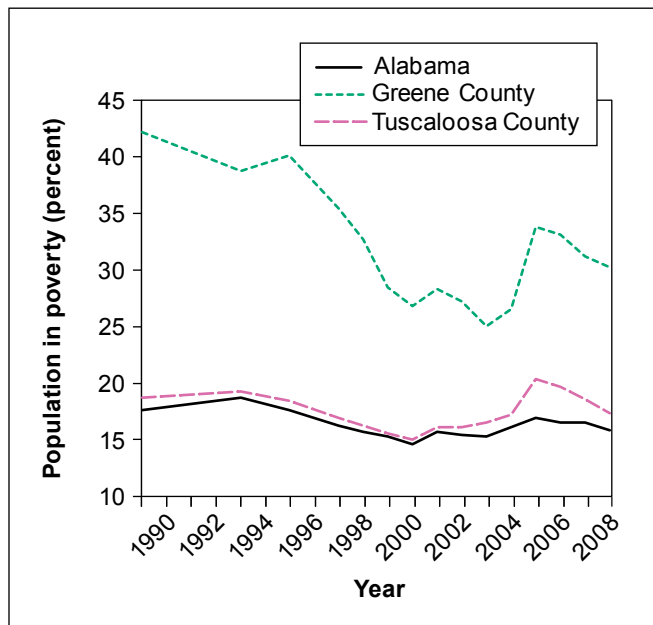


Figure 2-10—Percentage of population living in poverty for Alabama, and each Alabama case-study county, 1989–2008 (USDC BC 2010b).

Jobs

The project is managed by the AFC and LMI, and management jobs were primarily filled by current employees to ensure effective and timely administration of the project. Funding from the project has helped make

up for declining budgets and revenues and helped retain employees. The project is directly overseen by a high-level administrator at AFC who is not funded by the project. Funds do support one-third of the salary of an AFC employee who performs accounting and reporting services for the three Recovery Act projects for which AFC received funding, as well as five full-time equivalent positions for personnel within AFC who supplement the scouting being done by private sector foresters and perform verifications on treatment activities (table 2-2). Larson and McGowin, Inc. reassigned employees to the project, including a project director, a communication coordinator, and a spray supervisor. These employees have stepped back from their other work, some of which had declined as a result of the recession. Undertaking Recovery Act protects has diversified the LMI portfolio and built their capability to deal with a major threat facing many of their clients.

Table 2-2—Jobs reported by Alabama Forestry Commission

Reporting period				
Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
<i>Number of jobs^a</i>				
0.7	1.89	5.6	3.82	12.83

^a Job numbers are full-time equivalents. See appendix for reporting method.

Overall, the project expects to provide work to more than 70 contractors, which will account for the bulk of the job creation. The first field employees were hired as scouts, who have the responsibility of confirming previously mapped cogongrass spots in the field while looking for previously unknown infestations on surrounding lands. Scouts are local professionals, often independent registered foresters or individuals working in site treatment or herbicide application, hired to cover specific counties in their local region. Scouts are employed as contractors to LMI, and are able to work independently and schedule their own work.

One scout was recently unemployed, having lost his job in herbicide sales (this job itself was a reassignment from his middle management job lost during recent downsizing).

There were no jobs available in his field in the region in which he lived. The Recovery Act project came along at just the right time for him. He was able to get the contract as a cogongrass scout within a week's time, before he was even able to apply for unemployment benefits. Getting the cogongrass contract was, he said, simply, "... a blessing." Another scout indicated that his forestry consulting business had been in "pretty dire financial straits ... actually running in the red" for the first time ever. "We had a couple of technicians working for us we had to let go, we just ran out of work and couldn't make payday. That always hurts." The consultant added that "trees store well on the stump, and we've been advising landowners to hold back." Cogongrass scouting has provided some cashflow to keep him in business until landowners start selling timber again and commissions are received.

Most scouts took on the cogongrass work as an addition to their other consulting work, making up for at least some of the recession-driven decline in their business and keeping income levels close to where they had been before the recession. All those interviewed found this arrangement agreeable. One scout indicated that revenue from other businesses had dropped 30 to 40 percent from 2008 to 2009, and that the cogongrass work was filling this gap. Much of the cogongrass work is seasonal, and some contractors have been able to schedule work during what is normally their slow time of year, making it complementary with their other work and rounding out their workload.

The cogongrass work also brings scouts in contact with new landowners, has stimulated development of new skills, and has allowed them to expand their business areas. One scout reported, "One thing about this project is that it gets you in the door with a lot of landowners, because you are helping them deal with something that they do not understand. You get a foot in the door to maybe help them with other things on down the line." Another said, "I want to expand my business, and expand the numbers of landowners I communicate with, so overall this work will help my business in the long term." Clearly, the forestry consultants working in the project appreciate the opportunity to build relationships and trust with landowners that their work for the project affords.

I'd like to think this will help my business ... I take any chance I get to be exposed to landowners. That's why I'm on all these committees. That's where we've gotten our business. ... Very few people go looking for a forestry consultant in the yellow pages. Usually they know someone who has timberland that has used a consultant and gotten good results. ... From my perspective it is so much better when they call me and ask for help, rather than me having to do a hard sell. If I get my foot in the door, all I have to do is do a good job after that.

—Cogongrass scout

Contractors are also gaining new experience and skills in technology. The work requires the use of GPS units for finding and confirming known infestations and mapping newly found ones. The GPS points are put into a GIS-enabled mapper that helps locate more cogongrass infestations. Most of the contractors had limited experience with the new technology, and, although they are at times frustrated with learning a new technology, they understand and appreciate the opportunity to learn new skills and be more prepared for the future. One scout said, "I knew how this technology worked and what it was used for, but it was at a more theoretical level. Now I am using it a lot more, which I think will take me places in the future." Another said, "the GPS—I was going to throw it out the window at first—but it's so easy now. I've already used it on another job, and it made my work go a lot quicker than normal. And when we get our new units from the ACCC it will eliminate some paperwork and be even more useful."

Overall, people working on the project are very satisfied with the type of jobs created. If the project had been organized differently, one scout said:

Say by hiring five scouts to go out and find all the cogongrass in the state and then hiring a big applicator, maybe from out of state, to spray them all, there wouldn't have been any of these spin-off benefits. The applicator would have just blown through, taken the government's money, maybe done a good job;

but not provided the landowner with the opportunity to put a face on a local consultant, maybe have him treat a spot of kudzu, too. The way they organized it, it is doing a lot of good.

A small amount of herbicide was applied to cogongrass in the Fall of 2009 in Greene County, mostly as a test and learning experience. Herbicide application in 2010 did not begin until late July to take advantage of the optimum window of effectiveness. Applicators are only beginning to receive benefits from the project as this report is being written, but in the long run they may be the most significant employment beneficiaries of this project. As the project ramps up, there may be as many as 70 applicators operating during the spraying season (fig. 2-11). As with other contractors and consultants, the increased work is expected to help many of them stay in business, making up for some of the lost work and helping them ride out the recession until other work increases. Perhaps more importantly, they will now have experience with treating extensive infestations of cogongrass. They will be able to market their experience to landowners, many of which may be paying for some treatment of cogongrass or other invasive species on their own in the future. As with the scouts, the project is helping applicators get their foot in the door with landowners and to develop capacity that will last far beyond the duration of the project. One contractor reported he had hired five applicators, from North Alabama, all of whom had been unemployed.

As spraying gets underway, inspectors will field check spray work to make sure it is being done correctly and having the intended results. Although the original plan was to contract independent inspectors, the current plan is to use funds to pay the salaries of field employees from the AFC to avoid layoffs that would have otherwise been necessary because of budget shortfalls.

As a final employment benefit, the project is expected to have a multiplier effect in communities around the state. Applicators and other contractors are buying new equipment and spending money in many places as they do their work. The ACCC is buying all herbicides from within the state. The project is helping many contractors stay in business, which has long-term benefits to their employees and the people they serve. Although these benefits are difficult to quantify in a dispersed, statewide project, they do exist.

Broader Socioeconomic Benefits

Cogongrass infestations have the potential to cause a number of deleterious socioeconomic outcomes. It often invades along highways, where it may increase mowing costs and pose safety problems because of fire and smoke (fig. 2-12). The intense, hot fires when cogongrass burns may also threaten houses and other structures. Cogongrass also increases hazards and introduces other complications during prescribed burning and fighting of wildland fires. For example, it is difficult and dangerous to establish firebreaks while fighting wildland fires because of the



Figure 2-11—Spraying herbicide on cogongrass.

USDA Animal and Plant Health Inspection Service, Bugwood.org



Figure 2-12—Cogongrass infestation in highway median.

Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org

ease with which sparks from the volatile fires can jump firebreaks and endanger equipment operators when cogongrass is present. During prescribed burning, even relatively small patches of cogongrass can unexpectedly amplify fire intensity, damaging tree canopies, sterilizing soil, and making fires difficult to contain (fig. 2-13).

Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org



Figure 2-13—Cogongrass burns easily, increasing potential fire damage to forests.

Cogongrass negatively affects returns from most common land uses in Alabama. Although not generally a problem in tilled agricultural fields, it can invade pastures, where it provides poor forage because it is unpalatable to grazers, i.e., cattle, sheep, horses, and goats, owing to silica in the leaves. Cogongrass also negatively affects hayfields, not only because of its poor forage quality but also because baling and transport of cogongrass facilitates its spread (it is illegal to sell or transport as an Alabama-listed noxious weed). In pine plantations, it can decrease revenues (by an estimated 20 to 50 percent) from forest land by reducing timber growth and thereby increasing the time to produce saw logs. Its flammability greatly increases the risk of fire damage to timber, and its presence in timber stands forces greater management time and expense (fig. 2-14). Cogongrass also eliminates economically important wildlife habitat. Whitetail deer (*Odocoileus virginianus*) will not eat it, and it destroys turkey (*Meleagris gallopavo*), dove (*Zenaidura macroura*), and quail (*Colinus virginianus*) habitat, reducing returns from hunting leases and guided hunts. As one employee of the project noted, “If we don’t control cogongrass, much of the Southeast will become



James H. Miller, USDA Forest Service, Bugwood.org

Figure 2-14—Cogongrass poses economic threats to Alabama forests.

an ecological desert—nothing but cogongrass. It grows everywhere, on rocks or good dirt. Unlike other invasive plants, like kudzu, there’s nothing that limits it or keeps it in check. If we don’t control it, the land will quit producing.”

The Alabama Cogongrass Control Center project is helping landowners by reducing the threat cogongrass poses to economic and recreational uses of their land. If cogongrass continues to spread, many landowners will not be able to generate economic returns from their land and their land will change in undesirable ways. Most of the early work of the project has concentrated on establishing a line to halt the northward advancement of cogongrass. In southwestern Alabama, where cogongrass has a longer history, it is ubiquitous across the landscape. However, in central Alabama along the line of northern spread, cogongrass most often occurs in scattered small patches (from an area the size of several square meters to 1 or 2 acres). Because of this, the economic impact of cogongrass in central Alabama is not presently large, but rather presents a significant threat to future benefits.

Prior to the project, landowners interviewed had varying levels of awareness of cogongrass. Some were not aware they had cogongrass on their land until contacted by the project’s employees. Others had already identified cogongrass infestations on their land. Several landowners were aware of an unusual new grass on their land, and only some had identified it or sought assistance. For example, in Greene County in west Alabama, several landowners

reported watching the first patches grow from small spots to over an acre over the past 10 years. At the same time, new spots emerged, sometimes increasing into hundreds of spots on a single person's land. Landowners feel that their timber, wildlife, and native plant conservation efforts face long-term threats from the emergence of cogongrass. The most immediate threat may be fire. One landowner in Hale County related how he learned he had cogongrass on his land. He was conducting a prescribed burn, when all of a sudden he heard a loud "whoosh" as over an acre and a half of cogongrass ignited, killing all of the pine trees on that land. Before that, he was not aware that he had cogongrass on his property or the risk that it would present. Another landowner, from Greene County, told of trying to burn a patch of cogongrass to see if that would eliminate it, and being surprised by its flammability—she described a similar "whoosh" as if gasoline were igniting. Fortunately, the patch was small and isolated in a pasture and the fire did no damage. After this small patch burned, the emerging shoots were sprayed with herbicide, which had some effect in slowing down the spread. However, she did not succeed in stopping its spread or eradicating it from her land.

The ability of landowners to respond via management operations has varied. Some have not had sufficient money to treat cogongrass, whereas others have adequate financial resources but have not addressed the issue. A number had tried herbicide operations, but these individuals felt they did not have their infestations under control and were pleased to receive assistance. Most did not have the range of spraying equipment, from tractor rigs to backpack sprayers, ideally required to treat all the infestations on their land. Landowners were also concerned that their individual efforts would not succeed in the long run because of infestations on their neighbors' lands. The project helps overcome many obstacles or hesitations that landowners might have about treating infestations, including taking the initiative in identifying cogongrass spots, contacting neighbors with infestations, arranging for licensed and insured applicators, and treating infestations at no cost to the landowner. Timber markets have been down during the recession, and many landowners are not selling timber or pulpwood. Thus these landowners have little income with which to cover manage-

ment costs. Nearly all the landowners have been thankful to be contacted by the project and have given permission for cogongrass scouts and herbicide applicators to work on their land. Landowners also appreciate the promise of year-to-year followup, because those who have tried spraying feel they have not been successful in their control efforts. Finally, landowners were encouraged by the comprehensive approach, because it offers hope for a solution beyond their own land. As one landowner put it, "It is a good program. It has benefited me already. And it also benefits other landowners. We're all in this together."

The work of the ACCC provides a significant opportunity for outreach to forest landowners. The AFC has always had insufficient funds to address all landowner needs, and this project mobilizes a major outreach effort that (1) brings new landowners into the educational and extension process and (2) helps AFC demonstrate its concern and capabilities for helping private landowners. The before and after appearance of landscapes subject to cogongrass eradication is dramatic and noticeable, which helps spread interest among landowners. Similarly, cogongrass scouts and contractors involved in the project appreciate the opportunities the project provides to interface with landowners, particularly by being involved in a project that provides direct assistance to landowners and concrete positive results. This brings satisfying interactions with landowners, and also helps build future business. It is very likely that a new niche market will emerge in invasive plant control in Alabama as a direct result of the education and training managed and facilitated by LMI. The rapid response, data management, and educational outreach paradigm created by LMI will be scalable to other invasive species programs. There are many other invasive species affecting Alabama and other states that need to be controlled, e.g., Chinese tallow tree (*Triadica sebifera* [L.] Small), kudzu (*Pueraria* spp.), and privet (*Ligustrum* spp.). Even if the invasive plant control business grows slowly, consultants are increasing their business contacts with landowners through the project and may be able to offer landowners other services. In addition, landowners may be induced to give more attention to their land, thereby improving management and productivity. Many of the landowners being reached by the project are

reportedly those that have not previously been involved in cost share programs, so the project is reaching a whole new audience.

The ACCC has emphasized raising awareness about cogongrass. The communication director indicated that meeting all the requests for presentations has been a challenge, but a welcome one. He has given presentations to landowner groups, associations, government agencies, city councils, and environmental groups. The project appears to have significantly raised awareness of cogongrass among landowners and other people. Landowners especially expressed appreciation for the awareness raising. One woman told how the last time she sold timber on her land, she asked the loggers to wash off their equipment after they harvested so they wouldn't spread cogongrass from her land onto other lands, and they just laughed at her. Washing equipment is standard practice for stopping the spread of cogongrass, and the ACCC talks and other programs are raising awareness among loggers and road crews about the importance of washing equipment, which should have long-term impacts in limiting the spread of invasive plants. Cities and counties now know that cogongrass is there and want to treat it. County road representatives are now calling when they find cogongrass and asking what to do. They are told to avoid mowing cogongrass areas and to clean their equipment. As one official said, "Just that one thing can make a huge difference. Getting information into people's hands about prevention could minimize the spread."

Many people involved in the project reported noneconomic benefits. Forestry consultants employed as scouts were already familiar with cogongrass and happy to be making a contribution in mitigation and eradication efforts. Many particularly appreciated that the project was set up in a way that establishes a long-term capacity for cogongrass control. They reported that work was enjoyable, outside and physical but not as onerous as other management activities such as tree planting. Several scouts said looking for cogongrass was fun—"when you get in the truck each day you don't know what you are going to find." One said it was "like a treasure hunt." Landowners reported expected noneconomic benefits from cogongrass control. One landowner said, "If it got in my young pine plantations it would

just kill me [economically]. But I am just as worried about my pastures, where I have been trying to restore the native prairie plants found in the Black Belt."

Environmental Benefits

Cogongrass is native to Asia, and is an invasive weed. It can invade many habitats, forming dense stands that eliminate native plants by competing for nutrients, space, moisture, and sunlight. Cogongrass affects many wildlife species because it provides poor forage and impedes movement. When native plants are eliminated, ground-nesting wildlife species such as turkey (*Meleagris gallopavo*) and bobwhite quail (*Colinus virginianus*) may be harmed. Cogongrass also eliminates habitat and food for a threatened species, gopher tortoise (*Gopherus polyphemus*) (fig. 2-15). The project has a component to control cogongrass in areas of high ecological significance and sites with threatened and endangered species. One example of such a site is pitcher plant bogs, which despite being fire adapted may not be able to withstand the ecological changes brought about by cogongrass.



Dan Clark, National Park Service, Bugwood.org

Figure 2-15—Cogongrass reduces habitat and food for the gopher tortoise, a threatened species.

Cogongrass infestations over time change plant community structure to a new fire-dominated ecosystem. Cogongrass is highly flammable and burns hotter than many other plant species. Frequent and hot fires eliminate other species, including native plants and wildlife, and cause

mortality and inhibit the reproduction of even fire-tolerant pine trees such as longleaf pine. Cogongrass is a prolific seed producer and also propagates vegetatively through rhizome fragments. It is easily spread by equipment. It is primarily an invader of disturbed sites and bare soil, thriving on a wide variety of sites. Although cogongrass forms dense monocultures, its plant structure does not provide good ground cover protection, and some managers believe that areas dominated by cogongrass may produce significant sediment runoff during rainfall events, with implications for water quality. Cogongrass also uses prolific amounts of water during the growing season; thus, when present over large areas in a watershed, cogongrass may have negative impacts on water quantity. However more research is needed to fully understand the water quality and quantity impacts of cogongrass.

The ACC is implementing a strategic, landscape-level approach to cogongrass that is designed to facilitate long-term control in Alabama. This approach combines a geographically based eradication program to reduce the spread of cogongrass and create cogongrass-free zones with an educational program to raise awareness among landowners, equipment operators, and the public of the need to control cogongrass. Through public presentations and landowner contacts, the project is greatly increasing awareness of cogongrass throughout Alabama. This is especially important to landowners on the advancing edge of cogongrass spread, because it will enable them to focus on smaller spots that are easier to control before significant infestations become established on their land. It should also help reduce the spread of cogongrass as more landowners look for and control cogongrass. Cogongrass is often spread as a contaminant of road construction and forestry equipment. In Tuscaloosa County, many of the infestations are along the rights-of-way of two recently constructed highways. In Autauga County, two spots located by scouts had been harvested by the same logger a few years ago. Greater awareness is expected to lead equipment operators to take more proactive steps to mitigate the spread of cogongrass.

Effects on the Agency and Its Partners

The ACCC project grew out of a State and Private Forestry redesign project that provided funding to the AFC, which had been laying the groundwork for cogongrass control by mapping infestations and planning control activities. Alabama Forestry Commission employees said that they knew what project they would like to do when they heard about Recovery Act funding; the Cogongrass Control Center was the next natural step after the redesign project (fig. 2-16). As one person at AFC said, “We knew what we needed to do and how to do it, [with the Recovery Act project] now we had the money.”



Figure 2-16—The Alabama Cogongrass Task Force.

From the AFC perspective, the Recovery Act process worked well, particularly given the urgency of the effort. The AFC appreciated that the projects were evaluated by objective criteria, providing a level playing field for all the states to compete for funding. They were happy with both the process and the amount of money they received. Although all Recovery Act projects have stringent reporting requirements, the AFC views these as a plus because it ensured that everyone took the work seriously and was diligent. Because of the multiple partners, communication has been important, and people from all levels have opportunities for interaction. The AFC feels that they had to learn how to work smarter, and to draw on resources throughout the agency. Where typically a Forest Service project might be funded at \$1 to \$2 million and managed solely out of the state AFC office, this project involved regional and county AFC offices as well. Because the work was complementary

James H. Miller, Alabama Forestry Commission

with the AFC's other mission areas, it did not crowd out other important work. Ultimately, control and eradication of cogongrass will make the AFC's other work easier and safer. One AFC employee said that opportunities such as this provide the agency a chance to grow and stretch, to see what they can do to meet new challenges and to develop better processes and procedures. It helps the whole state, not just a portion of it, as well as the whole Southeastern United States. It forces greater communication and coordination, which have positive benefits in the long term. Various partners reported that communication has been excellent between the Forest Service, the AFC, and LMI. Communication has exceeded that necessary to do the job, and has created a climate of trust and mutual sense of purpose that will pay dividends into the future. Ultimately, the project will end with better educated and more aware landowners, with an excellent GIS system for mapping and tracking cogongrass, and with stronger capabilities for cogongrass control.

The money was awarded through a contract from the Southern Region of the Forest Service's State and Private Forestry Office to the Alabama Forestry Commission. This is the usual way that the Forest Service State and Private Forestry branch awards money to the states. What is unique in this effort is that the state then contracted with LMI to run the project. Larson and McGowin, Inc., although hiring core employees to run the project, is accomplishing the work largely by contracting foresters and herbicide applicators. Most of these contractors are adding the cogongrass work to their existing portfolios, which broadens the type of work they do and creates invasive plant control capability that will last long into the future.

Challenges

The biggest challenge reported in project administration has been having enough time. Recovery Act projects require Forest Service units to provide strict oversight on projects with no increase in funding or personnel. Similar levels of additional work occur at the AFC, which has taken on extensive accounting and reporting work.

At the project management level, it has been hard and time consuming to get the work underway. The project

was organized to strategically address the cogongrass problem in a way that would have lasting benefits. Work began with scouting and mapping to understand the spatial nature of infestations and to be able to approach cogongrass control at a statewide, landscape scale. At the same time, an educational campaign was mounted to raise awareness of cogongrass, first among landowners to encourage them to participate in the project—an essential ingredient for the landscape approach and long-term control—and second among loggers, road crews, and other groups to promote efforts to slow the spread of cogongrass. There are long-term benefits of having many local contractors involved in the project, but training, capacity building, and contacting, selecting, and hiring local forestry consultants and applicators to do the work took time and slowed job creation.

Key Findings from the Alabama Cogongrass Control Center Project

The ACCC project is providing immediate work that is helping many forestry consultants and herbicide applicators weather the recession. This is a significant short-term benefit that will continue for the next 2 or 3 years, after which employment in these sectors is expected to pick up. But there are also many long-term benefits of the project. The combination of cogongrass control capacity and landowner awareness of cogongrass is expected to stimulate a new niche industry in invasive plant control in Alabama. Funding for this project is not sufficient to do all the cogongrass control work that is needed in Alabama. But by developing a strategic approach to cogongrass control, stimulating the development of a cogongrass control infrastructure, and raising awareness of invasive plants and the harm they cause, the groundwork is being laid for long-term economic and ecological benefits. The project participants hope that demonstrating success in cogongrass control through this project will lead to more state and federal funding for control and will encourage landowners to control invasive species independently. Cogongrass control or containment must succeed in the long term to protect the very important forest products industry in Alabama, to allow landowners to receive important wildlife and hunting lease benefits, and to protect important ecosystems and environmental services.

The assessment of the ACCC project makes it possible to identify several key findings about the socioeconomic benefits of Forest Service Recovery Act investments. They are summarized here.

There are tradeoffs between taking the time to develop a strategic approach and doing the work in a way that has long-term benefits, versus creating jobs and doing the work quickly. Although more people could have been employed quickly and more cogongrass sprayed in the short run, it would not have been effective in the long run to simply hire scouts and applicators and dispatch them to work across the state. Cogongrass would have returned to many sites, public awareness would not have had time to build, landowners would have been less receptive to project employees from outside the area, and the foundation for long-term invasive plant control capacity would not have been laid. Short-term economic benefits and long-term project effectiveness based on careful strategizing are not always compatible.

Part-time and seasonal jobs can be very important and actually increase the employment impact and job satisfaction. In this case, the provision of part-time work to contractors and consultants matched the nature of the required work and was beneficial in terms of short- and long-term economic benefits. The project work made up for work lost during the economic downturn, keeping businesses operating and enabling contractors to continue to work with their existing clients. Consultants and contractors benefited from this arrangement; most wanted to keep their businesses going, and newly acquired skills and opportunities to meet landowners are expected to strengthen their businesses in the future.

With good communication and a strong commitment to project goals, people that work across a diversity of institutional and organizational types can collaborate effectively. This project links the Forest Service, the AFC, a major private forestry consulting firm, and many smaller scale forestry consultants and herbicide applicators to work toward a common purpose across a large landscape in a strategic fashion. Perhaps most notably, the project shows that the private sector can play a key role in natural

resource work that provides a large public benefit. In fact, the involvement of local forestry consultants and applicators from local communities and regions played a key role in generating landowner interest in and collaboration with the project.

Education, increasing public awareness, and face-to-face contacts are key aspects of project success, both in terms of environmental outcomes and economic outcomes. A high level of public awareness is critical for both stopping the spread of invasive plants and getting enough landowners motivated to accomplish effective control at the landscape level. Promoting interaction among landowners, forestry consultants, and applicators is creating a long-term capacity for invasive plant control and stimulating a niche industry.

Long-term benefits and capacity building are important if impacts are to be long-lasting. Although rapid job creation was the principal goal of the Recovery Act, it is also important to create quality, enduring jobs for recipients. By using the project to stimulate the development of an invasive plant control infrastructure among consultants and applicators, project benefits will endure and even increase over time. Furthermore, much of the project's early work is taking place on the advancing front where landowners have yet to feel severe economic impacts. But early control is much easier and cost effective, and this work is protecting landowners from the very severe long-term economic consequences that would ensue if cogongrass were to go unchecked and spread northward to additional states.

Lessons Learned

Adaptive landscape-scale approaches can be implemented to address large and complex forest resource problems. The ACCC Recovery Act project invested a significant sum of money into the control of a nonnative invasive plant. There were several innovative aspects of this investment. First, it implemented a strategic, landscape-scale approach to controlling a particularly noxious weed with the goals of containment and eventual eradication. Experiences gained through this project can help guide future efforts to control nonnative invasive plants across regional landscapes. The process used in this project

began with an overall understanding of the problem at a landscape scale and collaboration of scientists and managers to develop an effective control strategy. The Recovery Act project then directed a larger than normal investment at containment and is expected to demonstrate that the plant can be effectively controlled. Although Recovery Act resources are not sufficient to bring cogongrass under control in Alabama, the strategic approach of the project will stop its spread into the northern half of the state (as well as states to the north), and demonstrated success at controlling cogongrass will make the case for further funding. This approach provides a model for addressing other large-scale, intractable problems facing our Nation's forest resources. While reaping short-term benefits, it facilitates a combination of learning, capacity building, and results that can grow to meet the larger challenge.

When collaborative networks are used to address large-scale problems, the sum may be greater than the parts.

A second key lesson of this project relates to building collaborative networks across state, federal, and private entities to address large forest resource issues. The ACCC uses federal funding to coordinate the efforts of the state forestry agency (AFC), a large private forestry consulting firm (LMI), and many small forestry consultant and herbicide applicator firms. This is not simply another way of organizing work. Each of these entities brings unique capabilities that increase the likelihood of project success. For example, the state agency provides statewide coverage and long-term continuity, the large consulting firm brings critical consulting experience and new technology, and the consultants and applicators are familiar and enduring local businesses that know how to work with local landowners and will continue the work beyond the project's duration. Ultimately the project will stimulate new capacity—and a new industry—in invasive plant control. This, in turn, will produce long-term socioeconomic and environmental benefits. Many forest resource problems are unfolding at a scale that can only be addressed by such coordinated effort and capacity building, and the ACCC represents a useful model.

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Chapter 3: A Socioeconomic Assessment of Forest Service Recovery Act Projects: Apache-Sitgreaves National Forest and White Mountain Apache Tribe, Arizona

Sally Campbell



A. McCabe

Sam Burns, James Dietrich, Katherine Mattor, and Thurman Wilson¹

Summary

The Apache-Sitgreaves National Forest (ASNF), located in a natural-resource-dependent and economically depressed area of Arizona, is using American Recovery and Reinvestment Act (ARRA) funding to build upon existing rural development efforts with many partners. This case study reviews ASNF-associated forest restoration and fuels reduction, recreation and road improvement, and White Mountain Apache Tribal projects that received Recovery Act funding. The overall objectives of these projects are to increase and sustain local employment, increase investment in forest restoration and fire mitigation efforts, and build local capacity for long-term economic development. Many recovery projects were implemented quickly by using existing contracting mechanisms, including the White Mountain Stewardship Contract for forest restoration work and existing indefinite delivery, indefinite quantity (IDIQ) contracts for work on campgrounds and roads. A Tribal Forest Protection Act agreement facilitated forest

Fast Facts

Total Forest Service Recovery Act Investment, Arizona (as of 09/08/09): \$53,142,000

Recovery Act Investment, Case Study: \$25,427,000

Case-Study Location: Apache-Sitgreaves National Forest and Fort Apache Indian Reservation

Counties: Apache, Navajo, and Greenlee

Project Types: Forest restoration and rehabilitation, fuels reduction, recreation, road improvement, greenhouse construction.

rehabilitation and infrastructure efforts with the White Mountain Apache Tribe. The ASNF also provided a diverse mix of opportunities for potential bidders by offering contracts of different types and sizes.

Many of the projects supplement existing efforts to recover from the 2002 Rodeo-Chediski Fire that burned more than 460,000 acres, mostly on the White Mountain Apache Reservation, and to reduce the risk of other large fires threatening local communities. Community work over the last decade to increase wood processing infrastructure and create a forest restoration economy will enable the biomass from more than 15,000 acres of forest restoration and fuel reduction treatments funded by ARRA to be used productively rather than left in the woods. The recreation

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and road improvement projects allow the ASNF to catch up with deferred maintenance needs that are focused in areas of particular economic concern to local communities.

The Recovery Act projects have built upon and strengthened existing local partnerships among the communities, tribe, and agency. These partnerships have enhanced the local capacity to implement these and subsequent projects over the long term. The enduring development benefits to the rural communities in the White Mountain Region will be even more important than the initial jobs created through direct Recovery Act funding. Infrastructure is being improved, economic capacity is being built, and relationships are being strengthened, all of which bode well for long-term benefit to the local communities, the tribe, and the ASNF.

The Case

The Apache-Sitgreaves National Forest covers more than 2 million acres across the White Mountain region in east-central Arizona. It is primarily located within Apache and Navajo Counties and is adjacent to the Fort Apache and the San Carlos Indian Reservations (fig. 3-1). The Navajo and Hopi Reservations, north of the ASNF, also make up a large portion of the land area of Apache and Navajo Counties. The region has a relatively small population. In 2009, the U.S. Census Bureau projected the combined population of Apache and Navajo Counties to be 183,566, roughly 1.7 percent of Arizona's projected population. Despite modest population growth over the last decade (fig. 3-2), school enrollment in the area has been dwindling (fig. 3-3) suggesting an aging workforce and an exodus of younger families. In Apache County this is particularly noticeable; from 2000 to 2008 the median age shifted from 27 to 30 (USDC BC 2010a). A notably high

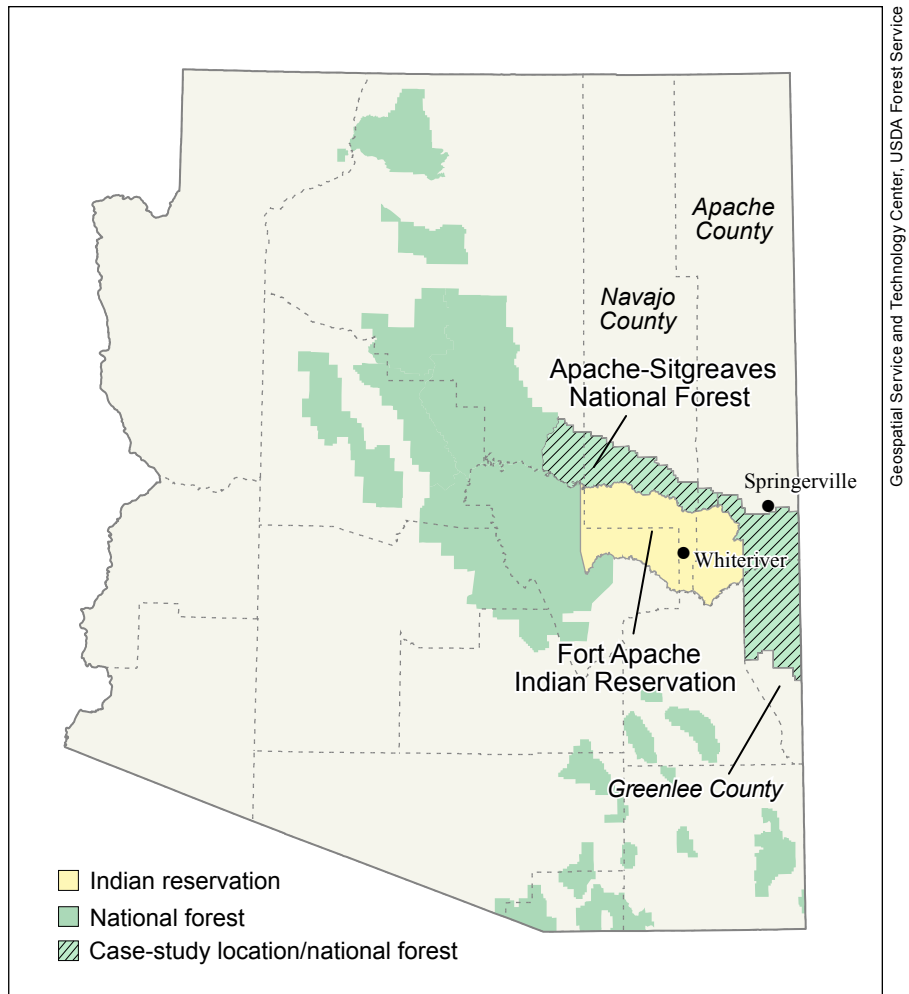


Figure 3-1—Case-study location and surrounding areas within Arizona.

percentage of the population in both counties is living in poverty; in 2008 the U.S. Census Bureau reported that in Apache County 33.2 percent of the population was living in poverty (roughly twice the poverty rate across the state), and in Navajo County 23.1 percent of the population was in poverty (fig. 3-4). Contributing to this poverty is the fact that median household income in both counties is \$10,000 to \$20,000 less than median household income across the state (fig. 3-5). From January of 2007 to January of 2010, as the national economy began to suffer, unemployment across Arizona rose from 4.2 percent to 9.7 percent. However, in Apache and Navajo Counties where unemployment was already hovering around 10 percent, unemployment spiked at 16 percent (fig. 3-6). The Recovery Act funding has helped to relieve this job loss.

The White Mountain Region has an enduring rural quality, with its roots in ranching and logging still apparent across its small forest-dependent communities. Many of the towns have experienced a transition in their relationship

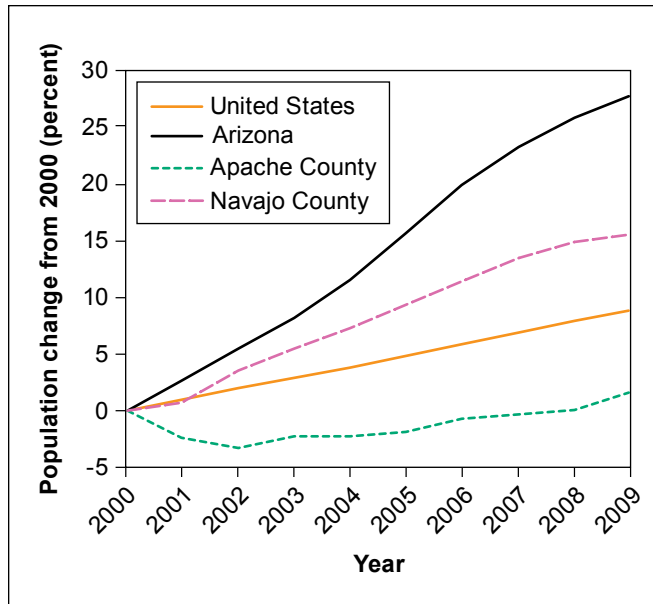


Figure 3-2—Change in population for the United States, Arizona, and Arizona case-study counties, 2000–2009 (USDC BC 2010a).

with the ASNF, as recreation and tourism have become increasingly important to the local economies. The large sawmills operating in the White Mountains began to close in the 1960s: the McNary Mill closed in 1969, the Stone Mill in Eagar closed in 1998, the pulp mill in Snowflake, Arizona, converted from raw materials to 100 percent recyclables in 1999, and the Fort Apache Timber Company (FATCO) closed its last mill in 2009. Without numerous integrated efforts in collaboration, community-based forestry, and biomass utilization, this transition would have had more severe socioeconomic impacts on the local forest-dependent communities. Economic and social resilience have been significantly increased through a variety of collaborative efforts to move toward a restoration-based forest products economy.²

Although government employees make up the largest segment of the local workforce, the timber, recreation and tourism, and construction industries are the economic mainstays of the White Mountain area. The communities in and

² For additional information on these efforts, see McClure Consulting LLC (2010).

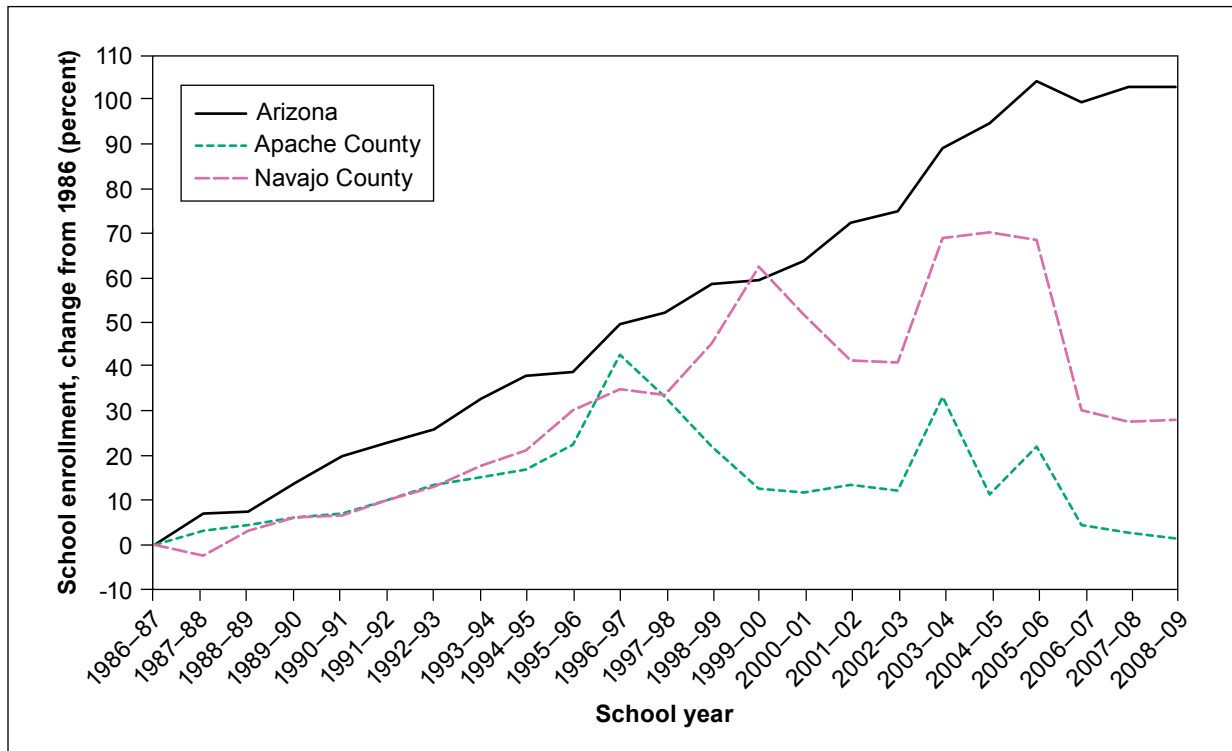


Figure 3-3—Change in school enrollment for Arizona and Arizona case-study counties, 1986–2008 (USDE NCES 2010).

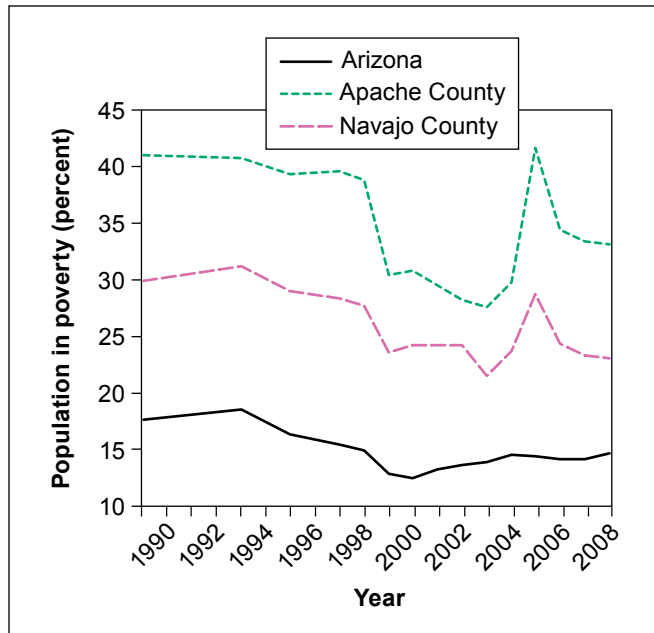


Figure 3-4—Population living in poverty for Arizona and Arizona case-study counties, 1989–2008 (USDC BC 2010b).

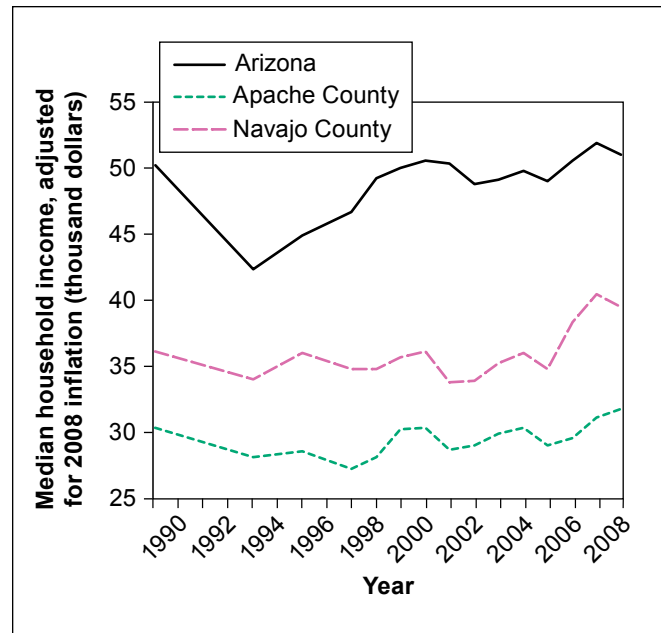


Figure 3-5—Median household income for Arizona and Arizona case-study counties in 2008 dollars, 1989–2008 (USDC BC 2010b).

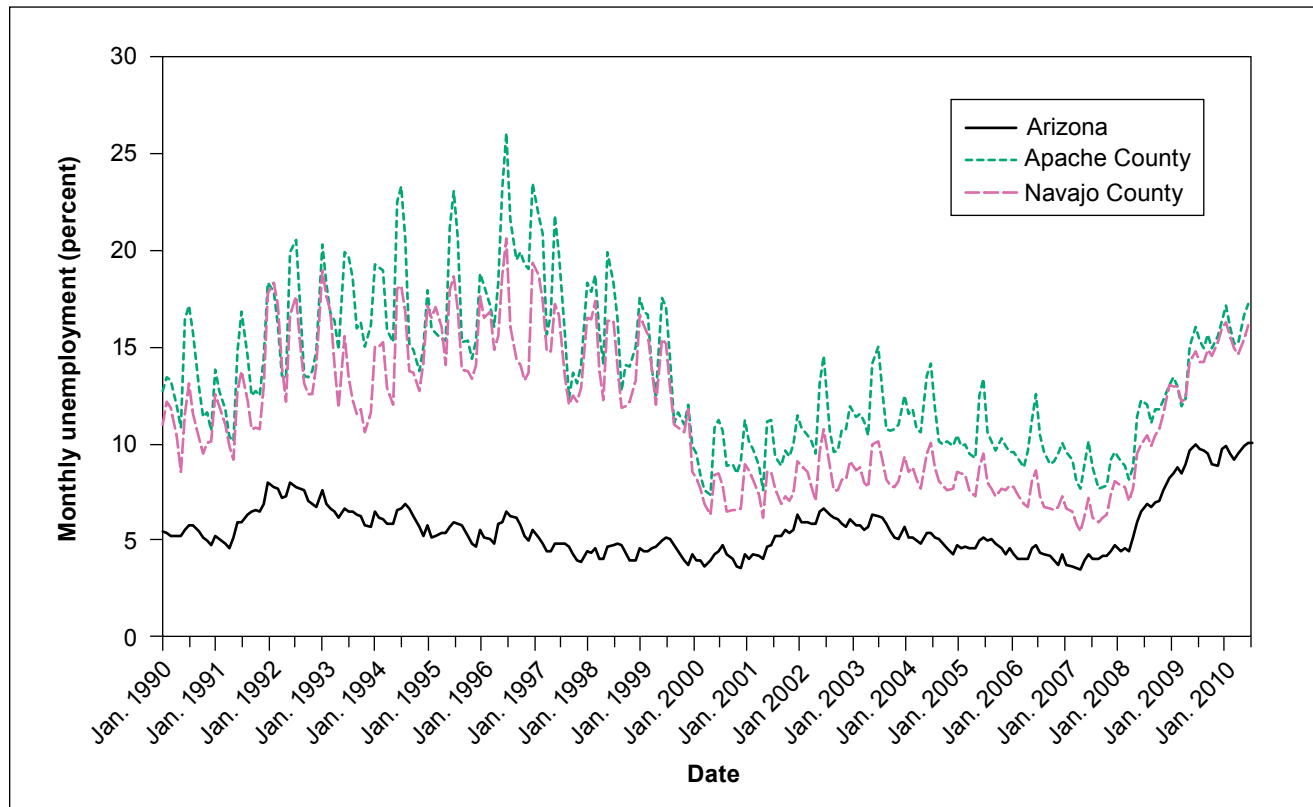


Figure 3-6—Monthly unemployment rates for Arizona and Arizona case-study counties, 1990–2010 (USD L BLS 2010).

around the ASNF were initially buffered from the recession by continued construction work at nearby powerplants and state highways, increased employment at a nearby correctional facility, and work associated with the White Mountain Stewardship Contract. Most of these construction projects ended in mid-2009, and, with declines in tourism and real estate sales, the recession caught up with local businesses.

The natural beauty, cooler temperatures, and countless lakes of the ASNF attract more than 1.5 million visitors a year. Overnight visitor use of “developed sites” on the ASNF is reportedly the highest in the National Forest System.³ Its proximity to Phoenix makes the western side of the forest a weekend tourist destination, whereas the eastern side experiences more extended visits, with many visitors returning year after year to the same spots their parents and grandparents enjoyed. The recreation and tourism industries are an essential part of the state and local economy (Arizona Governor’s Forest Health Oversight Council 2007). Nonetheless, the ASNF campgrounds, mostly constructed in the 1960s and 1970s, have been strapped with a large backlog of maintenance needs. The most critical of these occurred in 2008, when the popular Hoyer Campground near Greer was on the verge of being closed because of problems with its outdated wastewater treatment system. The community came to the Forest Service’s aid to keep it open by providing portable toilets at a cost of \$18,000.

In 2002, the largest wildland fire in Arizona history, the Rodeo-Chediski, burned nearly half a million acres: 60 percent on the White Mountain Apache Tribe’s reservation, and most of the remainder on the ASNF (Arizona Department of Health Services 2010). This fire resulted in the evacuation of 30,000 people and the loss of more than 400 homes. Reforestation and watershed restoration work is ongoing. Continued concern about wildfire danger has led to strong community support and political pressure for increased thinning on national forest lands. This fire also set the stage for the White Mountain Stewardship Contract

(WMSC), which was initiated in 2004 as the first 10-year stewardship contract undertaken by the Forest Service and the largest to be initiated at the time. The objective of the WMSC is to conduct up to 150,000 acres of fuel treatments while simultaneously increasing community-based industry capacity for processing small-diameter wood (Abrams and Burns 2007). Some interviewees say the local wood products industry weathered the recession better than that of other places because the local industry includes products not associated with finished lumber and housing, such as wood pellets for heating and unfinished wood beams being shipped to Mexico. Nonetheless, two of the local mills shut down for 6 months, several timber contractors left, and those who did stay in business slowed down considerably.

The 1.67-million-acre Fort Apache Indian Reservation, home to approximately 15,000 White Mountain Apache Tribal members, has had two primary economic drivers: the timber and the recreation and tourism industries. In addition to losing a significant portion of their timber base in the Rodeo-Chediski Wildfire, the housing slump and the closure of two tribal mills has worsened economic conditions on the reservation even further. During the recession, unemployment on the reservation has reached nearly 50 percent, with the majority of the remaining employment being seasonal based on casino operations, fishing and hunting, and winter skiing.

Collaboration and partnerships have played a key role in the emergence of community development and forest restoration initiatives across the region over the last 15 years. These partnerships, as well as existing mechanisms such as the White Mountain Stewardship Contract and the Tribal Forest Protection Act agreement⁴ provided the ASNF with an outstanding opportunity to build on these initiatives using Recovery Act funding.

³ The ASNF estimated use is 473,800 visits per year. This was based on ASNF staff interviews and confirmed by the National Visitor Use Monitoring data available at <http://www.fs.fed.us/recreation/programs/nvum/>.

⁴ The Tribal Forest Protection Act (Public Law 108-278) was passed in July 2004 in response to devastating wildfires that crossed from federal onto tribal lands the prior summer. The act provides a tool for tribes to propose work and enter into contracts and agreements with the Forest Service or Bureau of Land Management to reduce threats from federal lands adjacent to Indian trust land and Indian communities (USDA FS 2005).

The ASNF was very aggressive in applying for Recovery Act funding. Many ASNF staff saw this as the opportunity of a lifetime for getting work done on the ground and focused on projects with mechanisms to successfully implement the funding in a quick and efficient manner. As a result, 36 of the 93 recovery projects the ASNF applied for were granted, providing the forest and the tribe with more than \$25 million in funding to use within counties with some of the highest poverty levels in the country.

Three broad categories of Recovery Act projects are described in this case study:

- Forest restoration and fuels reduction on the ASNF.
- Recreation and related road improvements on the ASNF.
- Forest fire rehabilitation efforts and greenhouse construction on the Fort Apache Indian Reservation.

Methods

This case study was primarily conducted using qualitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act project. A total of 32 individuals were interviewed for this case study. Interviewees included 13 Forest Service employees who developed or implemented the projects, 6 local business representatives and 6 tribal representatives who received Recovery Act funds, and 7 community members who benefited from jobs created or retained as a result of the project.

Additional qualitative data were obtained from published sources such as newspapers, local government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods and data sources, see the appendix.

The Projects

Apache-Sitgreaves National Forest Restoration and Fuel Reduction

Project recipients and partners—

Vegetation management occurring under the WMSC is the primary Recovery Act forest restoration and fuel reduction project on the ASNF. The bulk of the contracts were awarded to Future Forest, LLC, a partnership between a harvesting contractor, Walker Brothers Contracting, Inc., and a wood pellet manufacturer, Forest Energy Corporation (table 3-1). Stewardship contracting allows private organizations or businesses to remove forest products in return for performing work to restore and maintain healthy forest ecosystems. In this case, the value of the wood removed partially offsets the cost of thinning dense stands of ponderosa pine (*Pinus ponderosa* Dougl. ex. Laws.).

Now in its sixth year, the WMSC has developed significant credibility as an efficient and effective program, with its success based on long-term partnerships built across diverse social, economic, and environmental interests (Mattor et al. 2009). In addition to ecosystem restoration and hazardous fuel reduction, the WMSC was designed to facilitate the development of a wood products industry better suited to utilize the small-diameter trees that characterize the area (Abrams and Burns 2007, Steelman and Kunkel 2003). Future Forest serves as a wood broker, which has distributed the wood removed from the Apache-Sitgreaves to 20 other businesses since 2004.⁵ Strategies developed through the WMSC to integrate locally based forest products industries have established a vitally important network of wood product facilities producing wood pellets, biomass energy, pallets, lumber, furniture, molding, soil fertilizer, and animal bedding, which were able to productively absorb the biomass removed with the recovery funding. Five logging contractors work with Future Forest to remove the wood from the forest and deliver it to these businesses (Sitko and Hurteau 2010). Although there is a guarantee within the WMSC to fund a minimum of 5,000 acres of harvesting per year, 35,166 acres have been treated over the

⁵ For a list of businesses associated with the WMSC see Sitko and Hurteau (2010: 70).

Table 3-1—Project recipients and funding obligated to date

Recipient	Project category and description	Total funding amount	Funding mechanism
		<i>Dollars</i>	
Future Forest (all task orders), Specialized Tree Service (contract), APC Pallets Incorporated (grant), two others to be decided	Forest Restoration and Fuels Reduction (WFM): Work pertaining to White Mountain Stewardship Contract (eight task orders), site preparation for reforestation, precommercial thinning, expansion of Eager Mill	9,707,000	4 contracts (WMSC contract includes 8 task orders), 1 grant
Multiple	Recreation Infrastructure and Roads (CIM): Campground improvements, trail maintenance, Forest Service road maintenance	7,990,000	1 agreement, 48 contracts ^a
White Mountain Apache Tribe	White Mountain Apache Tribe Projects: Restoration of Forest Service and tribal lands, fuel reduction on Fort Apache Indian Reservation, watershed enhancements, development of nursery to support restoration efforts	7,730,000	1 agreement, 2 grants

^a Estimated number of contracts awarded as of January 2011.

WFM = Wildland Fire Management.

WMSC= White Mountain Stewardship Contract.

CIM = Capital Improvement and Maintenance.

life of the stewardship contract (2004 to present) as of April 2010 (Sitko and Hurteau 2010). The rural development and integrated harvesting and utilization approaches, coupled with the collaborative framework of the WMSC, made it possible to quickly and efficiently implement several million dollars worth of task orders for treatment under the contract (fig. 3-7).

Because of the existing stewardship contract, previously completed National Environmental Policy Act (NEPA) decisions, project planning, field preparation, and a dedicated Forest Service staff, immediate implementation of the Recovery Act-funded task orders was significantly enhanced. The forest was able to implement the WMSC with recovery funds because it had already been competitively bid. According to one district silviculturist, “The White Mountain Stewardship project never lost a beat with ARRA because they didn’t have to develop a new contract ... the only thing they do differently because of ARRA is to charge to a different job code.” This was possible because the task orders (planned and approved harvesting on a specific number of acres) had already been prepared.



Figure 3-7—Chain flail debarker feeds chipper on White Mountain Stewardship Contract.

The WMSC is expected to treat 10,000 acres for forest restoration and hazardous fuel reduction using economic recovery funding in 2010 and 2011. As of June 2010, Future Forest had accomplished work on four of the eight recovery-funded task orders: Excalibur, McKay, Butler, and Greer C. The forest restoration/fuel reduction projects on the ASNF will continue with harvesting work on West Cheylon,

Courtesy of Future Forest

Wolf A, Nutrioso 2, and Mineral BX. Task orders are described on the basis of hundreds of acres and the desired treatment prescriptions. Additionally, the recipient quarterly reports by Future Forest provide information on the number of tons of fiber removed. For example, during the last quarter ending June 30, 2010, approximately 12,187 tons were removed on the Butler

Task order, which is more than 50 percent completed.

The ASNF also used Recovery Act funding to provide forest restoration and fuel reduction opportunities for other local contractors who are not associated with the WMSC by advertising several smaller projects. These included a project to remove hazard trees from developed recreation sites intended to provide work for unemployed arborists and fire-mitigation contractors. Another project, Nutrioso Wildland Urban Interface (WUI) Pinyon-Juniper Restoration, intends to protect watersheds and aquatic species as well as reduce fire risk to adjacent private property by thinning 1,500 acres of dense forest stands. The Pinyon-Juniper Thinning and Mastication Project will restore 3,700 acres where this vegetation type is spreading beyond its historical range.

Another recovery grant has been used to develop a minority-owned pallet mill in Eagar at the site of the closed Stone Forest Industries mill. This builds upon an existing local strategy that providing mill capacity is essential to make wood removal affordable. Another recent example is the creation of Pure Wood Products, a new spinoff company from Future Forest, which received a \$75,000 resource advisory committee grant to conduct marketing and develop a demonstration project for wood straw, and a \$250,000 grant from the USDA Forest Service Forest Products Lab to purchase machinery (a veneer machine and “muncher”) to manufacture wood straw. These new industries, as well as increased production of biomass energy at the Snowflake White Mountain Power plant, will provide new outlets for recovery-funded biomass removal.

Socioeconomic benefits—

An average annual treatment of 7,700 acres per year took place in the WMSC’s first 5 years, prior to Recovery Act funding (Sitko and Hurteau 2010). This work resulted in approximately \$13,300,000 in annual expenditures within

White Mountain communities by local businesses, and more than \$600,000 generated in annual taxes paid to local governments (Sitko and Hurteau 2010).

The economic recovery funding has allowed Future Forest to continue its commitment to work with other local companies and develop the local wood products infrastructure and community economic status (fig. 3-8). With this funding they were able to initiate contracts with two additional logging companies, totaling 14 employees. Both of these logging contractors had been working on the White Mountain Apache Tribe reservation and were out of work because of the closure of the tribal mills. Several new employees were hired, including a veteran who had recently returned from Iraq, and a block layer who was out of work owing to the recession.



Courtesy of Future Forest

Figure 3-8—Unloading chips at Forest Energy Corporation pellet mill.

In addition, Future Forest’s product diversity makes it more likely that there will be markets for at least some products during challenging economic times. Future Forest’s commitment to the local economy is also evident when they sell wood to these processors below market value as a means of keeping them in business. According to Future Forest’s Managing Partner, “I trust these guys and I need to keep them in business.” The recovery task orders provide seasonal but steady work for these companies, and as a result of the recovery money, the mill and logging capacity of the region is increasing. It is estimated that 319 jobs per

year have been attributed to the WMSC (226 direct and 93 indirect) including local wood products and harvesting jobs (Sitko and Hurteau 2010). Prior to recovery funding, many of these businesses were shutting down and contractors were moving out of the region. The number of jobs created through the WMSC with recovery funding is reported in table 3-2.

Environmental benefits—

The WMSC work was initiated as a means to mitigate fire risk throughout the area. The management prescriptions have since shifted to better represent historical vegetative conditions, provide improved habitat conditions for native species, especially Mexican spotted owl (*Strix occidentalis lucida*) and northern goshawk (*Accipiter gentilis*), and protect municipal watersheds while still reducing fire risk conditions. Surface fires should now be able to run through the treated stands without creating an uncharacteristic stand-replacing fire. Just as the rural development benefits of the WMSC have been advanced by an integrated community-based economic approach, the ASNF's forestry, wildlife, and hydrology staffs have become more integrated in their environmental analyses and project design.

Apache-Sitgreaves National Forest, Recreation Infrastructure and Roads

Project recipients and partners—

In this report, emphasis will be placed on those Recovery Act recreation projects intended to complete the major deferred maintenance projects on the Hoyer Campground, Luna Lake Campground, Big Lake Recreational Area Campgrounds, and East Fork of the Black River Campgrounds; to upgrade and reconstruct 26 miles of the Saffell Canyon All Terrain Vehicle Trail; to reconstruct and surface 3 miles of the Rim Vista Trail; and to resurface, stabilize, and improve drainage on roads within and connecting the ASNF and local communities.

Six local contractors who had previously worked for the ASNF were used to complete these projects. Most of these projects were implemented in an efficient and timely manner by local contractors because IDIQ contracts were already in place for most of them. Recreation and engineering staff on the ASNF had previously completed a considerable amount of planning and design work on several of these recreation facility and road improvement projects prior to Recovery Act funding becoming available. Overall, this meant the recovery financial resources could be used

Table 3-2—Jobs reported on the Apache-Sitgreaves National Forest

Recipient	Number of contracts/ agreements	Reporting period				
		Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
Number of jobs ^a						
Forest restoration and fuel reduction (WFM):						
Future Forest	1 contract (8 task orders)	—	113	113	85	72
Specialized Tree Service	1 contract	—	—	—	1	—
APC Pallets	1 grant	3	10	—	10	—
Still to be awarded	2 contracts	—	—	—	—	—
Recreation infrastructure and roads (CIM): ^b						
Multiple recipients	48 contracts, 1 agreement	28	20.1	6	15.1	55.3
White Mountain Apache Tribe projects:						
White Mountain Apache Tribe	1 agreement, 2 grants	—	15	39	50	65.8

Note: (—) indicates that no quarterly report was available.

^a Job numbers are full-time equivalent jobs. See appendix for reporting methodology.

^b Jobs data are estimates associated with contract work.

within an existing framework of indepth strategic planning and local collaboration, another example of the high level of preparedness on the part of ASNF staff.

The first phase of the Hoyer campground renovations was one such project (fig. 3-9). This campground is located just north of the small town of Greer, adjacent to three small reservoirs and the Little Colorado River, and includes 91 Americans with Disabilities Act (ADA)-accessible camping units that generally remain occupied from mid-May to the end of September. Hoyer and 30 smaller campgrounds on the ASNF have a significant direct economic and cultural connection to the local community. Local merchants rely on seasonal tourists for sales of fishing and hunting gear, groceries, and camping amenities, as well as dining and retail sales. Because of the local community's direct economic connection to the campground, they place a high value on it and are willing to support and invest in it. The Hoyer Campground is being worked on by five contractors—four on roads related to the campground, one on facilities. Phase 1, completed in 2009, consisted of resurfacing roads and widening camping spurs, installing new tables and fire rings, and replacing faulty toilet units. This phase was successfully completed quickly because the contracting officer's representative and contractors had experience working together. They had completed enough design work to award contracts and were able to adjust as needed. Accomplishments completed by December 2009 include:

- Demolished seven restrooms and prepared for vault toilet installation.
- Reconstructed and resurfaced Hoyer Campground's main road.
- Enlarged, improved, and resurfaced 91 camping spurs and picnic spaces.
- Improved drainage and erosion control.

Four local contractors were hired to upgrade and stabilize the campground roads (table 3-1). Each contractor is well established in the community and had been doing brisk business prior to the recession. Once the recession started, these contractors were forced to take smaller jobs and were unable to sustain the levels of employment they maintained prior to the recession. Because the Hoyer Campground construction project funding was received very quickly, two of these companies were able to secure a contract in time to stave off bankruptcy and resulting dismissal of their employees.

Road construction and maintenance projects are a second large Recovery Act effort occurring across the ASNF on National Forest system roads (NFSRs, 249, 249E, 24, 26, 275, 405, 688, and 8007) and campground loops and culverts (Big Lake and Luna Lake Campgrounds). Eight contractors have been granted contracts to upgrade and maintain roads connecting communities and campgrounds across the forest. "All roads lead to Big Lake" is a commonly heard phrase because practically every road and highway connects the towns of Showlow, Greer, Springerville, Eagar, Alpine, and others to the USFS campgrounds in what is called the Big Lake Complex. The roads therefore provide an important economic pathway for tourists traveling between campgrounds and local towns throughout the region.

In the latest quarter ending June 30, 2010, numerous road resurfacing, paving, and culvert replacement projects have begun. The construction consists of activities such as crushing and stockpiling aggregate, asphalt patching and resurfacing, soil stabilization, and fog sealing and striping of parking lots and roadways (June 30, Recovery Act quarterly reports). Geisler Skidding Contractors, Marks



Figure 3-9—Hoyer Campground Spur Upgrade, Apache-Sitgreaves National Forest.

Trucking and Tractor Works, Sug Rogers Construction, and V Mountain Construction have been the recipients of recovery funding for this work.

A third major recreation project is the Saffel Canyon Trail renovation, which entails upgrading and reconstructing this 26-mile trail (fig. 3-10). This is the only trail specifically designed for all-terrain-vehicle (ATV) use on the forest, and has developed into a large economic boon for the area. The Saffel Canyon Trail, and the annual “Outlaw Jamboree” showcasing it, directly contribute to the local economy through demand for lodging, restaurants, supplies, and the promotion of other regional attractions. Many people discover the trail at the Jamboree and bring their families and friends back to enjoy it on subsequent visits. The Town of Eagar received a \$276,300 grant from Arizona State Parks for Saffel Canyon Trailhead upgrades, improved stream crossings and drainage, and moving the trail out of a riparian area. A key reason the recovery money was received for the Saffel Canyon Trail project is because of the importance of this trail to the community and the community’s resulting financial and political support.



Figure 3-10—Saffel Canyon Trail Bridge on the Apache-Sitgreaves National Forest.

Numerous recreation infrastructure projects will continue throughout 2010 and 2011 (fig. 3-11). These include Phase II of the Hoyer Campground renovations (shower and potable water facilities), installing vault toilets at the Luna Lake Campground, and the continued upgrading of the roads and campground areas. The road construction across the ASNF, including the Hoyer Campground, will continue throughout the year.



Figure 3-11—Big Lake restroom facilities.

Socioeconomic benefits—

As with the forest stewardship projects, the recreation projects supported by the Recovery Act funding helped to maintain the local contractor capacity. At least two of the companies were within a week of filing for bankruptcy before receiving Recovery Act contracts. The funding has allowed these companies to maintain or rehire employees while keeping them solvent during the recession. The projects also provided the companies an opportunity to increase their efficiency through shared equipment and resources (e.g., instead of bringing two rollers to a job site they coordinate to share just one roller). A major economic benefit of the recreation projects is the positive impact of the renovations on the local tourism-dependent communities. Because tourism is an economic mainstay of these communities, the reconstruction of the Saffel Canyon Trail, the roads, and the Hoyer Campground and other recreation facilities will provide greater incentive for visitors to visit the area. The investment in recreation facilities and related transportation infrastructure on the ASNF will result in significant dividends in terms of the quality of visitor experiences over the next 30 years, and strengthening the local tourism economy.

Environmental benefits—

The recreation projects provide the ASNF the opportunity to mitigate environmental risks occurring from aging restroom facilities, trail erosion, and road degradation. This results in less sedimentation, erosion, and pollution and

in improved overall watershed health. These large-scale projects greatly reduce deferred maintenance needs on the forest, allowing other maintenance to occur on the basis of annual ASNF budgeting.

White Mountain Apache Tribal Projects

Project recipients and partners—

The White Mountain Apache Tribe received \$7,730,000 in Recovery Act funding for three projects—a variety of Rodeo-Chediski forest rehabilitation efforts, the Apache Greenhouse project, and a Tribal Forest Protection Act agreement with the ASNF (table 3-1). Each of these projects relates to the Rodeo-Chediski Wildfire through restoration and rehabilitation efforts as a means to employ tribal members and restore the forest landscape. Having completed the burned area emergency rehabilitation (BAER) efforts in 2005, the tribal forestry staff was well positioned through experience and awareness of ongoing needs for postfire rehabilitation. Recovery Act funding for the White Mountain Apache Tribe was allocated to eight fire rehabilitation objectives, which focus primarily on hazard tree removal, erosion control, fence building, cultural resource protection, and reseedling efforts.

Planning and preparation for the greenhouse project had started prior to ARRA, which facilitated its approval for funding. The tribe received recovery funding to build a new greenhouse to replace six dilapidated greenhouses operated by the Bureau of Indian Affairs over the past 30 years. The greenhouse will allow for native seedling production for Rodeo-Chediski rehabilitation efforts, and seedlings to market to the USDA Forest Service for rehabilitation in other areas. On the reservation alone there is a need to plant 700 acres of trees, at 200 trees per acre.

The tribe worked with the ASNF over the past few years to develop a Tribal Forest Protection Act (TFPA) agreement and objectives. Under TFPA, a tribe can propose fire mitigation work to be conducted on neighboring national forest land (USDA FS 2005). The forest has 30 days to review the proposal and submit a recommendation to the Regional Forester, who then has 90 days to approve or reject it. In this case, the White Mountain Apache and the ASNF submitted a joint proposal, which improved the

chance of approval. With the regional forester's approval for the TFPA project, it was then submitted for Recovery Act funding, with an emphasis on the tribal job training and employment benefits. The Recovery Act funding received for this project will focus on forest thinning on the Los Burros Complex of the Lakeside Ranger District, near several existing WMSC task order projects. This project is administered through the ASNF, with some of the prep work and hand thinning completed by the tribe, and followup mechanical treatments completed by Future Forest, contracted through the WMSC (table 3-1). This is one of a small number of TFPA projects funded through ARRA nationwide.

The tribe has accomplished a considerable amount of Recovery Act-funded forest rehabilitation work in a short time. The hazard trees project was nearly complete as of May, 2010. The tribe assessed 2,000 dead and standing trees (fig. 3-12) and hand crews have removed approximately 1,000 hazard trees. The hazard trees were connected in some cases with work on streambanks to reduce erosion. In a second project, 55 culverts were identified in the Rodeo-Chediski burn area. Heavy equipment is being brought in to clean out brush and rocks that had collected upstream of the culverts and they will be re-armored with rock. Another project will revegetate 2,000 acres where aerial reseedling efforts following the Rodeo-Chediski Fire had high mortality. The recovery crews have completed 390 acres of reseedling so far. Five college student interns have



Figure 3-12—Apache crew members marking a wildlife tree.

been hired to map the areas needing seeding next year. A fourth project involves cultural resource protection efforts to protect sacred springs and cemeteries across the reservation. Forty-one springs and 24 cemetery sites have been identified and mapped since the Rodeo-Chediski Fire. The Recovery Act funding has been used to repair and place new fencing around these springs and cemeteries, remove hazard trees, as well as place erosion control barriers around them. The BAER program supported construction of 110 miles of fencing in 2004–2005 to protect the burned areas from cattle and horses. Thirty and a half miles of this fence have been repaired as of June 30, 2010. The recovery money has also been allocated for erosion control on 25 family farms on the reservation where streambank erosion resulting from the fire has affected their viability. The sites have been prioritized, and erosion control on eight of the farms has been completed.

A 10-person thinning crew has conducted preparatory fieldwork for the TFPA project. This includes collecting data on 11.38 miles of road, 1.7 miles of fence, and 1.34 miles of trails. Crews have also been working in rocky areas where mechanical thinning cannot take place. Approximately 350 acres have been completed of the 1,200 acres within the Brushy Project, with a total of 2,800 acres remaining on three other project sites (ARRA quarterly report, June 30, 2010). An administrative staff member has attended planning meetings with the ASNF to plan future tribal work on adjacent ASNF land.

The tribe is strongly committed to a community-based approach to the Greenhouse Project, implementing it in five phases to ensure its success: planning, design, construction, operation, and evaluation. Since October 29, 2009, tribal staff have been focusing on the first two phases of planning and design. They have assessed four building sites, and selected a 20-acre property near a public school complex south of Whiteriver where it will be constructed. This site offers improved road access, nearby electricity, and low snow-loading potential. A detailed work plan for developing solar power and biomass for heating has been completed, as well as a market feasibility study and a production and sales forecast. Construction work has begun on the new greenhouse site, including building the boundary fence,

staking out building locations, preparing global positioning system GPS maps, and circulating information for community awareness (June 30, 2010, ARRA quarterly report). The greenhouse project will result in native seedling production for postfire rehabilitation efforts on the reservation and the ASNF, with sowing beginning in early 2011.

The TFPA project consists of four 1,000-acre task orders, with two task orders to be prepared in 2010 and the remaining two prepared in 2011. Once these are prepared, Future Forest will implement the mechanical treatments and the tribe will conduct the precommercial thinning. In addition to on-the-ground treatments, the forest management training and certification of tribal members will continue throughout the TFPA project. Both the greenhouse and TFPA projects, coupled with the growing tribal forestry staff expertise and leadership, provide the tribe with increased opportunities for future partnerships with the ASNF and other national forests.

Socioeconomic benefits—

The Recovery Act funding has employed many members of the White Mountain Apache Tribe for the three projects thus far (fig. 3-13; table 3-2). This includes timber crews doing forest rehabilitation and erosion control work, assessment efforts, greenhouse planning efforts, and fence repairs. It is anticipated the greenhouse will employ 30 staff members for operations once the construction is complete.



Figure 3-13—Apache crew members working on the Tribal Forest Protection Act project.

A. McCabe

Another major economic benefit of the ARRA funding for the tribe is the opportunity for formerly unemployed members to be trained in forest management, with the potential for future employment with the tribe or the ASNF, which are both currently in need of trained forestry technicians. With the closing of the Fort Apache timber mill, and the impact of the Rodeo-Chediski wildfire, the Recovery Act funding is filling a key gap and could provide an important bridge to more creative use of biomass and forest management for the tribe. Tribal forestry representatives express a strong desire to be highly successful, with the recovery projects as a stepping stone to improved forest resource management.

Environmental benefits—

The tribal projects focus on postfire rehabilitation efforts and forest wildfire mitigation programs (figs. 3-14 and 3-15). These projects will continue the erosion reduction, reseeded, and fire mitigation efforts across the reservation begun by the BAER program. The tribe's hazardous fuels project will result in watershed enhancements on 5,000 acres within the Rodeo-Chediski Fire area and they anticipate producing more than 800,000 seedlings for burned area rehabilitation through the greenhouse program to reestablish native vegetation across this area. The Tribal Forest Protection Act project on ASNF land will provide the tribe with additional fire mitigation protection, as well as increased skills and employment opportunities for conducting forest management practices in the future.

Effects on the Agency

The ASNF's success in obtaining Recovery Act funding almost doubled its normal budget, and the forest was able to channel almost all of this funding to on-the-ground projects by not adding additional Forest Service staff. Many employees see the recovery funding as "a once-in-a-lifetime opportunity" to get a backlog of projects accomplished on the ground while working closely with local communities. Referring to the amount of work being accomplished, one recreation staff member characterized Recovery Act projects as "the closest thing he would ever see to the CCC [Civilian Conservation Corps] days." The ASNF has



Figure 3-14—Apache-Sitgreaves National Forest Blue Ridge Demo pretreatment.



Figure 3-15—Apache-Sitgreaves National Forest Blue Ridge Demo posttreatment.

a history of being opportunistic in obtaining funding for projects. The mechanisms they have in place to quickly obligate funding allowed them to successfully administer the recovery funds. The commitment to maximizing economic recovery funding is evident by the Forest Leadership Team's decision not to hire new staff to help with the projects because they wanted to get as much money on the ground as possible.

Several employees mentioned that Recovery Act projects are their number one priority but that they have three other "once in your career" projects occurring at the same time—the forest plan revision, the implementation of the Travel Management Rule, and the ongoing White Mountain

Stewardship Contract. The employees interviewed were clearly working hard, putting in long hours, and under a great deal of stress, but none of them regretted getting the high level of recovery funding; there was a strong “can do” attitude. A district ranger commented that the ASNF is a “high-performing forest,” and that certainly seems to be the case based on their extensive work with the recovery projects.

The training aspects of the economic-recovery-funded TFPA project will benefit both the ASNF and the tribe. There is currently a shortage of forest technicians in the area, and the training and certification programs for tribal members will benefit the forest and provide tribal employment over the long term.

The economic recovery projects have improved the impression the Forest Service makes among community members in a politically conservative area where many people are still concerned about mill closures and reduced livestock grazing. These projects have increased the capacity of the ASNF and community to work together and created an opportunity for better relations. Funded recipients praised the agency for successfully coordinating projects, as well as being cognizant of their funding needs.

Challenges

Although there have been numerous benefits resulting from the economic recovery projects, four primary challenges preventing a full realization of these benefits were noted by participants. First, although the ASNF was able to use several existing contracts to implement these projects smoothly, implementation was more challenging when the forest needed to develop new contracts. The forest staff appreciated not having to oversee the Economic Recovery Operations Center (EROC) paperwork, but the contracting process using the EROC was slower initially than many anticipated. Some project recipients noted frustration in the slowness of the initial contract awards and payments, which created anxiety for some contractors. Additionally, contract recipients often found the additional reporting to be cumbersome, especially when dealing with EROC representatives who weren’t familiar with the local situation, such

as construction and forest restoration limitations during the exceptional heavy snow conditions beginning in December 2009.

Another challenge is that the Recovery Act funding is being implemented in addition to other high-priority programs on the ASNF, particularly the forest plan revision and implementation of the Travel Management Rule. This has created an increased staff workload that most likely cannot be sustained over an extended period. The ASNF Leadership Team appears to be successfully articulating priorities and managing workloads, but these projects add a high degree of stress to the forest employees.

A third challenge results from the substitution of economic recovery funding for the appropriated WMSC funding. Partners in the WMSC were under the impression the recovery funding would be added to the existing appropriated WMSC funding and were deeply disappointed when the recovery funding instead was largely used to replace it. By using regularly appropriated USFS funds, the WMSC’s biomass removal averaged 7,700 acres a year from 2004 to 2008. When economic recovery funds were added in 2009, Future Forest’s volume increased to 10,000 acres per year.

The local timber and wood products industry became particularly frustrated because they believe they could have expanded their capacity even higher if Recovery Act and regularly appropriated USFS dollars could have been used in tandem. Their estimate was that with the addition of two logging companies and the new contract with the Snowflake White Mountain Power plant in 2009, they would be able to complete between 12,000 and 15,000 acres per year. Industry representatives believe they were asked by the Forest Service, at the initiation of the WMSC, to significantly increase both the volume of forest restoration and fuel reduction and build a biomass utilization infrastructure and market through local investments of both social and economic capital. The use of economic recovery resources in 2009–2010 may have produced a short-term spike in industry capacity, but absent the regularly appropriated funding, the long-term net gain anticipated by ASNF and community partners could not be attained.

Because economic recovery resources could not be used to conduct NEPA analyses, the emerging concern is that the ASNF will not be able to keep up in future years with the minimum 5,000 acres called for in the WMSC. Even though the ASNF staff are beginning analysis on several large NEPA projects, budget and staffing issues have interviewees concerned it will be difficult to build the task order “shelf stock” back up in a timely manner for 2011. One person described the situation as “a locomotive about to run out of track.” As a result, several people have questioned why the industry would risk investing in a much larger restoration initiative being proposed, the Four Forest Restoration Initiative (4FRI, a restoration effort to also include the Coconino, Kaibab, and Tonto National Forests) if the Forest Service is having difficulty maintaining funding of the smaller WMSC in a coordinated manner with the recovery funding.

Finally, the White Mountain Apache Tribe had spent a considerable amount of time planning the projects for which they received economic recovery funding. The multiple, Recovery Act-funded forest restoration and fuel reduction projects began in October 2009, and although a great deal has been accomplished, organizing the teams and developing budgets for the diverse range of projects has required steady and committed effort. Time is required for each project to be screened and approved by the Tribal Planning Project Review Committee. Organizing a diverse forest rehabilitation program subsequent to a very large wildfire has been the greatest challenge for implementation of the tribal projects.

Key Findings

This case study illustrates how the Recovery Act funding has benefitted the ASNF, the surrounding communities, and the White Mountain Apache Tribe by providing opportunities to simultaneously move toward ecological and rural development goals. These recovery projects will have long-term impacts in terms of improved recreation experiences, increased forest health and wildfire mitigation, economic development, strengthened partnerships, and creating a strong foundation for tribal forest management.

The case study projects provide environmental benefits by mitigating fire danger, improving habitat conditions, reducing erosion and other damages from the Rodeo-Chediski Fire, improving water quality, and reducing environmental impacts from trails, roads, and campground facilities. The forest and watershed restoration efforts provide improved quality of life and reduced risk of fire, smoke, and erosion to local community members. They also improve the potential for increased recreational and tourism activities throughout the area, which clearly depend on national forest recreation infrastructure and amenities.

The economic recovery projects appear to be having a cumulative social benefit by enhancing the ASNF’s ability to get more work done on the ground, building on its existing partnerships and programs of work, creating socioeconomic opportunities for local communities and the White Mountain Apache Tribe, and demonstrating that past collaborative efforts are most advantageous in building stewardship-oriented partnerships and relationships. In particular, ARRA support of the WMSC has enhanced a fully integrated approach to forest health improvement, hazardous fuel reduction, biomass utilization, and rural economic development in a region that has undergone significant economic and social transitions, but nevertheless remains largely dependent on diverse uses of national forest lands.

Key findings from this case are summarized here:

Existing collaborative relationships, with individuals and with organizations, that the ASNF has established over the years made it possible to spend a large sum of Recovery Act money quickly. Beginning in 1997, the ASNF worked to establish collaborative relationships with regional partners to support integrated forest management and community development efforts. Community, tribal, Forest Service, and nongovernmental leaders have concretely formed a set of working groups, community forestry organizations, and collaborative processes that actively support each other within a regional network. This organizational framework consists of the Natural Resources Working Group, The Arizona Sustainable Forest Partnership, the Northern Arizona Wood Products Association, county-level community wildfire protection planning groups, and The White Mountain Stewardship

Monitoring Board. The network can be described as a landscape-level community forestry system, which has been able to iteratively develop and implement outcomes in the following areas: ecological restoration, development of biomass utilization infrastructure, and fuel reduction and fire risk mitigation. This process of collaboration between community leaders and stakeholders has established a firm foundation for new project implementation, evident in the immediate implementation of several recovery projects. The economic recovery funding built upon and further strengthened these relationships, in some cases initiating new ones, resulting in coordinated investments throughout the region. This made it possible to spend a large sum of Recovery Act money quickly and effectively, thus achieving the goals of the act.

Project-level preparedness on the part of regional Forest Service offices, the community, and tribal leaders made it possible to utilize Recovery Act funds quickly and efficiently. Many of the economic-recovery-funded projects were already developed and NEPA ready; the institutional organizations and arrangements were already in place to carry them out. This readiness made it possible to utilize Recovery Act funds quickly and efficiently. The implementation of projects beneficial to both community and agency goals can be attributed to the extraordinary readiness of the community, agency, and tribal leaders. Local communities were highly motivated to organize cooperatively to address local resource issues (e.g., maintaining Hoyer Campground and initiating the reconstruction of the Saffel Canyon ATV Trail, and to continue wildfire rehabilitation). The White Mountain Apache Tribe had a rigorous process in place for developing and implementing projects based on their challenging experiences with the Rodeo-Chediski wildfire and the subsequent BAER planning process. Tribal forestry staff has increasingly worked with the ASNF to coordinate cross-boundary efforts via the TFPA. The preexisting TFPA agreement with the ASNF allowed both the agency and tribe to quickly implement forest restoration/fuel reduction projects on neighboring ASNF land. The ASNF was also able to quickly tap into a stockpile of NEPA-ready and prepped projects and existing contracts with local businesses (i.e., The White Mountain Stewardship Contract,

IDIQ contracts). In addition, the agency used its Facilities Master Plan, Recreation Sites Facility Plan, and extensive NEPA preparations, to establish an advanced level of readiness prior to the Recovery Act project submissions.

Alignment of Recovery Act-funded projects with community needs and community capacity increases socioeconomic benefits. At a regional scale, there was good alignment of recovery projects with the future management directions of the ASNF and the longer term social and economic well-being of the communities. The combination of projects across the ASNF, the White Mountain Apache Tribe, and other regional communities was a successful match with the needs of the community (such as investing in infrastructure to enhance visitor experiences), agency (such as continuing to rebuild a wood products industry oriented to forest restoration), and tribe (such as diverse efforts to improve forest health and management after the Rodeo-Chediski Wildfire). These projects took into account local capacities to accomplish the work being done. The ASNF was able to successfully work with many local companies, who are often unable to take on large projects, by creating several smaller contracts for each project. The economic recovery projects focused on a very appropriate mix of areas vital to the long-term well-being of local cultures and economies as well as ecological landscapes. The recovery investment is therefore being optimized because the projects are inclusive of diverse stakeholders and socioeconomic needs and are within the specific capacity of the region.

Agency and community leaders having a community development orientation are able to make good, strategic, socioeconomic investments that will provide long-term benefits to the community. The outlook of individual agency and community leaders matters greatly; those who think about community development needs as a part of “business as usual,” rather than as something unique to ARRA, sought to invest in projects that will have long-term socioeconomic benefits to communities. A majority of the projects were initiated by community, agency, and tribal leaders who possess a broad community development orientation. These leaders do not envision the Recovery Act program as merely a series of separate projects but as a

means to continue to build long-term community well-being and resilience. As a result, the distribution of recovery funding on the ASNF and nearby communities has been a good, strategic, socioeconomic investment. Leaders in the ASNF also played a significant role in expediting and implementing the recovery projects through their commitment to authentically use collaborative objectives and tools.

Recovery projects on the Apache-Sitgreaves National Forest and the White Mountain Apache Tribe reservation have the potential to act as a bridge, transitioning communities toward more diverse and sustainable economies. Recovery Act projects cover a diverse spectrum of investments: the pellet mill in Eager, the wood straw manufacturing demonstration at Pure Wood Products, increased biomass energy production at the Snowflake White Mountain Power plant, the Apache Greenhouse project, and improved recreation opportunities. This diversity in investment is likely to lead to a more resilient economy by reducing dependency on traditional forms of forestry. Individuals also stand to benefit: although many of the Recovery Act jobs are not expected to be permanent, recipients of those jobs received valuable job training, which will serve as a bridge to future employment in emerging industries.

Lessons Learned

It is important to develop a strategy for balancing appropriated funding with supplemental funding in order to achieve project goals on both fronts without diminishing the impact of either. In the future, opportunities to undertake forest restoration work that contributes to community development may be supported with appropriated funding (as with the White Mountain Stewardship Contract) or with supplemental funding, such as the Recovery Act money. When supplemental funds become available, it is important to be clear on how they will be balanced with appropriated funds to achieve project goals so that stakeholders do not build false expectations. In this case, stakeholders felt that Recovery Act dollars were used to replace, rather than supplement, the appropriated White Mountain Stewardship Contract money. To them, this represented a missed

opportunity to institute forest restoration at a larger scale. A combination of the two funding sources (appropriated and Recovery Act resources) would have provided longer term benefits for implementation of forest restoration and fuel reduction, in part because they could be used for different but complementary activities. For example, appropriated funds could have been used to support project preparation (e.g., NEPA analysis, task order preparation) in addition to implementation while Recovery Act funds were used to carry out work on the ground. In the future, if appropriated funding cannot be maintained in conjunction with supplemental funding, it would benefit funding recipients and affected community members to receive a clear explanation in a collaborative manner to avoid creating false expectations and mistrust.

Providing resources to maintain NEPA preparation over the long term will make it possible to quickly take advantage of funding opportunities when they arise.

Because many of the economic-recovery-funded projects on the ASNF were already developed and NEPA ready, Recovery Act funds were utilized quickly and efficiently, leading to rapid job creation. Had the ASNF not had a large stock of NEPA-ready projects, implementation would have been hindered considerably, especially given that Recovery Act funding could not be used for NEPA preparation. Now that most of the ASNF NEPA-ready projects have been implemented, the forest is concerned that they will be unable to find funding to replenish the stock, and worries that without NEPA-ready projects they will see a drop in their accomplishments for Fiscal Year 2011. Therefore, the ASNF case study demonstrates both the importance of having a large stock of NEPA-ready projects, and the need to continue investments in activities that contribute to project-level preparedness so that when funding opportunities like the Recovery Act come along, projects can be easily implemented and jobs rapidly created.

Being proactive with public outreach builds support for government initiatives like the Recovery Act, and improves relationships between the agency and the community. Many rural communities, in the face of a declining timber industry, have experienced a strained relationship

with the Forest Service over the last two decades. In this case, many local people are fiscally conservative and did not favor the concept of stimulus spending. However, by working through existing relationships and taking care to select projects that met communities' development needs, the agency was able to send a positive message to communities. In particular, the relationship between the Forest Service and the White Mountain Apache Tribe grew substantially. Forest Service employees expressed satisfaction that they were finally able to "make good" on past promises. Funding recipients praised the agency for successfully coordinating projects, as well as being cognizant of their funding needs. Individuals working on recovery projects were able to recognize the agency's concerns for their well-being, and as a result their opinion of the agency improved. However, although those individuals directly involved with the Recovery Act projects were very supportive, interviewees suggested a general lack of local public awareness about the recovery projects. In the future, a more proactive public outreach campaign could better build support and strengthen partnerships with the community by increasing local awareness of mutual benefits and outcomes.

When forest stewardship is linked to a community development strategy, outcomes are enhanced. Investments in forest restoration, wildfire rehabilitation and mitigation, and strategic rural economic development can be enhanced by taking a holistic community development approach to national forest and tribal natural resource management. This means continually integrating local community resources, such as leadership, collaborative partnerships, common problem-solving, mutual socioeconomic benefits, and industrial skills and capacities into the planning and implementation process of forest management. Strengthening community-based approaches to forest stewardship can increase the likelihood of successful outcomes, including increasing community resilience, expanding economic multiplier impacts, enhancing long-term social relationships and networks, capturing opportunities for training and leadership development of diverse stakeholders, and implementing cross-boundary, multijurisdictional landscape conservation. In essence, a strong community

development approach will greatly increase forest stewardship investments in many areas of resource management, most especially in wildfire mitigation, visitor use, forest restoration, and biomass utilization.

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Chapter 4: A Socioeconomic Assessment of Forest Service Recovery Act Projects on California's North Coast

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Summary

California's north coast region is heavily forested, mountainous, and contains many rural communities where natural-resource-based jobs—particularly in forestry—have long been important. The economic recession that started in 2007 added to what many interviewees perceived as having been depressed economic conditions in the area's rural communities since the 1990s. The Forest Service contributed an estimated \$5,675,444 in American Recovery and Reinvestment Act (Recovery Act) funding for projects on the Six Rivers National Forest (SRNF) and in Humboldt County, including an invasive plants project, a biomass powerplant, a pole and post mill project, and a major renovation to one of its research labs. Accomplishments include:

- Removing roadside brush along 749 miles of SRNF roads to improve road and fire safety, forest access, and resource protection while creating short-term jobs for four recipient organizations.
- Maintaining 122 miles of nonmotorized trails on the SRNF to enhance recreation opportunities and employ young adults working through youth job corps programs.

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Fast Facts

Total Forest Service Recovery Act Investment, California (as of 09/08/09): ~\$194,069,000
(California projects: \$186,861,000; California share of multistate projects: ~\$7,208,000)

Forest Service Recovery Act Investment, North Coast (as of 06/30/10): \$5,765,444

Case Study Location: Six Rivers National Forest and Humboldt County

Counties: Humboldt (Primary); Del Norte, Trinity, Siskiyou (Secondary)

Project Type: Roadside brush removal, trail maintenance, invasive plant assessment, biomass powerplant, pole and post mill, Forest Service facility renovation

- Surveying private and tribal lands for meadow knapweed, an invasive plant, and helping landowners build capacity to control its spread.
- Providing grant money that helped leverage funds needed for refurbishing a biomass powerplant and constructing a pole and post mill that will strengthen the local restoration economy, support hazardous fuel reduction on public and private lands, and create long-term sustainable jobs.

- Building a second-floor addition to a Forest Service research lab, creating construction jobs in a local economic sector hard hit by the recession.

Several Forest Service employees went out of their way to distribute project work to diverse recipients in order to create economic opportunities for local groups. Although many jobs were short term and seasonal in nature, they often had important benefits beyond their duration and the income earned from them—such as building the capacity of individuals and organizations to undertake work related to forest management in the future. Recovery money also made it possible for some recipients to leverage resources (funding, training, labor) they would not have obtained otherwise, amplifying project benefits. Strong relationships between the Forest Service and community groups were important in helping the agency implement the act efficiently, in helping recipients benefit, and for making strategic investments to enhance long-term community development.

The Case

When the 2007 economic recession hit California's north coast, several people interviewed for this study said that the region had been suffering from recession since the 1990s, and that the most recent economic hardship only added to what was already a chronic problem of underemployment in the area's rural communities. As one interviewee stated, "You know, we were hit by a recession years ago. It seems that this area is so poverty-stricken that it's hardly affected things, you can't go much lower..."

On one hand the recession wasn't as dramatic... as other places, 'cause we were already in a recession, right? Already a depressed economy, already high unemployment or underemployment before the recession...there probably isn't a day that goes by here that somebody doesn't come in looking for work.

—Trinity County Resource
Conservation District employee

The focus of this case study is Humboldt County, located on the northern California coast, and the Six Rivers National Forest (SRNF) (fig. 4-1). Eighty percent of Humboldt County is forested, and much of it lies in California's Coast Range that rises to 7,000 feet on the SRNF. The county has historically had a natural-resource-based economy revolving around forestry, salmon fishing, dairy farming, and ranching (Van Kirk 1999). Timber was the main economic driver of the local economy until the 1970s; the county has nearly 1.5 million acres of timberland, second only in California to neighboring Siskiyou County (Laaksonen-Craig et al. 2003). Since that time, the economy has diversified and forestry has declined dramatically as a result of changing markets, harvest restrictions, and conflict related to concerns about threatened species and the environment. This decline is what led the interviewees quoted above to perceive chronic recession in rural parts of the county where natural resources remain one of few options for creating local employment. Nevertheless, in 2009, Humboldt County accounted for nearly 14 percent of all of the timber harvest volume produced in California, and was the second largest timber-producing county in the state (CABE 2010). Humboldt County is also known for its old-growth coast redwood trees (*Sequoia sempervirens* (D. Don) Endl.) and for being "the heartland of high-grade marijuana farming in California" (Samuels 2008).

In 2009, Humboldt County had a population of 129,623 (USDC BC 2009). Population growth in the county between 2000 and 2009 has been much slower than in California as a whole, at 2.55 percent (8.73 percent for California) (fig. 4-2). The county's rurality ranking is 5, meaning that it is not adjacent to a metropolitan area, but has a city with at least 20,000 residents.² That city is Eureka, the county seat, with an estimated population of 25,247 in 2009 (USDC BC 2010b). The second large city in the county is Arcata,

² The U.S. Department of Agriculture, Economic Research Service has developed rural urban continuum codes that classify counties by whether they are metropolitan (codes 1–3) or nonmetropolitan (codes 4–9), and nonmetropolitan counties by their degree of urbanization and proximity to metropolitan counties. The higher the ranking, the more rural the county. See <http://www.ers.usda.gov/Briefing/Rurality/RuralUrbCon/> for more information.

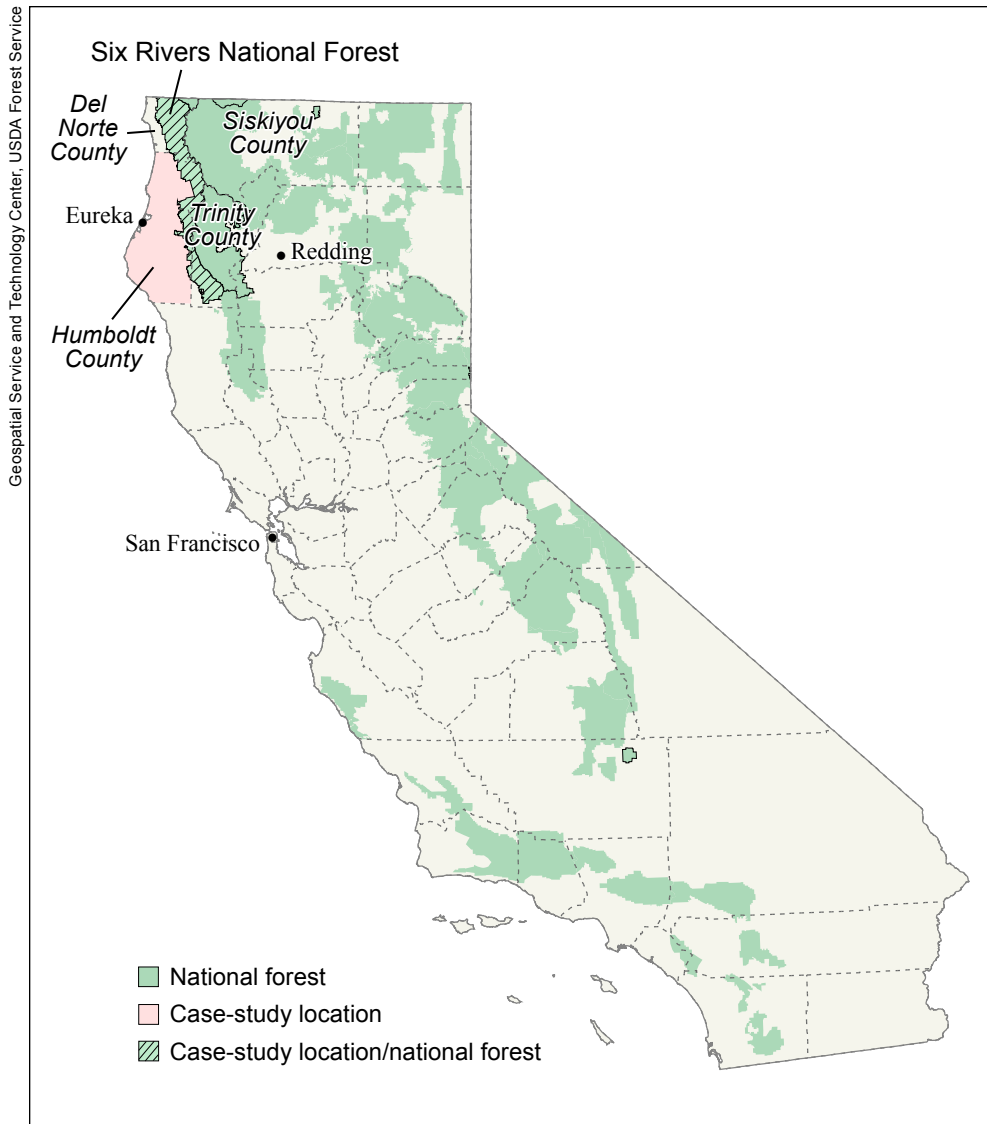


Figure 4-1—Case-study counties and the Six Rivers National Forest, California.

with an estimated population of 17,132 in 2009, and home to Humboldt State University. Otherwise, the county is characterized by many small, rural communities scattered across its 3,572 square miles. There are also eight Indian reservations in the county, including the Hoopa Valley Reservation—the largest in California—which covers 87,170 acres (HCCDS 2002). Native Americans made up an estimated 6.5 percent of the total county population in 2008 (USDC BC 2009). Thirty percent of county land is in public ownership, 73 percent of which is federal (HCCDS 2002).

Two-thirds of Humboldt County's timberlands are owned by private industry (Dyett and Bhatia 2002); more than 99 percent of the timber harvested in the county in 2009 came from private lands (CABE 2010).

In 2008, 19.8 percent of the county population was living below the poverty line (fig. 4-3), and the median household income stood at \$39,627, two-thirds that of California as a whole (fig. 4-4). In January 2010, Humboldt County's unemployment rate peaked at 12.8 percent, nearly twice what it was in January 2007, at 6.5 percent (fig. 4-5). School enrollment has declined steadily over the past decade while the percentage of students eligible for free or reduced-price lunches has been rising, reaching a height of 52 percent of all enrolled students during the 2008–09 school year (figs. 4-6 and 4-7). Humboldt County

has a Forest Service economic distress ranking of 7.³ The secondary counties included in this case study (because they include SRNF lands) have economic distress rankings of 7 (Del Norte), 9 (Trinity), and 10 (Siskiyou).

³ The Forest Service calculated economic distress rankings for every county in the United States, and used them as the main criterion for making economic recovery project funding decisions. Rankings are on a scale from 1 to 10 with 10 signifying the highest level of economic distress. See USDA Forest Service 2009 for information on how rankings were developed.

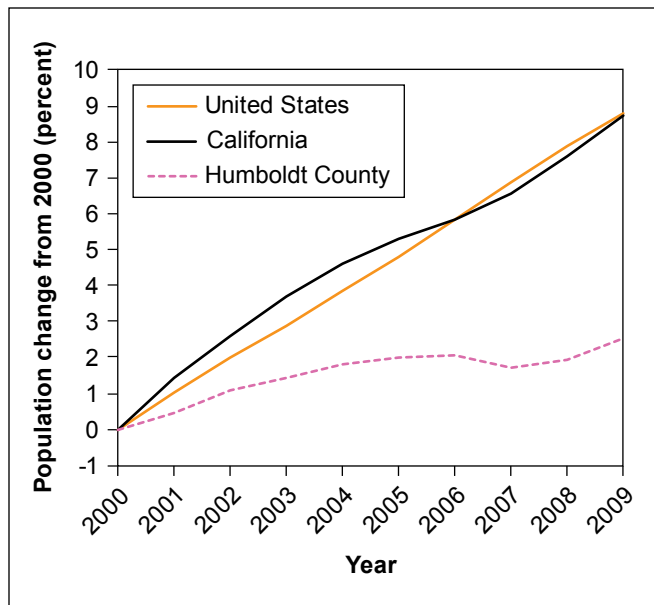


Figure 4-2—Change in population for the United States, California, and Humboldt County, 2000–2009 (USDC BC 2010a).

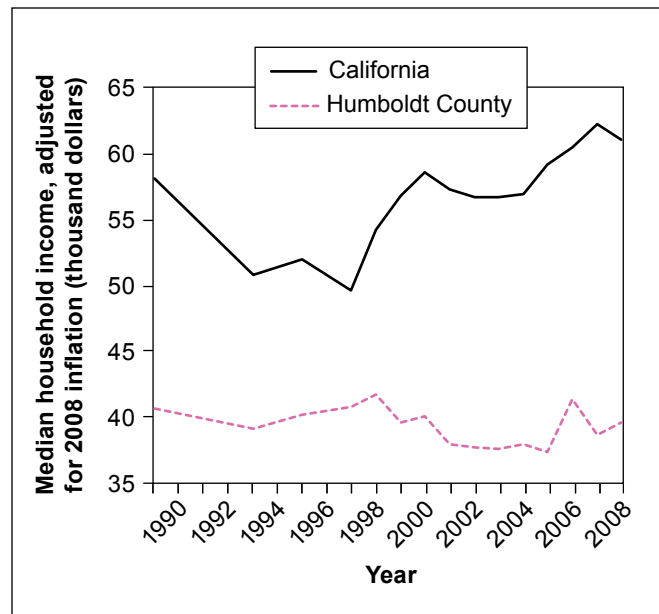


Figure 4-4—Median household income for California and Humboldt County in 2008 dollars, 1989–2008 (USDC BC 2010c).

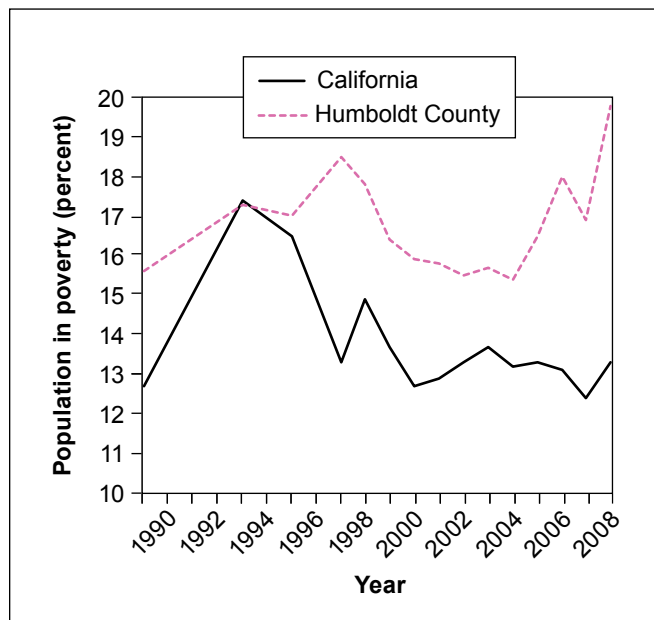


Figure 4-3—Population living in poverty in California and Humboldt County, 1989–2008 (USDC BC 2010c).

Humboldt County received more than \$57 million in Recovery Act funds to support local schools, county programs and services, tribes, and local infrastructure projects, among other things (Times-Standard, Feb. 21, 2010). Said the County Department of Health and Human Services Director, “In a lot of ways, it’s been an economic lifeline for states, and certainly for Humboldt County...” The Forest Service contributed an estimated \$5,765,444 for projects on the Six Rivers National Forest and elsewhere in Humboldt County, including an invasive plants project on private lands in the community of Weitchpec, a wood-to-energy project and a pole and post mill project in the community of Blue Lake, and for a major renovation to one of its research labs located on the Humboldt State University campus. This chapter examines these diverse projects in turn, assesses their socioeconomic benefits, and identifies challenges associated with their implementation. It concludes by describing key findings from the socioeconomic assessment and lessons learned with regard to creating local economic opportunity when undertaking Forest Service work in the future.

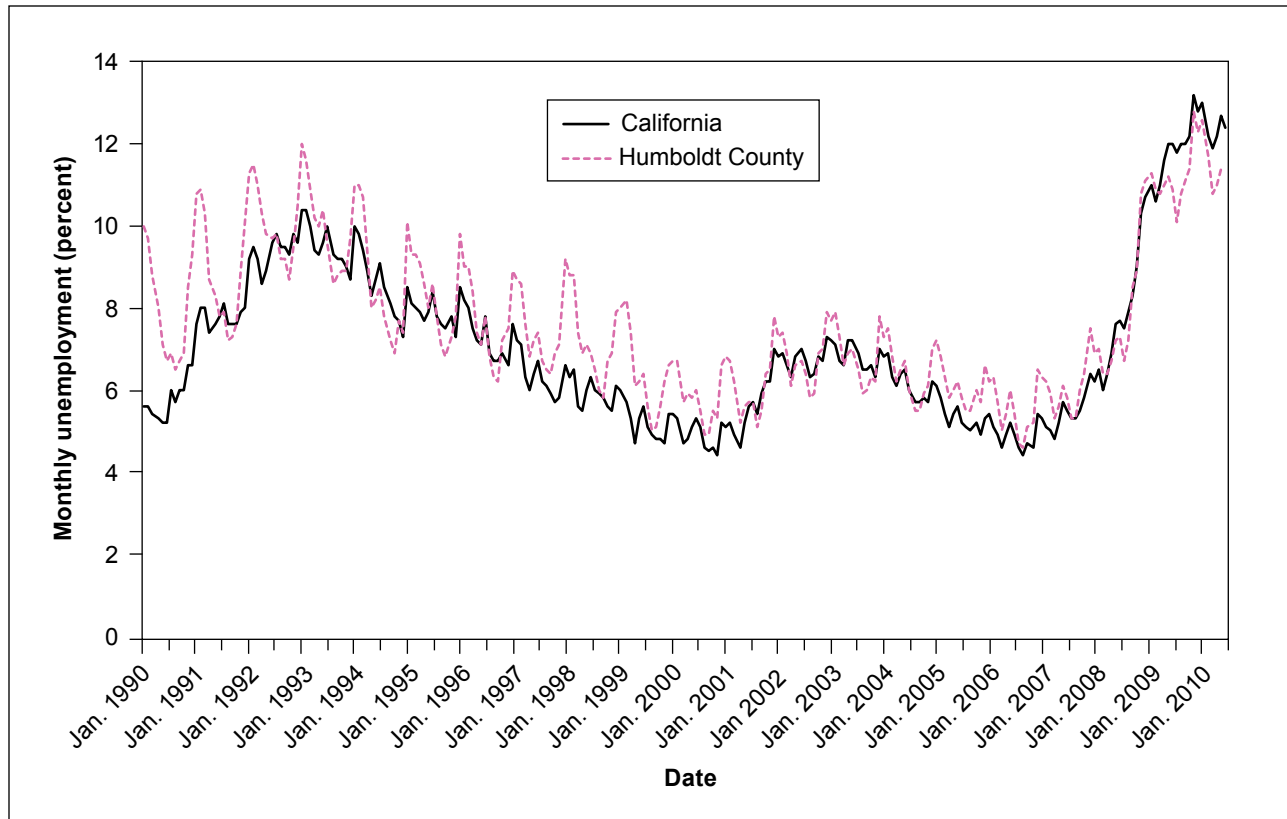


Figure 4-5—Monthly unemployment rates for California and Humboldt County, 1990–2010 (Bureau of Labor Statistics 2010).

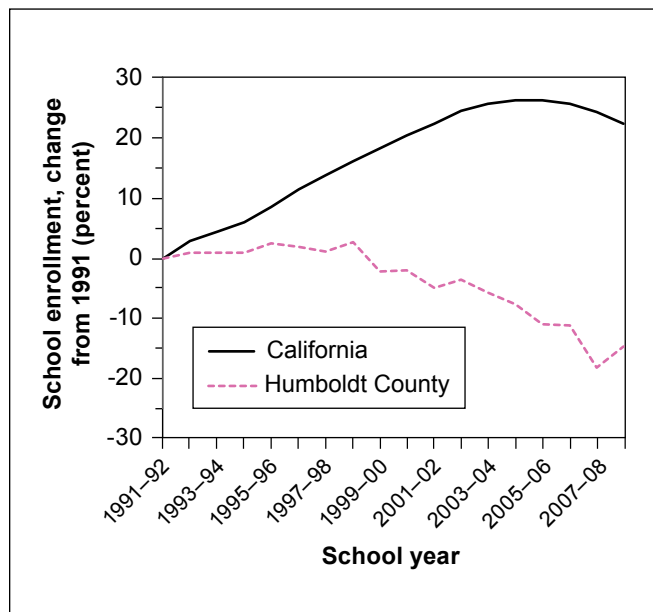


Figure 4-6—Change in school enrollment for California and Humboldt County, 1991–2008 (National Center for Education Statistics 2010).

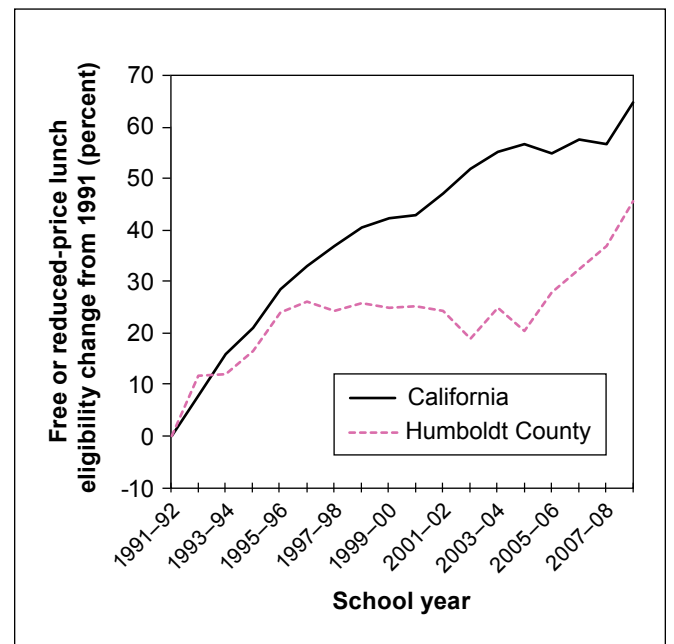


Figure 4-7—Change in number of students eligible for free or reduced-price lunch programs in California and Humboldt County, 1991–2008 (USDE NCES 2010). Note: Reduced-price lunches were made available after 1999.

Methods

This case study was conducted using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act projects. Fieldwork to conduct these interviews took place between February and June 2010. A total of 36 individuals were interviewed for this case study. Interviewees included 16 Forest Service employees who helped develop or implement the projects, and 20 local government, business, and nonprofit organization representatives who received Recovery Act funds or who benefited from jobs created or retained as a result of the projects. Additional qualitative data were obtained from published sources such as newspapers and local government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on research methods and data sources, see the appendix to this report.

Six Rivers National Forest: Roadside Brush Removal and Recreation Projects

The SRNF occupies a 140-mile-long, narrow stretch of California's northwest coast region from the Oregon border to the Mendocino County line. To the east, the forest is bordered by the Klamath and Shasta-Trinity National Forests. The Six Rivers is mostly mountainous, and is dominated by coniferous tree species (fig. 4-8). As the name implies, six major rivers cut across the forest: the Smith, Klamath, Mad, Trinity, Van Duzen, and Eel. The forest occupies parts of four counties, with 43 percent of its lands in Del Norte County, 35 percent in Humboldt County, 21 percent in western Trinity County, and 1 percent in western Siskiyou County. Rainfall is high, ranging from an average of about 50 inches annually in the south to more than 100 inches in the north, causing vegetation to grow quickly. In



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Figure 4-8—The Six Rivers National Forest.

the past, this was a major timber-producing forest. Today the forest is best known for its timber, dispersed recreation, and excellent fishing opportunities. The Six Rivers has four districts—Gasquet, Orleans, Mad River, and Lower Trinity—together making up a total of 957,590 acres. The Six Rivers is also responsible for administering the Ukonom District of the Klamath National Forest; that district is not included in this case study.

The SRNF received a total of \$2,478,786 in Recovery Act money to fund projects relating to recreation, roadside brush removal, road maintenance and improvement, and facilities decommissioning as follows:

- Roadside brush removal = \$1,014,000
- Recreation = \$444,786
- Road maintenance and improvement = \$920,000
- Facilities decommissioning = \$100,000

All of these projects fell into the capital improvement and maintenance category; the forest received no wildland fire management funds.⁴ The following subsections provide an overview of the roadside brush removal and recreation projects. The road maintenance and improvement and facilities decommissioning projects are not included here because most had not begun at the time fieldwork was conducted.

⁴ The Recovery Act appropriated money to the Forest Service in two categories: \$650 million for “capital improvement and maintenance” projects such as road, bridge, and trail maintenance and decommissioning, facilities improvement and maintenance, and remediation of abandoned mines; and \$500 million for “wildland fire management,” including hazardous fuels reduction, forest health protection, and ecosystem improvement activities on federal, state, and private lands.

Roadside Brush Removal

Project description—

The Recovery Act directed federal agencies to begin expenditures and activities as quickly as possible to speed job creation. To implement economic recovery projects quickly after passage of the act, the Forest Service asked national forests to identify projects that could be implemented within 60 days with the “first 10-percent” round of funding released. The Six Rivers recommended roadside brush removal as a project for the first 10-percent round because it could be done under a National Environmental Policy Act (NEPA) categorical exclusion, there was a large backlog of deferred maintenance in brush removal on the forest, and there were two existing indefinite delivery, indefinite quantity (IDIQ) contracts for brush removal to which they could quickly add money. Thus, in March 2009 the Six Rivers received \$1,014,000 to remove brush along 749 miles of its 2,989 miles of forest roads.⁵ As one forest interviewee put it, “We’re doing a lot of brushing that would have never got done otherwise.”

High rainfall on the Six Rivers means that brush grows quickly, creating a need to remove roadside brush every 3 to 5 years on average. The forest roadside brush removal budget in normal years cannot cover this level of maintenance. Therefore, roads used most by passenger cars (maintenance level 3 to 5 roads) are the focus of attention, whereas roads that get less use or require a high-clearance vehicle (maintenance level 2 roads) often have vegetation that brushes the side of passing vehicles or that is too thick to allow passage. The recovery funds are enabling the Six Rivers to remove brush along many of their level 2 roads, some of which had not had vehicles on them in years because they were so overgrown. Roadside brush removal is seasonal work and is generally carried out between April and December, depending mainly on snowfall.

⁵ This project is one of the regionwide road maintenance projects (CIM-0521-0501-1R).

Project recipients—

The Six Rivers separates brush removal projects from other road maintenance projects. Doing so makes it possible to award brush removal projects to businesses that do not have the wide range of equipment needed to undertake more comprehensive road maintenance work. The Six Rivers typically undertakes roadside brush removal by contracting with mechanical operators (fig. 4-9). However, removing brush by hand creates more jobs than removing it by machine. To accomplish the large volume of recovery-



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Figure 4-9—Machine used for mechanical brush removal.

funded brush removal work quickly, to spread project benefits to diverse recipients, and to maximize job creation, the forest awarded brush removal projects to four recipients (table 4-1).

Two of the recipients (Tumblin D Enterprises and Wendt Construction) were contractors with whom the Six Rivers had existing IDIQ contracts for mechanical brush removal. Adding task orders to these contracts allowed recovery money to be obligated quickly. The forest also put an additional contract out for competitive bid that was awarded to Tumblin D. Tumblin D Enterprises is a two-person, father-son business based in Siskiyou County that specializes in brush removal. They have undertaken contract work for the Six Rivers for several years. The recovery projects have kept them working at capacity during the 2009 and 2010 seasons. Wendt Construction is a diversified construction contracting business located in Humboldt County, where its employees also reside. Wendt has worked for other federal and state agencies previously;

Table 4-1—Roadside brush removal project recipients and funding

Recipient	Project description	Total funding amount	Funding mechanism
		<i>Dollars</i>	
Tumblin D Enterprises	Mechanical brush removal, 319.6 road miles, Del Norte, Humboldt, Trinity, and Siskiyou Counties	326,304	Service contract
Tumblin D Enterprises	Mechanical brush removal, 61 road miles, Humboldt and Siskiyou Counties	60,184	Task order to IDIQ ^a contract
Wendt Construction	Mechanical brush removal, 69.6 road miles, Trinity County	100,102	Task order to IDIQ contract
Trinity County Resource Conservation District	Manual brush removal, 181.5 road miles, Humboldt and Trinity Counties	263,331	Agreement
Northern California Indian Development Council	Manual brush removal, 59 road miles, Del Norte and Siskiyou Counties	199,591	Agreement

Source: Six Rivers National Forest.

^a IDIQ = Indefinite delivery, indefinite quantity contract.

the contract for mechanical brush removal was its first with the Six Rivers.

The Forest Supervisor also approached two local non-profit organizations that have natural resource work crews with the capacity to undertake brush removal by hand (fig. 4-10): the Northern California Indian Development Council and the Trinity County Resource Conservation District. The Six Rivers used agreements to obligate Recovery Act money to fund these organizations in doing the rest of the brush removal work, a new approach for the forest on this type of project. Agreements can be used to obligate money quickly and to target local groups for work opportunities.

The Recovery Act encouraged agencies to support tribes in spending recovery funds, and doing so was an

objective of the Forest Supervisor. The Northern California Indian Development Council, based in Humboldt County, provides development programs to 104 tribes throughout California to help them achieve self-determination. Locally, they offer employment opportunities and job training programs for American Indians who reside in Del Norte, Humboldt, and Siskiyou Counties. They have worked with the Six Rivers in the past, but not on brush removal projects. Through this agreement, they were able to employ two six-person crews composed of local tribal members. The Trinity County Resource Conservation District works to address natural resource problems across ownerships and creates job opportunities for local residents in environmental restoration and education, and forestry. Their natural resource crews have worked with the Six Rivers and adjacent national forests in the past on fuel reduction projects. Members of the two six-person crews employed by this project reside in Trinity County.

Socioeconomic and environmental benefits—

From the perspective of project recipients, the roadside brush removal project has created a large number of jobs and benefitted a diverse group of recipients, some of whom had not previously done this type of work on the Six Rivers. Jobs created and retained as of September 30, 2010, are reported in table 4-2. For some recipients, the main project benefit was short-term jobs at a time when they needed

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Figure 4-10—Removing roadside brush by hand.

Table 4-2—Full-time equivalent jobs reported, Six Rivers roadside brush removal

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	<i>Number of jobs^a</i>				
Tumblin' D Enterprises	2	2	2	2	2
Wendt Construction	—	2	—	—	—
Trinity County Resource Conservation District	10	0	4.9	0.21	3.15
Northern California Indian Development Council	—	23	—	—	—

Source: Recipient quarterly reports.

Note: A dash (—) indicates that no quarterly report was available.

^a See appendix for an explanation of how job numbers were calculated.

work. Even if the work only lasted a few months, some said it would help them qualify for unemployment benefits once it ended. The opportunity to work locally was also appreciated. For tribal members, the value of working on lands in their ancestral territory to which they have a strong connection is important. For other recipients, the brush removal project has helped fill in seasonal gaps in employment and filled out their work year, increasing job security. Interviewees from the Trinity County Resource Conservation District identified some associated benefits to crew members: "...a greater sense of self worth and pride"; "for the first time in a lot of years one of the crew was able to buy a house"; "they have the security now that they can actually buy a new car, I mean instead of old bangers." Several of the crew members were former loggers or come from logging families. Brush removal work keeps them in the community carrying on the family tradition of working in the woods. Finally, project recipients have the opportunity to build their reputation for undertaking natural resource work, which can help them compete for future projects with the Forest Service.

A number of on-the-ground benefits are also associated with roadside brush removal. Road safety is a major benefit, as removing brush improves visibility along roadways, especially around turns. Fire safety is another benefit because removing brush helps roads function as firebreaks and improves access for firefighters in case of fire. From a natural resource standpoint, opening up roads makes it possible for Forest Service employees to get out and identify road maintenance and restoration needs on the forest that

should be addressed to prevent resource damage. Increased access also improves agency understanding of the road system to assist with travel management planning. In addition, brush removal makes it easier to implement forest management projects and makes projects like timber sales more cost-effective by offsetting the cost of brush removal that might otherwise be borne by these projects. A major benefit to the public is increased access to the forest for recreation, gathering nontimber forest products, and other uses.

Challenges—

One challenge raised by the roadside brush removal project pertains to a potential tradeoff between accomplishing forest work in a way that is cost-effective and efficient for the Forest Service, versus a way that maximizes local economic opportunity. Conducting brush removal by machine versus by hand points to this tradeoff. Hand work is labor intensive and maximizes job creation. It also results in a more aesthetically pleasing outcome, meaning it is a good approach to use on roads that receive a lot of visitor traffic. Hand crews can also get to places that machines may not be able to reach when roads are in bad shape. However, all agency interviewees concurred that mechanical brush removal is more efficient in time and cost. As one Forest Service interviewee put it, "...if we're given a limited amount of money and we're expected to do a maximum amount of work, we're not going to hire labor-intensive contractors. But if we're told that...we need to get the money out into the economy and here is a whole bunch of money, then that's okay...we can put a ton of people to work out there."

The cost of mechanical brush removal averaged \$1,149 per mile, and the cost of brush removal by hand averaged \$2,417 per mile.

Another dimension of this tradeoff relates to how much workers should be paid. The Service Contract Act and the Davis Bacon Act stipulate that federal contractors should be paid prevailing wages, depending on the type of work performed, which is specified. These acts do not apply to wages paid under agreements. One recipient set wages for crew members that were comparable to prevailing wages, but as a result could not accomplish the work for the estimated bid price. Forest interviewees felt it was irresponsible to taxpayers to pay these wages when the work could be done at lower cost using a hand crew that received lower wages. This debate raises the question of how important it is to create family-wage jobs in agency efforts to increase local economic opportunity.

A third dimension pertains to the use of agreements to accomplish work. Roadside brush removal is typically carried out using contracts, but agreements made it possible to obligate money quickly and target specific groups for recovery funds. Some Forest Service interviewees were frustrated by the use of agreements for brush removal because they perceived them as being less binding from a legal standpoint than contracts and as providing a lower level of assurance that work would be accomplished according to agency specifications.

A second challenge relates to the rapidity with which the roadside brush removal project was implemented. Although the Forest Service as a whole was under pressure to obligate money and implement projects quickly, the time challenge was more acute with the first 10-percent round of recovery funds. Forest employees identified roads for brush removal by consulting a database rather than by inspection, which was impractical. As a result, it wasn't clear what condition many roads were in and what the actual scope of work was prior to writing contracts and agreements. If recipients were paid an hourly rate to perform the work, this might not have been an issue. But the Six Rivers is accustomed to soliciting brush removal bids on a cost-per-mile basis. Only one of the four recipients had experience bidding brush removal projects this way; the rest were used to

being paid for time and equipment. These recipients found it difficult to estimate what their costs per road mile would be, especially since road conditions were uncertain. Once the project was implemented, forest employees proved flexible in switching out road miles if the roads initially proposed were too difficult to work on or inaccessible. Nevertheless, this was a source of concern for recipients who feared running in the red on the project. Short timelines also prevented the forest from consulting and coordinating with other agencies and partners in planning and carrying out the brush removal—a problem for other recovery projects as well.

This and other economic recovery projects also greatly increased the workload for Six Rivers employees. The forest did not hire new staff to help manage this workload, posing a risk of decreased project oversight and communication between the agency and the recipients.

Recreation—Trail Maintenance

Project description—

The Six Rivers National Forest has 400 miles of trails, about 90 percent of which are nonmotorized, and a little over one-third of which are wilderness trails. The forest received \$444,786 in recovery funds for trail maintenance work along 122 miles of nonmotorized trails and construction of 1 trail mile.⁶ In comparison, the annual target for trail maintenance on the forest was 13 miles in fiscal year 2009 and 14 miles in fiscal year 2010. Ideally, forest trails are maintained on a 4-year cycle. But the Six Rivers doesn't have the funding to accomplish this level of maintenance, and some high-use trails need maintenance every year, so low-use trails can go much longer than 4 years without receiving attention. Limited budgets mean that the forest uses volunteer groups, such as the American Hiking Society, Sierra Club, and Back Country Horsemen of America to assist with trail maintenance when possible. Working with volunteers often makes it possible for the forest to exceed its trails maintenance targets. However, the relative remoteness of the Six Rivers from major urban

⁶ These projects are part of the \$9,673,000 that California received for nonmotor/nonwilderness trail projects in many counties throughout the state (CIM 05-03T).

areas makes this uncommon. Thus, the recovery funds represent an opportunity for the forest to address a major backlog in trail maintenance work in Del Norte, Siskiyou, and Trinity Counties. Work will be performed during the summers of 2010 and 2011. Trail maintenance falls under a NEPA categorical exclusion; this project was “shovel ready” when recovery funds arrived.

Project recipients—

The trail maintenance work is being accomplished through agreements with three project recipients: the Bridgeville Community Center and two youth corps groups—the California Conservation Corps (CCC) and the Northwest Youth Corps (NYC) (table 4-3). The Bridgeville Community Center is located in Bridgeville, California, a small, unincorporated rural community that lies along the Van Duzen River in Humboldt County. Bridgeville was a timber town until the early 1990s. The Bridgeville Community Center is a nonprofit organization that provides social and health services to children and families in the Bridgeville area, and serves as an umbrella organization for local groups like the volunteer fire department and the Van Duzen Watershed and Fire Safe Council. The council has a 10-person natural resource crew that works on private and public lands in the watershed. This crew will do the recovery project work. The crew is trained to help fight fires and reduce hazardous fuels; this will be its first trail maintenance project. The District Recreation Officer recruited the crew for the trails project because they

had a good reputation from undertaking a previous fuels project on the forest, and “...to me, that’s really what it was all about: these people live there.” Community Center interviewees felt that the Six Rivers had gone out of their way to build them into the recovery project and provide them with work.

The Recovery Act stipulated that the Forest Service should use, where practical, groups that serve young adults in carrying out projects. The CCC and NYC are two such groups (fig. 4-11). The Six Rivers has been working with the CCC and NYC on trails projects for years. The Forest Service Pacific Southwest Region (Region 5) office has master agreements with both organizations that make it easy for national forests in California to submit task orders when needed. The pressure to spend Recovery Act money quickly made it expedient for the Six Rivers to work through these agreements. The CCC, although it is a statewide organization, has a residential center in Fortuna, Humboldt County, where most youth crew members who work on the Six Rivers reside. Crew members come from all over California, especially large urban areas such as Los Angeles and Sacramento, and some are from other states. The NYC is based in Eugene, Oregon, and crew members are mostly from Oregon, Washington, and Idaho. Ten to twelve-person trail crews from these organizations generally work in “spikes” for 5 or 8 days at a time, often camping together in the forest during this period (fig. 4-12). The Six Rivers also hired two temporary employees, both local, to oversee the work.

Table 4-3—Trail maintenance project recipients and funding

Recipient	Project description	Total funding amount	Funding mechanism
		<i>Dollars</i>	
Bridgeville Community Center	Maintain 17 miles of trail in Trinity County	58,065	Agreement
California Conservation Corps	Maintain 75 miles of trail in Trinity, Siskiyou, and Del Norte Counties and construct one trail mile in Humboldt County	240,718	Task order to master agreement
Northwest Youth Corps	Maintain 30 miles of trail in Siskiyou and Del Norte Counties	124,540	Task order to master agreement
Six Rivers National Forest	Liaison with and coordinate trail crews	21,463	Agency hire

Source: Six Rivers National Forest.

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Figure 4-11—California Conservation Corps trail crew member working on a Six Rivers National Forest trail.

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Figure 4-12—California Conservation Corps trail crew camp on the Six Rivers National Forest.

Socioeconomic and environmental benefits—

At the time of fieldwork, the only recipient that had begun work was the CCC. The NYC crews started in July 2010, and the Bridgeville Community Center crew started in August 2010, following closure of the northern spotted owl (*Strix occidentalis caurina*) nesting season. Thus, project benefits could only be anticipated. Full-time equivalent jobs reported as of September 30, 2010, are estimated in table 4-4.

The main project benefit anticipated by the Bridgeville Community Center crew leader interviewed was that the work would fill in a gap to help provide year-round employment for his crew, as do Forest Service hazardous fuel reduction projects. He anticipates the project will provide 25 days of work for his 10-person crew. The natural resource crew depends on soft money projects for work, many of which are for fuel reduction, funded by grants through the Fire Safe Council.

“So right now, I have 18 months to complete my grant. That gives me plenty of time to do Forest Service projects, so we’re just kind of bouncing different projects around like the fuel reduction project....when they run out of money for that, then we’re going to work on my grant for a little bit. Then the trails project’ll start up and that’s about, I think 3 weeks worth of work....so we’ll go back and work for them. And then we’ll go back to my grant. And so, what happens is now we’re able to work year-round.”

...every year I would get a crew, I would hire them...and by the time the grant cycle ended, I’d have a really good crew, but no more funding. So what inevitably happens is the really good people, they manage to find work elsewhere, or drift off; basically, every year you have to restart....So my ultimate goal was to try to find something to keep us working year-round. And that’s where the whole beauty of this operation with the Forest Service comes in, because we’re able to fill in those gaps.

—Bridgeville Community Center trail crew leader

Table 4-4—Full-time equivalent jobs reported, Six Rivers trail maintenance project

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	<i>Number of jobs^a</i>				
Bridgeville Community Center	—	—	0	0	1.82
California Conservation Corps	—	0	0	5.89	6.70
Northwest Youth Corps	—	—	0	0	5.88
Six Rivers National Forest	2 temporary jobs totaling 159 days of work, summer 2010				

Source: Recipient quarterly reports and Six Rivers National Forest.

Note: A dash (—) indicates that no quarterly report was available.

^a See appendix for reporting method.

With the help of recovery funds, the crew leader anticipates his crew will be employed full time well into 2011. There are important social benefits associated with this employment. The community's remoteness means that local teenagers must take an estimated 2-hour bus ride (one way) to the nearest public high school. As a result some never graduated. The trail crew leader observed:

...These are guys that, given a chance, really shined. Not given a chance, could have ended up really anywhere.... It's been really satisfying to be able to see these guys be able to do stuff, and feel good about what they're doing. And this is all they want to do is live in the woods and work out here. So from a social end, its' just really nice to see. I mean these guys are raising kids and you know, it's a big deal.

Finally, because most crew members have not done trail work before, the project will provide them with the opportunity to develop new skills. Hopefully, this will lead to future opportunities to do trail and other work for the Forest Service.

Project benefits to the CCC and NYC also go beyond the temporary employment created. Recovery projects have helped keep these youth job corps programs running during the economic recession. The CCC, for example, relies on project sponsors such as the Forest Service for 60 percent of its budget. Working on trail projects gives urban youth an opportunity to spend time in the woods and gain an appreciation for nature. It also enables them to do work having concrete results, which creates a sense of accomplishment

and raises self-esteem. In addition, the trail work builds job skills and helps youth learn about the Forest Service and make connections. Several eventually get seasonal jobs with the agency in recreation or fire that can lead to permanent employment. The work experience and job skills that result also help participants get jobs in other fields because they learn to get along with people from diverse backgrounds, work hard, and show up on time. And the income earned (crew members are paid minimum wage) is important both for the youth and their families at home. The CCC also has other programs that participants benefit from, such as resources at the residential center to help them complete their GEDs if they have not finished high school.

So as our reputation and our skills advance...our goal is to be working for the Forest Service a whole bunch for a long time. Yep, and the best way is to diversify so we're not doing just one thing, we can be able to be a resource crew, which means, whatever they need done, we can go do it.

—Bridgeville Community Center trail crew leader

From the Forest Service standpoint, roughly one-quarter of the SRNF trail system will be in great condition once the project is complete, increasing connectivity between existing trails and increasing recreation opportunities on the forest. Increased recreation opportunities benefit local residents and visitors, and a

potential rise in visitation means more economic benefit to local communities. Improved trail conditions also mean less natural resource damage—if trails are in good shape, hikers, mountain bikers, and horseback riders won't try to make their own trails, which can lead to erosion. Trail maintenance also increases access for fire crews in case of fire.

Challenges—

The only challenge reported by interviewees came from the Forest Service side. Recreation officers on the Six Rivers made the Recovery Act trails project a top priority, adding it to their normal workload. Although they rose to the occasion and greatly appreciated the funding and the opportunity to address a major backlog in trail maintenance work, the increased workload to identify and coordinate projects, collate supporting project data, and do required reporting has been challenging.

Invasive Plants, Humboldt County—Meadow Knapweed Population Assessment Project⁷

Project Description

Although the SRNF did not receive recovery funds for forest health protection or ecosystem restoration and improvement, one such project was funded in Humboldt County for work on private lands. Forest Service Region 5 State and Private Forestry received \$7,179,000 for invasive plant projects on state and private lands throughout the region, with specific projects to be chosen by states (USDA Forest Service 2010). In California, Forest Service recovery funding to support invasive plant control and eradication projects went as a grant to the California Department of Food and Agriculture, which works with county departments of agriculture that serve as local regulatory authorities representing the state. The Humboldt County Department of Agriculture administers the recovery funding that the California Department of Food and Agriculture made available for invasive plants management in the county.

In California, the state gives invasive plant species different ratings, depending on the level of concern. If a plant has a pest rating of “A,” the state is required to dedicate resources to control or eradicate it. Meadow knapweed (*Centaurea x pratensis* Thuill), native to Europe, is an A-rated species in California (fig. 4-13). It occurs in northwestern California in Del Norte, Humboldt, and Siskiyou Counties, which represent the southern end of its documented range in North America. This species favors moist and disturbed areas such as meadows and pastures, forest openings, roadsides, and riverbanks. It can spread rapidly and out-compete native species, and is unpalatable to both wildlife and livestock. Meadow knapweed is much more



Figure 4-13—Meadow knapweed.

widespread in Oregon and Washington than in California, and a main goal of this project is to keep it from spreading farther into the state. For the past several years, the plant has been moving southwestward along State Highway 199 into Del Norte County from Oregon. Discrete populations in Humboldt County are the result of long-distance dispersal vectors such as vehicles, equipment, or straw.

In light of the localized extent and leading-edge distribution of meadow knapweed, the California Department of Food and Agriculture provided Forest Service recovery money in the amount of \$23,684 to the Humboldt County Department of Agriculture, and \$23,980 to the Del Norte County Department of Agriculture to address the problem. In Del Norte County, most of the money is being

⁷ Referred to as “Invasive Plant Region-Wide” (WFM-05-04FHC) in USDA Forest Service 2010.

spent on controlling the spread of meadow knapweed along Highways 199 and 101 and in other parts of the county, with control work performed by county employees. In Humboldt County, project work will focus on private and Yurok Tribal lands in the rural community of Weitchpec, located at the confluence of the Trinity and Klamath Rivers. Many community residents are members of the Yurok Tribe. The recovery project builds on work that has been ongoing to manage this species for the past 5 years in this area. Tribal members have recently been collaborating in the effort.

The project consists of surveying private property and Yurok Tribal lands to look for the plant, mapping places where it occurs, conducting outreach to landowners about the plant and how to treat it, removing the plant in places where the landowner is willing and the population is small enough, and developing outreach including newspaper articles and a brochure that was mailed to every Weitchpec boxholder. Surveying meadow knapweed generally occurs during a short time in the summer when the plants are blooming and easy to see. The primary method of invasive plant removal in Humboldt County is pulling by hand, with weed whacking treatments occurring on large infestations. Other methods including tilling and grazing have been considered but not used to date. Herbicides (e.g., Milestone⁸) have proven effective on meadow knapweed, but past use of herbicides associated with commercial timber harvest in local communities has generated controversy and therefore is not considered a realistic option at this time. This project will take place for about 6 weeks during the summers of 2010 and 2011.

Project Recipient

The Humboldt County Department of Agriculture, working through the Humboldt County Weed Management Area, which reviews and recommends proposals submitted to the county, contracted with the Mid-Klamath Watershed Council (MKWC) to undertake this project. The MKWC is a local nonprofit organization that does watershed restoration work throughout the mid-Klamath watershed, which

extends from Weitchpec upriver to the Irongate Dam near Hornbrook. Programs of the MKWC include fisheries restoration and monitoring, watershed education, fire and fuels, and invasive weeds management. Their invasive weeds program has worked with the SRNF in the past on invasive species projects. Treatment of meadow knapweed is one of two recovery projects that MKWC has received (the other is for fisheries restoration). The MKWC has been collaborating with the SRNF, Humboldt County Weed Management Area, and local tribes to control meadow knapweed since 2005. Treatment of the plant spans multiple years owing to the discovery of new sites and the subsequent treatment of plants that germinate from seeds in the soil. The MKWC has been able to leverage their recovery funds by coordinating with a CCC crew funded under a different Recovery Act project to remove meadow knapweed from a heavily infested meadow.

Socioeconomic and Environmental Benefits

An important benefit of this project is that it includes funding for survey and outreach work with landowners. Integrated and cross-jurisdictional efforts are the only way to address invasive species management in this area. The MKWC gets its weed treatment money largely from grants and contracts, most of which fund invasive species removal only. By conducting surveys, MKWC can get a better idea of the extent of the species population in the Weitchpec area where meadow knapweed is concentrated. Through outreach, MKWC can educate landowners about the plant and demonstrate treatment methods landowners can implement. Outreach is also a way of relationship building between landowners and their watershed council. The MKWC estimates it will work with 200 landowners and their families in the Weitchpec area in the course of the project, and that information about their work will reach thousands of area residents through publishing articles in the local newspaper. By collaborating closely with the Yurok Tribe, MKWC hopes to help the Yurok build capacity to control meadow knapweed and other invasive plants on tribal lands, pursue grants, and develop their own invasive plant projects. The MKWC has collaborated with a Yurok Tribal forestry crew that assists in the treatment of the plant toward this end.

⁸ The use of trade or firm names is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.

We'll have a definable idea of what the population actually is. And we'll have a way through surveys to actually outreach to a lot of people...about what this plant is and why they might want to remove it from their property...We're going to reach a lot of people and we're going to actually know where the meadow knapweed is and treat it along the way to try to keep it from spreading, and show other people how to treat it so they can treat it themselves.

—Mid-Klamath Watershed Council
Invasive Weeds Program Coordinator

This project has also helped MKWC build their invasive weeds management program. The contract funded purchase of equipment, such as tools and global positioning systems that they can use in the future. They are also refining their protocols for meadow knapweed control as part of the project.

Regarding jobs, MKWC created two temporary field crew jobs (table 4-5). One employee is a resident of Humboldt County, and one a resident of neighboring Siskiyou County. Crew members will be trained in invasive species management work, a skill that may lead to future job opportunities. Recovery funding also helped support MKWC staff, who rely on soft money to fund their positions; thus, it helped with job retention at MKWC. The MKWC staff person interviewed reported that Recovery Act funding from the Forest Service and other agencies had created a noticeable increase in local job opportunities (e.g., for crew members) in restoration and invasive species management.

The main environmental benefit of the project is to contain meadow knapweed and reduce its stand density so that native species or noninvasive plants can recover in the areas treated, and importantly, to reduce the potential for weed export from infested areas to currently uninfested areas in wildland or agricultural settings. Early detection and treatment is the best way to contain or eradicate invasive plants.

Challenges

One challenge associated with this project pertains to access to private lands, which can be difficult, especially private timber company lands. Another challenge is the fact that controlling meadow knapweed requires persistent effort over time. This means private landowners must take more responsibility for controlling the plant on their properties. It also means that sustainable funding is needed to support the effort. The recovery money will help for two summers, but will not support ongoing efforts to control this species.

Blue Lake Biomass Powerplant and Blue Lake Roundwood Project⁹

Project Description

The Blue Lake biomass powerplant (fig. 4-14) is one of two wood-to-energy projects funded by the Forest Service in California. In January 2008, Renewable Energy Providers, Inc. (REP) purchased the assets of the Blue Lake powerplant, an 11.5-megawatt biomass powerplant located in the small, rural community of Blue Lake in Humboldt County.

⁹ These projects are referred to as “Renewable Energy Co-generation Facilities Northwest California” (WFM-05-01-WTE), and “Blue Lake Power, LLC” (WFM-1111-2B) in USDA Forest Service 2010.

Table 4-5—Full-time equivalent jobs reported, meadow knapweed population assessment

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	Number of jobs ^a				
Mid-Klamath Watershed Council	—	—	—	0.15	0.32

Source: Recipient quarterly reports.

Note: A dash (—) indicates that no quarterly report was available.

^a See appendix for reporting method.

Susan Charnley



Figure 4-14—The Blue Lake biomass powerplant.

Blue Lake lies in the Mad River Valley and had a population of 1,115 in 2009 (USDC BC 2009). The plant was built in the mid-1980s and operated until 1999, when its initial power sales agreement ended. At that time, the cost of producing power from woody biomass was much higher than the cost of producing power from nonrenewable sources, and it was not economical for the plant to keep operating. The market has changed since California's Renewables Portfolio Standard was established in 2002. Under current regulations, and following the Governor's Executive Order S-21-09 signed in September 2009, 20 percent of the retail sales from California's investor-owned electric utilities must come from eligible renewable energy resources by December 31, 2010, and 33 percent of the retail sales from all electric utilities, including those that are publicly owned, must come from renewable resources by 2020. Woody biomass is one eligible renewable resource.

Renewable Energy Providers began refurbishing the Blue Lake powerplant shortly after purchasing it, with the goal of having it on line by December 2008. The estimated cost of the project was \$10 million. Unfortunately, in September 2008, the main investor in the project had to pull out because of a severe reduction in his credit line, a direct result of the national credit crisis associated with the economic recession. Banks were not lending money either. As a result, the project ground to a halt and workers were laid off. Renewable Energy Providers spent the next 9 months looking for replacement financing. In spring 2009, REP was contacted by an employee from Forest Service

Region 5, State and Private Forestry, with whom they had an existing relationship. He told them about the opportunity to fund wood-to-energy projects with Recovery Act money. The Region 5 employee was responding to the Forest Service request for projects, and identified two biomass energy plants in Region 5 that were being repowered and were close to completion; were located near national forests and could make use of biomass from them; and could create jobs quickly, but needed some additional financing to bring them on line. In other words, they were essentially "shovel ready" projects having a high likelihood of success. The Blue Lake powerplant was one of the two. Region 5 was successful in obtaining \$4,500,000 for the two projects, and REP submitted a grant application for part of these funds. An important key to success in this case was the presence of a Forest Service Region 5 employee who had long-term knowledge of biomass utilization opportunities in California, and who was able to promote this project for funding.

Renewable Energy Providers found a lending institution (an equity company, as banks still weren't lending) that committed to loaning them \$8 million in July 2009, contingent upon obtaining the Forest Service funding. They were awarded a Recovery Act grant in the amount of \$2,006,550 to help them restart the plant in September 2009. With these funds, the lender went ahead with the \$8 million loan to REP, as the Forest Service grant provided credibility to the project, helped minimize risk, and ensured that full financing was available to make it work. Without the Forest Service grant, REP says it would never have gotten the loan, and the project would have remained at a standstill. In this case, the Recovery Act grant was critical for leveraging the funds needed to make the Blue Lake powerplant refurbishing a success. As one REP principal said, "The grant we got, without any hesitation, made it possible; without this... we wouldn't have been able to borrow enough money."

The biomass plant was up and running by May 2010, and as of August 2010 was in a period of transition to becoming fully operational. The plant needs about 90,000 bone dry tons of fuel annually to operate, which will come from a combination of public, private industrial, and tribal lands, mill waste, and green waste. Renewable Energy

Providers sells its power to the San Diego Gas and Electric Company, with a 15-year contract. Although the plant is not currently a cogeneration plant (in which the steam produced by burning woody biomass is used for other things besides power), REP is discussing potential cogeneration with some neighboring businesses.

The biomass plant is only one of two projects that REP is developing at the Blue Lake site with Recovery Act funding. The second project is the Blue Lake Roundwood Project, which entails establishing a pole and post mill adjacent to the powerplant site. Financing for this project comes in part from a Recovery Act grant in the amount of \$248,000 from the Forest Service Forest Products Laboratory in Madison, Wisconsin. Renewable Energy Providers had already applied to the Forest Service Woody Biomass Utilization Grant Program to obtain funding for the project. The project qualified, and the lab was able to use Recovery Act money to fund it. By installing a pole and post mill, it will be possible to sort and use small-diameter wood removed through forest thinning projects to produce value-added roundwood products in addition to fuel for the powerplant. The money earned from the sale of the higher value dowels or poles will help offset the cost of biomass removal undertaken to supply fuel for the powerplant. Finding ways to make biomass removal more economical is important in the north coast region, which is mountainous, making transport of material out of the forest relatively difficult and costly. The roundwood products will be made from redwood (*Sequoia sempervirens* Endl.), Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco), and pine (*Pinus* spp.). The REP principals have obtained other grants through the Forest Products Laboratory's Woody Biomass Utilization grant program in the past.

The mill project is estimated to cost \$1 million. Again, Recovery Act funding is helping REP leverage other money, with the grant making it easier to attract investors. One partner investing in the project is the local Blue Lake Rancheria Tribe. As of August 2010, one doweling machine had been purchased, and REP expects the mill to be operational by December 2010. The recovery grant is helping to finance the purchase and installation of the mill

and associated equipment. The roundwood products will be sold to C&R Forest Products in Santa Rosa, California (Sonoma County), a wholesale distributor of roundwood, stakes, and lumber. This company will reportedly buy as much product as REP can produce at the mill.

Project Recipient

Renewable Energy Providers, based in Redding, California, (Shasta County) was incorporated in 2006 with the purpose of developing biomass energy powerplants in northern California. They plan to do this either by building new plants or buying old plants and refurbishing them, as is the case with the Blue Lake Power biomass project, their first major project. Renewable Energy Providers has five principals. Two are also principals of a consulting firm called Continental Resource Solutions, Inc., and one is also a principal of Mountain Engineering. These two consulting firms are managing the restart of the Blue Lake powerplant.

Socioeconomic and Environmental Benefits

From an economic standpoint, the job effects of the Blue Lake powerplant and pole and post mill can be broken down into two categories: jobs created to refurbish the biomass plant and get the pole and post mill constructed and running; and jobs that will be sustained over the long term, once the powerplant and mill are operational. In the case of the biomass plant, the Recovery Act grant funded jobs associated with getting the plant up and running, as reported in table 4-6, including jobs for workers who supply and transport wood fuel. Roughly two-thirds of the workers were local residents of Humboldt and neighboring Trinity Counties. The remainder were nonlocal because of the technical expertise required that is not available locally—for example, the ability to do boiler work. The vast majority of these jobs were short term in nature, and created between October and December 2009. The major local contractors were North Coast Fabricators and Humboldt Bay Instrument and Electric (both located in Humboldt County), in addition to several other small contractors from northern California. The major nonlocal contractor was Industrial Service Corporation in Vancouver, Washington.

Table 4-6—Full-time equivalent jobs reported, Renewable Energy Providers

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	<i>Number of jobs^a</i>				
Blue Lake biomass powerplant	1.2	54	6.6	1.81	—
Blue Lake roundwood project	0	0	0	0	0

Source: Recipient quarterly reports.

Note: A dash (—) indicates that no quarterly report was available.

^a See appendix for reporting method.

In the case of the roundwood mill, REP estimated that five jobs would be created with Recovery Act funding.¹⁰ None had been reported as of September 2010 because the project had not started yet (table 4-6). Workers on the mill project are anticipated to be local, as Humboldt County has a lot of capacity and expertise associated with mill work. Renewable Energy Providers estimates that six long-term, sustainable jobs will be created at the mill once it is operational.

Regarding long-term, sustainable jobs at the Blue Lake Power biomass plant, 17 full-time, family-wage jobs had been created to run the plant as of August 2010. All but one of these employees reside locally in Humboldt

County. Eight of the employees worked previously at a local pulp mill, the last in California, which closed in 2008 partly because of the economic recession, causing more than 200 people to lose their jobs. The pulp mill was one of the largest nongovernmental employers in Humboldt County. “Every job that’s lost really hurts here,” said one laid-off employee who was interviewed. These employees are extremely grateful to be reemployed at the Blue Lake powerplant. Many unemployed people don’t want to leave the area to find other jobs because they have family here.

The Blue Lake powerplant was described by employees interviewed as having a positive work environment, where people cooperate, interact, and communicate to solve problems together and do whatever needs to be done to make things work. Eight of the new employees also received on-the-job training for a 3-month period, paid for by a Recovery Act grant through the California Employment Development Department and administered through Humboldt County, that covered part of their salaries during the training period. The benefit to Blue Lake Power from salary savings was estimated at \$50,000.

The plant will also create long-term, sustainable jobs for biomass suppliers—e.g., chipper operators, loader operators, and truck drivers (fig. 4-15). Before shutting down, the pulp mill was getting 110 to 140 truckloads of wood chips per day, about 80 percent of which was sawmill residue, and about 20 percent of which was small-diameter wood from forests. Once the mill shut down, the workers who supplied this material lost a major client. The indirect economic effects of retaining and creating these long-term jobs will also benefit local communities.

¹⁰ http://www.fpl.fs.fed.us/documnts/tmu/2009_Successful_ARRA_and_WBUG.pdf.

I was out of work for maybe 6 months...hoping to find something again here local, before I rejoined the Millwrights Union out of Pleasanton...that put me back on the road. Well, I’ve got a family and my wife and kids so I did that here and there until I was lucky enough to get on out here. It pays a lot better to go out of town and work, but you’re out of town working, away from your family and... you can’t raise kids like that. For Humboldt County this is a great job, it really is, it’s a good paying job, you’re home, so it’s a real plus for me to be able to be home.

—Blue Lake Power employee

Susan Charnley



Figure 4-15—Woody biomass chip truck unloading fuel for the Blue Lake powerplant.

As several interviewees noted with frustration, long-term, sustainable jobs and indirect jobs created as a result of the economic recovery projects are important to communities, but are not counted when it comes time to report job numbers to the Forest Service in quarterly reports.

As one Forest Service employee stated, “...you only report what the economic stimulus dollars have paid for directly. And that’s a nut case because...the logging jobs, the hauling jobs, wouldn’t exist [without recovery funds]....”

An important benefit of the two projects to REP will be the accomplishment of having completed successful projects. Doing so demonstrates business success, which makes it easier to convince potential investors to support future bioenergy projects the company develops. Moreover, once REP begins to see profit from the plant and mill, they will have capital they can invest in future projects.

From an environmental standpoint, the Blue Lake powerplant will generate about 92,000 megawatts of electricity a year from a renewable resource, enough to power some 7,000 homes. Together with the pole and post

There will always be a bunch of people working here, and there will always be trucks coming in, and that will create a lot more cash flow here than there was before.

—Renewable Energy Providers Principal

mill, it will strengthen the forest restoration industry in Humboldt County and help both public land managers and private forest landowners meet their management objectives for reducing hazardous fuels and restoring forest health by creating a market for small-diameter wood. The plant will also utilize mill waste and nonmerchantable materials that might otherwise end up in a landfill or be burned.

So the real economic impact of the grant is not necessarily what the jobs created or maintained are in the report...to me the real economic impact, the long-term one...creates stability in a community and all that kind of thing.

—Renewable Energy Providers Principal

Challenges

The main challenge associated with the biomass powerplant has been getting it financed. Renewable Energy Providers hoped to get new financing for the plant as quickly as possible once the original investor pulled out. Although they were approached by Region 5 in the spring of 2009 about receiving a recovery grant, they didn’t get the money until September. Interviewees acknowledged this was fast for the Forest Service, but would have liked to obtain the grant money sooner. Regarding the pole and post mill, attention is only now shifting to focus on it because REP has been trying to get the biomass plant operational and up to full capacity before getting the mill going.

Redwood Sciences Laboratory Second Floor Addition Project¹¹

Project Description

The Redwood Sciences Laboratory, located in Arcata, California, is one of seven research facilities that the Forest Service’s Pacific Southwest Research Station maintains in California. The Redwood Sciences Laboratory second-floor addition project came about as one component of a bigger project that was planned several years before the Recovery Act was passed (fig. 4-16). In the mid-2000s, the Redwood

¹¹ This project is termed “Arcata Forest Science Lab Seismic and Safety Retrofit” (CIM-2721-3) in USDA Forest Service 2010.

Susan Charnley



Figure 4-16—The Redwood Sciences Laboratory, Arcata, California, under construction.

Sciences Laboratory identified a need to update the building to comply with changes in California's seismic code. Money was set aside to undertake a seismic retrofit of the lab, including some remodeling, starting in summer 2007. In the course of planning the seismic retrofit and remodel (which was not funded with Recovery Act money), the possibility arose of adding another floor to part of the lab—a second-floor addition. Doing so would provide scientists with more office and lab space and assist with long-term planning. The Redwood Sciences Laboratory was designed and built in the early to mid-1970s. The original design called for three stories, but only one story was built on the south end and two stories were built on the north end. The seismic retrofit/remodel and second-floor addition projects were originally packaged as one, but eventually the project was split into three phases: a seismic retrofit and remodel that could be undertaken with lab employees in the building (phase 1); continuation of work under phase 1 to be done with the building unoccupied (phase 2); and the second-floor addition (phase 3). A contract for phase 1 was processed in fiscal year 2008, and work began in summer 2008.

By the time planning began on the contract for phase 2, there were concerns about having enough money to cover phase 3. In the course of the seismic retrofit and remodel, additional damage (such as dry rot, insect, and weather damage) was found in the building walls, increasing the work and costs associated with that part of the project. When the opportunity to submit Recovery Act projects for

potential funding arose that winter, the Pacific Southwest Research Station requested money to pay for a number of construction projects, including the Redwood Sciences Lab second-floor addition. They were successful in obtaining \$1,008,424 for this project. Lab employees moved out of the building in February 2010, and phases 2 and 3 of the project started in spring 2010. Phase 2 is being implemented with original project funds using one contractor, and phase 3 is being implemented with Recovery Act funding and a different contractor. The second-floor addition project started in April, and is anticipated to take until October 2010 to complete. The project got off to a slow start because of heavy and late rains, and additional work was identified as the project progressed.

Project Recipient

Despite the project location in Humboldt County, the construction company that was awarded the contract for this project was Ausland Builders located in Grants Pass, Oregon, some 160 miles away. The Recovery Act stipulated that to the maximum extent possible, contracts should be awarded as fixed-price contracts through competitive procedures (section 1554). Ausland Builders has roughly 25 employees and has been in business since 1947. They specialize in commercial construction, and often work on state and federal government contracts in southern Oregon and northern California. Grants Pass is located in Josephine County, Oregon, which has an economic distress ranking of 9. The construction industry in southern Oregon has been extremely hard hit by the recession, causing more contractors to bid on government projects (owing to stimulus dollars), and to bid on contracts farther from home. In addition to being licensed to work in Oregon and California, Ausland Builders recently became licensed to work in Washington, and may get an Idaho contractor's license to expand their ability to compete for work. Nevertheless, because they specialize in commercial (as opposed to residential) construction, and often work on government contracts, their business was not as adversely affected as many other construction companies in the region. Company employees typically work year-round, as commercial construction is much less seasonal than residential construction.

A full work crew for the Redwood Sciences Laboratory second-story addition project consists of six people. Three of the people employed on the project are from Ausland Builders in Oregon; a project manager (who was a new full-time, permanent hire for the company in 2009), and two construction workers (fig. 4-17). Up to four workers are being hired locally to complete the crew. They are recruited through Labor Ready, a temporary employment agency for construction and other workers based in Redding, California (Shasta County). Workers on the project are paid prevailing wages as stipulated under the Davis-Bacon Act, depending on their job. By hiring part of their crew locally, Ausland Builders keeps the project cost down (no lodging requirements). Many supplies are also purchased locally.



Figure 4-17—Employee of Ausland Builders working on the Redwood Sciences Laboratory second-floor addition.

Socioeconomic Benefits

The socioeconomic benefits of the Redwood Sciences Laboratory second-floor addition project can be classified in terms of benefits to Forest Service employees who work

at the lab, to the project recipient, and to local communities. In terms of Forest Service employees, the project will add approximately 6,650 square feet of space to the lab. This space will be used for functioning labs; for storing equipment, data, and archived documents; and for housing more people (such as university collaborators, as the lab is located on the campus of Humboldt State University). A new sprinkler system for the entire building was also installed as part of the project, increasing fire safety. These benefits will be long term.

Regarding benefits to the recipient, the Redwood Sciences Laboratory project helped Ausland Builders retain its employees; none lost their jobs as a result of the recession. Moreover, two new employees were hired as a result of this and other Recovery Act projects the company received. Although the second-story addition project is relatively short term, it provides local workers with temporary jobs and income (table 4-7). These jobs fill in gaps between other employment opportunities. For permanent employees of Ausland Builders, this is one of many projects that helps keep them employed year-round. Construction projects such as this one create jobs in an economic sector that was especially hard hit by the recession, helping to replace one type of job that was lost. The requirement to pay federal contractors prevailing Davis-Bacon wages helps ensure that the people employed are making a fair wage.

Regarding benefits to local communities, this project raises the question of whether there are any in cases where the project recipient is nonlocal. In fact, many Recovery Act project recipients are not based in the counties where the projects they were awarded are being implemented, despite

Table 4-7—Full-time equivalent jobs reported, Redwood Sciences Laboratory

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
Number of jobs ^a					
Ausland Builders	—	—	0	3.5	2.08

Source: Recipient quarterly reports.
Note: A dash (—) indicates that no quarterly report was available.
^a See appendix for reporting method.

the fact that county economic distress ranking was the main criterion the Forest Service used to make decisions about which projects to fund. As this case demonstrates, some benefits did accrue locally. Local workers were hired onto the project work crew, as were local subcontractors who performed electrical, plumbing, and welding work. Workers from Oregon spent money locally by buying food and other items and staying in hotels, as did the Forest Service contract administrator who was assigned to the project. And many supplies were purchased locally. These trickle-down effects help benefit local communities.

Challenges

Interviewees reported that the challenges associated with this project were (1) the weather, which kept it from starting sooner and (2) the overall Recovery Act project workload. Because of the surge of increased work with multiple Recovery Act projects, the Forest Service was not always able to provide a contract officer representative at the project site on a daily basis, which sometimes hampered communication between the agency and the contractor, and slowed progress.

Key Findings From the California North Coast Projects

This case study of Forest Service Recovery Act projects on California's north coast looked at several project types: roadside brush removal and trail maintenance on the Six Rivers National Forest, an invasive plants population assessment on private and tribal lands, a biomass powerplant and roundwood mill project, and a construction project to improve a Forest Service research lab. An assessment of these diverse projects in one location makes it possible to identify several key findings with regard to the socioeconomic benefits of Forest Service Recovery Act investments. They are summarized here.

Decisions made by individual employees within the Forest Service organization were key in determining how the benefits of recovery funds were distributed.

Several Forest Service employees went out of their way to distribute funds to diverse project recipients and to develop Recovery Act projects with local organizations—even when

it took more time and effort to do so, and there was pressure to spend money quickly—because they were committed to creating local jobs during the recession and to helping multiple organizations benefit (fig. 4-18). They also made an effort to create jobs for groups targeted for assistance by the Recovery Act—specifically, tribes and youth. Agreements proved to be a useful tool in this regard because they made it easier to target local groups for employment and to create local community benefit. The Six Rivers roadside brush removal and trail maintenance projects illustrate this point.



Susan Charney

Figure 4-18—Forest service employee working with Recovery Act contractors.

Many of the Recovery Act jobs created are short term and seasonal in nature, lasting only a few weeks or months until a one-time project is complete. Nevertheless, these jobs have often had important socioeconomic benefits beyond their duration and the income earned from them. Recovery money made it possible to get the Blue Lake powerplant and pole and post mill up and running. Many long-term sustainable jobs will be created at the biomass plant and mill and for those who supply them with raw materials, and associated indirect jobs will benefit the local community. These jobs retained and created with Recovery Act money are not counted in recipient quarterly reports. Several other recipients, such as the Bridgeville Community Center, the Northern California Indian Development Council, and the Trinity County Resource Conservation District have work crews who rely on seasonal and short-term projects funded with soft money. Recovery

projects helped groups like these fill in gaps in employment and fill out their work year so that they could have a more steady income flow. Recovery projects also helped many workers develop new skills and strengthen relationships with the Forest Service. Doing so may lead to more work in the future.

Recovery Act funds made it possible to accomplish work of a type and at a scale that would not have happened otherwise. The SRNF was able to address a huge backlog of deferred roadside brush removal. It also performed trail maintenance on more than eight times the number of trail miles that comprise its annual target, making it possible to improve access to parts of the forest where trails had not been maintained in years. Similarly, the meadow knapweed population assessment funded activities that rarely get funded through typical grants, which usually pay for removal alone. By supporting activities like landowner outreach that are often difficult to fund, conducting the project in a collaborative way, and building on past work, the meadow knapweed population assessment project will help landowners and tribes increase their capacity to undertake invasive species control themselves—implying a much broader environmental benefit than if the project had focused on invasive plant removal only.

Recovery Act funds made it possible for some recipients to leverage resources that they would not have obtained otherwise, amplifying project benefits. A \$2 million grant from the Forest Service enabled Renewable Energy Providers to secure an \$8 million loan from a private lender, making it possible to refurbish the Blue Lake biomass powerplant and bring it online. Without the recovery grant, they would not have obtained needed financing for the project. Similarly, a \$248,000 grant from the Forest Products Laboratory helped them attract another investor for the pole and post mill. Recovery Act funds also helped some recipients leverage training funds. Blue Lake Power and the Trinity County Resource Conservation District received job training money from the California Economic Development Department that partially paid for employee salaries for 3 months while they worked on recovery projects. This funding helped recipients stretch their recovery money

and supported important worker training. Recovery funds also helped leverage labor. The Mid-Klamath Watershed Council was able to coordinate with a CCC work crew on the meadow knapweed eradication project in Humboldt County, increasing the scope and benefits of this project. Finally, recovery projects helped position some recipients to leverage future funding for their work. The Mid-Klamath Watershed Council was able to strengthen its invasive plants program with recovery money, which will put them in a stronger position to compete for grants in the future.

Existing relationships between the Forest Service and community groups played an important role in helping the agency implement the Recovery Act efficiently, in helping recipients benefit, and in making strategic investments to enhance long-term community benefits.

Regarding implementation, having funding mechanisms in place such as IDIQ contracts and master agreements made it easier for the Forest Service to obligate money quickly and create jobs right away. Knowledge of local groups, their needs, and their capacity also made it possible for the Forest Service to identify potential projects and partners for funding on short notice when the initial request for recovery projects came out of the Washington office. The SRNF projects illustrate these points. On the recipient side, groups like Renewable Energy Providers that had experience applying for Forest Service grants were able to quickly respond to requests for proposals when recovery funds became available. Similarly, contractors experienced at bidding on Forest Service projects and doing government contract work were at an advantage in going about the competitive bid process once Recovery Act contracts came out relative to those who had never bid on a Forest Service contract before and didn't fully understand how to do so. Ausland Builders is one example. Finally, the ability to create long-term community benefit when opportunities like Recovery Act funding come along calls for making strategic investments. Forest Service personnel who understand community needs and opportunities and think beyond the box of how to meet annual targets are well-positioned to identify these kinds of investments, as the Renewable Energy Providers example demonstrates. This finding

points to the importance of strong local relationships between the Forest Service and community groups. However, there is a potential risk in working with existing partners and known organizations. Nonrecipients were not interviewed for this study. The speed with which recovery projects had to be implemented may have prevented some groups that did not have existing relationships with the Forest Service, or experience competing for Forest Service grants and contracts, from benefitting.

Although project recipients were not always local, they nevertheless contributed to local economies and may have come from economically distressed counties.

County economic distress ranking was the main criterion used by the Forest Service to identify projects for funding. Thus, Forest Service Recovery Act projects were awarded largely on the basis of project location. Number and type of jobs that would be retained or created by a project was not considered. The Recovery Act contained no language giving local businesses preference in competing for contracts. And, in some cases, there was no local capacity to undertake the kind of work needed. Because many businesses were desperate for work, the Forest Service received contract bids for projects that came from companies located far from the project location, including other states. They also received some extremely low bids on projects—many companies were simply trying to keep going, with no profit margin, giving them a competitive edge. Consequently, not all project recipients were local—defined here as having their business located in the same county as the project. Conversely, sometimes local recipients subcontracted with businesses from out of the area because there was no local capacity to undertake some tasks. The projects discussed in this case study had a total of 10 recipients. Seven out of 10 were located in the same county as the project or as the Six Rivers National Forest supervisor's office (Humboldt); 3 of the recipients were not local. Two came from southern Oregon and one from Shasta County, adjacent to Trinity County, with an economic distress ranking of 10. The two counties where the Oregon recipients are based had economic distress rankings of 10 (Lane) and 9 (Josephine). Thus, although project recipients did not always come from

the county where the project was located, in this case they came from counties that had high economic distress rankings. Two of the nonlocal recipients hired local residents for part of the project work, and all spent money locally by purchasing supplies, eating and sleeping locally, and so on. Thus, although project recipients were not always based in the same county as the project place of performance, they contributed to local economies.

Forest Service economic recovery projects helped achieve the goals of the act. The Recovery Act had five goals. Three of them are relevant here:

- To preserve and create jobs and promote economic recovery.
- To assist those most impacted by the recession.
- To invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits.

Forest Service American Recovery and Reinvestment Act projects in California's north coast region preserved and created jobs, assisted people affected by the recession, and invested in transportation, environmental protection, and infrastructure that will provide long-term benefits. These accomplishments will be more fully realized and sustained when an economic recovery occurs.

Lessons Learned

The Recovery Act was notable in that it directed the Forest Service to invest in environmental restoration, protection, and improvement activities, and capital improvement and maintenance projects in a manner that would create economic opportunity for local residents. Doing so is a laudable objective for the Forest Service in the future. What can be learned from this case study to help the agency achieve this objective post-Recovery Act?

- Implementing Forest Service projects in a way that breaks the work into pieces that can be undertaken in diverse ways by diverse recipients helps to increase local community benefit from projects.
- Agreements are valuable tools for targeting local groups for project work and for building partnerships.

- Infrastructure investments that strengthen and diversify local economies are anticipated to lead to sustainable, long-term job creation and rural community development—for example, projects that help build an integrated restoration economy by funding wood-to-energy and other biomass utilization projects, such as mills that process and add value to small-diameter wood.
- There can be tradeoffs between maximizing local community benefit and maximizing agency efficiency and cost-effectiveness when implementing projects; decisions about how to balance these tradeoffs will be influenced by agency resources, goals, and priorities.
- Maintaining strong relationships between Forest Service employees and local communities, and having employees that understand community needs and capacities, will help the agency make the most of rural community development opportunities when they arise and accomplish project work efficiently.

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Chapter 5: A Socioeconomic Assessment of Forest Service Recovery Act Projects: Evergreen Forest Products Dry Kiln and Restacker, Idaho

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Jessi Kershner

Victoria Sturtevant, Jessi Kershner, and Pamela Jakes¹

Summary

Evergreen Forest Products operates the only sawmill and cogeneration facility in Adams County, Idaho. Caught between expensive saw logs and a soft lumber market, the company's owners considered closing their sawmill. As explained by one owner, "We lost quite a bit of money the last couple of years. My concern was that we might have to shut down, get out of the business—it was coming to an end. We were fortunate enough to get some cheaper logs, and then at the same time the [Recovery Act funding] came along."

The dry kiln and restacker project funded by American Recovery and Reinvestment Act (Recovery Act) funds improved the competitiveness of the Evergreen mill in a tough economic climate by increasing efficiency and processing capacity, doubling the amount of wood the company can transport on each truck from their sawmill to their planer mill more than 100 miles away. Savings in trucking costs are spent on buying additional saw logs and on wages for new employees at both sawmill and planer facilities.

About 100 people were employed constructing the dry kiln and restacker, many of them from the surrounding county, which had lost many construction and timber

Fast Facts

Total Forest Service Recovery Act Investment, Idaho (as of 09/08/09): ~\$99,267,770

Idaho projects: \$98,292,600; Idaho share of multistate projects: ~\$975,170

Forest Service Investment, Evergreen Kiln and Restacker: \$2,500,000

Project Location: Tamarack, Idaho

Target Counties: Adams County

Project Type: Build dry kiln and wood restacker at sawmill site

industry jobs. The construction project indirectly benefited steel and equipment manufacturing businesses and local service industries, such as motels, restaurants, and stores. Keeping the mill open protected 60 core jobs. When the market for lumber improved, another shift added 60 more; since the market has gone down again, the mill is back to one shift. Evergreen is an important consumer of the Payette National Forest's byproducts from forest management for wildlife habitat improvement and hazardous fuel reduction. The mill's demand for these products may grow as a result of its increased efficiency and mill capacity.

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People pretty well understood that the mill is important to the community and it provides jobs. And by having a dry kiln funded in part by recovery funds, that's a good thing.

—Payette National Forest employee

The Case

Evergreen Forest Products is located in Tamarack in Adams County, Idaho, north of Boise and west of McCall, Idaho, near the Idaho/Oregon border, and is surrounded by the Payette and Boise National Forests (fig. 5-1).

The Project

I would say that kiln project was just a huge morale booster to get. Yes, that helped us actually keep in business 'cause we were to the point where we were bleeding badly, losing millions, and we had to make our mind up. Do we stay in the business or do we get out and go find something different? [Evergreen owner and vice president]

Portions of the Recovery Act dollars allocated to the USDA Forest Service were directed toward enhancing the wood products industry and capacity for woody biomass utilization. Building the wood products industry will increase the capacity of the land management agencies to complete needed forest management activities. Evergreen Forest Products was chosen to receive \$2.5 million to construct a plant with three dry kilns and a restacker. They were chosen on the basis of being one of the “main players” in the Adams County wood products economy and for meeting the selection criteria for projects to be shovel-ready, create jobs, and serve a county of concern (table 5-1). The mill owners had been looking to purchase a dry kiln system and planer in order to increase efficiency and remain profitable, but were unable to secure industrial revenue bonds. The coordinator of the four-county Woody

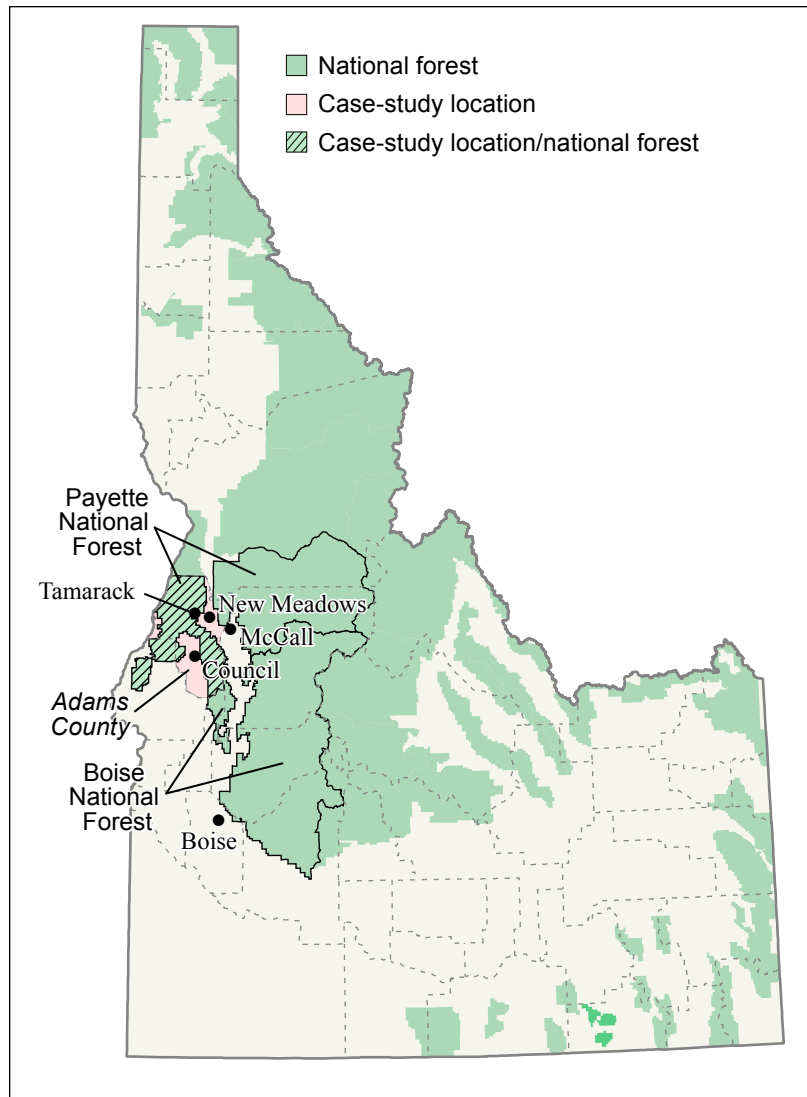


Figure 5-1—Location of case study and surrounding areas in Idaho.

Biomass Utilization Partnership (WBUP), a retired Forest Service district ranger, helped move their proposal forward.

When they got that down to where we thought they would be competitive, \$2.5 million for them and their facility, we knew that was going to be stretching them pretty hard [and in the end] they spent \$800,000 of their own money to make it happen. Everything was ready to go, they were sitting champing at the bit to get the money—they [Forest Service] were so slow getting the money out after it was awarded. He [mill owner] was worried that they would lose a season. [WBUP Coordinator]

Table 5-1—Project recipient and funding

Recipient	Project description	Total funding amount	Funding mechanism
Evergreen Forest Products, LLC (WFM-0460-01WTE)	Construct dry kilns and restacker, resurface log yard	\$2,500,000	Grant

Work on the dry kiln plant began as soon as the snow melted in the spring of 2009, and was completed in February, 2010 (fig. 5-2). Immediately, jobs were created in construction: pouring concrete, welding, assembling the kiln and restacker. The kiln project entailed building a large concrete pad for rails that carry loads of rough green lumber, separated by stickers, from the sawmill into the three double-track dry kilns, where it is dried for an average of 30 hours. Dry lumber exits the kiln on rails and is taken to the restacker (fig. 5-3). There the stickers are removed, and lumber is sorted and restacked for shipping (fig. 5-4). A new pipe was built to bring steam from the boiler in the cogeneration facility, located across the highway, to the

new dry kiln plant (fig. 5-5). Fiber optic cable connects the kiln control room to the cogen boiler control room, and a computer monitors the system, coordinating the kiln operator's steam requirements with the cogen boiler operator's steam availability. Heat from the steam condensate is used to remove ice and snow from the concrete slabs that serve as the input and output aprons of the kilns.

Jessi Kershner



Figure 5-2—Green lumber waiting for kiln drying.

USDA Forest Service



Figure 5-3—Mill Manager Mark Krogh and employees sorting wood in restacker.



Figure 5-4—Bins of removed stickers outside the restacker where dry lumber is processed for shipping.

Victoria Sturtevant



Figure 5-5—Steam line joining cogeneration boiler and kiln plant.

Courtesy of Yanke Energy

The jobs and market for raw material generated by the mill and biomass plant are important to the long-term viability of the local economy and forest management. The mill is also important as a source of chips and sawdust for paper and for its potential for additional energy production. Tracing the mill's supply chain and position in the network of forest industry operations reveals the wider benefits of the project not directly associated with the production of lumber, including wildland fuel reduction, protection of homes in the wildland-urban interface, provision of renewable energy, and forest habitat for wildlife. The Recovery Act dollars going to this project, therefore, not only stimulate the local economy, but are building capacity for restoration efforts on private and public lands, particularly the Payette National Forest.

So for the the National Forest System [if the mill had closed], we would have seen lower prices for our stumpage, possibly some no-bids on projects that were maybe designed to restore the forest and restore wildlife habitat...maybe gotten no takers. Then we would have had to pump more money, which we don't have a lot of, into subsidizing, into actually paying people to do stewardship, that would have been tougher [Payette National Forest employee].

The Community

Council, the county seat of Adams, is a community of a little over 700 people located in the Weiser River valley, about 130 miles northwest of Boise. Tamarack, site of Evergreen Forest Products, and New Meadows, with 500 residents (fig. 5-6), are nestled in the Meadows Valley about 25 miles north of Council (fig. 5-7) on State Route

I think the stimulus package of \$2.5 million has really, really done something for our county. And when you have a population of 3,500 people and you get another 20 to 40 jobs, it's a big deal. As you get another 30 to 40 jobs in New York City, nobody knows, but here we know we got 'em.

—Adams County Commissioner

95. Most of the county's population of 3,862 is dispersed throughout the countryside or distributed among a handful of unincorporated communities. County population has remained relatively stable over the last decade. There were just 44 more people in 2009 than in 1999 (Idaho Department of Labor 2010), a significantly lower growth rate than the state (fig. 5-8). School enrollment data reflect the decline of school-aged children in the county (fig. 5-9) and the loss of young families.



Figure 5-6—New Meadows welcome sign.



Figure 5-7—Council's antique fire truck.

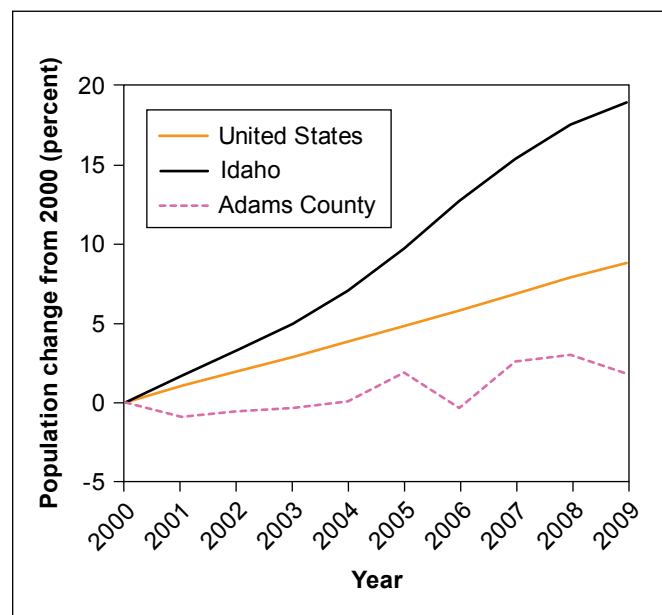


Figure 5-8—Change in population for the United States, Idaho, and Adams County, 2000–2009 (USDC BC 2010a).

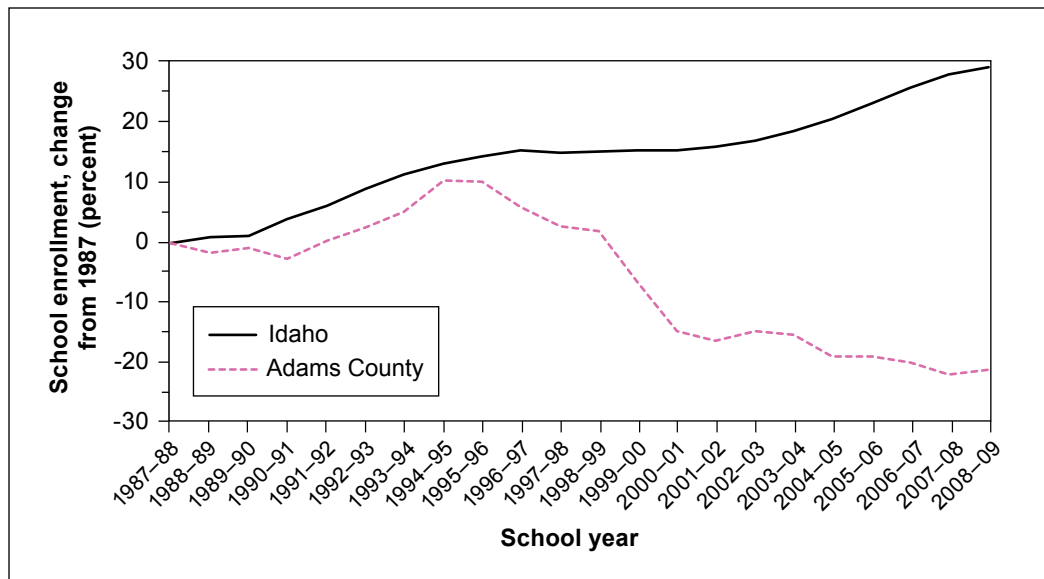


Figure 5-9—Change in school enrollment for Idaho and Adams County, 1987–2008 (USDE NCES 2010).

Forested hillsides are the backdrop for these valleys and communities; federal or state governments (USDA Forest Service and Idaho State Department of Lands) manage 80 percent of the forested lands (a vast majority of the county's lands), and a portion of the remaining forest land is industrial timberland owned by Potlatch Corporation. Ranching (cattle and sheep), farming, and mining formed the core of the county's economy in the early 20th century. Mining went bust in the 1920s; farming, especially the once-thriving fruit industry, declined soon after. The economy of the area improved in 1939 when the Boise-Payette Lumber Company built a sawmill in Council and started logging operations in the surrounding mountains. After a flush of growth, the economy stabilized for several decades, and county identity centered on logging and ranching.

The recent recession was just one of the many economic blows dealt to the natural-resource-based region in the last few decades. During the housing slump of the early 1980s, timber-related jobs began to decline. In 1995, the Boise Cascade mill at Council was closed, eliminating 75 jobs; equipment was moved to Papanao, Mexico. The closed mill site was turned over to the city, which has turned it into a business park that currently houses a small finishing mill. During the next few years, three other Boise mills in the four-county region closed (Horseshoe Bend in 1998,

Cascade and Emmet in 2001) (Draffan, n.d.). Evergreen Forest Products was the only sawmill left in this region until Emerald Forest Products recently rebuilt on an old Boise-Cascade mill site approximately 100 miles to the south (funded partially with Recovery Act funds).

Adams County has a current unemployment rate of 15 percent and a net rate change between 2007 and 2008 of 6.6 percent (Idaho Department of Labor 2010). It has been assigned an economic distress ranking of 9 by the Forest Service.² Labor force data for the county show a 25 percent rise in the number of people employed from 2000 to 2007, followed by a drop of 10 percent in 2008 (Idaho Department of Labor 2010). The unemployment rate mirrored the employment data, reaching a 10-year low in 2007 of 4.9 percent and then began rising to 10 percent in 2008 and 15 percent in 2009 (Idaho Department of Labor 2010). Figure 5-10 shows unemployment at 20 percent in 2010, although lower during summer months when there are jobs in tourism and natural resources. Income data reflect this fluctuation in employment (fig. 5-11). Much of the loss of jobs was

² The Forest Service calculated economic distress rankings for every county in the United States and used these rankings as the main criterion for making Recovery Act project funding decisions. Rankings are on a scale from 1 to 10 with 10 signifying the highest level of economic distress. See USDA FS (2009) for information on how the rankings were developed.

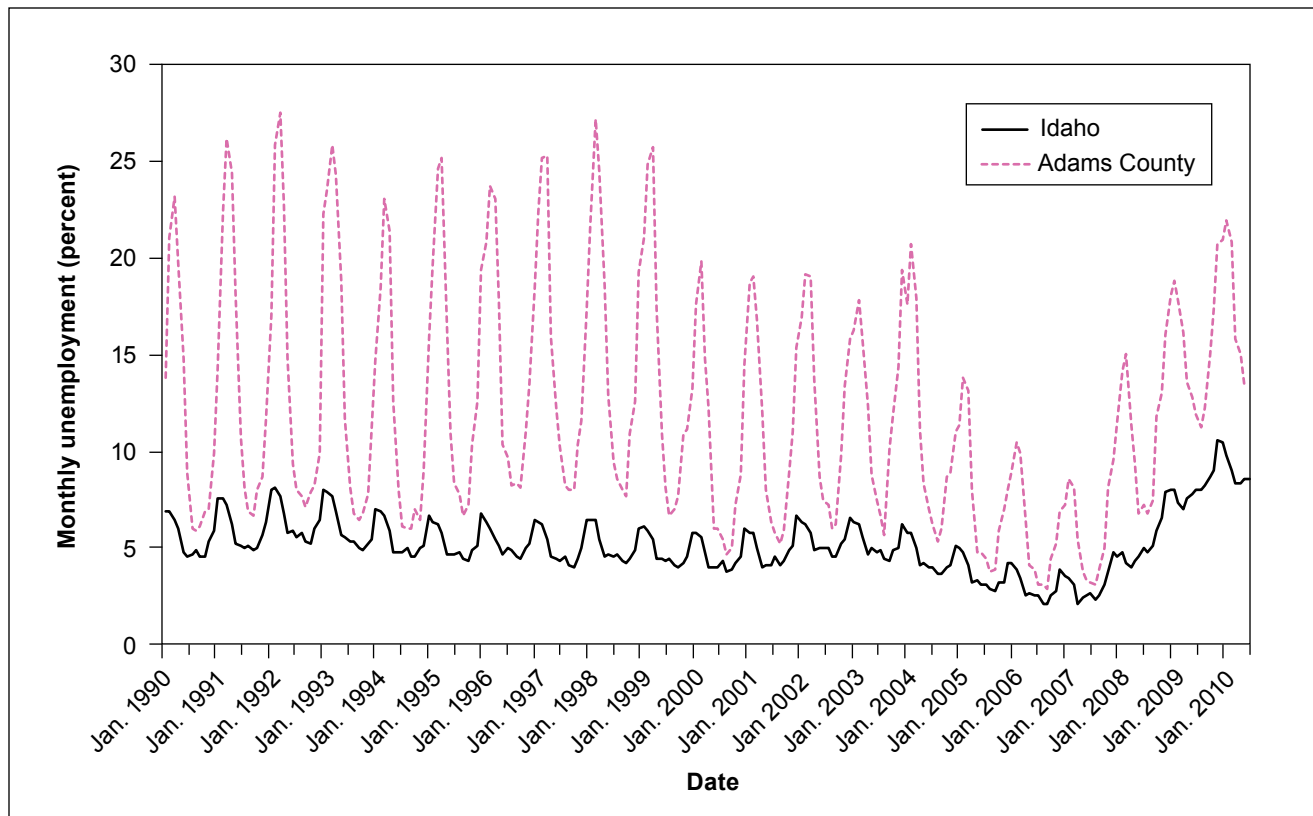


Figure 5-10—Monthly unemployment rates for Idaho and Adams County, 1990–2010 (USD L BLS 2010).

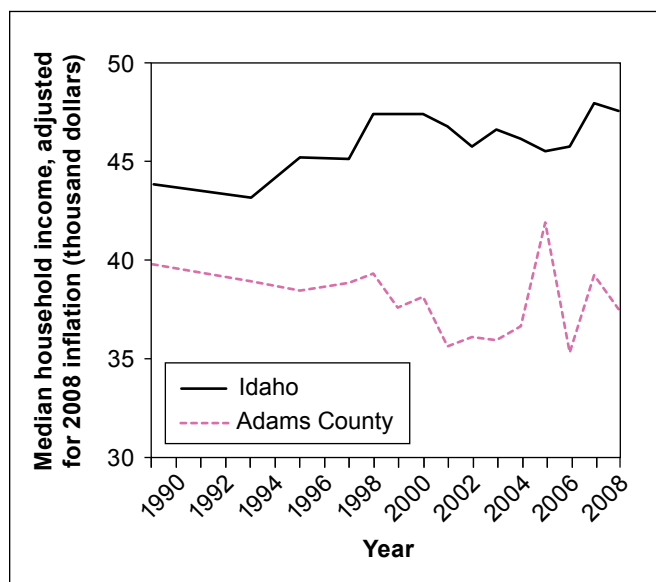


Figure 5-11—Median household income for Idaho and Adams County in 2008 dollars, 1989–2008 (USDC BC 2010b).

in construction, as work stopped on Tamarack Resort in neighboring Valley County.

Currently, the five largest employers in Adams County are four government entities (county, city, USDA Forest Service, school district) and the hospital. County commissioners see natural resources as the base of the economy and the path out of their high unemployment rate (which they say got as high as 28 percent). As one commissioner put it,

When the mill closed down it kind of took away our resource-based economy which was good wage-earning jobs. And we got transformed into a recreational-based economy because we have a great quality of life here, so we got restructured if you will. Well, that doesn't pay the bills. and we've been working very hard trying to come back up to the resource-based economy because my perception as county commissioner is that we honestly believe that it's a renewable resource. If it's stewarded correctly, everybody wins.

The local culture is aligned with the commissioner's emphasis on natural resources as the foundation of the area's economy (fig. 5-12). Almost everyone is related to someone who works or has worked in the woods or mills, or drives a lumber or log truck. The general sentiment heard in these towns is articulated by this New Meadows resident:

We need the wood products industry; without it they might as well shut the towns down... might as well cut this part of Idaho out and make it a retirement town. McCall's hurting; all the towns around here are hurting since the mills closed. This is peoples' incomes—there's nothing else, especially since they are shutting off the forest.



Victoria Sturtevant

Figure 5-12—Expression of local identity.

Methods

This case study was conducted using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act project. A total of 12 individuals were interviewed for this case study during fieldwork in Adams County during April and June 2010; additional interviews were completed via telephone. Interviewees included three Forest Service employees, three county commissioners, the Evergreen mill owner, a biomass utilization partnership director, two mill employees, and two local business employees who benefited from jobs created or retained as a result of the project. Additional qualitative data were obtained from published sources such as newspapers and local government publications,

Forest Service documents, and Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods and data sources see the appendix.

Project Recipients and Partners

Evergreen Forest Products, also called Tamarack Mill, was started in the early 1970s by the grandfather of the current owners (the Krogh family). In 2002, the Kroghs purchased the Evergreen mill from their uncle; the family also owns Clearwater Forest Industries, 100 miles north in Kooskia. The father, Robert Krogh, is still involved, along with his three sons. Rodney oversees both operations, Mark manages the Evergreen Forest Products sawmill, and Jeff runs the Clearwater Forest Industries planer mill in Kooskia. As boys, Rodney, Mark, and Jeff worked on a cleanup crew and became familiar not only with the plant operations and industry, but with many of the employees, some of whom are still employed at the mills today. Like other endangered small family mills, Evergreen and Clearwater have seen their share of reductions and closures.

At the Evergreen mill, the family bulldozed an obsolete kiln and planer, leaving only a sawmill and cogeneration facility. At Clearwater Forest Industries, they shut down their sawmill and logging operation, leaving three dry kilns and a planer, and laid off about 75 employees (Idaho Department of Labor 2007). As a result of these changes, logs were processed at the sawmill in Tamarack and then trucked to Kooskia to be dried and planed. This process was terribly inefficient and expensive; a limited number of green boards could be sent up to Kooskia on a given truckload. This inefficiency was a driving force behind the Kroghs' decision to build a new dry kiln at Evergreen (fig. 5-13), as it would almost double the number of boards that could be sent to Kooskia (fig. 5-14).

Evergreen Forest Products' 6-megawatt cogeneration plant, opened in 1983, burns 100,000 tons of wood per year

Jessi Kershner



Figure 5-13—Dry lumber outside of kiln waiting to be restacked.

Jessi Kershner



Figure 5-14—A truck carries twice the load when lumber is kiln dried.

at capacity, and sells enough electricity to Idaho Power Company for 4,000 to 5,000 homes. This income helps support the sawmill, especially when the market for lumber declines. The cogen plant is powered primarily by hog fuel from the sawmill (bark, wood chips, and shavings), although woody debris from private land and other wood products businesses is also used (fig. 5-15). Another cogen facility is being proposed for the county, which will provide another market for Evergreen hog fuel and more electricity to Idaho Power. Public lands may provide more of this fuel in the future; some stewardship contractors are interested

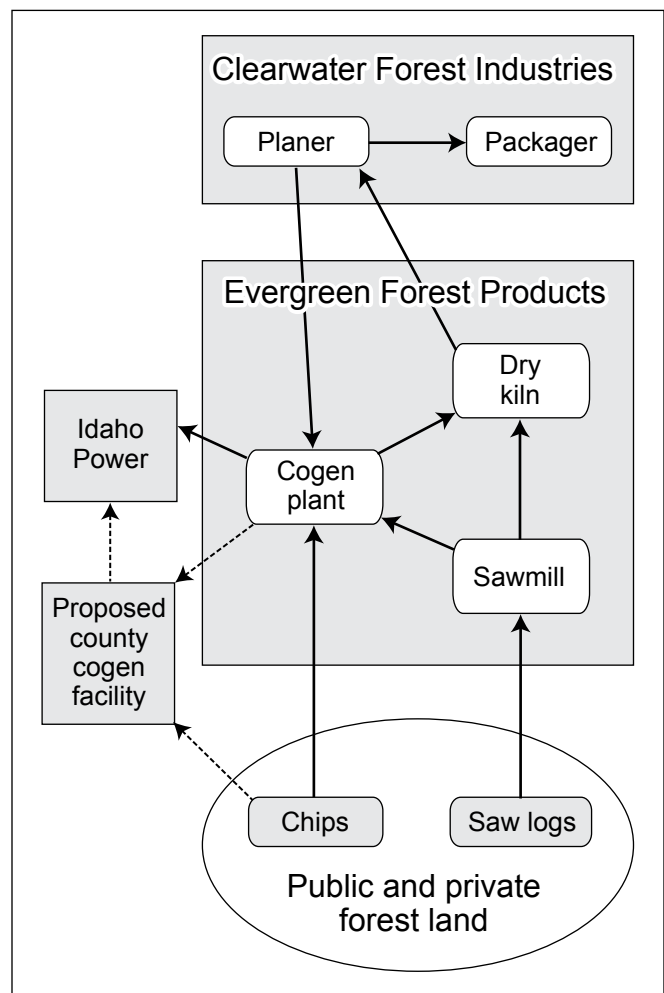


Figure 5-15—Wood products and energy production system.

in investing in chippers to take to the woods but reluctant to take on debt unless federal contracts provide a dependably continuous supply of material.

The operations continue to work in tandem: Clearwater Forest Industries, which employs about 25 workers, finishes rough boards trucked from the Evergreen Forest Products sawmill, which employs about 60 workers (fig. 5-16). The finished boards are packaged, stored, and then shipped to customers throughout the West. Chips and sawdust from Clearwater augment the Evergreen cogen fuel supply; higher grade chips and sawdust from the Evergreen and Clearwater mills are sold to paper mills, such as Clearwater Paper (formerly Potlatch Corporation) in Lewiston.

Now any truck heading north empty, after leaving the finished lumber from the planer mill in Boise, stops at the sawmill to pick up dry boards to be brought up to the planer in Kooskia. As explained by the mill owner, “We do less trucking and at the same time doubled the amount of lumber on each truck. It just makes us more competitive with the other mills, where we had a disadvantage, maybe, with that haul. Now we don’t have that. We’re on level footing.”

Socioeconomic Benefits

There’s no question that the money was well spent in our county because it created short-term jobs, it boosted long-term jobs, and, at worst, it created an environment where at any given moment the infrastructure is there for it to turn the key and start up a lot more jobs that are available there, now the infrastructure is online.

—Adams County Commissioner

Recovery Act funding directly resulted in a significant number of jobs being created or retained in Adams and neighboring counties to construct the three dry kilns and restacker, and make associated improvements in and around the mill (table 5-2). Workers who benefited indirectly from Recovery Act funds spent on the kiln construction (fig. 5-17) included those working at rock pits, driving dump trucks, operating equipment, and prepping ground; also,



Figure 5-16—Evergreen Forest Products facility.

Table 5-2—Full-time equivalent (FTE) jobs reported by Evergreen Forest Products

Reporting period				
Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
<i>Number of FTE jobs^a</i>				
—	80	100.86	—	—

Note: See the appendix for reporting method.

^a A dash (—) indicates that no quarterly report was available.

there were fabricators, electricians, and laborers. Steel for fittings was supplied from as far away as Salt Lake City and Portland, Oregon, as were controls (including computers and program-



Figure 5-17—Kiln construction.

mers). Suppliers were having a tough time getting some parts for the kiln because they weren’t stocked; credit restrictions kept inventories low. Local beneficiaries of construction business were hotels, campgrounds, restaurants, and the local hardware store. Many of these businesses had shut down because of the downturn in construction or were in danger of shutting down during the late fall and winter, but were able to stay open because of infusion of business from kiln construction.

Initially, the dry kiln and restacker increased production capacity and the mill added another shift, expanding

Victoria Sturtevant

USDA Forest Service

from 60 workers to 120; however, when the lumber market slumped again in late spring of 2010, many mills, including Evergreen, cut to one shift. Evergreen maintained its core crew, many of whom have 20 to 30 years of seniority, as well as 4 to 5 workers who were brought on after the kiln project (fig. 5-16). They work in family-wage jobs, \$33,000 to \$34,000 a year, with health benefits for themselves and their families and 401k retirement accounts. Most workers are from Council and New Meadows; very few are from McCall. Some drive down from the north, and a few come and stay during the week in housing at the mill site.

In a region dependent on the wood products industry and suffering from the downturn in real estate, the mill is having no trouble finding willing workers. The owner describes the situation,

You know, about 3 or 4 years ago when they were building Tamarack Resort, we couldn't find anybody. We had a terrible time trying to find people to work. Because you could go over there and swing a hammer for \$30 an hour, so it was just ridiculous you just couldn't find applicants. Now, my brother's application file is that [3 inches] thick, it's just crazy how many people are looking for work around here.

And there's very little turnover because of inadequate performance or because people have moved on to other opportunities. The mill manager explained,

There's just not that much out there that will pay what a sawmill pays, and while that's not the greatest job in the world, as far as hourly rate goes, it's far above anything else they could do anywhere in this area. Plus we have insurance programs that you simply don't get in most of the jobs that you would find in a rural area. So, no, there's not a lot of turnover.

As the kiln project offers more stability to the mill, workers are feeling their jobs are less threatened and are taking the opportunity to buy homes. The mill manager gave an example of two employees who bought houses in the last month. "I'm sure they wouldn't have been able to do that otherwise.... They saw the opportunity and they

decided to take their chance...and I think both of them are workers that you're not going to let go."

Extensive training is required to work at the mill and is conducted in order to provide a workforce with a variety of skills and to provide for the safety of workers and compliance with environmental regulations. This training provides backup for skilled positions such as filers and sawyers, allows flexibility for illness or vacations, and reduces tedium and repetitive exertion, as rotation among stations can take place every few hours. The core group can do almost every job in the mill. Few of the additional people hired had prior experience working in a mill. Some had worked in the woods, such as in logging; others had done landscaping or were mechanics. Many had been in construction, primarily home building; three had worked at the mill, left to create a home construction business, and were back at the mill because of the downturn in building. Most were over 40 years old; many younger applicants lack seniority, are unable to pass physicals or drug tests, or lack skills or a work ethic. One worker hired said he would have had to move to the Treasure Valley (Boise area) to find work if it weren't for the Evergreen mill job; this would have no doubt been the case for others.

Evergreen was able to bring on one person with extensive experience in millworker safety, quality control, and environmental regulations to serve as an additional manager. He has been in the forest products business for 42 years with a career path that included working for the Krogh brothers' grandfather and progressing to management positions, including overseas. Unemployed for 14 months after losing his job as safety and environmental director at another mill, he was looking to come back to the area he and his wife loved.

Both the Payette and the Boise [National Forests] have traditionally been the highest producers as far as doing treatment work and producing volume for various mills across our region. So it certainly has been a high-priority area.

—State and Private Forestry employee

Environmental Benefits

Although at face value this mill and restacker project provides primarily economic benefit, its environmental benefits are numerous, from providing a market for logs and biomass to lowering dependence on oil and reducing carbon output. The mill increases the feasibility of treatments on forest lands by creating demand for products coming off forests. The USDA Forest Service manages federal forest lands for wildlife habitat, wildland fire mitigation, watershed values, and recreational opportunities (fig. 5-18). Raw materials for industrial processes, whether for traditional wood-based products or bioenergy, are now a byproduct.

In the past, much of the wood waste after harvesting or thinning has been piled and burned; now, in order to reduce greenhouse gas emissions, air pollution, and dependence on oil, the Forest Service is looking for renewable energy markets for their noncommercial material and biomass. And, of course, a competitive market for this material reduces the cost of treatments on forest lands.

Currently, logs milled at Evergreen come from private and state lands. Tight credit forced some nonindustrial private landowners to sell timber to raise cash for their business operations (such as planting crops or buying cattle). Some interviewees speculated that large-diameter trees on state lands are being sent to the mill out of fear that the mill would be shut down (fig. 5-19). In the past, Evergreen bought logs directly from the Forest Service; in the future, they expect to purchase logs from logging contractors who have been awarded federal land stewardship contracts, which have essentially replaced traditional timber sales.

The local loggers want to do those [stewardship contracts], so we have given them a set price that we will not go under, and then we work with them on the project. But they have full responsibility, it's under their name. And we've helped them out, getting them off and going with bonding, and whatever we have to do to kind of help them get going, because they want to do this and they like to



Victoria Sturtevant

Figure 5-18—Eighty percent of Adams County's forests are on public lands.



Jessi Kershner

Figure 5-19—Large-diameter logs from state lands milled at Evergreen Forest Products.

control and be able to set their own schedule. And so they've really taken to this idea where it's called "gate wood"—you pay for it when it comes in. And so the loggers are doing everything, they're going to the sale, cruising it, putting out a bid, and we give them a price, and well, it may go up but it will never go down, to protect the loggers. And so they love having that control [Evergreen owner and vice president].

The environmental benefit of the mill's cogeneration plant is compromised when the market for lumber is soft because the mills reduce production and, therefore, byproducts for burning. During the last recession, as Evergreen's sawmill downsized to stay in balance with the log and lumber market, it decreased the hog fuel available for the cogen plant, which then ran at lower capacity, making it less profitable to sell electricity. As production increases, more biomass will be created, some of which could be burned in the county's planned cogen plant.

Another benefit that can be credited to the kiln project is that fewer trucks are needed to haul dry lumber north to be planed than were needed to haul the same amount of green timber north, thereby reducing fuel consumption and carbon emissions. Some trucks on the route are carrying high-grade shavings to paper mills or chipped fuel to the cogen plant. Moreover, keeping jobs in Adams County, rather than sending workers to Treasure Valley (Boise area) and Valley County (McCall area), reduces the environmental costs of commuting.

The trucks that were hauling were called round trippers because they would come down in the morning, pick up a load, take it there, drop it off, come back and get another one. They're not hauling lumber now; we switched them from hauling lumber to hauling shavings because now we have extra shavings... So those same guys that were hauling lumber now are hauling shavings [Evergreen owner and vice president].

Other Recovery Act Projects and Partnerships

On the Payette and Boise National Forests, \$8 million of Recovery Act-funded contracts were awarded for hazardous fuel reduction projects, road and bridge projects, noxious weeds and invasive species projects, and recreation improvements. Most of these projects will be implemented in 2010 and 2011 and will produce raw material (projected at 25 million board feet of sawtimber and 50,000 tons of hog fuel chips) for local industry and utilities. Recovery projects will also free up regular forest funding for other projects.

Various groups involved with economic development and resource management recognize the central role of Evergreen sawmill in providing a market for material produced by forest restoration and fuels management. Idaho Smallwood Partners is a four-county effort organized to encourage the reestablishment of the wood industry in southwest Idaho (<http://www.idahosmallwoodpartners.com/about.cfm>). The member counties—Adams, Gem, Valley, and Boise—have joined together to promote management of second-growth forests and produce products from small-diameter timber from forest restoration on the Boise and Payette National Forests. One of the partners, the Woody Biomass Utilization Partnership (WBUP), is a group of public agencies, private companies, and technical experts in these counties. Established in 2007 and funded by the Forest Service, USDA Rural Development, Idaho Department of Commerce, the four counties, and industry, this group is tasked with identifying and developing sources and uses for woody biomass. They identify and develop markets, mechanisms, and technology to get supply to those markets and promote product and organizational development that will aid in the development of woody biomass businesses and markets. The WBUP also secured funding to complete inventories of future woody biomass availability for southwest Idaho, resulting in the southern Idaho Coordinated Resource Offering Protocol (CROP) (<http://www.crop-usa.com>).

A lot of people, a lot of interest groups that used to be just litigating us, or appealing us, they're coming together saying, "We think there's a better way. We do believe in restoration forestry. We do believe you need to do some active management for wildlife. We can get behind an effort like this and support that..." This is the first time the Payette tried something like this. We've said, "What have we got to lose?" Let's try something different. Let's let people be empowered in the community and they develop the proposal...."

—Payette National Forest employee

The Rocky Mountain Elk Foundation and WBUP established the Payette Forest Coalition, a collaborative group representing a broad range of interests including conservation groups, the timber industry, the environmental community, recreational groups, and local, state, and federal government (fig. 5-20). Several meetings and field trips were held by the coalition in 2009–2010, resulting in management recommendations for wildlife habitat improvement, wildland fire hazard reduction, woody biomass utilization, and recreation trail improvement (USDA FS 2010, Wagner 2010). Adams County enthusiastically participates in this group, which is committed to integrating community economic vitality, forest health, and restoration of wildlife habitat. It promises to create a source of biomass for the county’s proposed cogeneration facility and to create jobs on both the supply side (harvesting logs and collecting biomass) and the production side (mills and cogen plants).



Figure 5-20—Payette Forest Coalition.

The current WBUP coordinator, a retired Forest Service district ranger, describes why the Forest Service is interested in the viability of the local wood processing industry. “If I’ve got no sawmills, then there’s nothing we can get done in the Forest Service in the way of management, especially to try to utilize the small material,” he noted. “If you don’t use the small material, we aren’t going to go anywhere.”

The WBUP assisted USDA Forest Service State and Private Forestry in soliciting proposals for economic recovery funding; nearly \$10 million was secured for four projects in Idaho that would create jobs in the wood products industry and create opportunities for biomass utilization. In addition to the \$2.5 million to Evergreen Forest Products for new dry kilns, \$4 million went to

Emerald Forest Products to build a new sawmill and shavings plant (Gem County), \$2.75 million to Garden Valley Schools for a biomass burner (Boise County), and \$500,000 to Treasure Valley Forest Products to expand a pellet plant operation in Mountain Home (Elmore County).

Challenges

The Evergreen mill and cogeneration plant is depending on the Payette Forest Coalition’s Mill Creek-Council Mountain Landscape Restoration Project to help meet their demand for raw material, as are other planned county natural resource projects. This project was nominated but not selected for Collaborative Forest Landscape Restoration Program funds, which would help implement the coalition’s proposed restoration projects on a 50,000-acre area on the Council Ranger District, creating local jobs and providing materials for mills and cogen facilities, as well as restoring forest health.

Recovery Act investment in the wood products industry of southwest Idaho is a demonstration of the Forest Service commitment to maintaining the natural resource economy infrastructure. However, until projects like Mill Creek Council are launched, the region’s economic vitality remains hampered by the limited amount of material coming off federal forest lands. With such a large percentage of land owned by the federal government, communities rely not only on federal management of natural resources, but federal support for county services and school districts. Residents and mill managers see a disconnect between community and the local Forest Service priorities; additionally, they feel abandoned by the multinational timber corporations and flummoxed by volatile lumber markets. As stated by one,

So I don’t see a proactive thing with the Forest Service as far as the communities go, related to sawmills. Nor do I see it in the big businesses if you look at Boise Cascade and that kind of thing. Their focus isn’t on the community; it’s on the bigger picture....

Looking to the Future

Regional players such as the county commissioners, the WBUP, the Payette Forest Coalition, and local mill owners, contractors, and investors recognize the importance of Recovery Act funds for connecting the “dots” of the new resource-based economy and forest restoration. The community will see the benefits of federal investment more fully when these groups’ efforts come to fruition, resulting in a more reliable flow of products from the forests and steady jobs in the industry. Children may be attending better-funded schools, and might look forward to a future that could include jobs involving stewardship of local valleys and forests. The future of the workforce, however, may be a concern, in terms both of young workers’ ability to pass physicals for employment at the mill and of their continuing interest in the woods-related work.

The current owners and managers of Evergreen Forest Products are poised for future growth when logs are more competitively priced and construction boosts the demand for lumber. Evergreen’s owners are looking ahead to the day they can build the new planer at the Tamarack site; the buildings funded by the Recovery Act were designed to link to a planer. Similarly, the county is looking ahead to better economic times, and landmark collaborative forest restoration projects await funding and implementation. Threads of a new forest restoration economy are being knit together collaboratively in an integrated approach to forest ecosystem health and community well-being (fig. 5-21). Recovery funds allow the Forest Service to be a strong partner in this effort.



Figure 5-21—A TransAmerica bike trail rider passing the kiln.

Key Findings

Knowledge of local conditions was important to the project’s success. Forest Service and regional leaders recognize that Evergreen Forest Products—as both an employer and a supplier and consumer of wood materials—is critical to sustaining the county’s natural resource economy and developing the region’s network of sawmills and biomass plants. This project contributes to the health of that regional economic system.

Project investment provides security for local employees. As a family-owned business for several generations, Evergreen has demonstrated a long-term commitment to the region; in turn, they are rewarded by a reliable and loyal core workforce with extensive training and 20 to 30 years experience. Recovery Act investment in the mill provided a sense of job security to workers strongly rooted to the community.

Even short-term jobs provided economic benefits. Short-term construction and service jobs created by this project allowed local businesses providing supplies and services to remain open during an otherwise slow season.

Long-term benefits depend on economic recovery. This Recovery Act project has made the mill more profitable by decreasing transportation costs. Increased cashflow could result in the purchase of more logs, providing a market for logs coming off national forests via stewardship projects. Increased cashflow could also add another production shift, doubling the number of jobs at the mill. This increased production capacity can take place only when the economy and construction sector recover, or if planned stewardship contracts materialize (i.e., if there is a better balance between the price of lumber and timber).

Lessons Learned

Increase project impacts by building on community capacity. Because this recovery project reinforces core community values (that natural resource jobs are sustainable), complements county efforts at economic development (biomass cogeneration), and supports collaborative processes (Woody Biomass Utilization

Partnership and Payette Forest Coalition), it is well aligned with regional efforts to build local economies and restore forest ecosystems. Tying the Forest Service project to other projects ongoing in the community helps magnify potential impacts.

Help the community understand the importance of the Forest Service project to community well-being.

Although Recovery Act funds are invested in community timber industry infrastructure, some residents perceive a disconnect between forest management and community well-being. A more active economic recovery public outreach effort would help demonstrate the national forest's commitment to both the community and forest management for multiple benefits.

Develop projects that contribute to the natural-resource-based economy. The adjacent county has attracted a number of equity and amenity migrants, real estate developers, and recreation-based businesses. Two years ago it was a model community in transition from timber dependence; now it has a bankrupt resort, deflated housing prices, and shuttered establishments. Adams County regards these events as an object lesson demonstrating that a natural-resource-based economy is more sustainable than tourism.

Support or develop projects that can adjust to shifting economic conditions. The sister mills' complementary but potentially independent production processes—sawmill, planer, and cogen plant—allow some flexibility for adapting to shifting markets for lumber, chips, and electricity.

Acknowledgments

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Chapter 6: A Socioeconomic Assessment of Forest Service Recovery Act Projects: Huron Fuels Treatment Project, Michigan

Huron National Forest



Huron National Forest

Pamela Jakes¹

Summary

“Iosco jobless rate passes 20 percent” read the headline in the *Oscoda Press*, February 3, 2010 (Nelson 2010). Although never described as prosperous, in the past, Iosco and neighboring Alcona, Crawford, and Oscoda Counties had benefited from diverse economies, with jobs found in small manufacturing plants, timber harvesting, wood processing facilities, and four-season recreation. But the economic downturn has been felt even in the relatively isolated communities of the Huron National Forest. When the opportunity arose to propose projects for Forest Service Recovery Act funding, staff on the Mio and Huron Shores Ranger Districts asked how they could develop a safe

Everyone’s benefiting in the county ‘cause the money’s flowing in through all those paychecks every 2 weeks... That’s the best stimulus you could do.

—Forest Service employee

project that would provide jobs, support local governments, and invest in area businesses. Wildfire is recognized as the number one natural hazard in the area, with forests composed of one of the Nation’s more volatile forest types

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Fast Facts

Total Forest Service Recovery Act Investment in Michigan (as of 09/08/09): ~\$39,382,290 (Michigan projects: \$34,557,000; Michigan share of multistate projects: ~\$4,825,290)

Total Forest Service Investment in Huron Fuels Treatment Project Case Study: \$3.8 million

Project Location: Mio and Huron Shores Ranger Districts, Huron National Forest, Michigan

Counties: Alcona, Crawford, Iosco, and Oscoda

Project Type: Constructing new fuelbreaks, maintaining existing fuelbreaks, reducing fuels in the wildland-urban interface, improving health of federal forest land

and individual homes or developments scattered among the trees. The recovery project designed by the districts resulted in the hiring of eight students under the Student Temporary Employment Program (STEP) and 80 individuals as temporary employees who reduced the wildfire risk in east-central Michigan by constructing new fuelbreaks and maintaining fuelbreaks established as early as the 1940s and 1950s, mitigating wildfire risk in the wildland-urban interface, and improving the health of federal forest land. Counties received more than \$270,000 to extend mowing along roads and provide support to the Forest Service

recovery crews. The forest and Oscoda County partnered to obtain high-resolution photography of the entire county, improving emergency response and planning, and allowing the county to more equitably assess property taxes. More than \$1 million went to private businesses, with the largest contracts awarded for equipment rental, vehicle leasing, and to reduce fuels and improve wildlife habitat using a stewardship contract. In addition to providing income to residents and boosting the local economy, the project created, maintained, and protected infrastructure; built

human capital; and improved the quality of life. Environmental benefits included reduced fuels loads, conversion of sites to more ecologically appropriate species, improved Kirtland's warbler (*Dendroica kirtlandii*) habitat, and creation of barrens for wildlife habitat.

The Case

The communities in Alcona, Crawford, Iosco, and Oscoda Counties (fig. 6-1) have been referred to as “little towns in the big woods.” Nearly two-thirds of the land area in the

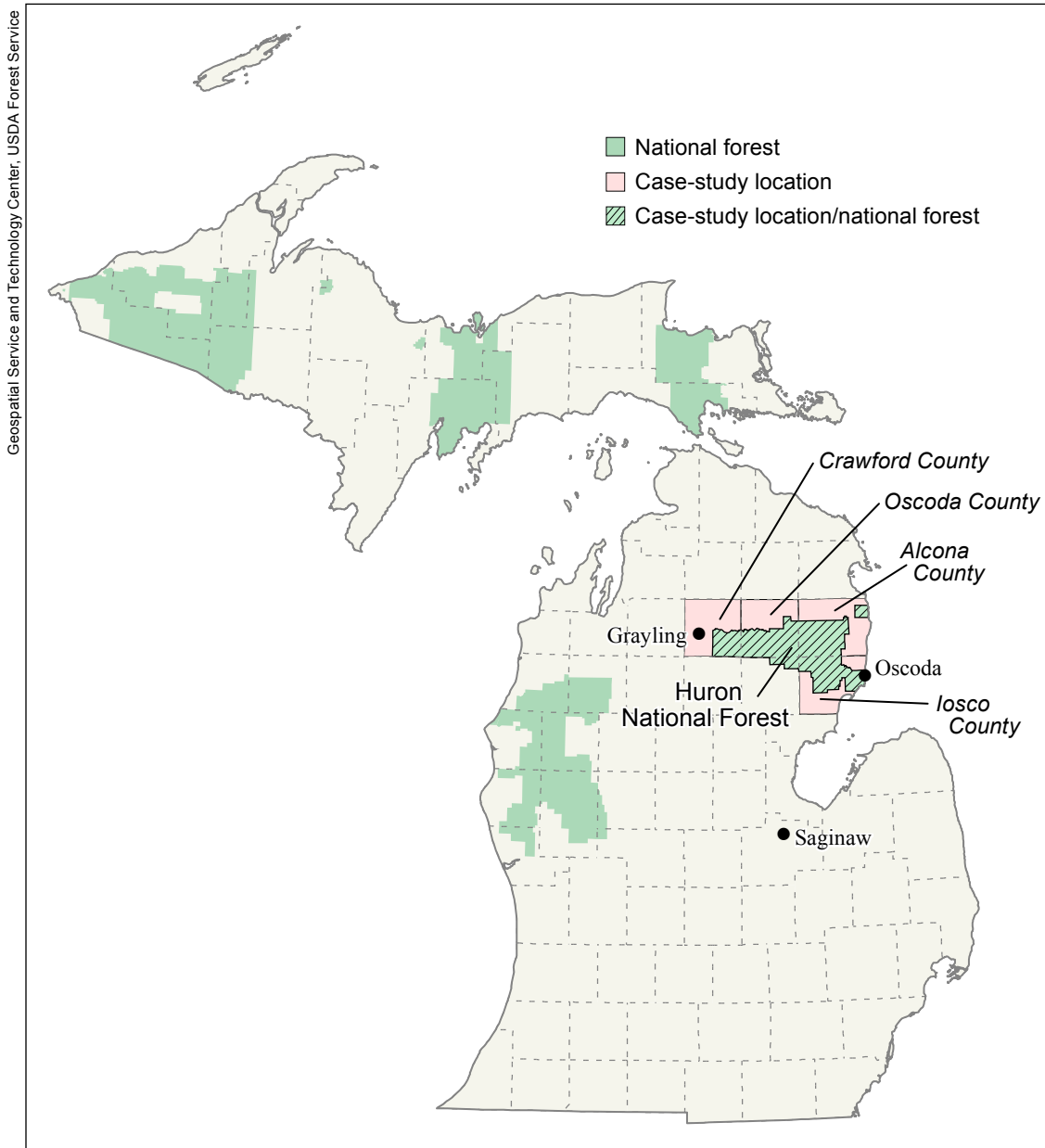


Figure 6-1—
The Huron Fuels
Treatment Project
case study included
Michigan's Alcona,
Crawford, Iosco, and
Oscoda Counties,
and the Huron
Shores and Mio
Ranger Districts
of the Huron
National Forest.

four counties is forested, ranging from a low of 46 percent for Iosco County to a high of more than 84 percent in Crawford County (Pugh et al. 2009). Stands of pines (*Pinus* spp.), aspen–birch (*Populus* spp.–*Betula* spp.), northern hardwoods, and oak (*Quercus* spp.) are most common. The Huron National Forest was established in 1909 and worked with partners to restore “the lands that nobody wanted.” More than half of the forest land in the area is now in public ownership, with the Huron National Forest being the largest public land manager. These forests supported a booming lumber industry in the mid-1800s, but by the end of the century the merchantable pine had been logged and the area experienced a series of devastating fires. Large fires continue to occur in the area approximately once every 28 years (Simard et al. 1983), with the most recent, the Meridian Boundary Fire, burning more than 8,500 acres on May 18, 2010.

Prescribed forest burning is a long-established practice in the area (fig. 6-2). The Huron National Forest burns approximately 3,500 acres per year to achieve management objectives including fuel reduction and site preparation.



Figure 6-2—The prescribed forest burning conducted by Recovery Act employees continued a long-established practice on the Huron National Forest.

It is an important tool for creating wildlife habitat, and, historically, has been used to manage jack pine (*Pinus banksiana* Lamb.) for the endangered Kirtland’s warbler. The practice has not been without incident and was temporarily discontinued after the 1980 Mack Lake Fire. On May 5, 1980, a prescribed fire was ignited in jack pine

slash to prepare the site for regeneration. The fire escaped, resulting in the death of one firefighter, the destruction of 44 structures, and the loss of 24,000 acres of forest (Simard et al. 1983). More recently, forest staff have demonstrated their commitment to prescribed burning for hazardous fuel reduction by conducting many burns, including one around the ranger compound adjacent to the town of Mio. Local residents now generally accept prescribed burning as a management tool.

Logging is still important to the area’s economy, but it is only a small fraction of what it was in the past. Today’s wood processing facilities (including oriented strand board, lumber and other construction material, and furniture manufacturers) contribute to an economy that includes small manufacturing plants supplying parts to the automotive industry, shops overhauling aircraft, construction and real estate businesses meeting the demand for retirement and second homes, and the many establishments serving recreationists. Jobs in many of these sectors have been disappearing over the past decade. It has not been uncommon for employees with more than 20 years of experience losing jobs they expected to retire from.

The unemployment rate in the area has exceeded that of the state of Michigan (fig. 6-3), and measures of individual and household economic health have been generally worse here than in the state as a whole (figs. 6-4 through 6-6). Since the mid 2000s, population in the four case-study counties has declined faster than in the state (fig. 6-7), with many of those who continue to live in the area feeling that they cannot look for employment elsewhere because of shared child custody agreements, the need to care for an elderly parent, or because they were loathe to leave their support system behind. School enrollment has also declined during this period (fig. 6-8).

The Mio and Huron Shores Districts decided that the best approach for helping their neighbors persevere during the latest down-turn, would be to provide temporary jobs working in the woods to reduce wildfire risk and improve or restore ecosystem health. The first Recovery Act employees arrived on July 5, 2009, more than doubling the size of the Mio District. The Recovery Act employees participated in 4 weeks of training that stressed safety (including first

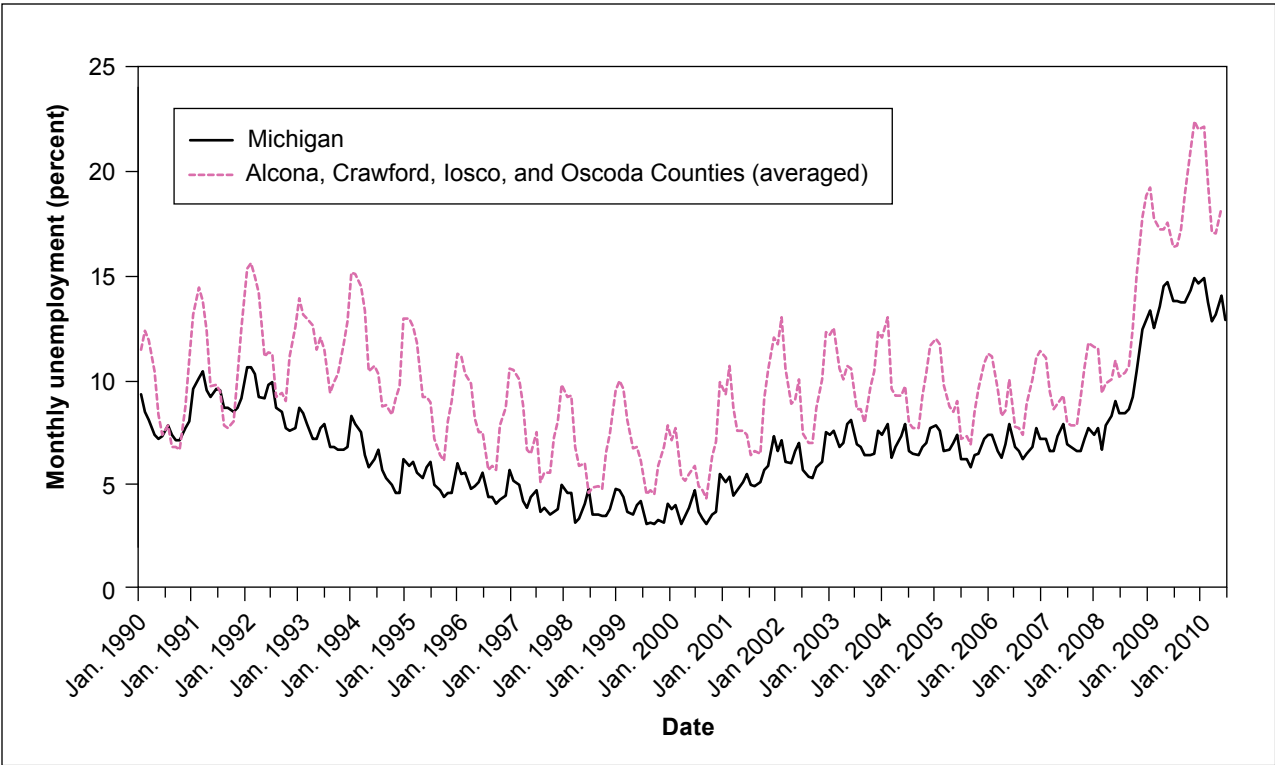


Figure 6-3—Monthly unemployment rates for Michigan and an average for the four Michigan case-study counties, 1990–2010 (USDLS BLS 2010).

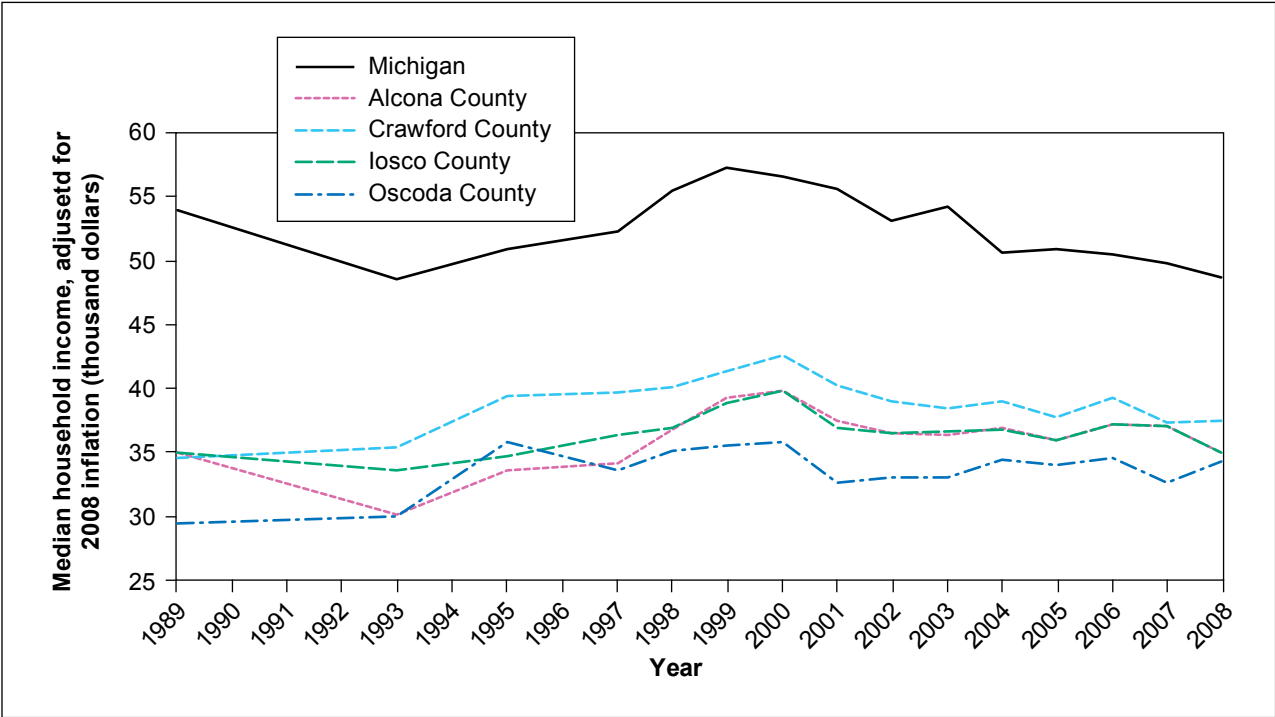


Figure 6-4—Median household income for Michigan and each Michigan case-study county, in 2008 dollars, 1989–2008 (USDC BC 2010b).

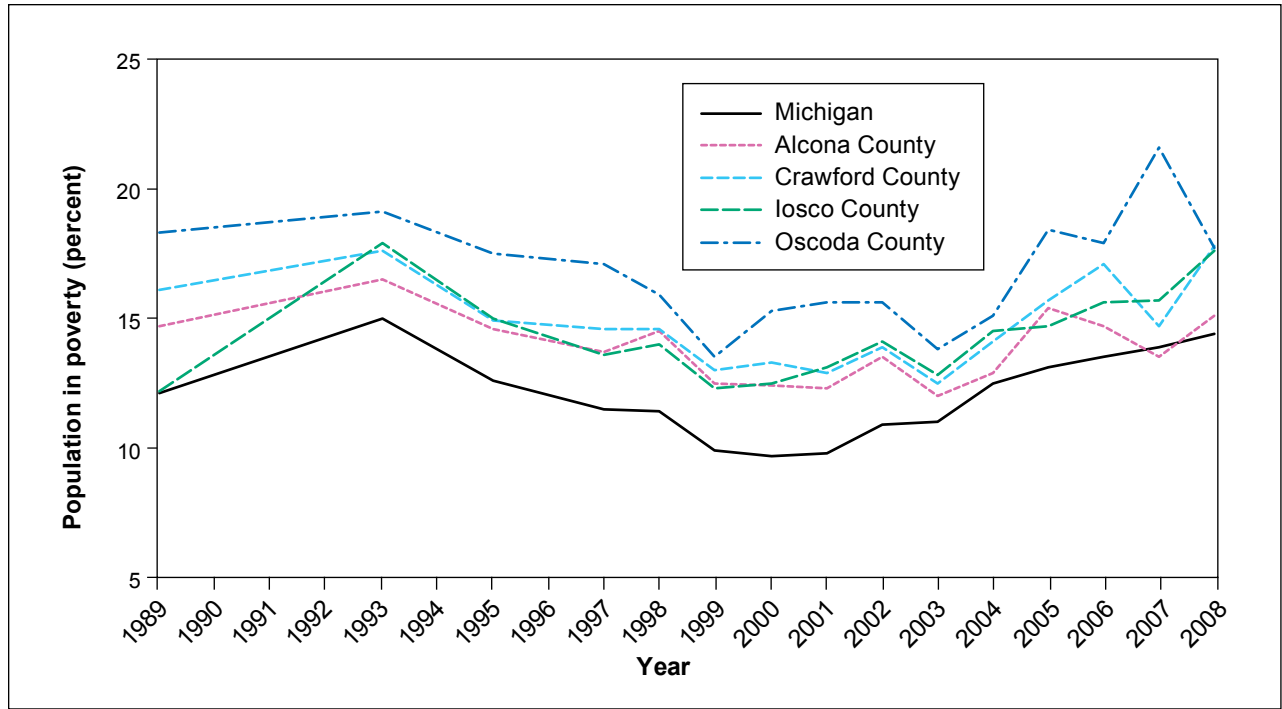


Figure 6-5—Percentage of population living in poverty for Michigan and each Michigan case-study county, 1989–2008 (USDC BC 2010b).

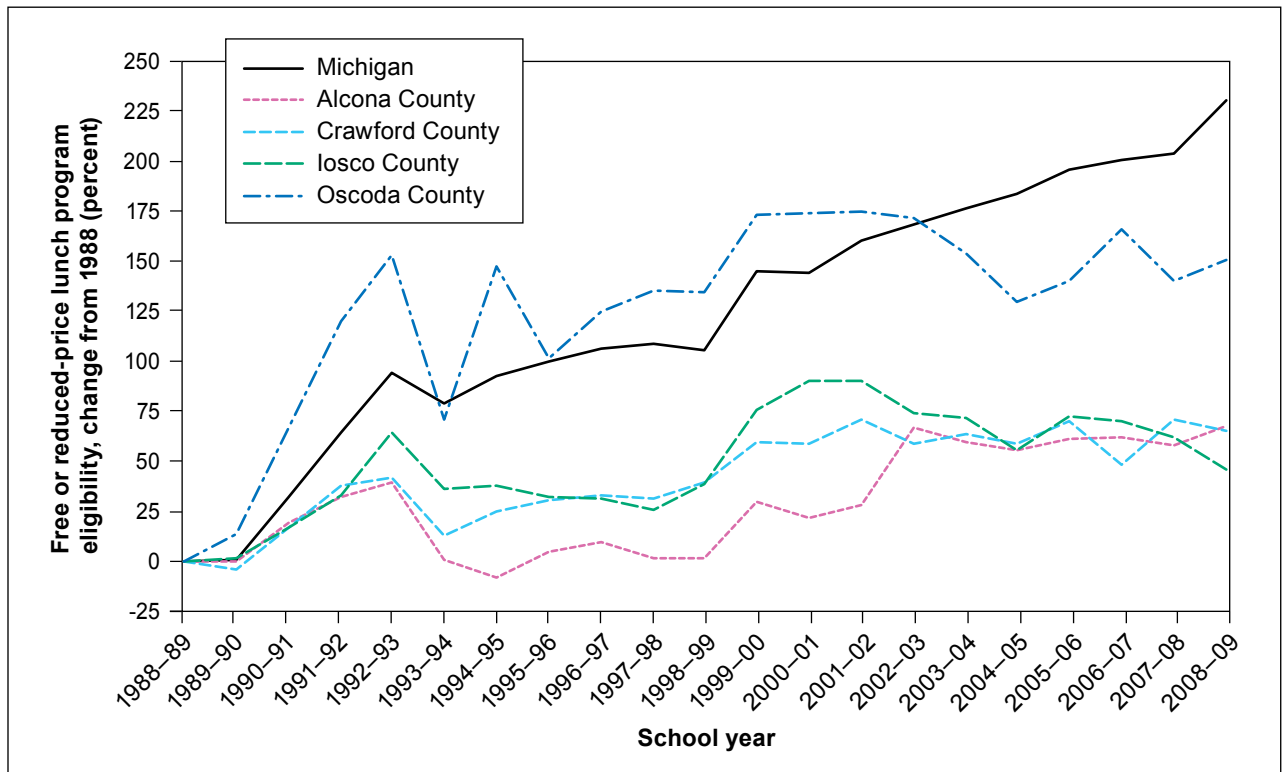


Figure 6-6—Change in number of students eligible for free or reduced-price lunch programs in Michigan and each Michigan case-study county, 1988–2008 (USDE NCES 2010). Note: reduced-price lunch added in 1999.

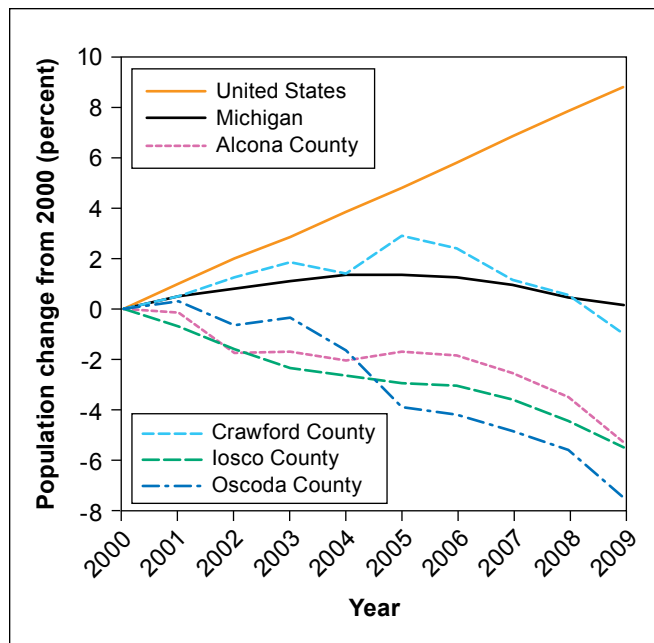


Figure 6-7—Change in population for the United States, Michigan, and each Michigan case-study county, 2000–2009 (USDC BC 2010a).

aid and cardiopulmonary resuscitation), firefighting skills, chainsaw operation, heavy equipment operation, physical fitness, and what it means to work for the Forest Service. Additional firefighting training resulted in their being red card qualified for wildland fire suppression. After classroom training, the new employees served as apprentices in the woods before transitioning to their jobs clearcutting jack pine to create fuelbreaks, thinning red pine (*Pinus resinosa* Aiton) to reduce fuels and promote more valuable timber, creating barrens for wildlife habitat, and prescribed burning in an attempt to put fire back in the ecosystem. The training was repeated in March 2010 when the second field season began. In addition to their planned activities, Recovery Act employees helped suppress wildfires in the area, including the May 2010 Meridian Boundary Fire. The crews also assisted with reforestation projects and restoration of areas damaged by off-road vehicles. Several Recovery Act employees traveled to the Wayne and Chequamegon-Nicolet National Forests as members of a special Huron-Manistee National Forests fire use team.

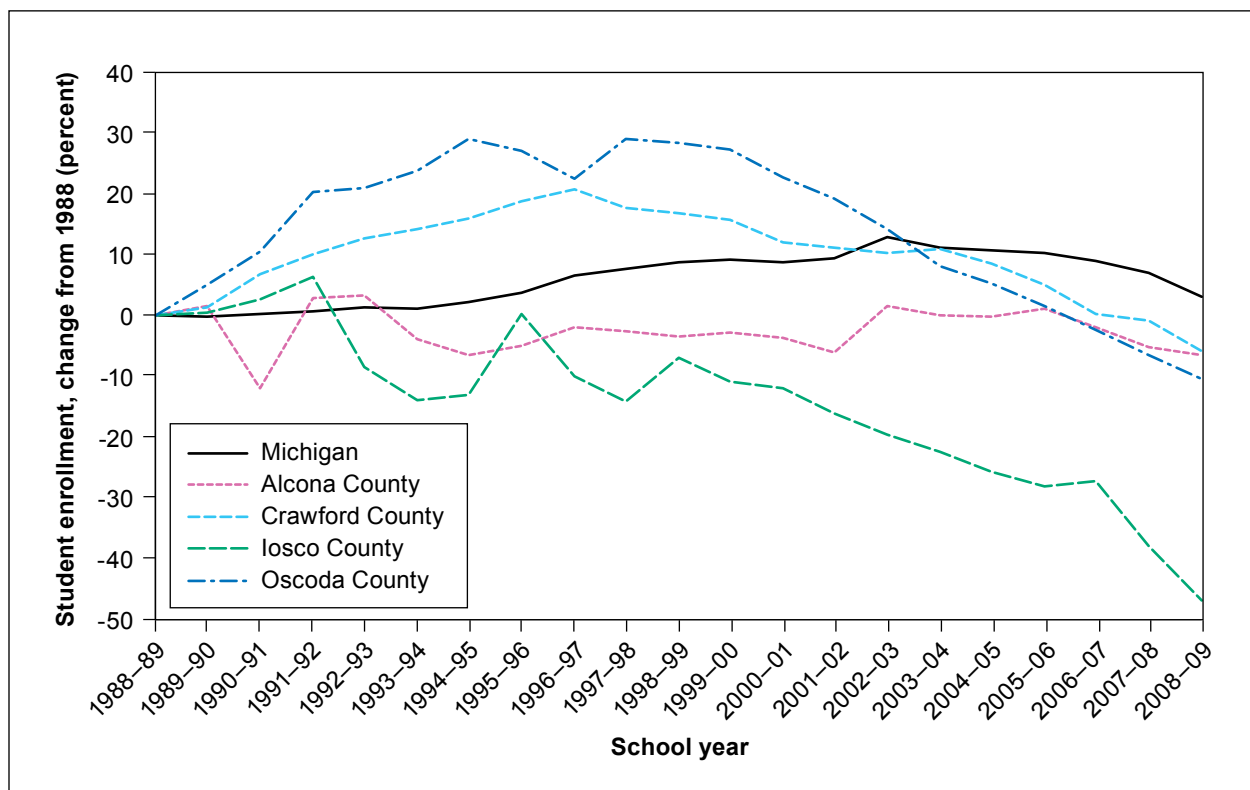


Figure 6-8—Change in school enrollment for Michigan and each Michigan case-study county, 1988–2008 (USDE NCES 2010).

At the moment they're pretty glad to see that their neighbors are employed... They've all just driven down the highway and seen the ARRA project signs... but they don't know those people, and they see that a big company got some more money to do a project. But when they see this it gets them a little that we've employed some people, and it's local people.

—Forest Service employee

The districts have purchased fuel, equipment, and other supplies for the crew from local businesses. Agreements with counties call for a number of services that complement ongoing projects. County crews are expanding normal right-of-way brush removal operations into the forest to create fuelbreaks along potential evacuation routes. In some areas, they are constructing new fuelbreaks. They are filling water tanks to support prescribed burns and moving Forest Service machinery between field sites. A stewardship contract was awarded in September 2010 for projects to reduce fuels and improve forest health. These contracts and agreements will extend into 2012, with contract work scaling up as the temporary employees leave in September 2010.

Methods

This case study was conducted using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the recovery project. Interviews took place between February and July 2010. A total of 24 individuals were interviewed for this case study. Interviewees included nine Forest Service employees who helped develop or implement the projects; seven local government, business, and nonprofit organization representatives who received Recovery Act funds; and eight individuals who benefited from jobs created or retained as a result of the project. Data were collected from another 36 Forest Service regular and Recovery Act employees during three focus groups. Additional qualitative data were obtained from published sources such as newspapers and local

government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the recovery project and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods and data sources see the appendix.

Project Recipients and Partners

Nearly \$1.5 million of the \$3.8 million received for this project was used by the Mio and Huron Shores Ranger Districts to hire temporary Forest Service employees (table 6-1). Most of these temporary employees were local residents, with one employee commuting 2½ hours each direction. Prior to coming to the Forest Service, Recovery Act employees held a variety of jobs including waitress, cook, teacher, toolmaker, builder, contractor, mechanic, and assembly-line worker. A portion of these funds were also used to cover the salary and travel for detailers from other Forest Service units to supervise field crews.

It's put all of us back on our feet again. There's nothing to really say about it. It saved my life... I'd be belly up... [before the recovery job] there was weeks when I made \$30 a week. That's what I lived on.

—Recovery Act employee

Counties have received more than \$418,000 from the Huron Fuels Treatment Project and have provided \$261,647 in matching funds to support the agreements. Recovery Act participating agreements were established with the road commissions in Crawford, Iosco, and Oscoda Counties to construct and maintain fuelbreaks, remove brush from roadsides, move Forest Service equipment across the district as needed by the field crews, and haul water to drop tanks to support prescribed burning projects.

Table 6-1—Huron Fuels Treatment project recipients and funding awarded as of June 30, 2010

Recipient	Project description	Total funding amount
		<i>Dollars</i>
County:		
Iosco County Road Commission	Hazardous fuel treatment, maintenance of fuelbreaks along county and Forest Service roads	111,000
Oscoda County Road Commission	Maintenance of fuelbreaks along county and Forest Service roads	117,954
Crawford County Road Commission	Construction and maintenance of fuelbreaks along county and Forest Service roads	41,128
Oscoda County	Procurement of 565 square miles of high-resolution aerial photography	148,573
Businesses:		
ACME Auto Leasing LLC	Truck leasing	284,592
LCM Surveying and Engineering	Cadastral surveys of property boundaries	106,617
Bob Mitchell and Associates	Cadastral surveys of property boundaries	65,487
Cedar Ridge Forestry	Timber marking and volume estimation	28,772
International Trading Cct LLC	Equipment rental	442,096
Northern Timberlands, Inc.	Fuel treatments and habitat improvements	394,806
Forest Service:		
Temporary employees	Fuel treatments, habitat improvements, forest management	1,448,908
Detailers to serve as crew supervisors	Fuel treatments, habitat improvements, forest management	38,476
Travel for crew supervisors	Fuel treatments, habitat improvements, forest management	7,750

Oscoda County also entered into an agreement with the Huron National Forest to obtain high-resolution aerial photography of the entire county, with each structure in the county photographed from four sides and above. The new photography will allow county assessors to track changes in property value, and ensure fair and equitable property taxation. County commissioners also see its usefulness in supporting more efficient provision of emergency services and a variety of county marketing activities. However, as one commissioner observed, “we’re one of the poorest one or two counties in the state of Michigan and there’s no way

we could afford to do it.” Mio District staff heard about the project and recognized its value for work in the wildland-urban interface. They worked with the county to purchase the photography as part of the Huron Fuels Treatment Project.

More than \$1 million was awarded to businesses to carry out and support Huron Fuels Treatment Project activities. The largest contract was awarded to a Michigan company to lease heavy equipment. Another significant amount, more than \$390,000, was awarded in September 2010 for a stewardship contract that includes an 863-acre timber harvest that will create more open and less volatile vegetation conditions, restore and maintain watersheds, produce habitat for rare and endangered species, and promote healthy forests. A large contract went to a Connecticut company for vehicle rental, and the contract was filled with 12 new Ford pickups, benefitting Michigan’s automotive industry. Contracts for land surveying were awarded to two local firms. Local businesses continue to provide supplies, lodging, and equipment for crews through micro-purchasing authorities.

...it’s been a wonderful thing for our business. And personally I don’t even know if I’m in favor of all the money that’s [going out the door for Recovery Act projects], but it has had a great impact and a definite benefit on our company, and personally on myself and the other two gentlemen I work with.

—*Recovery Act funding recipient*

Other Recovery Act Projects

The Huron-Manistee National Forests received recovery funding for two other wildland fire management projects: \$200,000 for fuel reduction and timber sale marking and \$420,000 for land-line surveys. Ten projects totaling nearly \$4 million in recovery funding were undertaken to improve infrastructure such as trails, facilities, and roads. In addition, the Huron-Manistee National Forests received \$430,000 through the Forest Service's Northern Research Station for roads and watershed projects in the Udell-Pine River Experimental Forest. The Huron-Manistee projects are among a number of regionwide Recovery Act projects (solar wells, well abandonment, environmental compliance, and water/waste water condition surveys) that are funded at the regional level. The Huron Fuels Treatment Project is not directly linked to other ongoing recovery projects.

I personally love [this type of work]. I could do it every day for the rest of my life.

—*Recovery Act employee*

Economic Benefits

For the field season beginning July 5, 2009, 70 employees were hired by the Huron National Forest, including 8 students. Of those hired in 2009, 53 returned to work for the 2010 field season, and 18 new employees were hired to cover attrition from the previous year. Over the two field seasons, 88 individuals were temporarily employed by the forest on the recovery project. Temporary employees were hired primarily at the GS-2 and GS-3 levels, but the experience gained in the first field season meant many of those who returned for a second field season were hired at higher GS levels.

Recovery Act employees indicated that the Forest Service jobs were very different from jobs they had held previously. For many, the salaries (generally \$10.75 to \$12.00 per hour) and benefits (annual and sick leave) were better than what they could have obtained in the private sector. The “military-like” rules and organization that characterizes the Forest Service were different from previous jobs, and some employees, particularly those

It's... watching out for each other, you know we drilled that into their heads, your guys go out as a team, you come back as a team, you take care of each other, you're only as strong as your weakest person...

—*Forest Service employee*

with military experience, found them reassuring because expectations were clear and they knew who to approach with questions or issues. Employees talked about the agency's focus on safety and working as a team as being major differences from other jobs they have held. People live in this area of the state because they love outdoor activities, so the opportunity to work outdoors was a definite plus for these individuals (fig. 6-9). Women, in particular, talked about an increase in self-confidence as they learned how to use chain saws and drive larger heavy-duty vehicles. Fifteen of the 88 employees have moved on to other jobs in both the private and public sectors. The recovery jobs were bridges for eight employees who were able to move to seasonal jobs on the Huron-Manistee National Forests and forests in South Dakota and New Mexico, and were life rafts for seven other individuals, keeping them afloat until they were called back to old jobs or found new permanent jobs.



Figure 6-9—Many of the Recovery Act employees live in the area because they love the outdoors, so they were enthusiastic about the outdoor nature of their new jobs.

Agreements with counties generally did not result in new jobs, but allowed the counties to retain employees and provided them more flexibility in how they spend their funds (table 6-2). For example, the Iosco County Road Commission maintains an emergency account that they use when work exceeds the amount budgeted. In the past, they have primarily accessed the account to respond to emergencies, such as road cleanup following snow, ice, and windstorms. Because incoming department funds from vehicle registration and fuel taxes have declined, the Road Commission anticipated having to draw on this account to cover employee salaries for routine construction-season projects, potentially decreasing their ability to respond to emergencies. However, they were able to avoid this drawdown because Road Commission employees worked on Recovery Act projects, and that portion of their salaries was covered by Recovery Act dollars. Recovery Act funds directly contributed to public safety by covering the costs of mowing vegetation along roads thereby improving visibility, especially in regard to avoiding deer-vehicle collisions, and decreasing fire risk (priorities for the county and Forest Service), and indirectly contributed to the county's ability to respond to emergencies by providing an alternative to the expenditure of emergency funds for routine projects.

... if [the Road Department] didn't have [the recovery project] I don't know what we would have done.

—*Recovery Act funding recipient*

Oscoda County and the Huron National Forest entered into an agreement, using Recovery Act funds, to obtain aerial photo coverage of the county. Although these Recovery Act funds did not directly create any new jobs, the usefulness of these photos to the county for fair and equitable taxation, the provision of emergency services, and other as yet undefined uses has encouraged the county to hire an employee to manage the county's information technology system. The county had one person working part-time (5 hours per week) providing services related to geographic information system (GIS) applications, but because they anticipate that this photography will be extremely useful for a variety of purposes, a commissioner said, "we turned it into a full-time position because of this project." So, although this new position is not being funded by Recovery Act dollars, the availability of photos paid for by Recovery Act funds directly contributed to the creation of this position.

Table 6-2—Full-time equivalent jobs reported for Huron Fuels Treatment project

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	<i>Number of jobs^a</i>				
Crawford County Road Commission	—	—	0	0	0
Iosco County Road Commission	—	—	—	0.09	0.11
Oscoda County	—	—	—	3.00	3.00
Oscoda County Road Commission	—	—	—	—	—
ACME Auto Leasing LLC	—	—	0	0	—
Bob Mitchell and Associates	—	—	0.47	0.25	0.60
Cedar Ridge Forestry	—	—	—	3.00	0
International Trading CCT LLC	—	—	—	—	—
LCM Surveying and Engineering	—	—	—	—	—
Northern Timberlands, Inc. ^b	—	—	0	0	0

Note: A dash (—) indicates that no quarterly report was available.

^a See appendix for reporting method.

^b Contract awarded in September 2010.

For at least one private business, the Recovery Act dollars “probably kept us in business.” This business provides services necessary to property development, but with the downturn in the economy, demand for these services decreased dramatically and the business lost significant income. The recovery-project-generated work enabled this business to keep a three-person office open that they thought would have to close at least temporarily.

Local businesses providing supplies and equipment (e.g., fuel for vehicles, chain saws and chain-saw parts, timber-marking paint, posts of boundary markers) and lodging for detailers working on the recovery project indicated that the increased income was welcome, but did not necessitate hiring additional employees or directly result in the retention of employees.

Many of the departments and businesses the Huron National Forest worked with on the recovery project were departments and businesses they had worked with previously. This was less likely to be the case for contracts sent to Economic Recovery Operations Centers. Because of the extraordinary focus on allocating the funds as quickly as possible, it was easier to work with known partners than take the time to identify new partners or develop the relationships necessary to begin projects.

Social Benefits

Besides the income and increased revenue entering local communities through the recovery project, social benefits fall into four categories: create, maintain, and protect infrastructure; boost the local economy; build human capital; and improve quality of life.

Recovery Act funds contributed to local infrastructure by creating and maintaining fuelbreaks and removing brush along roads. Emergency managers anticipate that when the area experiences a wildland fire in the future, these and other recovery project accomplishments will reduce damage to infrastructure and prevent the loss of homes and structures by decreasing fire intensity and improving access for firefighters.

Related to fire suppression, several of the Recovery Act employees are members of local volunteer fire departments. The knowledge and experience they gained

in wildland firefighting is being carried back to volunteer fire departments and improving suppression capabilities throughout the region (fig. 6-10).



Figure 6-10—Wildland firefighter training received by Recovery Act employees made them competitive for positions in other Forest Service units.

In terms of the local economy, businesses have benefited not only from purchases made to support recovery project activities, but also from the additional dollars Recovery Act employees have spent locally. Recovery Act employees indicated that because they know their jobs are temporary, they have not invested their paychecks in major purchases, like a new car, but have used the money to pay their bills and purchase every-day necessities.

The recovery project built human capital within the region by educating and training temporary employees. Employees developed a number of skills that can be transferred to other jobs. District staff served as mentors to Recovery Act employees, providing training and experience that qualifies them for other Forest Service employment. Interested employees have been shown how to apply for federal jobs online. The intensive classroom and field training in fire suppression and chain-saw operation has made many of these employees highly competitive for fire-suppression positions. Eight Recovery Act employees have found other Forest Service seasonal employment on the Huron-Manistee, Cibola, Black Hills, and Medicine Bow/Routt National Forests. Several students hired under the STEP program have changed their majors and are now looking forward to careers in natural resource management.

“I know a number of businesses in town that are really thankful that [the Recovery Act project is] here, because people have steady paychecks... the bars that sell food and stuff like that, the pizza place, the Shell, the Marathon, Verizon. All these businesses have money coming from the people who work [on the Recovery Act project]... I would say a lot of money pours out into this town from the stimulus, especially on paydays.”

—*Recovery Act employee*

The recovery jobs had major positive impacts on employees’ quality of life, particularly on health. Recovery Act employees participated in a forest-wide health fair that provided health screening and education at no cost to employees. They started each day with 1 hour of physical activity, including long hikes while wearing a firefighter’s pack. Self-confidence and pride also improved. Recovery Act employees talked about wearing their “HMF Fire Management” shirts into local businesses and being asked about what was happening on the forest. They took pride in being able to talk about the importance of projects they were working on.

A greater sense of community developed as a result of the project. People who would not normally associate with each other were brought together on field crews, including employees of different ages and education. These individuals worked together productively, and have been enthusiastic participants with coworkers and their families in potluck lunches, the district holiday party, and other social activities.

Finally, the Recovery Act employees are experiencing what is for many of them a different kind of employment. Safety and teamwork are emphasized. This knowledge and skills will serve them well in future employment and in their lives.

Environmental Benefits

The goal of the project is to treat more than 8,000 acres of national forest land to:

- Reduce surface fuel loads through prescribed forest burning.
- Reintroduce fire in the ecosystem through prescribed burns.
- Disrupt fuel continuity by clearcutting jack pine.
- Convert sites to more ecologically appropriate species.
- Improve Kirtland’s warbler habitat (fig. 6-11).
- Create barrens for wildlife habitat.

Specific activities being funded by recovery dollars, anticipated accomplishments and objectives are shown in table 6-3.



Pamela Jakes

Figure 6-11—Recovery Act employees completed a number of projects that improved or created habitat for the endangered Kirtland’s warbler.

... as far as getting stuff done, this is a rare moment... [the number of acres being treated are] not something we could do in a normal year. So we’re definitely getting a lot of critical work done in the fuel reduction area that we couldn’t get done if we didn’t have this opportunity.

—*Forest Service employee*

Table 6-3—Activities undertaken, amount accomplished, objectives achieved, Huron Fuels Treatment Project, October 1, 2010

Activity	Accomplishment	Objective(s) achieved
Land survey	40 miles	Prepare for future management activities by establishing property boundaries
Timber harvest	730,000 cubic feet	Reduce wildfire risk by managing fuels and improving forest health, support local timber economy
Timber marking	767 acres	Reduce wildfire risk by preparing for future harvests that will manage fuel and improve forest health, support local timber economy
Timber harvest stewardship contract	863 acres	Reduce wildfire risk by managing fuels and improving forest health, create habitat for rare and endangered species, support local timber economy
County mowing along roadways	899 acres	Reduce wildfire risk by maintaining existing fuelbreaks, contribute to public safety by maintaining visibility along roads, support local government
County fuelbreak construction	184 acres	Reduce wildfire risk by constructing new fuelbreaks, support local government
Forest Service prescribed burning	2,000 acres	Reduce wildfire risk by managing fuel and improving forest health, create local jobs
Forest Service hand clearing	3,000 acres	Reduce wildfire risk by managing fuel and improving forest health, create local jobs
Obtain high-resolution 6-inch aerial photography	565 square miles	Improve emergency response by obtaining data for wildfire preattack planning, support local government

These projects have been planned and are occurring across the landscape. Implementing fuel treatments and other forest management projects at a landscape scale is more efficient than implementing them piecemeal as funding becomes available. The former approach maximizes desired impacts, because such projects complement each other.

Effects on the Agency

The project is enabling the districts to meet vegetation management goals at an accelerated rate, halving the backlog of approximately 3 years worth of National Environmental Policy Act (NEPA) approved projects.

The project is being managed as an incident, using the same assignments and responsibilities found on a Type II incident management team. Because many district employees have fire experience, this organization has made project deployment easier. Those without incident experience say this organization helps facilitate

communication within the team, clarifying decisionmaking. It also provides experience that qualifies some career employees for new positions on future incidents. District staff is gaining experience developing and implementing stewardship projects, including designing and marketing sales of submerchantable material. District employees feel the recovery project has helped them become more efficient managers and administrators.

Support from district leaders has allowed a number of employees to set aside normal work for high-priority recovery work. Other employees have been responsible for supervising recovery field crews in addition to their normal workload. For these employees, stress has been significant and morale has suffered. Two conditions were cited as having negative impacts on morale. Summer is the time when employees often go on details to gain training and experience necessary to advance within the agency, and earn overtime working on weather and condition-dependent field projects. Perceptions of some Huron National Forest

employees were that they had to pass up detail opportunities and had fewer opportunities to earn overtime because of the recovery project. However, both the 2009 and 2010 western fire seasons were slow, and detail opportunities were limited for permanent employees. Permanent seasonal employees' work periods were extended by several months because of the recovery project, and overtime was paid to permanent employees who had dual responsibilities to support the project and handle their normal duties. Hiring detailers to supervise recovery field crews helped reduce some of the workload.

Occasionally, approved forest management projects on the districts were delayed because agency funds were not available for the necessary preliminary work such as surveying landlines or marking timber. Some of these tasks were completed as part of recovery projects, allowing other forest management projects to move forward. The additional timber harvesting associated with these forest management projects helps support local loggers, truckers, and people employed in forest product industries. The districts feel that the fuel reduction work accomplished as part of the recovery project will help them compete for additional Huron-Manistee National Forests funds. If this happens, districts may have funds in the future to continue hiring a limited number of people on a seasonal basis.

Finally, the recovery project helped build relationships between the districts and the community. Local businesses were encouraged to compete for recovery contracts and benefited from the local purchasing of supplies to support field crews. They credit Forest Service leadership for making the community aware of Recovery Act opportunities and helping businesses work their way through the contracting and agreement processes. As a result, local residents have developed a better understanding of what the Forest Service does on public lands.

Challenges

Challenges most often mentioned by Forest Service employees working on the recovery project involve administration and budget. Normally, when the agency is involved in a disaster or emergency situation, staff are "unleashed" and given the freedom to work creatively. However, with

Recovery Act funding, Forest Service employees describe a "political fear" that led to perceived extraordinary and excessive amounts of oversight.

For example, restrictions on the use of micropurchase check-writing authority prevented the agency from using some local small businesses who do not accept credit cards. Micropurchase cardholders needed the written approval of the Forest Supervisor for even the most basic supply purchases. Normally these cardholders would have the authority to make these procurements. Working with Economic Recovery Operations Centers presented another administrative challenge. Heavy equipment needed for the crews did not arrive for 4 months, after crews had been laid off for the season. Ironically, in a state dependent on the automotive industry, the company awarded the contract to lease new vehicles was located in New Haven, Connecticut. (The contractor did purchase 12 new Ford pickup trucks to meet the requirements of the contract.) Most local Forest Service employees feel that if they had been allowed to work with their normal contractors and contracting officers, the project could have delivered more benefits to local communities in less time.

Because the district spent the majority of Recovery Act project dollars on temporary employees, they experienced a tsunami of new employees. This resulted in a high demand for trainers, supervisors, and mentors, with some permanent employees filling all three roles at once. Purchasing equipment to dress and equip more than 50 new employees for wildland fire and fuel management work was difficult given restrictions placed on the purchase of durable goods and use of credit cards. The districts were not allowed to use Recovery Act funds to purchase critical durable items like chain saws, radios, or other firefighting equipment. Finding vehicles to transport the field crews was a challenge early on, with some permanent employees changing their work schedules to guarantee access to necessary transportation.

Finally, the use of stewardship contracts to achieve wildland fire and forest restoration objectives necessitated the development of new skills in contracting. Stewardship contracts require more documentation and approvals than normal service or timber sale contracts. This significantly lengthened the time and effort to get this contract out for

advertisement. District staff have had to learn how to mark and market sales that will produce material for which there is virtually no market and therefore little economic value. However district staff are learning to work with this new tool and are identifying new partners who can utilize small-diameter material.

District employees felt that the key to meeting many of these challenges was patience. Their experience was that as higher level administrators clarified direction in regard to Recovery Act funds, they became more comfortable in approving requests that had previously been denied.

Key Findings

Forest Service leadership played a number of critical roles that contributed to the successful implementation of the Recovery Act Project. First, leadership played a strong role selling local government and businesses on the benefits of accessing Recovery Act funds for local projects. Second, they were willing to let some normal work slide in order to develop and implement the project. Third, leadership insisted that the first priority in designing the project was safety, and they took the time to train Recovery Act employees to help insure a safe and productive work environment. Because of limits on what Recovery Act funding could be used for, leadership was willing to use other nonrecovery resources to make the project work. Finally, they worked with staff to identify training and skill development opportunities within the Recovery Act project for regular district staff.

Project success built on previously established relationships. Strong long-established relationships between the districts and county governments allowed the districts to move quickly to establish agreements and get the Recovery Act money out the door.

The project was well accepted within the community because it addressed critical local needs. There was significant local need for jobs, and the Recovery Act project created jobs in the woods that built on the local outdoor culture, which generated broad interest in and support for the project. The project reduced wildfire risk thereby

addressing a recognized critical need in the community. Improved Kirtland's warbler habitat built support for the project outside the local area.

Hiring a large number of local citizens created a number of benefits. Local hiring helped spread the economic benefits of the project throughout the community. Recovery Act employees were able to talk about Forest Service priorities and projects and contributed to increased understanding of district programs throughout the community. Finally, hiring a large number of local residents generated a great deal of good will within the community.

It pays to be prepared. The Huron National Forest was well prepared to conduct the project. First, the forest had NEPA projects on the shelf, which meant that Recovery Act employees were working on critical projects immediately. Forest Service regular staff wanted to make sure that Recovery Act employees felt like they fit into the established district structure and culture, so they discussed challenges to bringing in so many new employees prior to their arrival. Finally, they organized the project using an Incident Management Team, which established clear lines of communication and responsibilities.

The districts were able to accomplish a significant amount of mission-critical work while contributing to the local economy and reducing the impacts of the recession on local citizens. Although the work could have been performed by contractors, the level of contracting that would have been required could not have been accomplished within the given timeframe. In addition, district staff felt that local businesses would not have been competitive if the project had been developed as one or two large service contracts, and that a nonlocal contractor would have had limited local economic benefits. Hiring temporary employees was the quickest way to get the most money into the local community. Recovery Act and regular Forest Service employees said that it would have been more helpful to have a longer time to spend Recovery Act funds internally—to have hired fewer employees for a longer period of time. All the Recovery Act employees who have not found other employment will be unemployed at the end of fiscal

year 2010. Although they appreciate that Forest Service employment has allowed them to develop new job skills, build some savings, and extend unemployment benefits, they see that there is even more work to be done on the forest and would like the opportunity to improve the health of the local forests while they improve their own health (economically and physically).

Lessons Learned

Be prepared. The experience of the Huron Fuels Treatment Project reinforces the Boy Scout motto of “Be Prepared.” The forest was prepared in that it had long-established relationships with the local counties and businesses. These relationships allowed the forest to move quickly to bring local counties and businesses in as partners on the recovery project. In addition, the forest was prepared in that it had several years of NEPA-approved projects ready to go, allowing the forest to put Recovery Act employees to work immediately on high-priority projects.

Take the time to know the local community and its capacities. Leaders were well acquainted with the local economic and social contexts, helping them develop a project that not only benefited the forest, but also local residents, businesses, and governments. This resulted in a project that generated significant local benefits, including broad-based support for the recovery work and Forest Service work in general. Developing this type of local knowledge takes a Forest Service leader who is out in the community, talking to and working with local individuals and organizations, and who is in place long enough to build relationships that benefit all partners.

Even short-term jobs or small amounts of extra funding can produce significant benefits. Even though the jobs created by the districts as part of the recovery project were temporary and relatively short term, they had significant positive social and economic impacts on the individuals and families affected. In addition, the money that went into the pockets of the Recovery Act employees was quickly spent

on necessities, spreading the economic benefits to local businesses. Although bringing on such a large number of employees caused some stress and required some flexibility for Forest Service employees, the positive impacts were felt quickly throughout the community.

Acknowledgments

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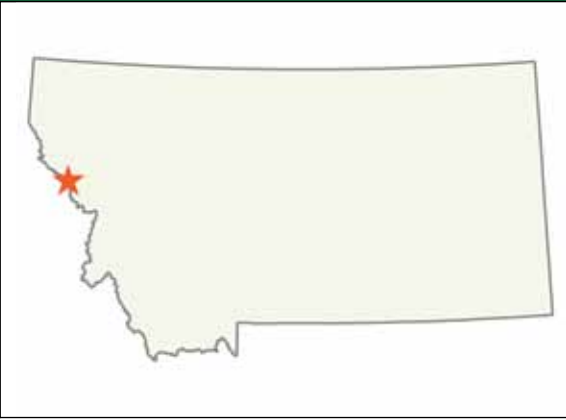
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Chapter 7: A Socioeconomic Assessment of Forest Service Recovery Act Projects: Route of the Olympian Rails to Trails, Montana

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Victoria Sturtevant

Victoria Sturtevant, Jessi Kershner, and Pamela Jakes¹

Summary

Mineral County, Montana, like many places in the West with closed mills and mines, has been struggling to chart a new course in its resource-based economy. One strategy, supported by the county, Lolo National Forest, and national groups such as the Rails-to-Trails Conservancy, is to further develop recreational opportunities, such as the Route of the Olympian, a new recreational trail on abandoned railroad grades with spectacular scenery, trestles, and a tunnel. This multiuse trail joins the increasingly popular Route of the Hiawatha bicycle trail in Idaho and is expected to bring more users and increased income for communities along the route. Although funding has been available for acquiring land and undertaking some small projects such as minor bridge repairs, major work on the route has been delayed because of the inability to fund a required engineering assessment of the tunnel and trestle. When the Northern Region requested proposals for American Recovery and Reinvestment Act (hereafter referred to as the Recovery Act) funding, Superior District staff saw an opportunity to move forward with the project. Recovery Act funding

Fast Facts

Total Forest Service Recovery Act Investment, Montana (as of 09/08/09): \$70,973,300

Forest Service Investment, Route of the Olympian Rails to Trails: \$1,064,742

Project Location: Lolo National Forest, Superior Ranger District

County: Mineral

Project Type: Perform trestle and tunnel repairs on abandoned railroad grades for a new recreational trail

allowed the assessment, design, and restoration of the tunnel, trestle, and rail bed.

The Route of the Olympian will differ from the Hiawatha trail in that it will allow seasonal motorized use in addition to nonmotorized use, as proposed by a collaborative planning group convened by the Superior District Ranger. The trail bed has seen years of local use by all-terrain vehicles, snowmobilers, bicycles, horses, and trucks, and the route's management plan proposes to continue these uses on a limited basis. The restoration project, along with a management plan for the route, will allow the district to expand and control access, ensure the safety of users, and protect the environment.

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Short-term economic benefits of this project consist of job opportunities created by contracts with construction and engineering firms. Long-term economic benefits are anticipated for businesses along the route. Social benefits follow the restoration of this section of the Milwaukee Railroad grade, leveraging the investments of partners, creating new recreational opportunities for the public, and restoring a piece of railroad history.

The Case

The Route of the Olympian recreational trail will be located in Mineral County, on the border of the Idaho panhandle, primarily on land managed by the Superior District of the Lolo National Forest (fig. 7-1).

This trail is truly an important addition to our trail system. The public will now have trail access from St. Regis to Pearson. This trail also connects to a larger system that moves through Idaho and into Washington, and there are numerous efforts underway across Montana to establish a historically significant trail system along the old Milwaukee Railroad grade. It's important as a recreational opportunity and also for the economic benefits to the many small communities along the route, as visitors from across the country will come to ride on this trail.

—USDA Forest Service 2009b

Geospatial Service and Technology Center, USDA Forest Service

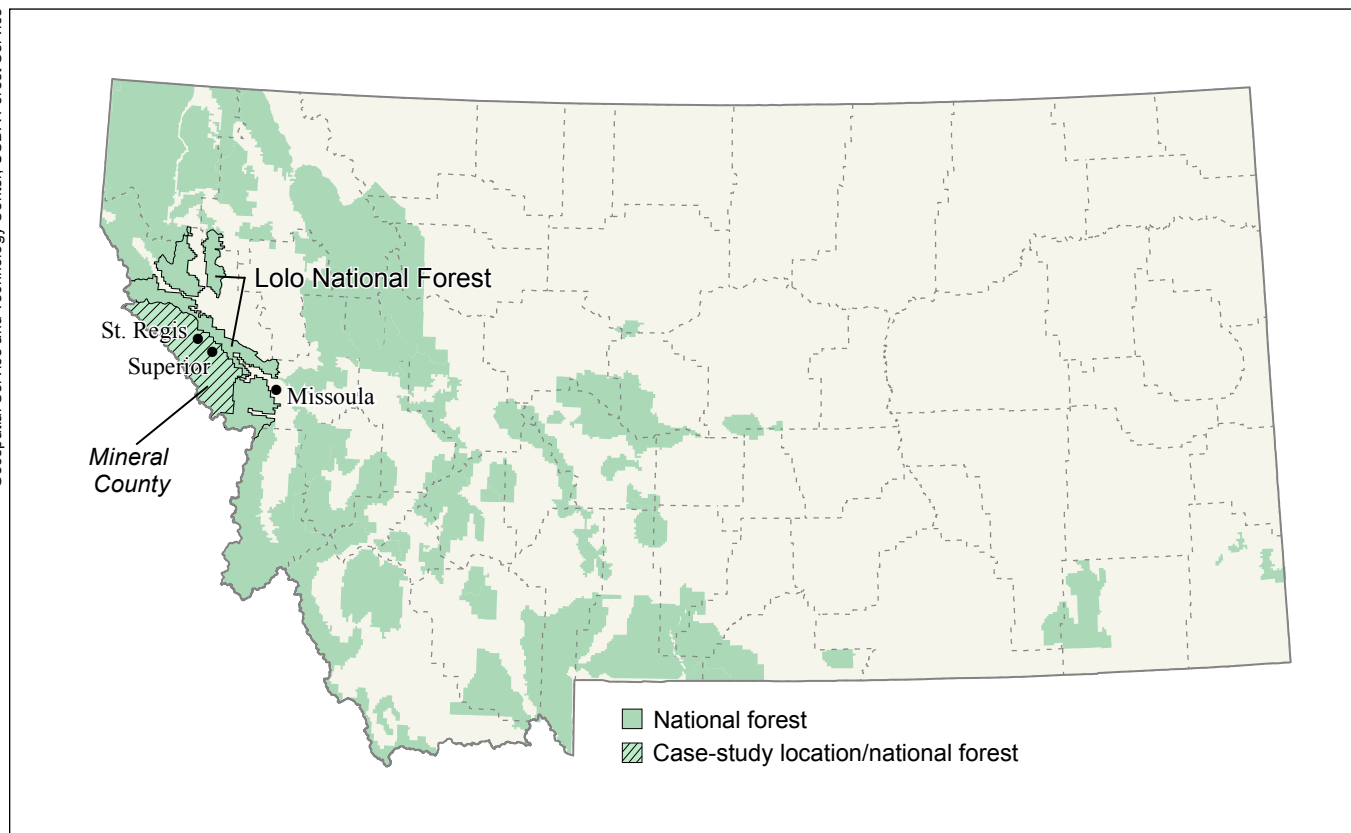


Figure 7-1—Case-study location and surrounding areas in Montana.

The Project

The rails-to-trails movement has grown with the demise and consolidation of major railroads; some 19,000 miles nationwide have been converted to biking trails. Rail rights-of-way, wider and flatter than the single tracks favored by many mountain bikers, are popular for family recreation. The Milwaukee Road, officially known as the Chicago, Milwaukee, St. Paul and Pacific Railroad, abandoned its Pacific extension in 1980. The names of the recreational routes, Hiawatha and Olympian, evoke the legacy of the long-distance passenger train, the Olympian Hiawatha, popular for both its aesthetics and speed.

A lot of work must be completed before all 30 miles of the Route of the Olympian from Taft to St. Regis, Montana, can be officially opened to the public. The Dominion trestle (100 feet above the riverbed) lacks guard rails; both trestle and tunnel lack secure riding surfaces (fig. 7-2). The parking lot at the east portal (most popular point of access for the existing Route of the Hiawatha and connecting to the Route of the Olympian) is inadequate for accommodating summer crowds. A gap in the trail exists at Saltese where a complicated mix of ownership limits access to or around another trestle bridge. Finally, the U.S. Forest Service must develop a plan that juggles the competing needs and wishes of local residents and potential visitors for access by all-terrain vehicle (ATV) riders, bicyclists, snowmobilers, and neighbors.



Figure 7-2—Abandoned Dominion trestle.

The Dominion trestle was abandoned when the Milwaukee Railroad went bankrupt; since then, guard rails have fallen off, and its roadbed, made of concrete tubs filled with rubble and connected by metal spacers that have rusted and shifted, is full of potholes. The Forest Service received appropriations from Congress to purchase land along the road, but the real obstacle was funding an evaluation of what was required to upgrade the trestle and tunnel. Potential sources of funding were available for doing the work, but none for assessing the actual costs, which the Forest Service had estimated at more than a million dollars. As explained by a ranger district employee, “We had made progress, but to me the real roadblock to all this was the assessment part; because there was potential funding out there for the actual work, but the grant groups that I normally work with they just will not pay for things that do not occur on the ground.”

The Recovery Act funding enabled the district to hire an engineering firm, DJ&A, to perform a thorough assessment and design a plan for moving forward with construction (fig. 7-3). An engineer at DJ&A (retired Forest Service) is consulting on construction oversight, as well. Restoration funded by the Recovery Act will be concentrated on 8 miles of the trail. For the road, restoration includes filling in potholes in areas where old timber trestles were intentionally filled with dirt, stabilizing talus slide areas, and resurfacing the road. For the tunnel, concrete will be repaired and ballast removed. At the trestle, work involves repairing the west abutment (100-year-old concrete as in the tunnel), fixing expansion joints, and removing all ballast and ballast tubs and replacing them with glu-lam wood deck and new walkways with handrails. Finally, gravel will be crushed and stored for repair of the bed and road from the parking lot to the tunnel. Recovery Act funds granted to the neighboring Idaho Panhandle Forest will almost double the parking area at East Portal (fig. 7-4).

Assessment work took place during fall 2009, repair design was completed in early spring 2010. Construction on the road, tunnel, and trestle has just begun, with the first pothole filled July 20, 2010, and will continue until snowfall and will resume when it melts in 2011. A management plan

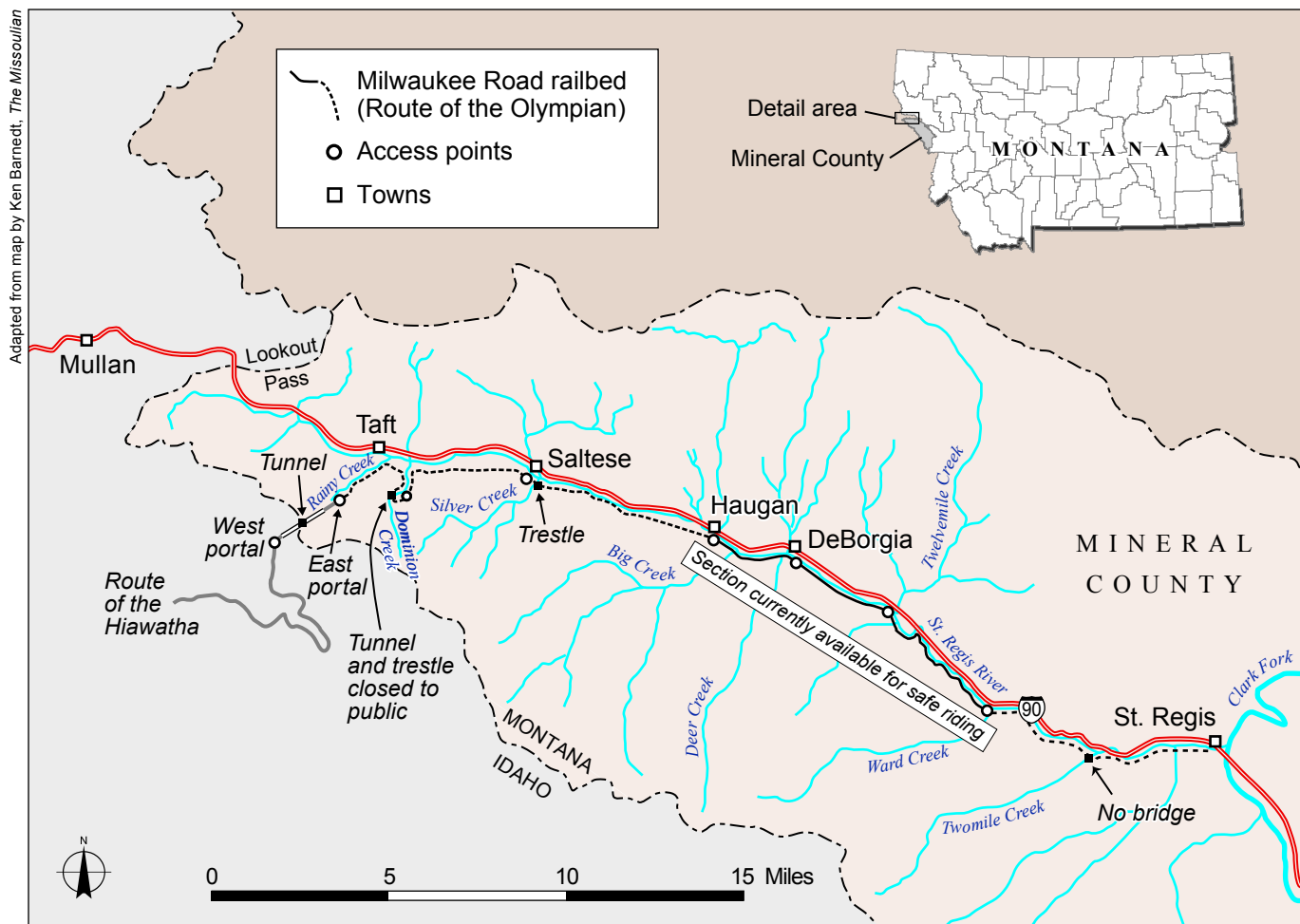


Figure 7-3—Map depicting the Route of the Olympian, I-90 corridor, communities in the area, and trail access points.



Figure 7-4—During the summer months, cars line the parking lot of the neighboring Hiawatha trailhead.

for access and use should be completed by 2012. At present there is no expectation that a concessionaire will manage access, shuttles, and bike rental; instead, these services will be offered by community businesses along the trail.

The Community

Mineral County is Montana's 38th most populous county, with an estimated 3,862 residents in 2009. Located in western Montana, it is bordered by Idaho on the west, Missoula County to the east, Sanders County to the north, and the Bitterroot Mountains to the south. Interstate 90 runs through the length of the county, frequently crossing the winding Clark Fork and St. Regis Rivers. Its terrain is mountainous and forested, lying within the Lolo National Forest. Outdoor recreation opportunities abound,

including hunting, fishing, camping, hiking, biking, skiing, snowmobiling, and whitewater rafting. Superior, about 15 miles east from the anticipated end of the Route of the Olympian, is the county seat and location of the Superior Ranger District office (fig. 7-5). It has a recognizable town center, a hospital, a school system, and county offices. Superior had a population of 880 in 2007 (Montana Department of Labor and Industry 2009).

Given that 84 percent of the county is timberland, and 84 percent of that is national forest (Jones and Brandt 2009), it is natural that timber and the Forest Service would be central to the local economy. Tricon Timber's stud mill in St. Regis is the largest employer in the county, producing value-added products such as flooring and standard construction studs. It typically employed about 100 people, but in fall of 2008, with the downturn in the lumber market, it cut the night shift, laying off 40 people. Tricon also operates a small post and pole plant at the old lumber mill in Superior. Two other businesses, a pellet mill and a bark plant, share the mile-long site that started as the Diamond Match mill in 1953, which then was bought by DAW Forest Products in 1983, then by Crown Pacific in 1993 (Briggeman 2006). When Crown Pacific closed in 1994, 350 jobs were lost, which indirectly led to an additional loss of 500 to 800 jobs in the area (Hebert 2008).

That was a real devastation to this community. I personally can't say we've gotten over it, because every time we hold some type of meeting, it always comes back to "when the mill was open, we were able to do this, or we were able to that." So I don't know that they have moved as far beyond that mill closure as some community fathers would hope they would. But it's time [County extension employee].

The Forest Service has assigned Mineral County an economic distress ranking² of 4. The population dropped sharply from 2006 to 2009, unlike Montana as a whole (fig. 7-6). The unemployment rate in Mineral County peaked at 14 percent in March of 2010, but is lower during the summer months (fig. 7-7), and household income has remained low, in comparison to the state of Montana (fig. 7-8). The percentage of the county population living in poverty reached 17.2 in 2007 (fig. 7-9); students' eligibility for school lunches has increased dramatically during the past 2 decades (fig. 7-10).

² The Forest Service calculated economic distress rankings for every county in the United States, and used these rankings as the main criterion for making Recovery Act project funding decisions. Rankings are on a scale from 1 to 10 with 10 signifying the highest level of economic distress. See USDA FS 2009a for information on how the rankings were developed.



Victoria Sturtevant

Figure 7-5—The town of Superior straddles the Clark Fork River and is surrounded by the Lolo National Forest.

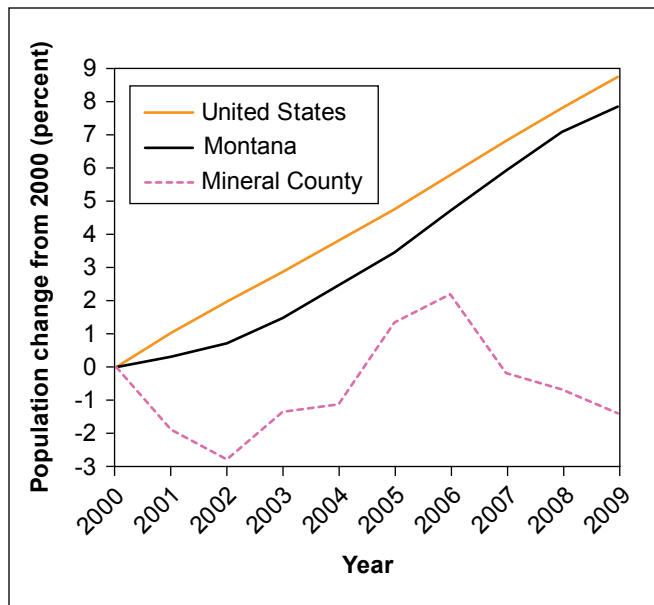


Figure 7-6—Change in population for the United States, Montana, and Mineral County, 2000–2009 (USDC BC 2010a).

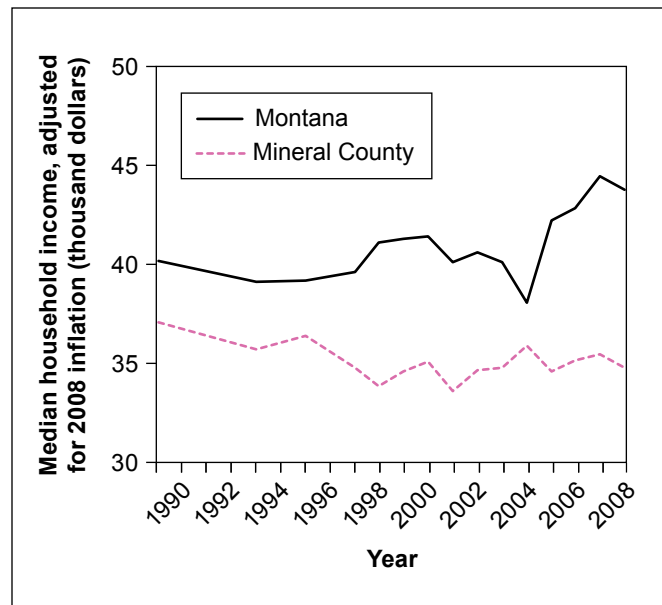


Figure 7-8—Median household income for Montana and Mineral County in 2008 dollars, 1989–2008 (USDC BC 2010b).

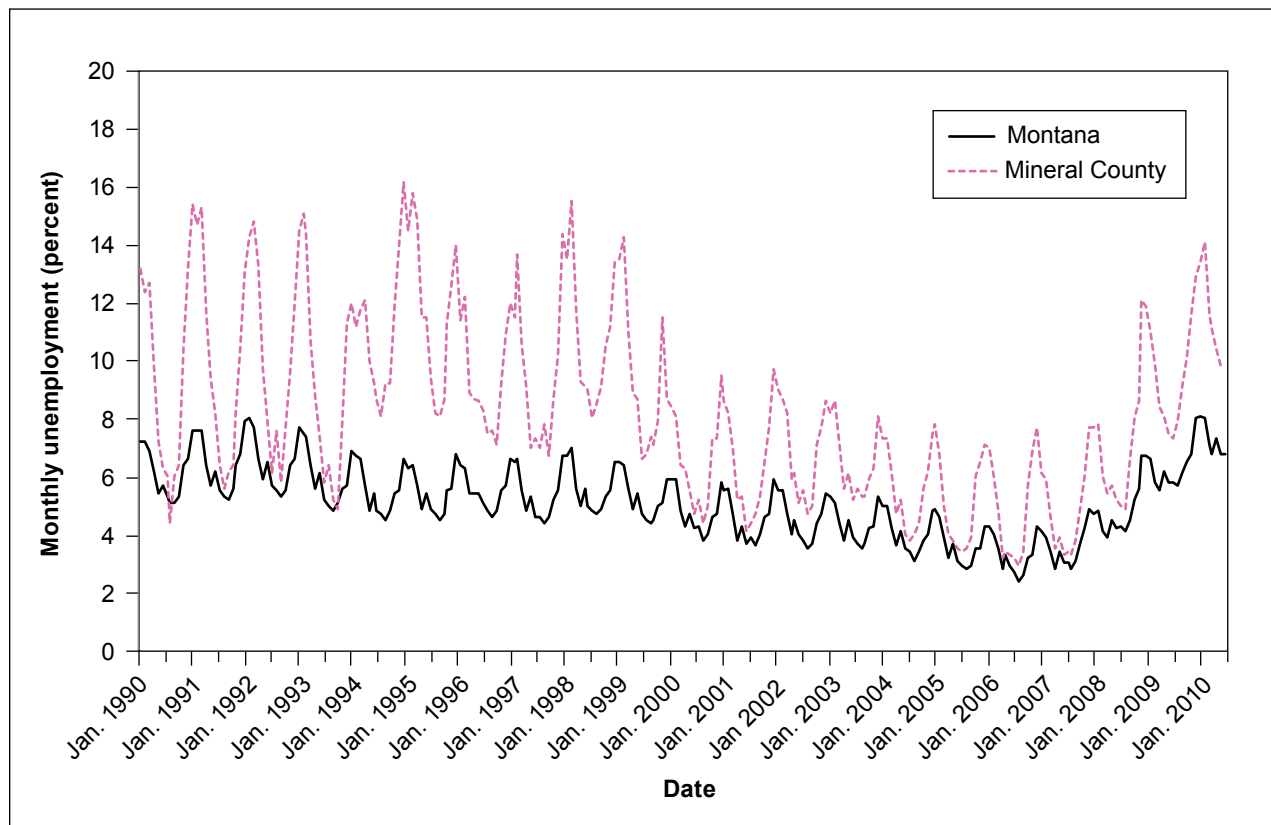


Figure 7-7—Monthly unemployment rates for Montana and Mineral County, 1990–2010 (USD L BLS 2010).

Population data for Mineral County suggest that younger families are leaving, and older-aged cohorts are moving in. The biggest decrease came in those aged 25 to 34 (and children, aged 5 to 14); the largest growth was

in those aged 45 to 54 (and older children, aged 15 to 24) (McCollum 2009). School enrollment reflects this loss of young families (fig. 7-11), and was particularly apparent after the mill closed down.

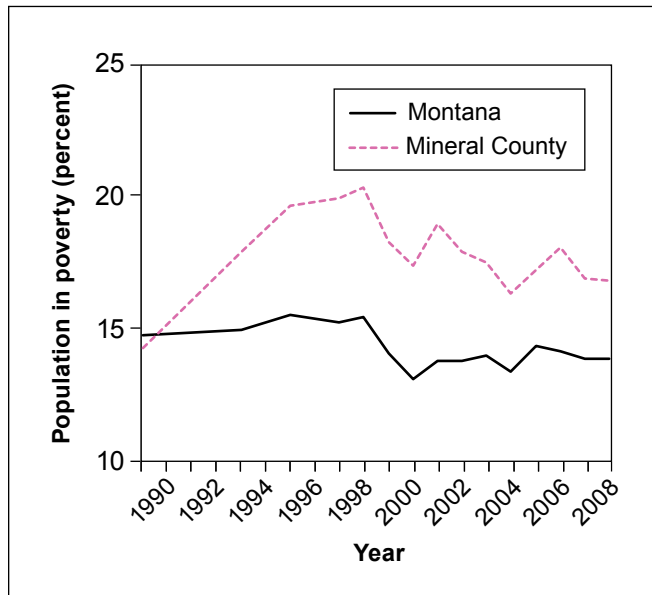


Figure 7-9—Population living in poverty for Montana and Mineral County, 1989–2008 (USDC BC 2010b).

A lot moved out of the community and went elsewhere; they sought an education, sought a totally different lifestyle than what they knew as millworkers. Those were the people who really took advantage of education and retraining and moved on, making lives for themselves in another community. Unfortunately the people who left were the people who made this community thrive. They were community volunteers, they were active in their churches, they were active in the civic organizations in town. When those people left, some of that dried up [County extension employee].

The abundance of natural amenities and public land have been major draws for new people in the county. The Superior District Ranger gives an example:

One guy moved here from New Hampshire... had a big business, moved here, said, 'I picked the biggest

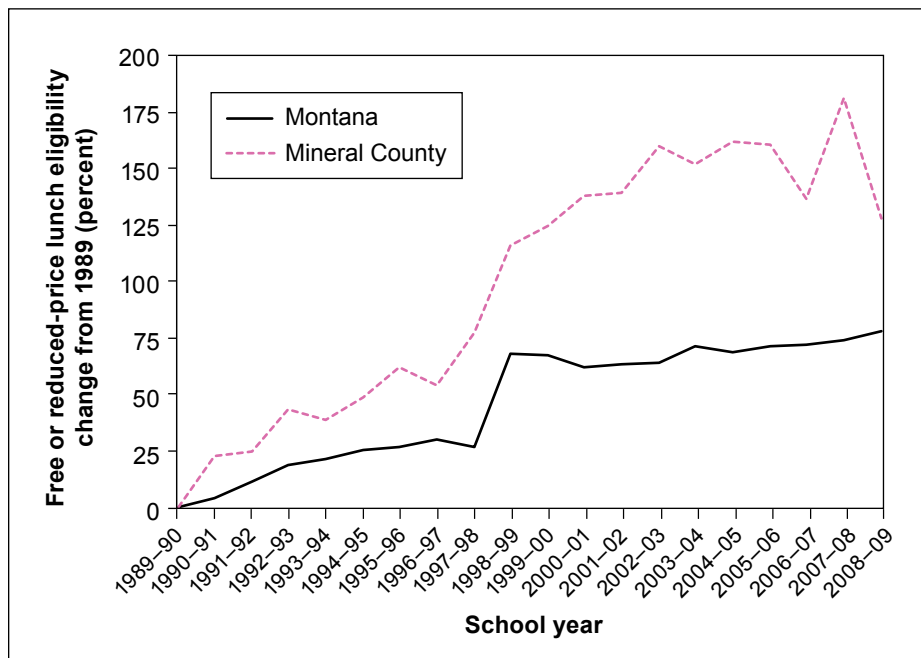


Figure 7-10—Change in percentage of students eligible for free or reduced-price lunch programs in Montana and Mineral County, 1989–2008 (USDE NCES 2010). Note: Reduced-price lunch program was introduced in 1998.

green blob on the map I could find and I moved there!' Many people have said the same thing, in a similar sort of way. So, there is a groundswell of people moving in, they want to see a healthy forest with lots of wildlife for them to hunt and fun things to do—recreational opportunities. I think that's probably the wave of the future....

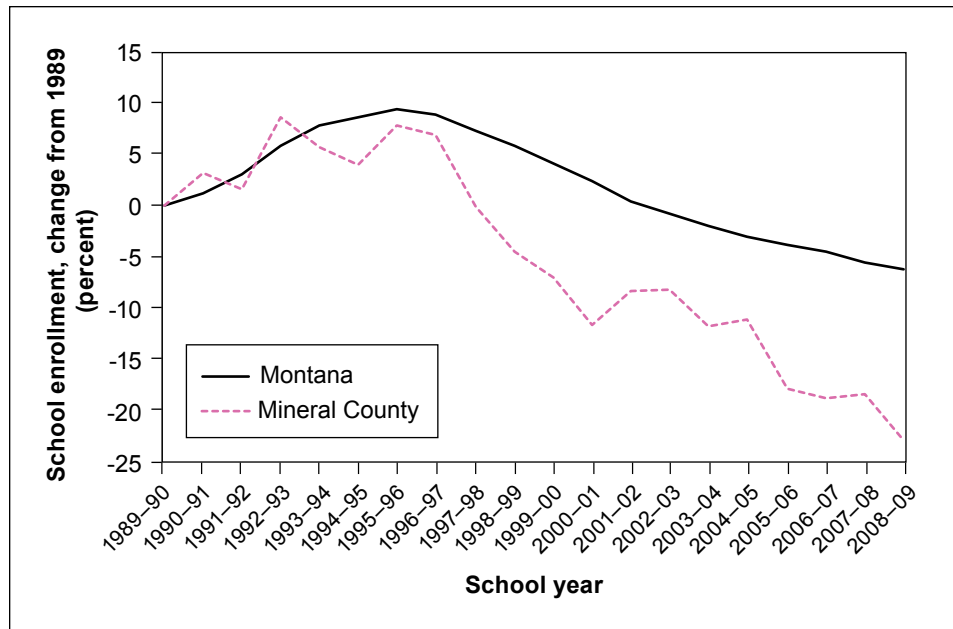


Figure 7-11—Change in school enrollment for Montana and Mineral County, 1989–2008 (USDE NCES 2010).

Most of the growth in the Mineral County economy has taken place in the service sector; between 1970 and 2000, 80 percent of new employment was in services (particularly health, legal, and business services, and retail trade) (McCollum 2009). Nearly 20 percent of the county's employment is in the public sector (county, state, and federal governments), and much of the growth in income over the past 36 years has been “nonlabor” (investment, retirement, and government transfer payments). Many people commute out of the county to work, and this number has been increasing since 1990 (McCollum 2009).

Recreation and tourism provide a growing contribution to the economy of Mineral County; visitors from throughout the country come to raft, mountain bike, fish, ski, hunt, hike, camp, horseback ride, snowmobile, ride off-road vehicles, and sightsee (fig. 7-12). Travel to Montana has increased 20 percent over the past decade (Crowser et al. 2009), and Mineral County is the most frequently used entry point to the state. Nevertheless, many of these visitors, as well as Montanans, drive on the interstate through the county without stopping. The Mineral County Challenge, funded in part by the state of Montana, is an effort to draw together the county's communities and natural resource

managers to find feasible economic opportunities. In partnership with Montana Fish, Wildlife, and Parks and the USDA Forest Service, represented by both the Lolo National Forest and the Rocky Mountain Research Station, the group conceptualized eight economic development projects, five relating to recreation and three to wood products (Murray 2010).



Figure 7-12—Recreation and tourism businesses contribute to the economy.

Methods

This case study was conducted using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act project. Fieldwork to conduct these interviews took place between May and July 2010 in Mineral County and Missoula; additional information was collected via emails and phone. A total of 13 individuals were interviewed. Interviewees included three Forest Service employees who developed or implemented the project, three community members, three employees of firms who received Recovery Act funds, three who work in local community development, and the concessionaire for the Route of the Hiawatha.

Additional qualitative data were obtained from published sources such as newspapers and local government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods see the appendix.

Project Recipients

DJ&A, a small engineering consulting firm, has three contracts related to this project for assessment, design, and construction oversight, totaling \$120,382 (table 7-1). Their Missoula office (the other is in Helena, Montana) employs 30 employees who do a wide range of work, including surveying, municipal works, water resources, and civil, environmental, transportation, and bridge engineering. The primary consultant on this project is in the bridge engineering group, which has had a number of Forest Service contracts (including repairs on the Hiawatha trail), many recently funded by the Recovery Act. The firm was started 30 years ago by former Forest Service engineers, and the consultant for this project is also a retired Forest Service engineer.

Well, we do a lot of work with the Forest Service and the Lolo National Forest; it's one of the forests we do work for. And so we probably approached them initially, partially because when I worked for the Forest Service in Montana about 15 years ago, I did the design of the bridges and tunnels on the west side, the Idaho side, of the Hiawatha trail. And so we knew that kind of work pretty well [DJ&A engineer].

Table 7-1—Project recipients and funding awarded as of June 30, 2010

Recipient	Project description	Total funding amount	Funding mechanism
		<i>Dollars</i>	
Northwest Montana Counties Trail Maintenance and Reconstruction, CIM-0100-03T:			
DJ&A	Preliminary engineering assessment	49,595	Task order
DJ&A	Design	46,437	IDIQ ^a contract
DJ&A	Construction oversight	24,350	Contract
Dick Anderson Construction	Trestle and tunnel repairs	874,692	Contract
No vendor selected yet	Gravel crushing and stockpiling	199,935	
North Idaho Counties Trail Maintenance and Reconstruction, CIM-0100-02T:			
Price contracting	Design	24,142	Task order
Price contracting	Staking	4,232	Task order
Price contracting	Construction	456,271	Task order

^a IDIQ = indefinite delivery/indefinite quantity contract.

Having worked in the Forest Service Regional Office for 17 years, the principal engineer on this project is familiar with both the people and the land, which he says is effective, “because I know the people and they know me, and it’s just fun work. I’m doing what I did 20 years ago” (DJ&A engineer). The recession has affected the kind of work the firm has seen during the past 2 years. Municipal engineering and subdivision work has dried up, while road and bridge work on public lands has increased.

We’ve been pretty fortunate that we do as much Forest Service work as we have because that’s actually probably doubled, which has enabled us to keep some of our other people busy moving them across lines into the Forest Service road-bridge side of things ... You know I would say of the work we did last year for the Forest Service, which was probably \$2.5 million, I would say probably at least two-thirds to three-fourths of that was ARRA money [DJ&A engineer].

DJ&A did not hire new people for this contract, but was able to retain people in the firm who were not employed on other contracts (table 7-2). In addition, three subcontractors were used for the assessment; like the engineering firm, they didn’t hire new people, but were able to avoid layoffs. This project is estimated to have provided 1 person-year equivalent of work in all three phases of the project (DJ&A engineer). This has been highly skilled and technical work, involving professional surveyors but mostly professional engineers; wages ranged from \$35 per hour for assessment support staff to \$200 per hour for tunnel consulting from a firm in Seattle. DJ&A has had no trouble finding contractors for the project, including a local back-hoe operator out of

Wallace, “everybody we used was very available” (DJ&A engineer).

DJ&A receives its funding from a task order under an existing indefinite delivery/indefinite quantity (IDIQ) contract; currently they are in the first year of a 5-year contract. For DJ&A, it was a smooth process to get the funding and work with The Economic Recovery Operations Center (EROC): “As it worked out, the contracting officer in the EROC is a retired Forest Service contracting officer whom everybody had worked with in the past, so it was pretty painless” (DJ&A engineer).

The other major project contractor is Dick Anderson Construction, a Montana-based company with offices in Helena, Great Falls, and Bozeman, with a consistent workforce of 175, at peak, 250. Since 1975, Dick Anderson Construction has grown from a small, private client company to a corporation experienced in handling multimillion dollar commercial and government projects. The Dominion trestle and tunnel repairs contract, at \$875,000, is relatively small for the company, but appreciated.

Like most construction companies, Dick Anderson Construction has seen a downturn in its workload in the past 2 years; the resulting seasonal layoffs are the first the supervisor of the Hiawatha project has seen in his 15 years with the firm. In the past, the firm has focused mostly on large commercial and health care facilities, but now the work is concentrated more on road and bridge construction, because of Recovery Act funding, “and we’ve done a bunch of these ARRA projects. We do them all the time” (Dick Anderson supervisor). They have done some projects with the National Park Service, but this employee is unaware of other contracts with the Forest Service.

Table 7-2—Jobs reported for the Route of the Olympian project

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	<i>Number of jobs^a</i>				
DJ&A	—	—	0.62	0.01	—
Dick Anderson Construction	—	—	—	—	0.29
Price Contracting	—	—	—	0	0

Note: A dash (—) indicates that no quarterly report was available.

^a Job numbers are full-time equivalent jobs. See appendix for reporting method.

Given that the trestle is 100 feet from the ground and specialized equipment will be needed to remove its ballast from the bridge deck and lay the new surface (fig. 7-13), the supervisor's safety record was an important consideration in choosing this firm (fig. 7-14).

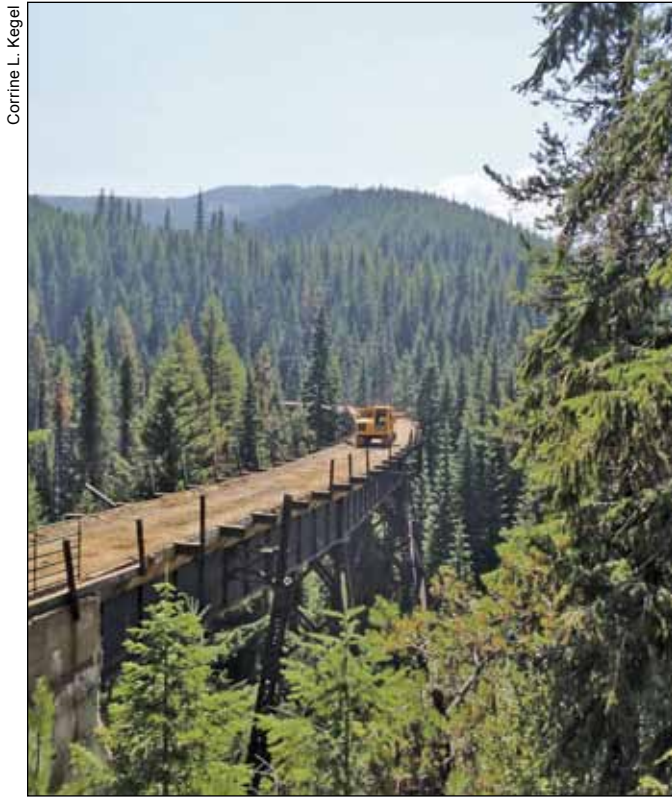


Figure 7-13—Removing rubble from the trestle.



Figure 7-14—Dick Anderson Construction Company takes extra safety precautions while working on trestle repair.

The contractor bids for the construction work were evaluated by the Forest Service on five criteria: (1) technical approach to perform the work, (2) experience in projects with similar size and scope, (3) key personnel, (4) past performance, and (5) cost. Dick Anderson was chosen not only because they were low bidder, but also because they scored the highest in the other four criteria above. Because of the heavy equipment required and technical nature of the work, no local contractors qualified. Dick Anderson Construction intends to spend as much as possible in the local area, however: "And one thing with this company that we always try to do when we come into rural areas...we always try to pick up some local help, source what we can through local suppliers."

They are subcontracting locally for trucking and possibly excavating and machining, and purchases of materials (e.g., fuel, lumber, bolts) will be made locally.

We're going to use some local gravel contractors, I've got a local subcontractor to do the chip sealing on the deck, and hopefully we'll end up with a local excavation contract to do the work, so yeah absolutely a lot of the money's going to go out right here. We always like hiring people local, if they have the qualifications and everything like that [Dick Anderson Construction supervisor].

Local hires for the crew working on tunnel and trestle repairs were found by word of mouth in regional construction networks. One carpenter who applied is extremely qualified, "maybe even overqualified for the position" (Dick Anderson Construction supervisor). Total crew size will be 6 to 8 employees; the number who can work at the site is constrained by the tight construction area (trestle and tunnel, and hillside road), and access to the area will be limited not only by the crowds in the parking lot, but also work on parking lot expansion, an Idaho Panhandle National Forests Recovery Act project. The Dick Anderson project supervisor and one laborer will live onsite in a trailer for 4-day weeks. Crew members will make prevailing, government-standardized rates, including health benefits, retirement, and travel pay.

Both DJ&A and Dick Anderson Construction are looking down the line to the further expansion of this trail, hoping their work on this trestle will result in a contract for Saltese trestle.

Partners

Five Valleys Land Trust has supported the trail extension efforts since 2007, mostly as a brokering organization, negotiating land purchases and providing bridge funding to secure the land until public funding became available. Five Valleys was awarded a \$95,000 grant from the Montana Fish, Wildlife, and Parks Recreational Trails program as partial reimbursement for land purchase. Land and Water Conservation funds were used by the Forest Service to complete the purchase from Five Valleys. Grant Kier, Executive Director of Five Valleys Land Trust, has made this public statement of support for the Route of the Olympian trail:

We are pleased to extend Five Valleys' long history of private-public partnerships, helping secure valuable natural lands for public access and enjoyment. We expect that this trail extension will also prove to be an economic benefit to St. Regis. It is important to us that Five Valleys is able to assist with important acquisitions that add significantly to the rich recreational and economic opportunities in western Montana (USDA FS 2009b).

The Rails-to-Trails Conservancy, a nonprofit organization based in Washington, D.C., with a mission to create a nationwide network of trails from former rail lines and connecting corridors, has been consulting on this project continuously. The organization conducted a study regarding the potential for development of the Old Milwaukee Trail across Montana. As stated by a Forest Service employee who started riding the trail and dreaming about its restoration after this study, "The Conservancy started showing up in Superior area, collecting data, and their analysis indicated that it looked positive—that something good could happen with bike trail development on the Montana side."

The Route of the Olympian Hiawatha (originally the name of a passenger train that traversed the Milwaukee Road, for which the Montana and Idaho portions of the

recreational trail are named) was placed on the National Register of Historic Places, thanks to the efforts of a number of citizens and Forest Service personnel who recognized the historical importance of the railroad. Interpretive signs for the Route of the Olympian have been completed with another source of funding and will be placed along the new trail. Other potential partners and grant sources will emerge as the Route of the Olympian is completed.

Other Recovery Act Projects

The Idaho Panhandle National Forests received economic recovery funds for work on the parking area at the east entrance to the Route of the Hiawatha (soon to be the west entrance of the Route of the Olympian). The work will include excavation, grading, surfacing, and dust abatement. There will also be construction of a restroom and installation of a gate, a catenary arch, signs, and landscape rocks. This work began in late summer 2010, about the same time as the tunnel and trestle restoration.

Economic Benefits

Most of the local economic benefits of the Route of the Olympian trail investment will take time, coming down the road with new recreationists. In the winter, as many as 150 snowmobilers a day ride the future Route of the Olympian (currently called the Milwaukee Road), according to Night-riders Snowmobile Club (Chaney 2009). Hunters use it in the fall to access mountain trails and campsites (fig. 7-15). Various kinds of motorized and nonmotorized riders use it in spring and summer for recreation. During the Route of the Hiawatha season (May to September) it is hoped that bicyclists will continue on to the Route of the Olympian, and stay or eat in Mineral County. In Idaho, the Hiawatha trail has contributed to economic development of Mullen and Wallace, and the Trail of the Coeur d'Alenes bike path is said to have transformed the business communities of places like Harrison, Plummer, and Cataldo (Chaney 2009); 80 percent of their business is attributed to bicycle tourists (Schneider 2010) (fig. 7-16).

Four small towns along the route, Saltese, Haugan, DeBorgia, and St. Regis, are expected to benefit from this recreation business. St. Regis, which pulls business off the

All the way from the pass down, our hope is that they will come. They will make Mineral County, or the west end of Mineral County, at least, a destination. They will come, they will ride, they will play on the trail but they will also hike the trails in the forest, they come to Superior, utilize the float business—let them go down the gorge. From Alberton to Saltese you could probably come here and spend one week and never see the same trail twice and go down the river and never see the same spot on the river twice, just by different places going in and out. I wish we could bring this county together and go forward with that hope. This is what we've got, let's make Mineral County a destination spot for hiking, camping, canoeing, fishing, rafting, hunting, and snowmobiling.

—County extension employee



Figure 7-16—Bicyclists on the completed trail underneath catenary arches remaining from the old railroad. Catenary arches were used to hold electric wires powering the trains.

interstate, is recognized by the state as having a tourist infrastructure and can levy a resort tax. As explained by a resident, “St. Regis is really hoping for a big boom from the Route of the Olympian. To get more trail down there where people have to come into St. Regis and stop” [County extension employee].

A survey of 2,963 users of the Route of the Hiawatha estimates that for every 1,000 people using the Hiawatha trail, 1,960 economic transactions occurred (a transaction is defined as a person spending money on one or more individual items, such as restaurant meals, lodging, gas, oil, bicycles, souvenirs, etc.). Those transactions are valued at \$154,168 per year; 60 percent have taken place in Idaho, and 25.4 percent in Montana (McCollum and Miller 2010). One can extrapolate from these figures the economic impact of future riders of the Olympian trail in Montana. Riders on the current Hiawatha trail come mostly from the west (Washington, California, Oregon, Idaho, and Utah), north (British Columbia), and farther (e.g., Maine, Florida, Iowa); many would welcome further trail opportunities, having come so far. In the study, 58 percent of the riders of the Hiawatha trail said that they would continue into Montana if the trail extended east. If even half of those surveyed riders do ride into Montana, and if we assume two economic transactions per rider at a rate of \$78 per transaction, the value of those riders would exceed \$65,500.



Figure 7-15—Hunters and their families camp along the Milwaukee Road railbed.

It's taken more than three decades of dreaming and planning to turn this stretch of railroad history into a public passageway again.

—Chaney 2009

Social Benefits

Restoring the Dominion Creek tunnel and trestle is another step in the complex, lengthy legal and political process of developing the Route of the Olympian recreation route, which is planned as an extension of the 17-mile Route of the Hiawatha, with its seven restored railroad trestles and 10 tunnels. The extension of this unique recreational opportunity is a social benefit for the visitors who come from all over the country and world and span multiple generations. Keeping it available for traditional uses is of value to long-time residents and an expression of Forest Service commitment to these local interests (fig. 7-17).

Victoria Sturtevant



Figure 7-17—Three generations of cyclists enjoy recreational opportunities provided by the trail.

Although the actual work on the trail does not require an environmental assessment, planning for use does. The scoping document for managing use of the Route of the Olympian incorporates the recommendations of a collaborative group formed in 2009; this diverse group includes local and regional residents, and representatives of several organizations, including the Nightriders Snowmobile Club,

Bitterroot ATV Club, St. Regis Resort Board, Milwaukee Rails to Trails Group, Friends of the Coeur d'Alene Trails, and Adventure Cycling. Because a wide variety of recreationists are keenly interested in the future management of this recreation route, it is hoped that this collaborative group can effectively address the sometimes conflicting needs of multiple local users and visitors, and that participation in this planning will create a sense of ownership and responsibility among locals who have used parts of the trail for decades. The social benefits of this participation in planning and monitoring of the trail include relationship building and increased trust.

User safety is another social benefit resulting from this Recovery Act project. Although access has been blocked with barricades, they are continually moved or destroyed by the public. Before it was closed for construction, the railroad bed, tunnel, and trestle were used by cyclists, hikers, and ATVers. The Friends of the Coeur d'Alene Trails Web site provides a map and description of the trail from the east portal to Saltese with the text warning potential cyclists,

“The gravel in this tunnel is loose and undulating. You might consider walking through the tunnel. Just past the tunnel there is a trestle which crosses over Dominion Creek. There are no guard rails to prevent a 100-foot fall. You might consider walking across the trestle” [http://friendsofcdatrails.org/other_trails.html#6] [fig. 7-18].

Environmental Benefits

The rubble that was used to fill in the trestles to form the roadbed (or trail) poses an environmental hazard, as it could slide and block or divert streams. Some culverts under these roads were identified by the assessment as needing repair; work will be completed in the future to avoid the environmental damage experienced on the Idaho side in 1997. The road and trail grade includes a number of very high fills, or embankments, over small drainages. When these culverts fail, the water pressure can “blow out” the fill, as it did in Idaho in 1997, resulting in about 500,000 cubic yards of sediment moving into downstream streams and rivers. And



Victoria Sturtevant

Figure 7-18—A long way down from the Dominion Creek trestle without guard rails.

the wooden trestles themselves could fail and fill streams with rubble and potentially toxic materials, such as lead paint. “So I think that’s [repairing the culverts and trestle] a real benefit, a long-term environmental benefit” (DJ&A engineer).

There may be some additional indirect environmental benefits. Resurfacing the roads and trestles may help in controlling noxious weeds, and if ATV riders are attracted to the new route, they may stay out of more sensitive areas.

Effects on the Agency

Years before receiving recovery funding, the district had submitted a proposal for Capital Improvement Project funding and in 2012 will receive \$385,000 for trailhead and

bed improvements. Small amounts of funding have been secured for other parts of the project, such as Resource Advisory Committee dollars provided by Secure Rural Schools Act funding for small bridges. The primary “dreamer and planner,” a Forest Service employee who has been inventing solutions to the many challenges posed by access and restoration needs, explained that extending the Hiawatha Trail was something the district had been thinking about since the Idaho portion was done in 1992. “Even before the Recovery Act came into our lives, we decided we will find the grant money to fix these things. There’s got to be grant money out there to fix these things ... we had moved forward,” she said. Recovery Act funding provided a huge leap forward, particularly the engineering assessment

that found the repairs to be less expensive than anticipated. In addition to needed assessment and construction work, economic recovery funds enabled the hiring of a civil engineer who is responsible for securing contractors and supervising the work on this, as well as other Recovery Act capital improvement projects.

Challenges

Much of Mineral County still identifies strongly with forest-based work and the timber industry.

Well, and so much of their identity, their cultural identity is locked into that [timber industry]: their family legacy, their history. You know it makes all the sense in the world. . . . But at some point you have to sit down and ask yourself, how can we accommodate this community in a progressive way to bring [new people and economic opportunities] [Economic development consultant].

Although recreation and tourism are evident contributors to the local economy and five of the projects identified by the Mineral Challenge involve tourism, a strong contingent in the county hopes that the timber economy will revive, and they vent their frustration at the Forest Service for the decline in timber volume from federal lands. This frustration spills over into other access issues on federal lands and creates difficult working relationships between the county and the forest. As stated by a local resident, “In order for us to do it, the Forest Service has got to become a partner. They’ve got to be a partner with ‘yes’ and not a partner of ‘no, we can’t do it.’ Until that time, I do not see much hope of that happening—as a community of destination.”

Reconciling competing user groups (and their conflicting cultures) poses a challenge for Forest Service management of the new route. The district ranger’s foresight in assembling a collaborative group to develop a complex plan for alternate uses over the seasons (e.g., bicyclists only during the summer months with off-road vehicles (ORVs) using parallel Forest Service roads in some sections) may be undercut by pressures from either the bicyclists who are represented by outside organized interests, or motorized

users, most of whom are local. Some of the attributes that allow partnerships to find common goals, such as attachment to place and commitment to community development, are not shared by all stakeholders. Sentiments on both sides run strong (currently comments on the scoping document are evenly split between the two), verging toward polemical, as in this posting on the New West blog site: “The Forest Service still clings to the fallacy of ATVers and hikers/bikers peacefully and safely sharing the same trail. And that it can write a travel plan that pleases everybody when in reality it’s almost guaranteed to please nobody” (Schneider 2010).

Private land ownership presents challenges for access to the route, particularly at Saltese. Prior to 2007, the federal government owned 60 percent of the 30-mile stretch of old Milwaukee Railroad, but the federal ownership was fragmented and no one segment was long enough to be a suitable recreation route. Between 2007 and 2009, 13 land parcels from one major landowner were purchased, with the help of Congress and Five Valleys Land Trust, so now 85 percent of the stretch from Taft to St. Regis is managed by the national forest. Roads or access points are available so that people can ride the entire route, and the Forest Service is negotiating additional access so that travelers can bypass the Saltese trestle without trespassing, but the bypass is currently undeveloped, and the 100-foot-high Saltese trestle requires major repairs for it to be available for public use (fig. 7-19).



Jessi Kershner

Figure 7-19—Saltese trestle.

Farther east of the planned route, short stretches of right-of-way have already been turned into homesites or driveways, posing a challenge for further development of the route.

Securing future funding for maintaining the route and purchasing additional private parcels may pose a challenge, although district staff have been resourceful and farsighted in creating this project. Because of the short time for preparing the Recovery Act project proposal, they were unable to align it with other grant application timeframes, but from experience with previous grants, such as the Recreational Trail Grants Program from Montana Fish, Wildlife, and Parks, they know that recovery funding will “be a huge help because they [funders] like to look at the cumulative amount of money that’s gone into the project” [Superior District employee].

...[The project is] going to have a tremendous benefit for the Forest Service community relationship. I think right now, not a lot of the community realize it’s going on. There’s been a couple newspaper articles talking about it. It’s kind of something that people are remotely aware of it, but until it actually opens up I don’t think it will be a big deal.

—DJ&A engineer

At present, the county’s limited tourist infrastructure may constrain the economic benefits realized locally from visitors riding the Routes of the Olympian and Hiawatha. Although St. Regis has a clear identity as a tourist community, and some older motels and resorts are sprinkled along the interstate, Superior’s economy as the county seat is more oriented toward forest products and government services. As a local put it, “So people come here; this is a hub but it’s not a tourism hub, it’s more of a business hub.” Superior’s economic development strategy is to bring in larger businesses that pay family wages, hopefully wood-product-related businesses to replace the closed mill. The few tourist-oriented business operators, such as bed and breakfast owners, could use a network for referrals or shared marketing, for example, to maximize benefits from increased tourism.

Missoula, in the adjacent county and about 60 miles east of Superior, serves as a retail, cultural, and business center for the region. One would expect that Mineral County’s recreational opportunities would draw Missoulians, yet studies have shown their limited use of the existing Route of the Hiawatha (McCollum and Miller 2010).

One challenge for expanded Mineral County recreational income is to draw people from neighboring Montana and Idaho counties.

People in Missoula tend to recreate more toward the east: boating, rafting, fishing on the rivers and Flathead Lake. But I don’t know why ... there aren’t more people using the trail. But I see the same thing in the parking lot; I see Washington plates, Idaho plates. The fact is last Wednesday we were looking at plates and I’m sure there were 40 to 50 cars and I saw 2 Montana plates. ... there were probably more Texas and Florida plates than Montana plates [Economic development consultant].

Looking to the Future

The first 13 miles of the Route of the Hiawatha were opened to the public in 1998; the 1.7-mile St. Paul Pass Tunnel to the east portal parking lot was opened in 2001. Annual visitation has grown from 8,000 in 1999 to 32,000 in 2009 (and is on target to exceed that number in 2010); employment by the concessionaire has increased during that period from 8 to 25 (Lookout Pass concessionaire). The Hiawatha trail has a national and international reputation, thanks in part to media outlets such as National Public Radio and *Sunset Magazine*. Idaho has a network of bike trails with a synergy that earned Idaho the International Mountain Biking Association’s ranking as the number-one mountain biking state in the United States. As mentioned earlier, local

If you’re looking for pure economic benefits, it’s going to be over the next 20 to 30 years when there’s 5,000 to 10,000 users [per year].

—DJ&A engineer

businesses in Idaho towns have relished their new visitors, particularly restaurants, motels, and resorts.

... his place gets packed with people who have been riding the trail. They stop there on their way home to have dinner. McDonald's in Kellogg sees a huge influx of people who stop there. So it's become vital for the local communities. It's bringing a lot of people [Lookout Pass concessionaire].

Is this the future for the Route of the Olympian? With multiple access points and multiple user groups (e.g., motorized and nonmotorized, during different times of the year), jobs are less likely to be concentrated in one place or a couple of towns, but entrepreneurs along the trail will have opportunities to benefit from increased traffic and demand for diverse services that might carry throughout the year (e.g., bike shops during the summer, snowmobile service during the winter). There is every expectation that much of the Hiawatha trail traffic will continue down the Olympian, that more weekend recreationists from eastern Montana will access the trail at various points, and that travelers along I-90 will find a new reason to get off the highway.

Well you know, the Milwaukee road could continue all the way to Missoula, and there's some groups that have been working on that and if this could be a connection all the way to Missoula this could be huge! Eventually you could go from Missoula all the way to Tacoma, Washington on an interconnect. And that would really be something. And it would be a big economic stimulus for the whole region along Interstate 90 [Lookout Pass concessionaire].

The residents of Mineral County are resilient; as stated by a local resident, "...you know the people that live in these communities are so prone to low income that one more hit was just another hit, we'll get through it, and we'll move on." The forests, mountains, rivers and open skies of the county are its assets and serve as a foundation for its economy and quality of life. Forest products will continue to be important, and, by all accounts, Tricon Timber is a well-managed and forward-looking company that will continue to provide a base of employment in the county.

Other forest products, such as landscaping bark and pellets, have a market, and manufacturers of these products have succeeded, despite the costs of transportation from the remote location.

Key Findings

Completing sections of the project before the project was fully funded allowed the agency to take advantage of Recovery Act funding when it became available.

Prior investments by the federal government and regional nongovernmental organizations to purchase private parcels along the route were made in expectation that the Forest Service would be able to accomplish restoration work of the tunnel and trestles; however, this was not possible with existing funding mechanisms. Recovery funding allowed the Forest Service to "make good on a promise."

Project completion is expected to contribute to a new recreation-based economy. This restoration of a previous railway route has preserved a piece of history, provided rich recreational opportunities for future generations, provided short-term jobs and contracts for Montana businesses, and promises to attract tourist revenue for the local economy.

The agency hopes that the project will improve relations with local communities. Relationship building between the Forest Service and the community is taking place in a somewhat strained atmosphere as economic development depends on access to federal lands, which residents feel has been restricted. Trust has been built by the Forest Service through a collaborative recreation trail user group, district staff participation in the Mineral County Challenge, and technical assistance from the Rocky Mountain Research Station.

Lessons Learned

Local culture cannot be ignored when developing projects. Recreation and tourism are development strategies that require investment in an economic and social infrastructure, not only of financial capital, but in a new mindset and a tolerance for people, as described by one businessman, "with credit cards in their lycra biking shorts."

Develop projects that contribute to local economic development goals. Working with the local community to define and implement an agency role in recreational development demonstrates the Forest Service willingness to align with community planning efforts and help ensure that development and implementation of a user management plan are transparent and equitable. Forest communities in transition can pose a challenge for the Forest Service. When future directions are charted or newcomers' desires are heeded, agency leadership may be perceived as turning their back on traditional interests. This case demonstrates the importance of incorporating existing users and community needs.

Human capital in the form of retired Forest Service employees can be valuable when reaching out to local communities. Retired Forest Service employees working as contractors bring a knowledge of the land, the people, and institutional mechanism.

Acknowledgments

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Chapter 8: A Socioeconomic Assessment of Forest Service Recovery Act Projects: Cheoah River Nonnative Invasive Plant Control, North Carolina

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Summary

Along the Cheoah River in western North Carolina is found one of the highest regional concentrations of the plant Virginia spiraea (*Spiraea virginiana* Britton). This plant is federally listed as threatened, making it a priority for conservation. It is threatened by nonnative invasive species such as kudzu (*Pueraria montana* (Lour.) Merr.) and privet (*Ligustrum sinense* Lour.) that grow over and shade out the native plant, causing it to die. Other federally listed species, including the Appalachian elktoe (*Alasmidonta raveneliana*) (an endangered mussel) and the spotfin chub (*Erimonax monachus*) (a threatened fish), are affected by these same invasives through degraded stream habitat. Both the protection of federally listed species and treatment of nonnative invasive species are high priorities for the Forest Service. The Cheoah River nonnative invasive plant control project, funded by the American Recovery and Reinvestment Act (hereafter referred to as the Recovery Act), was developed to address these priorities and create local jobs. The project, located on the Cheoah Ranger District of the Nantahala National Forest, is within Graham County, one of the poorest counties in North Carolina with median incomes that are significantly lower than the rest of the state and poverty levels hovering at around 19 percent. The people of

Fast Facts

Total Forest Service Recovery Act Investment, North Carolina (as of 09/08/09): ~\$25,411,000
(North Carolina Projects: \$23,616,000; North Carolina share of multistate projects: ~\$1,795,000)

Recovery Act Investment, Case Study (as of 6/30/10): \$332,911

Case Study Location: Nantahala National Forest

County: Graham

Project Type: Nonnative invasive plant control

Graham County have been particularly hard hit during the recession with unemployment rates fluctuating around 15 to 19 percent. The Eastern Band of Cherokee Indians (EBCI) has reservation land located within and around Graham County and makes up a relatively sizeable proportion of the economically disadvantaged. To accomplish the multiple ecological and economic goals of this project, an agreement was developed to use the services of the Western North Carolina Alliance (WNCA) and their expertise on invasive species management to train and manage two crew supervisors. Additionally, a partnership with the Cherokee supplied two five-person temporary work crews. The crew members were hired through the Vocational Opportunities of Cherokee, Inc., a temporary employment service that

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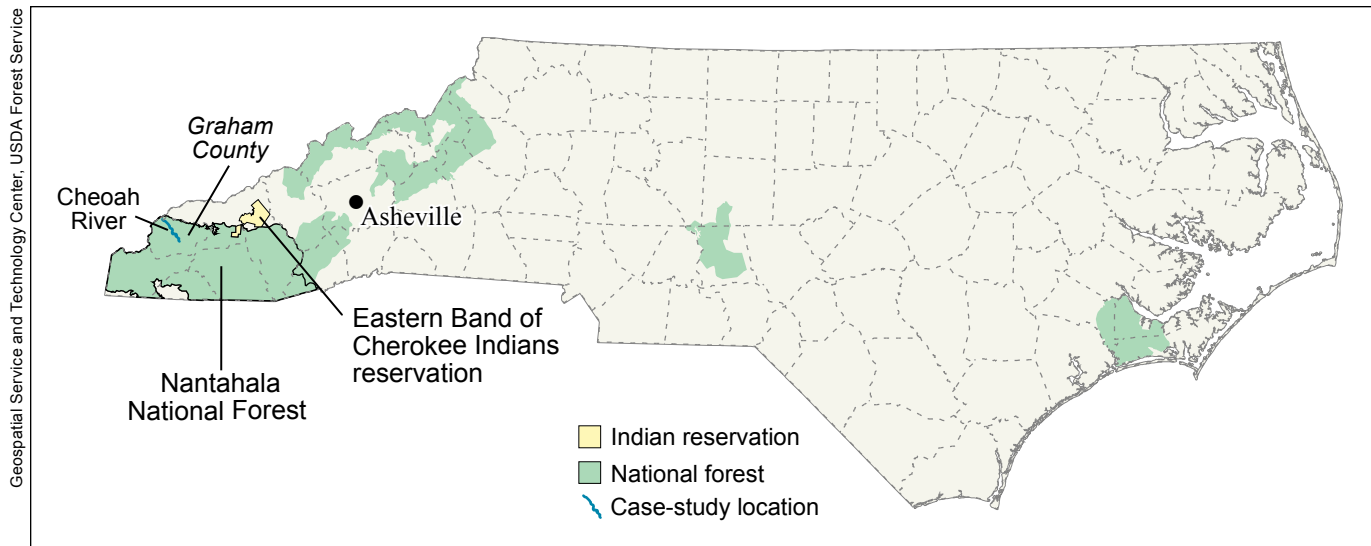


Figure 8-1—Location of case study and surrounding areas in North Carolina.

works with Cherokee people that have disabilities or barriers to employment. With the opportunity to accomplish a number of Forest Service goals, develop and enhance partnerships, and put people to work during the recession, the Recovery Act agreement provided a valuable resource to achieve these ends.

The Case

The Cheoah River nonnative invasives project is located in Graham County at the western tip of North Carolina (fig. 8-1). The population of the United States and North Carolina continue to grow while population levels in Graham County have remained flat (fig. 8-2). By a number of different measures, Graham County is one of the poorest in North Carolina. This county has been particularly hard hit during the recession with unemployment rates fluctuating around 15 to 19 percent (fig. 8-3). The percentage of students eligible for subsidized lunch programs has risen while the total number of students enrolled has decreased (figs. 8-4 and 8-5). Median incomes are significantly lower than the rest of the state, and poverty levels are hovering at around

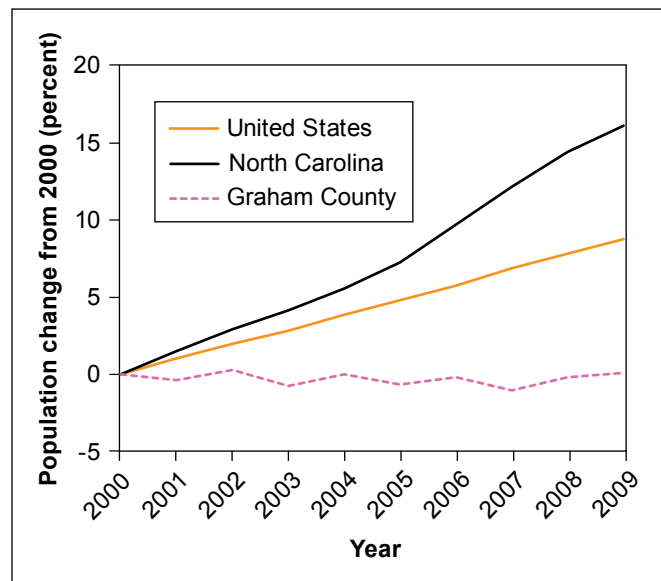


Figure 8-2—Change in population for the United States, North Carolina, and Graham County, 2000–2009 (USDC BC 2010a).

19 percent (figs. 8-6 and 8-7). Graham County has a Forest Service economic distress ranking of 8.² “Times are tough here, it seems like even in good times,” a local resident remarked. The EBCI has reservation land located within and around Graham County and faces significant economic difficulties. As noted by one interviewee, “it seems like the Cherokee Reservation has always had high unemployment, even higher than the rest of the workforce.” The county is

² The Forest Service calculated economic distress rankings for every county in the United States, and used these rankings as the main criterion for making Recovery Act project funding decisions. Rankings are on a scale from 1 to 10 with 10 signifying the highest level of economic distress. See USDA FS 2009 for information on how the rankings were developed.

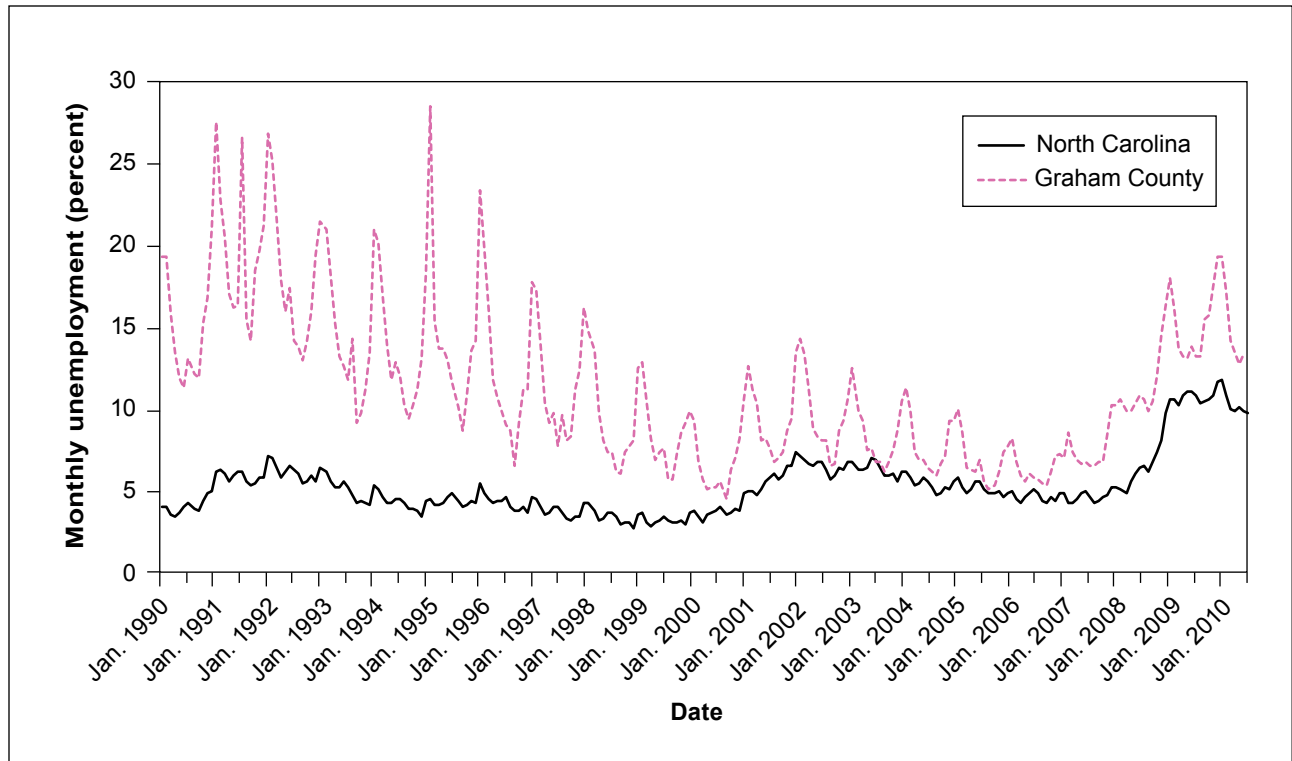


Figure 8-3—Monthly unemployment rates for the state of North Carolina, and Graham County, 1990–2010 (USD L BLS 2010).

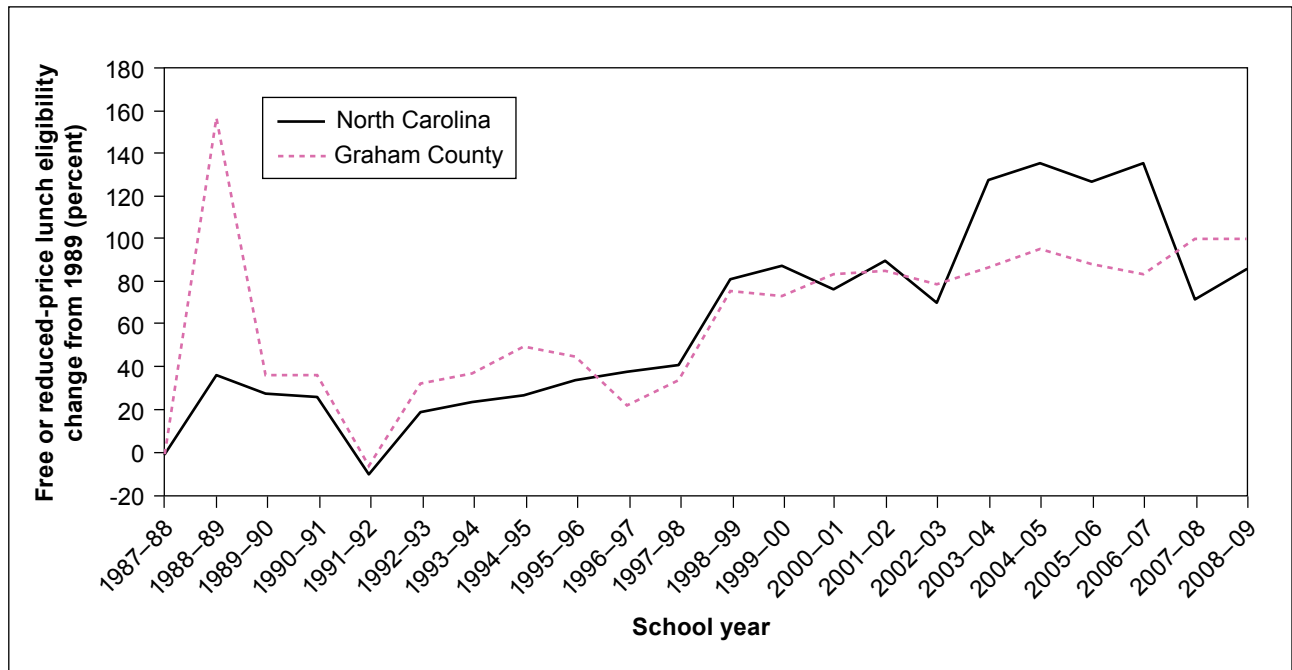


Figure 8-4—Change in number of students eligible for free or reduced-price lunch programs in North Carolina, and Graham County, 1987–2008 (USDE NCES 2010). Note: Reduced-price lunches were made available after 1999.

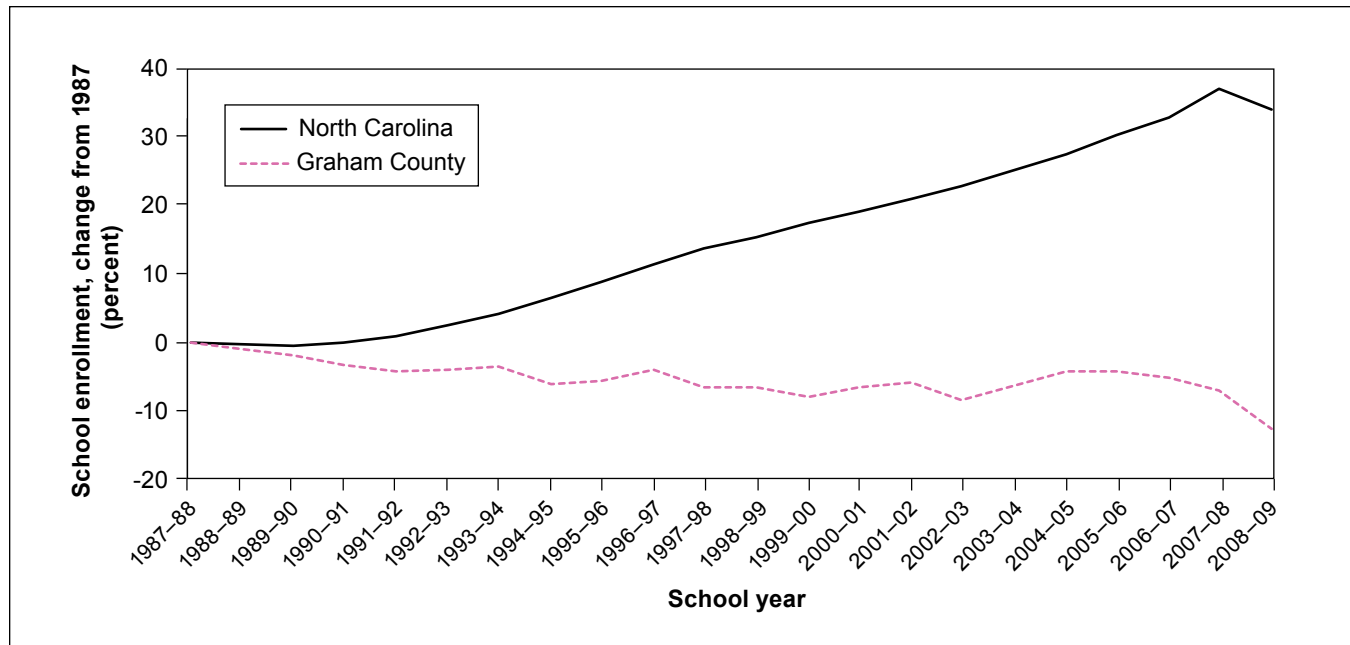


Figure 8-5—Change in school enrollment for North Carolina and Graham County, 1987–2008 (USDE NCES 2010).

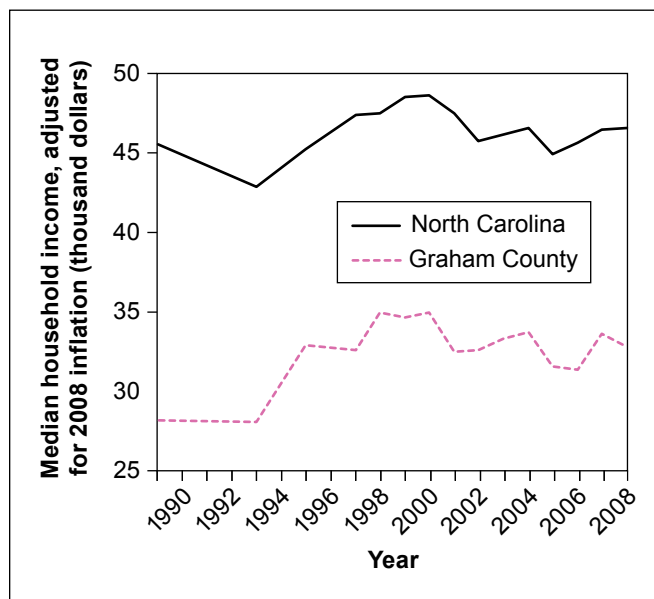


Figure 8-6—Median household income for North Carolina and Graham County, in 2008 dollars, 1989–2008 (USDC BC 2010b).

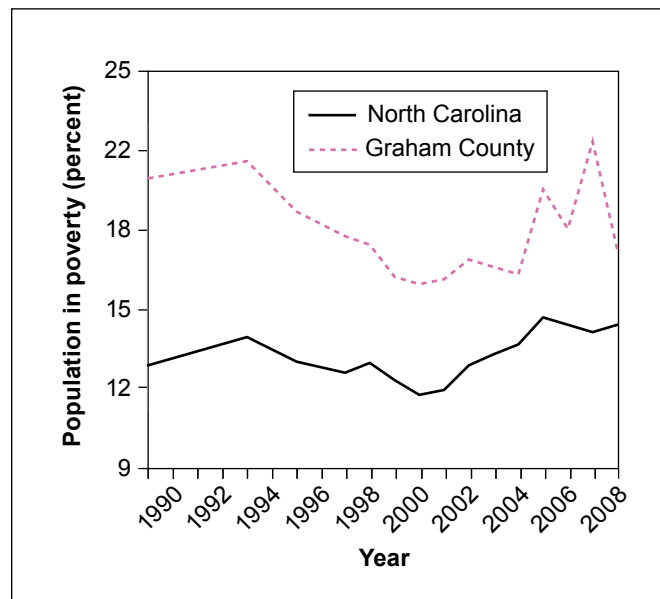


Figure 8-7—Population living in poverty for North Carolina and Graham County, 1989–2008 (USDC BC 2010b).

largely composed of federal and other public lands. Historically the economy of the region was based on the timber industry, small farming, and hunting. Correspondingly, the Forest Service played a significant economic role through direct employment, the provision of timber, and reforestation efforts.

A former Forest Service employee remarked on the history of the region, “Large timber companies moved in and then the Forest Service ended up purchasing the land from back early on,” resulting in the Forest Service becoming one of the larger employers in the region. The Forest Service economic contribution to the area decreased dramatically during the early and mid 1980s with losses of temporary employees and youth and senior citizen programs and reductions in timber harvests, which dwindled dramatically by the early 1990s. One former Forest Service employee noted that:

We cut anywhere from 6 to 10, 11 million feet of timber a year. We did reforestation work on hundreds of acres. I think our total program, we were doing some years over 2,000 acres a year of reforestation. That was all contracted mostly after we lost our temporary employees.... Now the Forest Service is just a small, very small part of the economy. Most of the sawmills have closed....direct employee hiring is dramatically less, the amount of contracted dollars are dramatically less, timber sales are dramatically less, so it had a huge impact here.

A local resident describes the economic situation in Robbinsville in Graham County, “Yeah, it is not like we have ever been a big boom town that I can remember; really, the downtown since we have been here has never really been a flourishing place.” The current economic base is largely founded on the Stanley Furniture Plant employing several hundred people. Construction and the school system are reportedly the other major employers in the Robbinsville area. The current recession has had a major impact on all these employers because of declining revenues. These trends were regionwide. A local resident describes how the local economy has been hit, and somewhat surprisingly benefited, from the recession:

The other construction companies including those building here locally, 2 years ago the bottom dropped out, and... most of their people have been out of work. Luckily, Stanley has been adding people. They consolidated their furniture plant here and closed their other ones, this is all that’s left here in Robbinsville. They hire over 500 people; without that we would be in bad shape.

Most of the land in Graham County is public land, which limits some types of development but may enhance others. More recently, the region has become an amenity-based destination for recreation and the development of second homes. There are several areas in the county, particularly lakeside communities, that have until recently benefited from the development of vacation homes, adding to the tax base and boosting revenues for local businesses. This region has been a prime destination for migration out of Atlanta, Georgia, and a significant number of folks from Florida. However, this market was significantly affected by the recession, as one Forest Service interviewee noted, “with the economy and gas prices, and the housing market, Graham County suffers from having an overabundance of vacation homes that nobody can afford to own or drive up to rent for a weekend. So it was too heavily marketed....” The recession has severely curtailed the construction industry and private housing development in the region. The loss of revenue from owners of second homes and a fall-off of employment in the construction of these homes have affected regional businesses and government revenues.

One positive economic influence is the growth of tourism in Graham County. The Forest Service provides a significant amount of camping, hiking, fishing, and river and lake recreation opportunities. As one WNCA interviewee noted, the decline in the forest industry has been partially offset by the increase in recreation: “At the same time our mountain areas have surged in recreation and tourism, and recreation is one of the biggest drivers of our economy and certainly growing all the time.” One recreation opportunity related specifically to the Cheoah River is boating and kayaking. Several times a year the Santeetlah Dam at the head of this stretch of the Cheoah River releases high flows downstream. Dam releases into

the river sparked the hope that there would be significant tourism and economic impact from river-related recreation activities. A number of rafting and kayaking guides (fig. 8-8) and businesses in the region offer seasonal trips, rentals, accommodations, and food. At least one interviewee thought that these businesses had not reached their full potential because there are not enough days of high water flow from dam releases.

Wayde Morse



Figure 8-8—Rafting and kayaking outfitters.

Another tourist opportunity is the Cherohala Skyway that traverses the national forest. This is a scenic byway that attracts significant motorcycle traffic and sightseers. It was described by one WNCA interviewee as the “little version of the Blue Ridge Parkway—clearly that is a good thing for Graham County.” A separate stretch of road along Highway 129 is heavily traveled by and marketed to motorcyclists and is referred to as the “Tail of the Dragon” (fig. 8-9) for its high number of twists and curves. There have been a number of motorcycle rallies and Miata, Smart Car, Mini, and other automobile rallies organized around these roads that have contributed to the region economically. When asked if they thought the recession has affected this form of tourism, one interviewee responded, “No, there are still 1,000 motorcycles every day on the skyway. [However] That is my only indicator.” Tourism income for the area is primarily captured through a small number of hotels and motels, restaurants, and convenience stores. There are also a substantial number of cabin owners and cabin rentals that contribute to the tourism industry.



Wayde Morse

Figure 8-9—Gathering place on “Tail of the Dragon” route.

The local people in Graham County generally have been described as independent, self-sufficient, and often skeptical of outsiders while enduring substantial economic hardship. One Forest Service employee described the isolated nature of many of the people of the region: “There’s lots of folks who live in the woodworks so to speak, out remotely, and making a living any way they can.” Another interviewee further described them as “very isolated; they stay close to home...and they are very independent, self-sufficient and raise gardens and they don’t really need all this outside stuff.”

Within Graham County is the Snowbird community of the EBCI. The Snowbird Cherokee, located near Robbinsville, also have a number of people employed at the Stanley Furniture plant. However, the major portion of the EBCI reservation is located northeast of Graham County and on the southern border of the Great Smoky Mountains National Park. The town of Cherokee is a center of population and economic activity on the reservation and a gateway community to the national park. The recession has also hit the EBCI in a number of ways. One EBCI interviewee mentioned how a tribal children’s fund had declined and a number of people had lost jobs. However, in the last few years, there has actually been economic growth in the community. Recent opportunities for employment have been construction jobs associated with the expansion of the casino in the town of Cherokee and also construction of a new school. A number of tribal members, and many other regional people, have jobs on the construction sites

and working at the casino. Additionally, as part of the agreement the casino has with the tribe, each tribal member receives a check twice a year. The amount of the check depends, in part, on the proceeds that the casino brings in. The check amounts have thus been affected by the recession as well. Other jobs in the town of Cherokee have been developed to enhance the culture, as described by one EBCI interviewee:

The tribe actually had done a good job at finding a lot of jobs and different organizations to keep people, you know, on track with what they have been trained to do, as well as keep them on track with what they are culturally gifted to do. So there is the museum, the co-op, the Indian village, that allows people to practice and get paid to do some of the things that were part of our culture.

It was also reported that the recession has had an influence on bringing families together within the EBCI; they help each other out in times of need, which the interviewee felt was a special strength of the Cherokee people and culture.

The Cheoah River nonnative invasives project is located on the Cheoah Ranger District of the Nantahala National Forest. The project is designed to treat nonnative invasive species and protect the federally listed species, the Virginia spiraea (*Spiraea virginiana* Britton). Both of these factors make the project a high priority. However, obtaining funding to address these issues at a scale and over a period that will have significant long-term impact is difficult to arrange. The Forest Service saw the economic recovery funding as an opportunity to achieve a significant invasive species control regimen that would protect a listed species and provide temporary employment in one of the poorest counties in North Carolina over a period of several years. The project was also seen as an opportunity to further develop working relationships with two groups, the WNCA, a conservation group, and the EBCI. The location of the project complemented and therefore leveraged invasive species control efforts currently underway by Alcoa, the North Carolina Department of Transportation (NCDOT), and the Little Tennessee Land Trust.

Methods

This case study was conducted by using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act projects. Fieldwork to conduct these interviews took place between June and August 2010. A total of 22 individuals were interviewed for this case study. Interviewees included 6 Forest Service employees who helped develop and/or implement the projects, 3 local tribal and nonprofit organization representatives who received Recovery Act funds, 10 individuals who benefited from jobs created or retained as a result of the project, and 3 local individuals not directly associated with the project. Additional qualitative data were obtained from published sources such as newspapers and local government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from Forest Service databases and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods and data sources see the appendix.

Project Recipients and Partners

Through the use of two cooperative agreements for the Cheoah River nonnative invasives project, the Forest Service could use the skills and management of the WNCA and noncompetitively target the EBCI with economic opportunities (table 8-1). The original agreement was for treatment of populations of nonnative invasive species on 75 acres, treating land on the Cheoah River along U.S. highway 129. This area has a large concentration of the threatened plant, Virginia spiraea. The initial agreement was to support 9 weeks of treatment work plus travel over a 3-year period ending in 2011. Owing to success in the first year and the availability of additional funding through other Recovery Act projects being under budget, the project has recently been extended (09-PA-11084419-070 and 09-PA-11084419-

Table 8-1—Cheoah River Nonnative Invasive Plant Control project recipients and funding obligated to date

Recipient	Project description	Total funding amount	Funding mechanism
Western North Carolina Alliance	Over 3 years, eight invasive species, threatening to displace native species and alter habitats, will be reduced through the creation of pretreatment monitoring plots and the application of herbicide	<i>Dollars</i> 164,081	Agreement with one modification
Eastern Band of Cherokee Indians	75 acres of area treated for nonnative plant control on Forest Service lands	168,830	Agreement with one modification

Project WFM-0811-11fhf

078) to include an additional 75 acres (150 total) and a total of 23 weeks of employment for the period of 2010–2014. The remaining 2009 funds and an additional \$110,830 of new funding will support the new work for the EBCI with \$121,781 left for the WNCA. Project skill updates include a requirement that at least one person per crew be chain-saw certified. The new funding will allow treatment of both sides of the river and both sides of U.S. 129, which has heavy infestations of invasives. The project includes five distinct areas.

1. River East—66 acres, east of the Cheoah River and west of U.S. 129.
2. Dam River West—9 acres, just north of the Dam and west of the river.
3. Road East—75 acres, to the west of River East and adjacent to and east of U.S. 129.
4. Dense Bittersweet West—less than 2 acres, west of the river.
5. West Bank Mimosa (removal of individual trees).

This expansion is intended to have longer lasting impact from the treatment. Additional monitoring will also take place. However, although there are many areas where invasives need to be treated throughout the forest, for the scope of this project, additional hires were not deemed advantageous as indicated by a Forest Service employee:

There wasn't a great advantage to expanding the number of employees because of the job at hand. Having two crews of five with a crew leader is a good size to get it done in a reasonable amount of time.

The WNCA is a regional nonprofit grassroots organization whose mission is to protect and restore the natural communities of the mountain counties of western North Carolina. They are based in Asheville, North Carolina, in Buncombe County. The organization has a history of monitoring activities proposed on the national forests and using the public comment process to engage citizens in forest management issues. In this role, the WNCA and the Forest Service have sometimes had an adversarial relationship, with the WNCA suing the Forest Service over some planning and management decisions.

The WNCA has significant expertise working with nonnative invasive species. Recently, the organization has put considerable effort into addressing the issue of invasive species through education, identification, and eradication efforts. Having their expertise was critical in providing trained oversight for the crews working in an area with federally listed species. It is this expertise and familiarity that led the Forest Service to seek out the WNCA as a partner on this project. This was also seen as an opportunity to work with the WNCA in a more collaborative way than had previously occurred. The relationship was described by a WNCA interviewee as a win-win for both parties:

The Forest Service decided that we were a good entity to come to when this stimulus project came around, and they knew we cared and I think they felt that we had more involvement and caring... not that a contractor wouldn't be good, but an average contractor applying for a job is just getting a job. We actually really care and want to get rid of those

plants. We'll go to great lengths when we need to and try to fire people up about it and so I think that probably, that and our comfortable working relationship with resource folks is why they approached us and approached me, and I have been delighted. It has been the best thing that has ever happened, I think.

The recession has also affected the WNCA and they had to lay off one staff person. Much of their resources come from private donors, foundations, and membership drives, each of which were affected by the recession, thus limiting potential resources. However, owing to the WNCA's work on invasives, they have been able to land two stimulus projects that have filled the gap in these depressed times:

We've gotten lots of invasive funding from different sorts of grants and contracts in the stimulus project and so ironically even as things have been bad, the stimulus package in our area and in the areas I work it has been just tremendous. I am coordinating another stimulus package that comes from Fish and Wildlife Service ... so a year ago, if you had told me I would be coordinating two stimulus projects, I would have told you you were crazy.

The decision to target the EBCI for employment in the agreement was linked to the proximity of the project to Cherokee lands, the economic status of the region, and a desire to build upon the relationship with the tribe. The Cherokee community of Snowbird is located in Graham County near the town of Robbinsville and very close to the project location. The major portion of the EBCI Reservation, including the town of Cherokee, is located northeast of Graham County and within an hour of the project site. The Forest Service was "very interested because of the proximity to the tribal lands, and in terms of being able to find local labor, we saw this as a natural," a Forest Service employee remarked. From the beginning, this project was perceived as one that would not be a contract put out for bid, but one for which an agreement would be developed "so that the tribe could take advantage of the work."

A number of public and private groups are coordinating efforts to address the issue of invasive species by regionally

targeting control efforts. Although not funded through the Recovery Act, the Cheoah River nonnative invasives project was designed to coordinate and leverage the efforts of other partners to expand the treatment of invasives. The Forest Service had already done an inventory of the Cheoah River on exotics as part of the Santeetlah Dam relicensing for the Federal Energy Regulatory Commission (FERC) associated with the Alcoa Power Generating's Tapoca Hydroelectric project. A small grant that came as part of the FERC relicensing allowed for some treatment of invasives by a qualified biologist, specifically around the 16 subpopulations. The biologist created a map of the 16 subpopulations and of the location of the infestations of invasives. However, although some work had begun, the resources necessary to carry out a project across the whole 6-mile stretch of river were not available within the Forest Service. The Cheoah River nonnative invasive plant control coordination efforts sprang from this limitation, as described by a Forest Service employee: "The ultimate idea is to first treat everything in between where someone else with their other contract is treating next to the Virginia spiraea population," thus leveraging efforts to address the impacts of invasives on the federally listed plant.

Because of the threatened species presence in the project area, the U.S. Fish and Wildlife Service was consulted, and their support was given regarding the treatment program. The Forest Service also has a cooperative agreement with the NCDOT to define their relationship with this specific project and coordinate the invasives treatment so that they have the most complementary effect. The Forest Service is to supply the NCDOT with mixed herbicide to spray areas associated with this project and gives permission to spray along the right of way on national forest land. The NCDOT has the scale of equipment and sprayers needed to treat the large amounts of kudzu along the roadside in the treatment area not otherwise available to the project. The NCDOT will also be working on Alcoa lands to address roadside infestations.

The Little Tennessee Land Trust is also working on invasives in Yellow Creek, which is a tributary to the Cheoah and so complements the economic recovery project. Additionally, the Cherokee Environment and Natural

Resource Office has expressed interest in treating invasives on tribal lands. Finally, another small but potentially useful resource is being considered with the Nantahala Outdoor Center, who offered to provide inflatable rafts to move equipment across the river to treat invasives on the opposite bank starting in 2010. Each of these efforts further enhances the efforts of the Cheoah River nonnative invasive plant control project.

To expand and coordinate efforts to address invasives across the region, the WNCA, the Appalachian Trail Conservancy, and Equinox Environmental Consultation and Design, Inc., are coordinating a broad partnership (the Southern Appalachian Cooperative Weed Management Partnership) with the Forest Service, National Park Service, Tennessee Valley Authority, NCDOT, North Carolina Department of Natural Resources Forestry Division, and North Carolina State Parks and Recreation Division to address the issue of invasives. With as many partners as possible, they have begun to focus efforts on invasives using the Appalachian Trail as a central focus because the interests of so many of those partners intersect on the trail. This kind of loose partnership is designed to take advantage of different resources and different funding opportunities as they become available. One WNCA interviewee described the situation in the following way:

We use the nonprofit abilities for our organization and the Appalachian Trail Conservancy to gain funding, and so we are applying for grants and trying to keep all this money going to focusing on building this and getting more and more people involved in invasive plant removal on public lands here.

Socioeconomic Benefits

A number of temporary jobs are directly and indirectly associated with the Cheoah River nonnative invasive plant control project. There were two primary targets for employment as part of this project: two supervisors with thorough knowledge of invasive species hired by WNCA, and two field work crews of five individuals each from the EBCI (table 8-2). Although the total number of jobs created is relatively small and temporary, the economic impact on the individuals who were hired is often very significant.

The WNCA was tasked with hiring two crew supervisors who had expertise with invasive species. The supervisors were trained by WNCA managers on safety, plant identification, and treatment procedures specific to this project. The supervisors would conduct training of the crews on the identification and treatment techniques for invasive species and supervise work in the field. Supervisors were also tasked with establishing monitoring plots to assess the impact of treatments over time. The agreement with the WNCA also provided temporary funding for the manager and executive director and support staff, providing a few additional weeks of work for them. This was important for that organization because the WNCA was itself not immune to the recession and had to lay off one staff person. As a WNCA manager described it, “three of our folks, myself, our administrative person, and the executive director were given a new level of work we would not have otherwise had.” A WNCA supervisor said that the broader picture of conservation employment in Asheville was equally bleak: “Asheville definitely decreased exponentially the amount of jobs they had available during the toughest part of the recession” in

Table 8-2—Jobs reported by recipients for Cheoah River project

Recipient	Reporting period				
	Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
	<i>Number of jobs^a</i>				
Western North Carolina Alliance	2	2	2	2	2
Eastern Band of Cherokee Indians	—	12	12	12	—

Note: A dash (—) indicates that no quarterly report was available.

^a Job numbers are full-time equivalent jobs. See appendix for reporting method.

that a number of long-established conservation groups were laying off individuals. Another supervisor noted: “After I had gotten out of school, I was putting in for jobs and putting in for jobs; I went on a ton of interviews and was just at my last straw.” As a WNCA manager said regarding the plight of the supervisors before the recovery job:

I employ two supervisors who were both unemployed. College educated, ready to go, just couldn’t find a job. And this has been wonderful for them because they have gained the experience and they are now connected with a number of people and even in agencies and getting other little temporary, small contracts here and there.

The supervisors have developed their own skills, led training on invasive and threatened plant identification, and completed complex treatment monitoring. During the 2009 season, it was realized that having the ability to use a chain saw on some of the larger invasives stems would be a useful timesaving and safety element. Therefore, at least one of the supervisors for the 2010 season was chain-saw certified, which is another important skill and résumé builder. Both supervisors also gained valuable experience supervising diverse work crews. Supervisors highlighted the positive attitudes, cooperation, and fun they had with the crews. One supervisor noted that, “It has been a vast learning opportunity for me and a great opportunity in many, many ways to expand my skills as a supervisor and to have that flexibility and work with the diversity and group dynamic.” Furthermore, the experience was very useful toward their career paths: “...just the kind of experience and work that I was looking to have during the 2- to 4-year period between my master’s and maybe something more permanent, so... the stimulus money was right there when I needed it.” A WNCA manager reported on the relationships within the work crews in the following way: “The people that were sent to us were excellent, they cared, they appreciated learning this, and they liked working outside. According to my supervisors, they got along really well with each other. It went remarkably smoothly.”

Both supervisors continue to work in the field in North Carolina (fig. 8-10). One of the supervisors from 2009 was



Figure 8-10—Crew supervisor and monitoring plot.

already able to land a permanent position with the State Forestry Division:

He was real gung-ho and he was ready to go. He was sitting home doing nothing, and this just was perfect for him because it gave him work to do right up to the point where he got hired by the state and it filled in a gap for him and gave him work experience and money. And he was pretty excited about it.

The other supervisor returned this summer but was actually able to fill the interim with another stimulus-funded project as a field surveyor on hemlock woolly adelgid (*Adelges tsugae* Annand) infestations. The supervisor remarked, “So, for me, I actually was able to find two employment positions during what seemed to be, according to the news, the height of our national recession, due to stimulus money.”

The other agreement was developed to employ two five-member temporary work crews to treat the invasive species. Part of the coordinator’s salary with the Cherokee Environment and Natural Resource Office was covered with an in-kind contribution. The EBCI further contracted with the Vocational Opportunities of Cherokee, Inc. (VOC), which is a temporary employment coordination service that works with the Cherokee people. The VOC works primarily with individuals with disabilities and barriers to employment. The VOC hired tribal crew members from two areas: five individuals came from Snowbird in Graham County

and five from around the city of Cherokee. The only direct employment for residents of Graham County was from the Snowbird Cherokee work crew. The EBCI was specifically targeted for this project. However, the majority of EBCI members do not live in Graham County but are from the town of Cherokee, which is still within northwestern North Carolina. Therefore, how one describes “local” employment is important for looking at employment impacts.

A number of the work crew from 2009 have returned for work again in 2010 (fig. 8-11). There was a positive perception among the workers as to the nature of the work they were doing. One work crew member described his job this way:

Basically, I had to identify the plants first, get used to what we were looking for and everything. We went out to the little part of the woods. We would cut the plants close to the root and dab the chemical on it. Basically, that’s all we do.

Overwhelmingly they preferred to work outdoors. One EBCI interviewee commented, “I like working outdoors, so as long as I’m outside, it’s even more fun, though, in the woods.” Another noted that, “I cannot stand to be cooped up in a building, 8 to 10 hours a day. Just can’t do that.” It was also noted that this was an opportunity for the workers to get to know fellow tribe members from different parts of the reservation, because one crew was from the Cherokee area and the other from Snowbird. There was also a significant interest in the opportunity to learn about the different threatened and invasive plants: “Learning more about the plants. That’s something I’d like to do more is learn more about the plants.” A sense of pride in the work was conveyed by one worker, “We set a record for as much ground as we covered, in a short period of time. We covered more than they expected!” It was also seen as an eye-opening experience with several interviewees explaining that now they see the nonnative invasives everywhere they go. Several of the work crew are building on the experience they gained to pursue careers in natural resources. One of the crew got his herbicide application license and got a full-time job treating invasives. Another individual is taking courses in firefighting, and another spoke of studying plants



Figure 8-11—Work crew crossing bridge in front of kudzu infestation.

in school. However, a number of the employees were young and in the process of figuring out what they wanted to do. Finally, there were several interviewees who were simply happy to do anything to get a paycheck.

Several of the tribal members were in fairly dire straits, with some individuals reportedly reliant on food from churches, competing for jobs cutting grass, or living out of their cars. “Personally, I didn’t live in a home for about a year,” said one. “I lived in my truck and as I was saying, it was hard to find employment around here.” He said a friend told him about the job. “He said I know how you can get help through this [Recovery Act] and you can get your vehicle fixed up and find a shelter at the same time, then you can get employed. I was glad he told me and that is how I got back on my feet.” Another was just glad to get an opportunity to work. “It was good because we needed the money and still need the money and I’m just glad it came back along.” An EBCI interviewee thoughtfully summed up the local sentiment, “I know it seems a drop in the bucket compared to how large something like a recession is, but locally it seems to be making a very large impact, at least during the times that the contract is going.” For most of the individuals, the pay through the VOC on this project was similar to what they receive on other projects, such as construction or on other VOC jobs. There were a few who had higher paying career jobs such as trucking that were lost during the recession, but most were just beginning their careers. Owing to the number of economic recovery projects in North Carolina, including this one, several temporary positions were created within the Forest Service

to manage them. Managers were involved with developing contracts and agreements, presenting them, getting them approved, following through on the bid process and selection, attending work meetings, and ensuring that Recovery Act reporting procedures were observed. The individual who is currently filling this 13-month assignment in the Forest Service, and was between permanent jobs, stated that “financially I was pretty strapped, so when I saw this job I applied for it.” At least part of this employment opportunity was based on the Cheoah River nonnative invasive plant control project.

Other socioeconomic benefits associated with the project include the training and job potential for the EBCI contracting on invasive species management projects. A strong pool of trained workers is being developed, the mechanism for developing contracts and agreements has been formalized, a recruitment tool to find additional workers (VOC) has been identified, all leading to the ability to formally bid on future contracts. Although not certified for herbicide application, the EBCI work crews gained valuable experience and could go work anywhere with any herbicide applicator. The regulations stipulate that one certified person be onsite, supervisor or otherwise, and the rest of the crew can work under their certification. The Cherokee Tribe, through the VOC, has provided solid work crews leading one Forest Service interviewee to state that now that they “know about them, we could list them on a list of contractors when we want to put something out for bid.” According to several Forest Service employees, there will likely continue to be the need for this type of work on Forest Service lands based on ecological considerations. One tribe member felt that the agreement was a great avenue for the tribe to work with the Forest Service and a chance to prove that they could be a great asset, and hopefully a priority asset when the Forest Service needs workers. One interviewee noted that this agreement was pursued with the intent to establish a solid working relationship for the specific objective of pursuing future contracts. The work provided crew members experience with outdoor groundwork in the natural resources field as well as the opportunity for crew members to gain knowledge of and work with the Forest Service.

Additionally, the work crews are developing knowledge and experience treating invasives, and workers on this project are seen as potential employees if the opportunity for growth in the Tribal Environment and Natural Resource Office arises when their forest management plan is formalized. An EBCI interviewee mentioned that the tribal lands forests are not in great shape and that this agreement “allows us to gain knowledge with other agencies so we can bring that knowledge back to our homelands” and address the issue of invasive species.

The work has helped to forge new relationships, establishing a greater sense of community among participating individuals and organizations. According to one tribe member, “The Western Alliance impressed me. It was a treat to meet them, and it was a treat that they enjoyed working with our guys...I want to brag on both sides about how they came together and worked and did this.” Another interviewee from the WNCA summarized the relationship this way:

We just thought the whole thing was positive, we enjoyed working with the Cherokees and that was another win, win, win. Our organization has always wanted to work with the Cherokees, many people don’t know how and don’t know the connections, and this just provided a great opportunity for us to work with them.

The community benefited because they were the ones out there working to protect it. A WNCA supervisor noted that “because we are working in their greater backyard, some seemed inspired by the opportunity to make a difference in their local community.” Additional social benefits have arisen from this project in the form of education on the issue of invasive species. An EBCI member commented that it gave the tribal work crews:

A better understanding of what it is like to do the groundwork, but at the same time to go back to their community and talk with some of their family members and some of their elders about what they are doing. And probably trigger to elders the memory they have of these species that are threatened now due to the invasives.

The project has led to a greater awareness of the issue of invasive species. This is true for the Cherokee work crews but it is also true for the general public. There have been several press releases regarding this project as well as signs in the area that identify the Recovery Act work that has been undertaken. As noted by a Forest Service employee, “The very fact that it gets publicity, it makes people more aware of invasives and the problems that there are.” Both of these get the word out about invasive species and the threatened species they are working to protect.

Beyond the direct economic benefits of employment, some of the primary social benefits are derived through the ecological protection of invasives and eradication of invasives. A system that maintains its native components was identified as valuable. These values translate most directly to the economic impacts of recreational use of the river (fig. 8-12). Boaters and kayakers were often mentioned as direct beneficiaries of the Cheoah River nonnative invasive plant control project. The white-water rafting community takes advantage of the water releases to put boaters on some class 4 and 5 rapids. Although the releases are designed to maintain a healthy stream ecosystem, including the scouring benefits for the Virginia spiraea, it also provides improved aesthetics for the boaters. That the boater community finds a healthy ecosystem important is evidenced by the fact that one of the boater companies, Nantahala Outdoor Center, has offered to lend equipment to be used during the project. However, any fisher or hiker, or motorcyclist and driver along the Cherohala Skyway or the Tail of the Dragon interested in native species or who appreciate the aesthetics of a system not covered in kudzu (*Pueraria montana*

(Lour.) Merr.) or privet (*Ligustrum sinense* Lour.) would benefit. As one individual put it, “I would say that protecting things that attract tourism here and enhancing and restoring these areas, that’s probably the best possible thing that we could do economically.” It was further explained by a WNCA employee that when the economy recovers, the recreation and aesthetic resources are what will be critical to economic growth:

When it comes back, we certainly hope that we have got at least our national parks and national forests in good shape and as healthy shape as possible, and that’s where the tourists like to go and it’s only going to increase. So I see the economy improving in those areas if we protect our resources, the goose that lays the golden egg. If we don’t kill that, we will keep getting the gold.

Finally, one Forest Service employee described how the combination of multiple economic recovery projects across the state made a significant difference in employment opportunities, even if each of the individual projects did not alone provide a high number of jobs:

I was impressed by the orders of magnitude beyond the initial investment, how that spins off into the economy. Sometimes four- and fivefold by the time it is spent. In any one location it may not be dramatic, but I think when you add up all the pieces of the impact to the various communities, it will be significant. It’s just that the projects are so dispersed over a whole state... It has benefited virtually every ranger district, each of the eight ranger districts, a lot of communities.

Environmental Benefits

The U.S. Forest Service has identified invasive species as a high-priority issue across all national forests. The Forest Service in North Carolina has also identified invasive species as a high-priority issue with the Cheoah River as a special target area owing to the presence of threatened species including the Virginia spiraea (fig. 8-13). The Cheoah River site is one of the densest sites



Figure 8-12—Rafting outfitters.

Gary Kauffman



Figure 8-13—Virginia spiraea.

Gary Kauffman



Figure 8-14—Princess tree covering Virginia spiraea.

of the species in North Carolina with a recorded 16 subpopulations. The threat to Virginia spiraea is that invasive species will outcompete, grow over, and shade out the plant, causing it to die (fig. 8-14). The site also borders the Joyce Kilmer Wilderness Area, increasing the priority level for treating invasive species. The environmental assessment for invasives on the Nantahala and Pisgah National Forests had already been done, making the project shovel ready for the economic recovery funds.

When asked if this project was a high priority to the Forest Service, one employee responded, “Absolutely, if you think back to the [Forest Service] Chief’s four threats several years ago, one was invasive species. And that really

hasn’t changed for us.” However, a Forest Service employee reported that the level of invasive species management for this project would likely not have been done without Recovery Act funding because of budget constraints:

I think just the fact there is no way you can get the amount of funding for nonnative invasive treatments, to get it done. [Invasive species have] been identified as a big threat by the Forest Service, but the amount of funding pushed toward it is small.

This was said to be the case even though invasive species projects are generally viewed as “white hat” projects, about which no one complains that they are being done.

The Cheoah River was dammed and dewatered in the 1950s to provide hydropower. A road was also built parallel to much of the river. These factors alter the ecosystem, are problematic for native vegetation, and provide opportunities for nonnative species to invade. The Virginia spiraea, a shrub, is a federally listed species that requires water scouring to maintain openings. Currently, there are about 10 significant water releases per year for 2 days each that, according to a Forest Service employee, are designed “to provide better habitat, suitable habitat for the fish, for rare species in a more viable ecosystem within the stream.” Through overgrowth and shading, these invasive plants threaten to displace native species and alter habitats along the river. Other species including the Appalachian elktoe (*Alasmidonta raveneliana*) (an endangered mussel) and spotfin chub (*Erimonax monachus*) (a federally threatened fish) will benefit indirectly from these treatments through improved stream habitat.

The ultimate ecological goal of this project is to eliminate as much as possible the nonnative invasive plant species to prevent them from threatening Virginia spiraea and to improve native habitat. However, other native plant species are also protected, thus maintaining historical ecosystem health and functioning. This has additional benefits to the native wildlife species that benefit from the healthy ecosystem. The coordinated efforts that are eradicating the invasives across larger areas amplify these benefits. However, as a Forest Service interviewee noted,

“We are just scratching the surface of the work we have to do on invasive species.” The scale of the invasive species issue was framed by a Forest Service interviewee drawing an analogy to an island:

Especially given the sense that we are treating an island. If we define an island as between the road and the river, that, in a way, is an island, and it was surrounded by invasives...but the level outside there is much different, along the road in particular, on both sides of the road, where the infestations were so high.

The heavy presence on the road was the reason for coordination with the NCDOT and also for extending the area covered in an agreement modification to include treatment across the road. This is seen as an important tactic to control the seed sources of the invasives for the region. With a more cautionary approach, a Forest Service interviewee noted:

It is not a success yet. I don't think we should say yet. It is a success that it has started and it's initiated and it is ongoing and the money will be there for awhile and it will last through 2014. I don't want to answer that until we are closer to the finish. And seeing how we have done.

All parties involved indicated the treatment operation was successful in terms of how the work was done in the field, the logistics, and how well the crews and supervisors worked with each other. Nonnative invasive plants are treated through three methods, including (1) foliar application (spraying herbicide on the foliage directly), (2) cut surface application (cutting the stem and spraying the cut surface with herbicide), and (3) basal bark application (spraying herbicide on the woody stem). To further protect the Virginia spiraea, 50-foot buffers are left around any occurrence for treatment by specialists. Eight species of nonnative invasive plants have been identified for treatment along 6 miles of Forest Service land on the Cheoah River between Santeetlah Dam and Lake Cheoah:

1. Oriental bittersweet (*Celastrus orbiculatus* Thunb.)
2. Mimosa (*Albizia julibrissin* Durazz.)

3. Chinese yam (*Dioscorea oppositifolia* L.)
4. Chinese privet (*Ligustrum sinense/vulgare*) and European privet (*Ligustrum vulgare* L.)
5. Japanese honeysuckle (*Lonicera japonica* Thunb.)
6. Princess tree (*Paulownia tomentosa* (Thunb.) Siebold & Zucc. ex Steud.)
7. Kudzu (*Pueraria montana* var. *lobata* (Willd.) Maesen & S. Almedia)
8. Multiflora rose (*Rosa multiflora* Thunb.)

The idea was to hit it hard the first year or two and then go back in for repeat treatments of invasives that were missed or were not treated effectively or to identify and treat new plants that have emerged (fig. 8-15). Pretreatment assessment of the monitoring sites began in July 2010, and initial reports are that treatments were largely successful and are likely to be higher than the planned 80 percent success rate for the first season.

An interesting side note of the cultural adaptation to the presence of invasive species was made. One tribal interviewee shared his thoughts linking some of the current project effort to eradicate invasives and new cultural applications of some of the invasive plants. Regarding one invasive (Japanese honeysuckle), he wondered, “We are using it to make baskets and everyone else is killing it. Why can't the co-op come and get that harvest and have them ready for members who say they want to make baskets?” In this way, the plant would be harvested to be used for baskets before the crews came by and cut them and applied herbicide, helping both with cultural use and eradication.



Wayde Morse

Figure 8-15—Crew girdling invasive plant.

Effects on the Agency and Its Partners

The project has enabled the district to develop an invasive species management project at a scale not likely to have occurred without the Recovery Act funding. Through this project, the Forest Service was able to coordinate with a number of organizations to leverage invasive species management across an even greater area. The ability to coordinate helps to address a number of future seed sources, making the success of treatment over the longer term much more likely.

My dream on invasive exotic plants is that someday, a few people like me are not going to be doing it, a few Forest Service staff, we are not going to knock out plants. But someday, every garden club, Boy Scout troop, every school, local community group, even neighborhood friends, getting together and going out doing, instead of just river clean-ups and litter pickups, they are going out and doing invasive species plant removal. People doing this in their backyards.

—*Conservation group manager*

The project was managed with two participating agreements. This enabled the Forest Service to choose specifically who they would be working with. The targets for this agreement were for needed expertise of the WNCA and the proximity to and desire to work with the EBCI. A Forest Service employee noted that agreements tend to be more difficult:

Agreements are so complicated that I am not sure I would recommend having everybody familiar with it. That is why you have an agreement specialist, but it does mean a lot of work between the resource person and the agreement person....it's a lot more coordination.

However, it does offer more flexibility if changes are needed. This specific agreement with the EBCI was seen as a real learning experience, because the Forest Service had worked mostly with contracts in which they write

specifications and accept bids. Forest Service personnel also observed that agreements take more time and negotiation, but are more of a partnership:

I think that with the tribe it was a learning experience for both of us. Both of us were ready to throw our hands up in the air several times. We never did, but it was just, there were just a lot of nuances dealing with the tribe that I would have never anticipated....But I'm certain if we went through that mechanism again it would be much more streamlined. We would both know what was going on and how to handle it.

The first time through the process was difficult, or at least time consuming. Now that it has been done, it is a model that can be followed to begin closer relations with the EBCI. This is likely the key long-term benefit of the project related to collaboration between the Forest Service and the EBCI and the WNCA conservation group. Now that relationships have been established and tested with high levels of success, it is likely that these groups can continue to work together on invasive species issues. This is important as the Forest Service has a lot of acreage that needs treatment for invasive species, a high-priority issue. Additionally, the WNCA works on other lands not managed by the Forest Service and can continue to contract with the newly trained employees with the VOC and others who need temporary employment on other projects. So not only was a relationship enhanced between the Forest Service and the EBCI, but one was built between the EBCI and the WNCA. Furthermore, with some further certification of individuals in chemical herbicide management, the EBCI could work directly with the Forest Service on contracts.

The Cheoah River nonnative invasive plant control project has had impacts on the workload of the Forest Service participants in terms of paperwork, reporting, oversight, and time. One Forest Service employee remarked about the recovery projects across North Carolina:

It definitely displaced [other work]. Oh yeah. I think it did that to everybody across the forest and is still doing that. But I can't say that anything did not get done because of it....It is great that everything

got done on the ground and is getting done on the ground. It is just that there was no relief anywhere else. Basically do more in the same time.

A similar sentiment came from another Forest Service employee:

Now will we meet all our targets? Yes. We meet our targets, that's what we do. Has there been a lot of stress in the system? Yes, absolutely.

Challenges

One of the challenges mentioned was increasing local employment under this agreement. While highlighting the links made to the different organizations, one Forest Service interviewee noted that, "I think we failed in not attracting as many local folks as maybe we could have." The interviewee pointed out that a large percentage of the money stayed in Asheville and that half of the work crews were from outside Graham County. The interviewee also mentioned that there was not the experience in Graham or Cherokee Counties to take the role that the WNCA had by providing expertise.

Another issue that was identified with a project that is trying to leverage so many different actors is communication. A Forest Service employee explained this idea in the following way:

There is just so much going on; that is why I have all these files. You don't know how many countless meetings we have had between the various groups of things that have happened along the river with the Fish and Wildlife Service, Alcoa, and the DOT. I think the challenges are communicating. I was communicating with folks last night at 8 p.m. doing some of the control work with kudzu.

The primary challenges were related to negotiating the agreement with the EBCI. As mentioned previously, there were some paperwork issues that needed to be worked out the first time through. However, a tribal perspective on the agreement process was a bit different: "It was very easy, I mean on my end. On the Forest Service end it probably was

not; they did the bulk of the work." The agreement needed to go through the chain of command of the tribe, and that reportedly took a while. The individual also noted that the Forest Service has been very flexible on the new agreement modifications to include items that were overlooked or underfunded in the original agreement. Furthermore, the individual felt that the Recovery Act reporting was a very easy process.

Other areas of concern were of the scale of the project. Many were very excited to have the funding to do such a large invasives project, but a number of others cited the very small scale of the work relative to the size of the problem. It was mentioned that to address the issue of invasives, a forestwide (and outside of forests) program was necessary. Additionally, to counter some of the impacts of the recession, a much larger worker component was needed. A WNCA employee suggested that:

It would be nice if these projects were going on all over the Forest Service land. Logging roads and trails and along highways, which are horrible places for invasives, and on private lands. Maybe there will be a way of figuring out a way to make money removing invasive plants. That's pie in the sky right now!

A former Forest Service employee referred to previous Forest Service programs that, if restored, could address all manner of backed-up work including road, trail, and campground maintenance and invasives management:

Some of those programs that I thought were so successful years ago like in the 70s—YACC, YCC, and that older American program we had, the Senior Citizen Conservation Employment Program [were] great ways to put people to work. If you're not familiar, Young Adult Conservation Corps was a program set up for 18- to 25-year-old young unemployed. They worked 1 year....I thought during this recession, they would have come up with one or two of those programs to really put people to work, but they didn't.

More generally, an additional concern is that the heavy workload may not be ending in the near term as some recovery projects are designed to last for years with no additional oversight funding. This may have an impact as the stress continues over time. A common theme among several Forest Service employees was the duration of the agreements and contracts related to all economic recovery projects:

In terms of paper work, I still have to spend more time. It will be an issue in the future, because we are extending this out for a long time. Even though this is an agreement, someone has to oversee it, but there is no money coming into the Forest Service to pay for it.

Furthering this notion of long-term impacts is that multiple Recovery Act contracts meant that the Forest Service hired a number of temporary employees to help with the additional burden of the increased work. However, many of those temporary terms will expire soon, and that will leave additional work for current Forest Service employees. “Most of us are going away,” said one of these temporary employees, “and there is still this big load on top of a group of Forest Service employees that do that work on the ground. They are already stretched way thin.”

It is a good thing hiring locals; it sure helped me, because I was laid off and it was getting pretty rough. To see that recovery money actually help people meant a lot to me, and what it did for the environment really meant a lot.

—Crew supervisor

Key Findings

The Cheoah River nonnative invasive plant control project was reported to be highly successful at promoting Forest Service mission goals related to natural resource management and goals of the Recovery Act regarding the economic impact on individuals who were hired. In the analysis of the project, several key findings with regard to the socioeconomic benefits of Forest Service Recovery Act investments were identifiable.

The small number of Recovery Act jobs that were provided by this project were short term and seasonal in nature, but provided significant impact on the lives of many of those who were hired. Furthermore, the jobs have had important benefits beyond their duration.

Many of the same temporary employees are returning this year, and a few individuals have been able to use their experience to obtain other jobs or change career paths. The scale of the project (number of hires for the short term) meant that the larger socioeconomic impacts were likely minimal. However, the relationships built provide the basis for continued collaboration on invasive species projects that could have longer term employment and environmental consequences. The battle to eradicate invasive species is a high priority on national forest, tribal, and state lands in North Carolina and with additional funding could provide significant and long-term employment for the EBCI and WNCA and within Graham County.

Recovery Act funds made it possible to accomplish work that has almost universal stakeholder support at a scale that would not have happened otherwise.

Operational lessons learned as part of this project can be applied elsewhere. Invasive species control is considered a “white hat” type of project; everybody is in favor of doing it. It is also considered a high priority by the Forest Service. However, funding to conduct effective eradication takes significant time and resources, and without both of those, it cannot be accomplished. It appears that too often the priority of invasive species management and budget priorities do not match. The Recovery Act funding has allowed this project to be performed at a scale and over a period not frequently budgeted for. The project has developed useful organizational partnerships with the necessary expertise and efficient low-tech low-training treatment methods and has a significant monitoring program associated with it. As treatment progresses to identify effectiveness, this project may be used as a model for future invasive management efforts. It is likely that invasive species will only increase as a problem on national forests (and other public and private lands), and cases such as this may help us to understand the resources necessary to treat this ever-growing problem.

Being prepared in advance, preparing a detailed plan, and building on the work of others facilitated success in this project. This project was possible because the environmental assessment on invasives had been completed for the entire forest and initial mapping of the endangered and invasive species had been done. A Forest Service employee regarding the National Environmental Policy Act (NEPA) and a team supervisor regarding Forest Service preparedness stated that:

I think this was, to some extent, a lesson in the benefits of having projects on the shelf, having all the work being done and ready to go...and the reality is that for our agency, people who are prepared get rewarded.

As noted by a WNCA supervisor:

That everything went as smoothly as planned is a testament to the preparation on the end of the Forest Service...having solid maps that gave a very good sense of how big that particular stretch of invasives is and what types of species we would be expecting to see...and handling all the logistics and details.

The use of an agreement allowed the Forest Service to build desired relationships. The new or enhanced relationships will facilitate future collaborations. A prior respectful, but adversarial, relationship with the WNCA became a very collaborative partnership for this project. Working with the EBCI meant that the Forest Service was working with a different culture and different approval procedures and additional time was necessary for getting an agreement approved. Successful negotiation of the agreement process and very positive reviews of the working relationships between all the groups provided the impetus and the institutional knowledge of how to work together in the future. The project provided all involved the opportunity to better understand the economic plight of western North Carolina counties, to learn about local people, the Cherokee, and local officials.

Lessons Learned

The American Recovery and Reinvestment Act directed the Forest Service to achieve mission objectives and provide economic opportunities for local residents. There were several lessons that may be applied to future Forest Service projects.

- Even small levels of temporary employment can have significant impacts on individual lives. However, targeted employment doesn't necessarily lead to a geographic economic impact in the area targeted.
- Multiorganizational coordination is more time consuming to set up initially but can lead to greater impacts on the landscape.
- Having a number of projects NEPA-ready will allow the agency to quickly respond to future opportunities.
- Purposefully targeting organizations through the use of agreements can be an effective tool to enhance relationships. There may be a steep learning curve the first time through the process, but it will be easier the next time around.
- Publicizing the work being done on Forest Service lands—enabled by the Recovery and Reinvestment Act—with onsite signs, articles in the local news media, and provision of information at local meetings can do a lot to build public support. Many of these projects were “white hat” projects that were viewed positively by all stakeholders.

Acknowledgments

I thank all of the Forest Service, WNCA, and EBCI interview participants who took time out of their very busy schedules to provide many insights to this case and provide valuable and timely reviews of the report. I also thank the WNCA and EBCI employees who were hired with Recovery Act funding for sharing their very personal stories. Thanks to those who reviewed this document, and to Sophia Polasky for gathering socioeconomic indicator data and assisting with report preparation.

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Chapter 9: A Socioeconomic Assessment of Forest Service Recovery Act Projects: Rogue River-Siskiyou National Forest, Oregon

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Summary

The U.S. Forest Service provided more than \$45 million in American Recovery and Reinvestment Act (hereafter referred to as the Recovery Act) funds to preserve and create jobs, assist people impacted by the economic recession, and invest in environmental protection and infrastructure on and around the Rogue River-Siskiyou National Forest (RRSNF) located in southwestern Oregon and northern California. This report focuses on Recovery Act work performed in the four Oregon counties of Coos, Curry, Jackson, and Josephine (fig. 9-1). Between March 2009 and July 2010, the forest awarded:

- About 53 contracts and 7 agreements for two phases of hazardous fuel reduction projects.
- Eleven contracts and 3 agreements for meadow restoration, and botanical and habitat enhancement projects.
- Two contracts and an agreement for two large road projects, and two contracts for deferred road maintenance projects.
- Three agreements for maintenance of the Pacific Crest Trail.
- Three contracts for toxic mine cleanup.

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Fast Facts

Total Forest Service Recovery Act Investment, Oregon (as of 09/08/09): ~\$177,027,200 (Oregon projects: \$167,809,700; Oregon share of multistate projects: \$9,217,500)

Forest Service Recovery Act Investment, Rogue River-Siskiyou National Forest (as of 06/30/10): \$45,457,000

Case Study Location: Rogue River-Siskiyou National Forest, southwestern Oregon

Counties: Jackson, Josephine, Coos, and Curry

Project Types: Hazardous fuel reduction, habitat restoration, road maintenance and reconstruction, trail maintenance, mine cleanup

The forest used a mix of traditional service contracts, stewardship contracts and agreements, and other types of agreements to implement these projects. Because of the number of contractors and nonprofits in southwestern Oregon, nearly all of the contracts and agreements were awarded to firms from the four-county region, especially Jackson and Josephine Counties. One of the most effective strategies at reaching smaller contractors and communities came in the second phase of project selection and contracting, where the Forest Service was able to develop contracts and agreements accessible to small businesses and nonprofits in the more rural, isolated parts of the region.

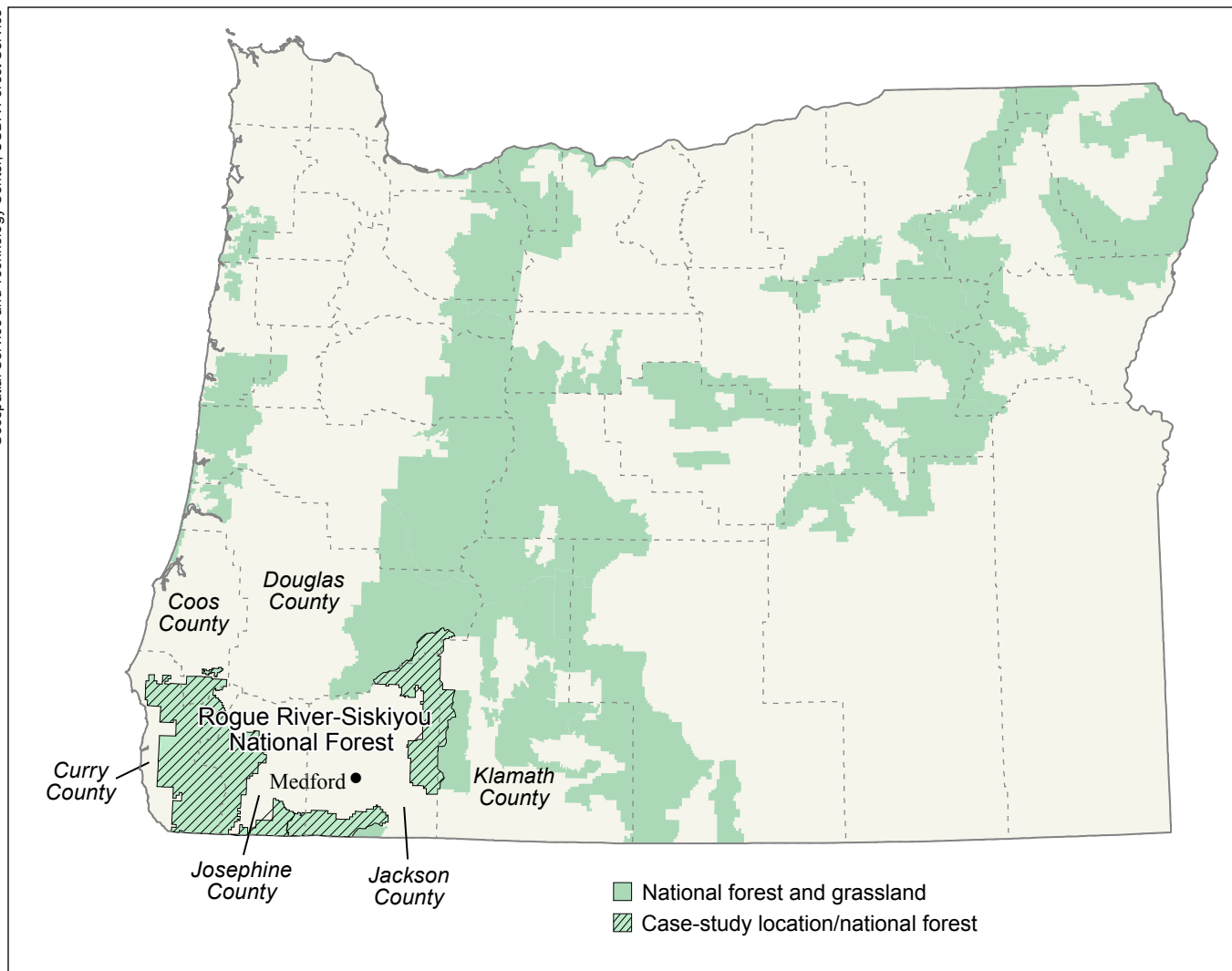


Figure 9-1—Location of case study and surrounding areas in Oregon.

These investments will help maintain and protect the human and natural resources of southwestern Oregon into the future. The Recovery Act funds on the RRSNF have provided significant employment and training opportunities to dozens of local forestry support contractors and their workers, road contractors, youth crews, and several local nonprofit environmental and educational organizations across the region. They have also helped protect communities from wildfire risk, restore overstocked forests and encroached meadows, reestablish wildlife habitat and native plants, improve forest road infrastructure and safety, maintain popular trails, and prevent toxic discharges from entering the Applegate watershed.

The Case

The RRSNF is located in six counties in southwestern Oregon and two counties in northern California. The forest covers almost 1.8 million acres from the Cascades to the southern Oregon coast (fig. 9-1). It contains six designated Wild and Scenic Rivers, including the Rogue River, which drains more than 75 percent of the forest's land area. The rugged Siskiyou Mountains of Josephine and Jackson Counties and the southern Cascades to the east create steep, remote slopes across much of the region. Coast Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco), pine (*Pinus* spp.), other conifers, and hardwoods such as madrone (*Arbutus menziesii* Parah) and oak (*Quercus* spp.) compose

the region's diverse forests. Conifers have increasingly encroached on the open oak woodlands and meadows that once dotted the landscape. Fire is a major historical driver of ecological change, but past suppression practices and climate change have changed fire severity and frequency here. Significant fires such as the 2002 Biscuit Fire, during which much of the 180,000-acre Kalmiopsis Wilderness burned, have increased community and agency desire to carry out hazardous fuel reduction and active forest restoration to protect both human and ecological values. There has been pressing need but little ability to reduce forest fuels and practice restoration across the landscape to address the overstocked conditions found on the RRSNF. Costs and labor requirements for conducting thinning, piling, and burning in steep terrain can be extensive. Budgetary constraints have also limited meadow restoration, trail maintenance, and road maintenance.

These forests historically supported an extensive timber industry that relied on public lands. Public lands make up 54 percent of Jackson County, 68 percent of Josephine County, 27 percent of Coos County, and 69 percent of Curry County (National Atlas and Bureau of Land Management 2009). The region also contains portions of the Oregon and California railroad grant lands. Timber harvest revenues once supported schools and other social services through direct payments to local governments. Currently, only limited wood products infrastructure remains. In Jackson County, Boise Cascade LLC operates lumber, plywood (mill currently closed), and veneer mills in White City; in Josephine County, Rough and Ready Lumber Company operates a sawmill in Cave Junction; in Coos County, Georgia-Pacific and Southport Forest Products operate sawmills in Coos Bay; and in Curry County, South Coast Lumber operates a plywood plant and sawmill (currently idled) in Brookings. Smaller mills and secondary manufacturing facilities are located in Jackson County at Medford, White City, and Murphy, and in Coos County at Broadbent and Coquille. Biomass One operates a biomass energy plant in White City, and Rough and Ready has cogeneration capacity and is in the feasibility stage of starting a biomass and pellet plant. In Jackson County, there is a high concentration of contracting businesses that perform tasks such as thinning,

piling, burning, reforestation, and firefighting. Among these businesses are some of the largest forestry companies in the Nation, which perform forestry work across the West.

All four case study counties have experienced unemployment and poverty rates that are significantly higher than Oregon averages (figs. 9-2, 9-3). Poverty has markedly risen since 2007 as incomes have fallen (fig. 9-4).

Jackson County contains a rapidly growing urban population, and its larger communities along the Interstate 5 corridor have economies that are more diversified than those of rural Josephine, Coos, and Curry Counties. Population is declining in Coos and Curry Counties (fig. 9-5). Josephine County relies on its natural resources and recreation and has limited diversification. Its poverty rates have reached above 19 percent (fig. 9-3). Tourism has supported moderate economic development along the Coos and Curry County coasts, but this region remains depressed from the decline of the timber industry in the 1990s. Coos County is home to the Coquille Tribe, which has forested reservation land, several businesses, and a forest management plan that provides economic benefit to the tribal community. All of the case study counties experienced a dip in school enrollment in 2005–2006 (fig. 9-6), although free and reduced-price lunch availability has not risen at the same rate as the state average for Oregon (fig. 9-7), except for Coos County.

Methods

This case study was conducted using both qualitative and quantitative social science research methods. Qualitative data were gathered during face-to-face, semistructured interviews with people involved in the Recovery Act projects. Fieldwork to conduct these interviews took place between April and July 2010. We interviewed 27 individuals for this case study. Interviewees included 13 Forest Service and Oregon Department of Forestry employees who helped develop or implement the projects, and 14 local government, business, and nonprofit organization representatives who received Recovery Act funds. Additional qualitative data were obtained from published sources such as newspapers and local government publications, Forest Service documents, and federal Web sites. Quantitative data regarding the Recovery Act projects and jobs were obtained from

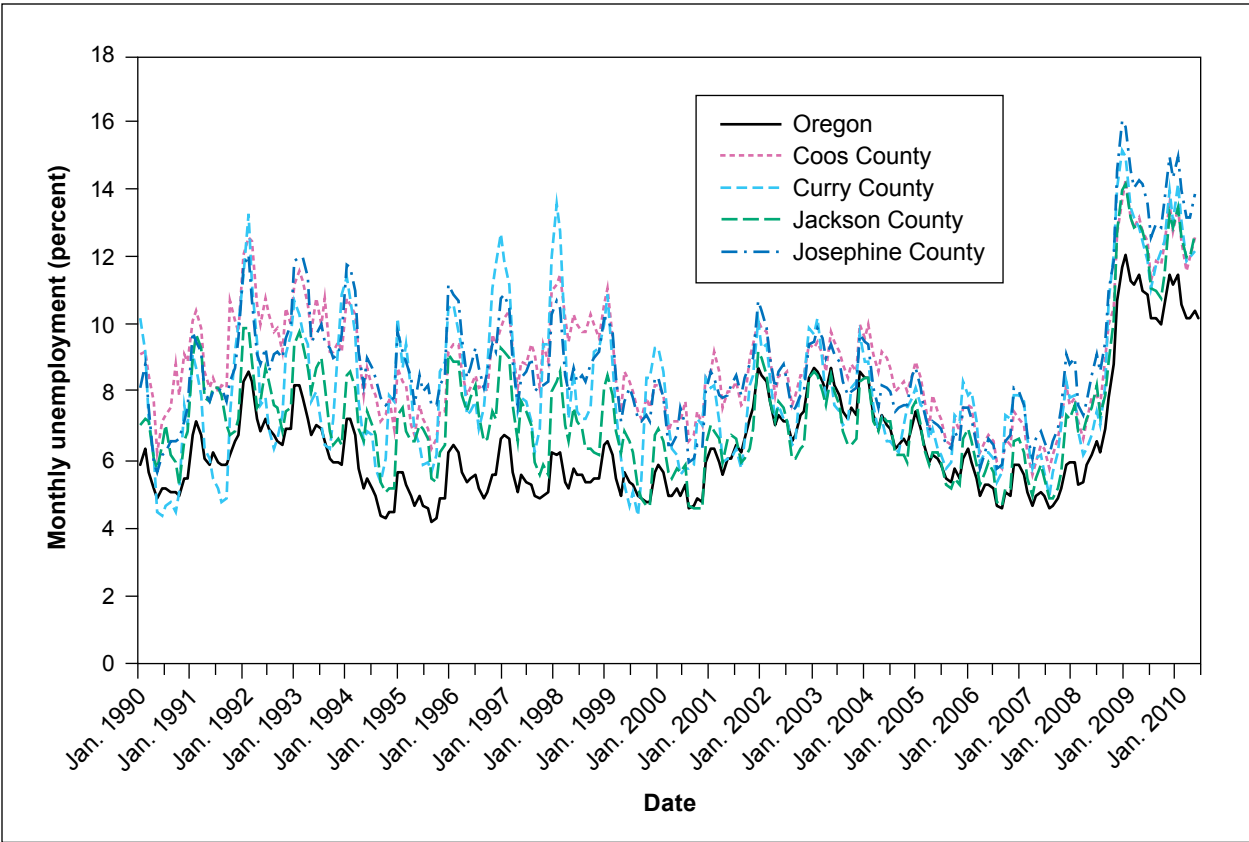


Figure 9-2—Monthly unemployment rates for Oregon, and each Oregon case-study county, 1990–2010 (USDL BLS 2010).

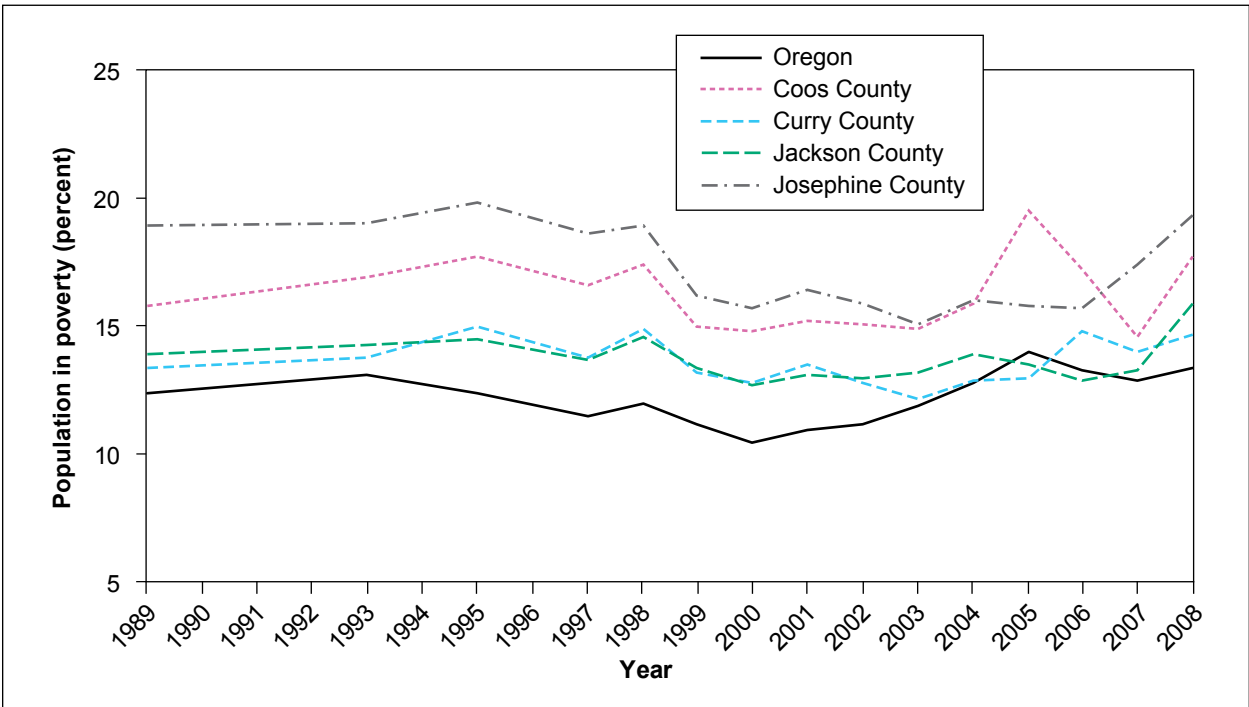


Figure 9-3—Population living in poverty for Oregon and each Oregon case-study county, 1989–2008 (USDC BC 2010b).

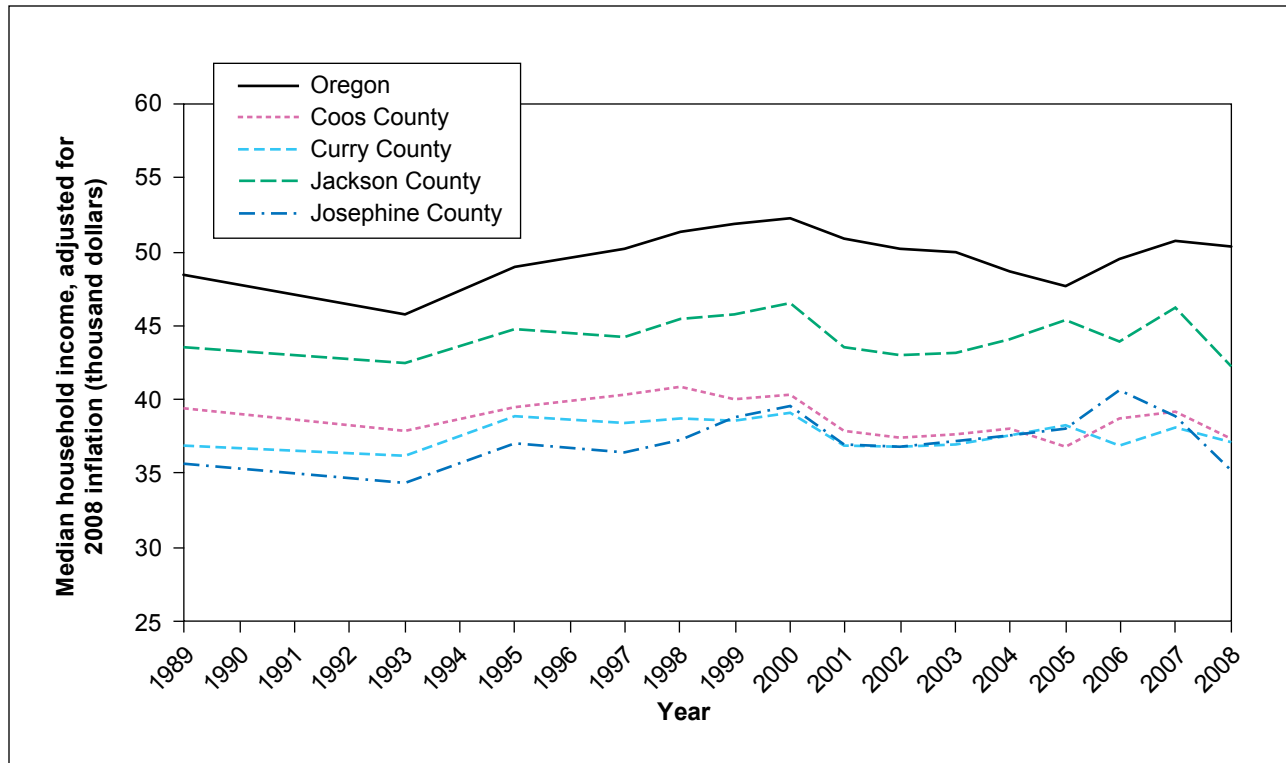


Figure 9-4—Median household income for Oregon and each Oregon case-study county, 1989–2008 (USDC BC 2010b).

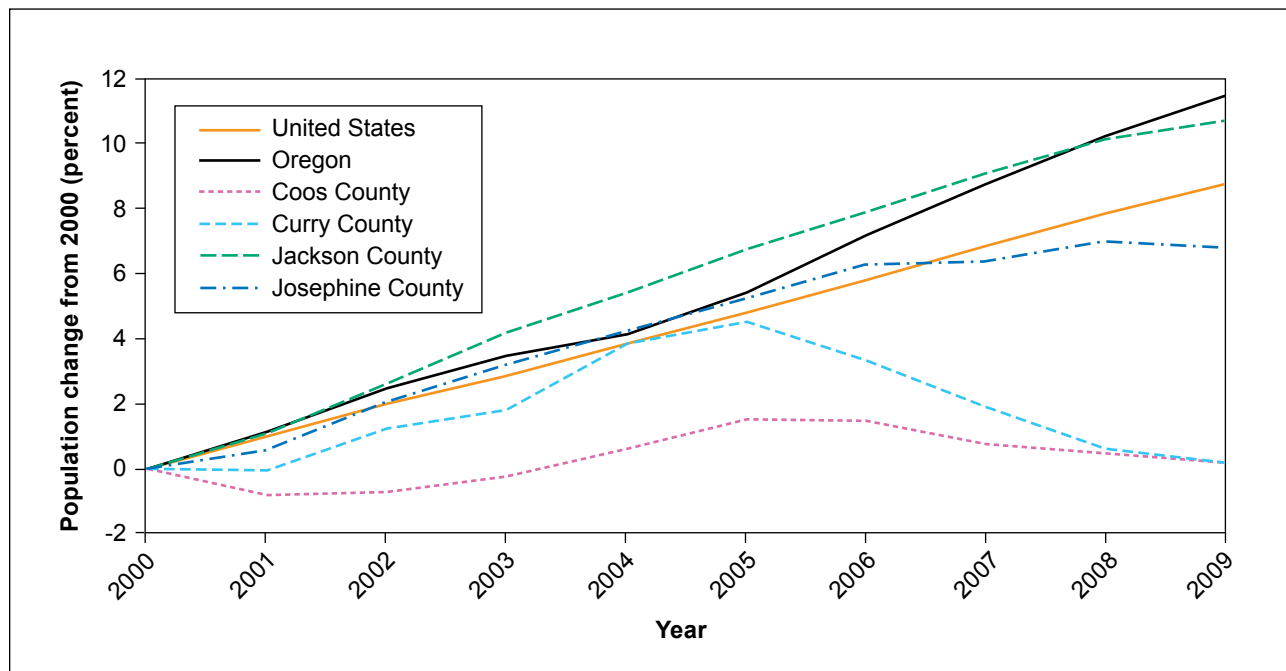


Figure 9-5—Change in population for the United States, Oregon, and each Oregon case-study county, 2000–2009 (USDC BC 2010a).

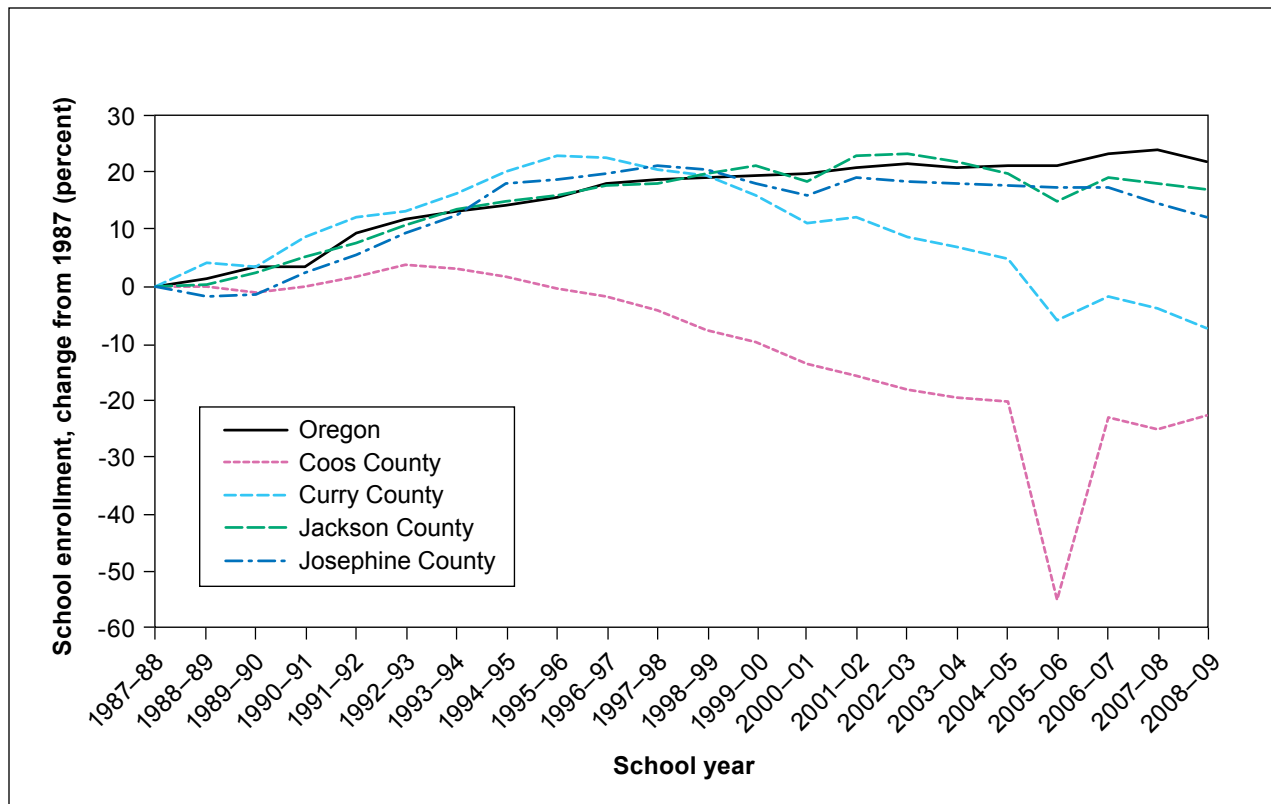


Figure 9-6—Change in school enrollment for Oregon and each Oregon case-study county, 1987–2008 (USDE NCES 2010).

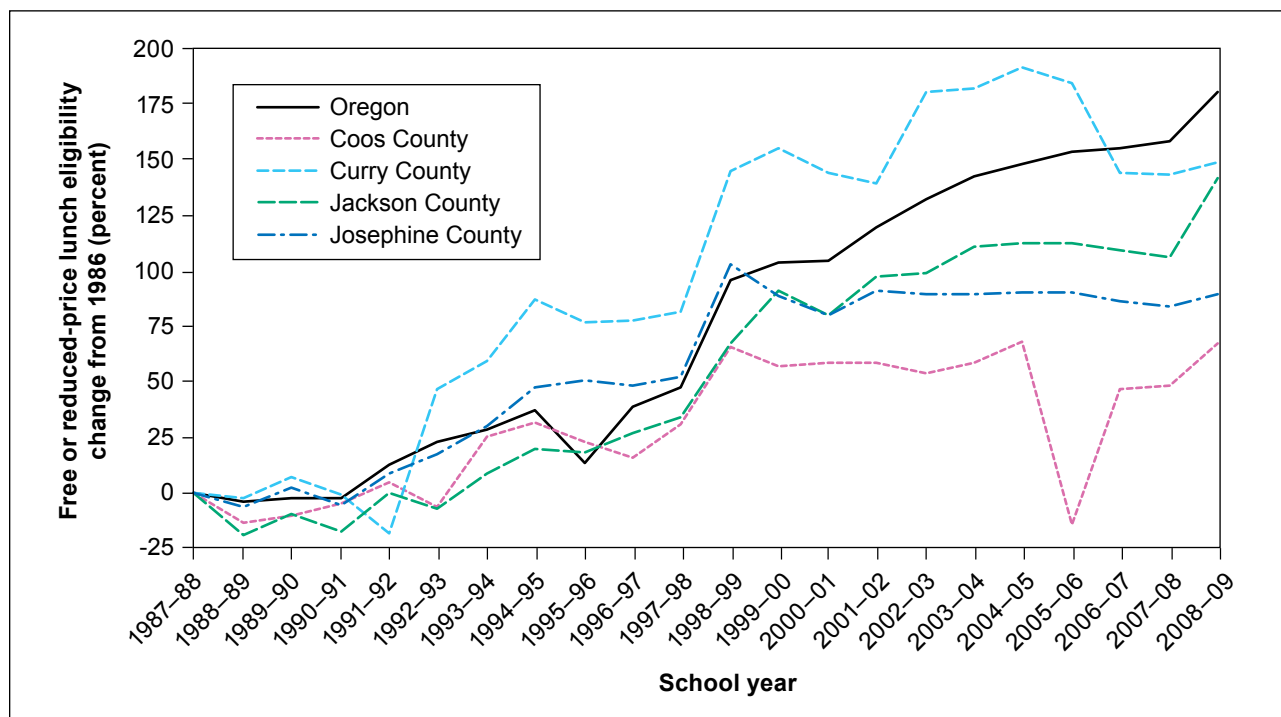


Figure 9-7—Change in number of students eligible for free or reduced-price lunch programs in Oregon and each Oregon case-study county, 1987–2008 (USDE NCES 2010). Note: Reduced-price lunches were made available after 1999.

Forest Service databases, and federal Web sites, including Recovery.gov and USAspending.gov. Socioeconomic indicator data describing the local population and economy of the case-study area came from a number of sources, such as the U.S. Census, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. For more information on study methods and data sources, see the appendix.

Project Recipients

Hazardous Fuel Reduction

The majority of Recovery Act fuel reduction work in southwestern Oregon has been labor intensive. The terrain and forest conditions require on-the-ground crews who are skilled at thinning with chain saws, piling thinned material, pruning limbs to eliminate ladder fuels, and burning the piles when fire conditions permit (fig. 9-8). More than 20 contracting businesses in this region have some or all of these capabilities. This density of businesses in forestry support work creates intense competition for work on the RRSNF. For several contractors, working on Recovery Act projects “at home” on the RRSNF was an atypical experience, as the contractors frequently travel across the West over the course of the year to perform this sort of work.

These businesses range in size and experience. For example, Grayback Forestry has more than 200 employees in the region and has been active for over 30 years. Some of

these businesses have absorbed former loggers who became unemployed in the 1990s. Many of the owners and workers in forestry support are Hispanic (Sarathy 2006). Contractors may have resided in Oregon for decades and established families, be seasonal laborers who piece together a year’s work between forestry and agriculture, or be guest workers under the H2B program. They uniformly suggested that Recovery Act contracts allowed them to maintain jobs that would otherwise be lost during the recent economic downturn.

Funds for fuel reduction came in two phases (table 9-1). The first phase was for “shovel-ready” or National Environmental Policy Act (NEPA)-approved projects to take place in the most economically distressed areas in Josephine, Coos, and Curry Counties. The RRSNF awarded three contracts rapidly, without bids, by March 2009 to contractors in their indefinite delivery/indefinite quantity (IDIQ) contract pool. Through this process, two contracts were awarded to Grayback Forestry from Josephine County and one to Diamond Fire from adjacent Douglas County. One interviewee reported controversy because a work opportunity in Curry County went to a Josephine County contractor. However, there were no known forestry support businesses in Curry County that could conduct this work.

In addition to the early contracts, the forest also created agreements with the Oregon Department of Forestry (ODF) and Josephine County Forestry Department. Through two agreements, several ODF foresters were engaged to lay out the planned fuels work, inspect work quality, serve as point of contact between the contractors and the Forest Service, and supervise contractors doing pile burning after fire season and in future years. This enabled the ODF to maintain the valuable capacity of several of its foresters in the face of a statewide forestry budgetary crisis (fig. 9-9). At this stage, the forest also entered into an agreement for county foresters to conduct layout work on the Wild Rivers Ranger District. Finally, the forest created one agreement with Ashland-based Lomakatsi Restoration Project, Inc. as part of an existing stewardship agreement in Josephine County. In 2008, the Wild Rivers Ranger District had begun



Figure 9-8—A worker piles thinned material at the Siskiyou Mountains Ranger District.

Table 9-1— Rogue River-Siskiyou National Forest Recovery Act project recipients and funding

Recipients	Project name and description	Total funding amount	Work locations (county)	Funding mechanism
		<i>Dollars</i>		
Lomakatsi Restoration Project, Inc. Oregon Department of Forestry Grayback Forestry, Inc. Diamond Road Maintenance	Reducing threat of wildfires in central and southwest Oregon, WFM-0600-1	303,900	Josephine Josephine Curry, Josephine Curry, Coos	Agreements, contracts
Multiple recipients	Eight-county hazardous fuel reduction, WFM-06XX-01HF	28,125,000	Forestwide	Agreements, contracts
Gage IT Construction, LLC Agness Company	Regionwide road deferred maintenance, CIM-06XX-01R	804,000	Forestwide Curry	Contracts
Federal Highway Administration Johnson Rock Products	Agness Road phase 2 road reconstruction, CIM-0610-02R	5,600,000	Coos Curry	Contracts
Federal Highway Administration	Upper Chetco River bridge abutment replacement, CIM-0610-12R	1,100,000	Curry	Agreements
Multiple recipients	Terrestrial habitat enhancement botany and wildlife (meadows), WFM-0610-04FHF	1,400,000	Forestwide	Agreements, contracts
Student Conservation Association Northwest Service Academy	Pacific Crest trail maintenance, CIM-06XX-04T	148,000	Jackson Jackson	Agreements
EERG (engineering remediation)	Blue Ledge Copper Mine toxic waste clean-up, CIM-0610-01A	8,500,000	Jackson	Contracts

Emily Jane Davis



Figure 9-9—The skills of Oregon Department of Forestry staff were crucial to the layout and supervision of American Recovery and Reinvestment Act fuel reduction projects.

a 10-year, 10,000-acre master cost-share stewardship agreement intended to achieve forest restoration through community collaboration, workforce training, and bolstering of local restoration capacity.

After April 2009, Recovery Act contracts administered on the RRSNF were handled by the regional Economic Recovery Operations Center (EROC) in Sandy, Oregon. The Forest Service had four EROCs across the country to help national forests manage their increased administrative burden. The EROC was responsible for the awarding of contracts. During the second phase of fuel reduction projects beginning in March 2010, the EROC awarded 42 contracts, the majority of which were performed in Jackson and Josephine Counties. The forest had the discretion to plan and lay out the fuel reduction jobs. Contracts ranged

from approximately \$100,000 to \$1,000,000, allowing accessibility for contractors of different sizes. The EROC only awarded four of these contracts to businesses outside of the four-county region. Agency staff and contractors expressed that the EROC understood the importance of the Recovery Act to local businesses. With the exception of these four contracts, all of the contractors were from Jackson and Josephine Counties. On the Powers Ranger

I was afraid we'd get on the phone and they'd say, "we're cranking out the contracts, we're doing it the most expeditious way that we can, and tough luck." And that was not the case at all. They said "let's talk it all through."

—Interviewee

District, a contracting officer representative explained that she and the EROC sought a Coos County-based business to perform a recent contract, but could not find any.

Finally, the forest entered into three agreements in this second phase to provide youth crew involvement, pile burning, and project management. In addition to its stewardship agreement on the Wild Rivers District, Lomakatsi received a task order at this stage of funding to conduct fuel reduction and restoration as part of the Ashland Forest Resiliency Project, an ongoing collaborative effort to treat overstocked stands and protect diverse values in the Ashland watershed.

Meadow Restoration and Botanical and Wildlife Enhancement

Economic recovery spending on meadow restoration and enhancement work was much less than on fuel reduction (table 9-1). However, Forest Service staff focused considerable effort on ensuring diverse contract recipients and creating broad community benefits in awarding these projects. Through this work, they provided opportunities to small nonprofits and local businesses. On the Powers Ranger District, the Coos Watershed Association entered into an agreement to carry out thinning and piling to address meadow encroachment. This local nonprofit organization employs a number of former forest industry

workers for skilled ecological restoration work in Coos County. On the Gold Beach Ranger District, a Curry County-based nursery received a contract to propagate rare native plants for botanical enhancement. On the Wild Rivers Ranger District, a local environmental education nonprofit, the Siskiyou Field Institute, entered an agreement to organize a youth crew for meadow restoration and maintenance of interpretive sites of botanical interest in Josephine County. On the High Cascades Ranger District, a Jackson County contractor was awarded a contract for thinning, piling, and burning for meadow restoration, and a local botanist will collect data on the success of native plant reintroduction.

Large Road Projects and Deferred Maintenance

The RRSNF awarded four contracts and one agreement for two major road projects and three deferred maintenance jobs (table 9-1). The major road projects are reconstruction of sections of the Agness Road (Forest Route 33) and repair of a slipping bridge abutment on the Chetco River. Choice of contractor for these reconstruction projects is the responsibility of the Federal Highway Administration. These contracts had not been awarded as of August 1, 2010. However, local companies have captured the three deferred maintenance projects. A company from Coos Bay is performing paving on the northern section of the Agness Road, which connects Powers to the Curry coast. A Jackson County construction business has begun forestwide regulatory sign replacement. A contractor in the small community of Agness has been awarded a contract for culvert replacement on a major forest road in Curry County. This business provides family-wage jobs in the rural region east of Gold Beach where the majority of employment opportunities are lower paying tourism and recreation jobs.

Pacific Crest Trail Maintenance

The Student Conservation Association and Northwest Service Academy entered into agreements to perform trail maintenance work on the High Cascades Ranger District (fig. 9-10). Although these organizations are based in Seattle and southwestern Washington, respectively, they trained and managed crews that included some local youth.

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Figure 9-10—The High Cascade Ranger District in the mountainous eastern side of the Rogue River-Siskiyou National Forest.

Blue Ledge Copper Mine Cleanup

This project was funded for \$8,500,000 under the Recovery Act and is managed through a memorandum of understanding between the Forest Service and the Environmental

Protection Agency. Three contracts for toxic discharge remediation and stream rehabilitation were awarded to a northern California business based in Contra Costa County, roughly 360 miles south of Medford. This work is equipment intensive rather than labor intensive, and requires a contractor with heavy machine capacity.

Socioeconomic Benefits

The benefits of Recovery Act spending on the RRSNF have included job creation and retention (table 9-2), worker training opportunities, a small amount of biomass utilization, distribution of economic benefits across counties, reduced community wildfire risk, stronger collaborative relationships, investment in local community capacity, enhancement of visitor and resident national forest experiences, and maintenance of state and county forestry resources.

Table 9-2—Full-time equivalent jobs reported in quarterly reports, Rogue River-Siskiyou National Forest

Work type	Number of contracts/ agreements	Reporting period				
		Feb.–Sept. 2009	Oct.–Dec. 2009	Jan.–Mar. 2010	Apr.–June 2010	July–Sept. 2010
Number of jobs ^a						
Reducing threat of wildfires in central and southwest Oregon, WFM-0600-1, and eight-county hazardous fuel reduction, WFM-06XX-01HF	53 contracts, 7 agreements	35.85 (3 contracts, 2 agreements)	57.05 (11 contracts, 4 agreements)	195.76 (10 contracts, 4 agreements)	430.59 (17 contracts, 5 agreements)	400.19 (16 contracts, 2 agreements)
Terrestrial habitat enhancement—botany and wildlife (meadows), WFM-0610-04FHF	11 contracts, 3 agreements	—	—	0	7.84 (2 contracts)	14.91 (3 contracts, 2 agreements)
Deferred road maintenance CIM-06XX-01R	2 contracts	—	—	—	0	5.0 (1 contract)
Agness Road phase 2—road reconstruction, CIM-0610-02R	2 contracts	—	—	—	0.47 (1 contract)	1.95 (1 contract)
Upper Chetco River bridge abutment replacement, CIM-0610-12R	1 agreement	—	—	—	—	—
Blue Ledge Copper Mine toxic waste cleanup, CIM-0610-01A	3 contracts	—	—	—	—	44.9 (3 contracts)
Pacific Crest Trail maintenance, CIM-06XX-04T	3 agreements	—	—	0	0	2.07 (3 agreements)

Note: See appendix for reporting method.

^a A dash (—) indicates that no quarterly report was available.

Jobs Created and Retained

Recovery Act spending on the RRSNF has supported jobs in forestry support, seed propagation, road maintenance, trail maintenance, and environmental remediation. There are different wages, working conditions, and duration associated with each type of work. The majority of these jobs are manual labor and seasonal in nature.

Forestry support work in a landscape like the RRSNF is inherently labor intensive and generates high numbers of jobs per person-hours. This region is home to a high concentration of forestry support businesses and a large manual labor pool. The RRSNF was an ideal location for Recovery Act funding because of these circumstances. Several contractors added employees to complete Recovery Act fuel reduction projects. Lomakatsi and the Siskiyou Project worked with the Wild Rivers Ranger District to provide workforce training and employment opportunities to 130 workers on the Hope Mountain Stewardship Project. Such stewardship approaches can help maximize the socioeconomic benefits of economic recovery investments (Charnley et al. 2009). Grayback Forestry hired 40 additional workers to complete their economic recovery projects. Grayback reported receiving hundreds of calls expressing interest in employment from across the country. Every contractor interviewed said that the main benefit of Recovery Act opportunities was keeping their existing crews working, and that without the economic recovery work, they would have been forced to lay off employees (fig. 9-11). Contractors took different approaches to completing fuels work on the ground. Some deployed larger crews of 25 across a unit, and others used crews of 4 to 10 to work on sections of a unit at a time. For example, 3Bs Forestry reported 9.43 jobs created for one 375-acre fuels contract, and 26.95 jobs for a 470-acre fuels project, showing how even within a single company, different strategies were employed. Jobs created tended to correlate with large numbers of acres. Cutting Edge Forestry reported the most jobs created per contract: 52.14 jobs for 840 acres of treatment. But some larger contracts did not create as many jobs; Summitt Forests reported 15.21 jobs for a 706-acre contract. Business owners explained that there was a tension between several considerations: efficiency, cost-effectiveness, type of terrain,



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Figure 9-11—Contractors in the area were able to stay in business throughout the recession thanks to recovery projects.

appropriate levels of supervision for varied crew sizes, and maximizing job duration for employees. They suggested that smaller crews could prolong job duration and quality of work, but that it was not always financially feasible, and larger crews were more efficient.

Road construction and maintenance tend to offer higher wages and job quality than forestry support jobs. The Davis-Bacon Act requires standard pay levels for federal projects in construction, heavy equipment, and highway work. These wages are set according to job type. Businesses such as the Agness Company and Johnson Rock Products must pay these wages to their employees on economic recovery projects (fig. 9-12). Crew members on these road projects are therefore earning quality pay, and, in turn, their spending trickles into their local economies.

Jobs in meadow restoration, habitat enhancement, and trail work went to contractors and to nonprofit organizations that carried out the work using youth crews. For example,

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Figure 9-12—The Agness Road Company, from the small community of Agness, captured road maintenance opportunities through the American Recovery and Reinvestment Act.

Curry County staff worked with the Oregon Youth Conservation Corps to create 12 jobs (reported in interview) in meadow restoration and botanical enhancement. The involvement of youth-oriented nonprofits enabled local youth in Jackson, Josephine, and Curry Counties to earn seasonal wages, and in cases of extreme poverty, contribute income to their families, many of which have unemployed parents. However, the jobs themselves are project based and of limited duration.

Training and Workforce Development

Recovery Act funds provided several opportunities for workforce training. As part of its Recovery Act-funded work, Lomakatsi provided an indepth forestry training course to build the technical and labor skills of 32 new workers from Cave Junction, Takilma, and O'Brien, communities in the economically distressed Illinois Valley (Lomakatsi Restoration Project and Siskiyou Project 2009). New employees to Grayback Forestry, which is a member of the Oregon Training and Apprenticeship Program, received formal classroom and field training on skills such as first aid and chain-saw handling. Grayback employees have an option to apprentice as a journeyman forest worker. Workers with this certification have developed higher levels of skill and capacity to capture future employment opportunities.

Youth working on trails in Jackson County and meadow and botanical area enhancement in Josephine and Curry Counties acquired new labor and technical skills, learned responsibility, and were able to build connections with local and state nonprofits.

Biomass Utilization

Biomass utilization to help offset costs of fuel reduction treatments was possible on the 220-acre Page Snow Park unit under the Wild Rivers Master Stewardship Agreement. Lomakatsi has so far treated 110 acres of 60-year-old plantation stands. These older second-growth conditions permitted some commercial harvest of small-diameter (less than 12 inches in diameter) trees. South Coast Forest Products in Brookings and Rough and Ready in Cave Junction utilized this material for lumber and biomass cogeneration.

Distribution of Economic Benefits

An important dimension of economic recovery spending on the RRSNF was that Forest Service staff actively sought to distribute recovery benefits to economically distressed communities and to ensure equal access to opportunities. The forest supervisor's office dedicated the initial \$3 million in fuel reduction funds to projects in Josephine, Coos, and Curry Counties where unemployment rates were the highest (fig. 9-13). On the Gold Beach Ranger District, both the district ranger and a county commissioner prioritized spreading youth work opportunities and trickle-down impacts from fuel reduction evenly across Curry County. Businesses and agency staff expressed that essential rural infrastructure such as schools and hospitals indirectly benefited from any increased flow of resources in their communities.

Reduced Community Wildfire Risk

Thinning reduces the fire danger facing rural communities and helps restore the ecological values of the forest for multiple uses. This is of particular importance in the Ashland watershed. The boost that Recovery Act funds gave to the Ashland Forest Resiliency project has helped move forward a plan for water supply protection and forest restoration that has the support and participation of diverse stakeholders.



Figure 9-13—Coastal communities in Coos and Curry Counties have growing tourism and recreation sectors, but still suffer high unemployment levels as a result of the declining timber industry.

Strengthened Collaborative Relationships

The RRSNF has used Recovery Act fuel reduction funds to further stewardship projects that are grounded in collaboration. Collaboration has been crucial to forest management across southwestern Oregon. As one interviewee remarked, “forest restoration in a sensitive watershed really, really needs community engagement.” Partnerships with The Nature Conservancy, Lomakatsi, Southern Oregon University, and the City of Ashland have brought diverse capacities and skills to the Ashland Forest Resiliency project. The City of Ashland had previously facilitated community participation in the NEPA process for this project under the Healthy Forests Restoration Act of 2003. Another example is the Wild Rivers Ranger District, where Lomakatsi and the Siskiyou Project have served as bridges between communities and the Forest Service in an area that has seen high levels of conflict around forest management. Their emphasis is on building trust and finding solutions to treat the land while bringing diverse benefits from Recovery Act resources to the region.

Investment in Local Communities

Agency staff worked to involve local businesses, youth crews, and nonprofit partners in meadow restoration, habitat enhancement, and trail maintenance. These partners expressed that the National Forest and EROC “got it,” and were willing to work to ensure local benefits. Enhancement work on the Wild Rivers Ranger District brought together the regional Jobs Council to furnish a youth crew, and the Siskiyou Field Institute and Klamath Bird Observatory to coordinate project management. Youth performing trail maintenance, meadow restoration, and botanical and wildlife enhancement received training in labor and technical skills.

We didn’t want to spend these stimulus dollars, we wanted to invest them. And not only invest them so that we have a more resilient workforce, but so we have a better functioning community. So that’s why we involve the local nonprofits, the local governments, and the private sector.”

—Joel King, District Ranger (retired),
Wild Rivers Ranger District

Enhancement of Resident and Visitor Experiences

Youth crews also provided enhancement of interpretive sites for community and visitor education and enjoyment through their work on the Wild Rivers Ranger District. In Jackson County, maintenance on the Pacific Crest Trail on the High Cascades Ranger District has improved the safety and value of a nationally renowned, heavily used trail. Improvements to road infrastructure along the Agness Road and Chetco River Road in Coos and Curry Counties, popular recreation corridors on the Wild and Scenic Rogue and Chetco Rivers, will greatly enhance visitor experience and safety when traveling with boat trailers and campers. Additionally, these projects will increase the ability of the communities of Agness and Powers to access outside resources, travel safely, and ensure that routes are passable for emergency vehicles.

Maintenance of State and County Forestry Capacity

The RRSNF also sought to provide Recovery Act benefit to state and local government agencies by creating agreements with the Oregon Department of Forestry and Josephine County Forestry Department. Two agreements with the ODF for fuel reduction work helped maintain jobs for several ODF foresters in the face of a statewide forestry budgetary crisis. At this stage, the forest also entered into an agreement for Josephine County foresters to conduct layout work on the Wild Rivers Ranger District. With the gradual loss of its traditional timber revenues since the 1990s, Josephine County struggles with administration of key county services. Economic recovery resources have helped support the county's important forestry capacity.

Environmental Benefits

Hazardous Fuel Reduction

Hazardous fuel reduction projects allow treatment of overstocked stands, a return to natural condition with a hope of reintroducing fire, and an opportunity to bring treatments toward a landscape scale (fig. 9-14). Fuel loads are high in southwestern Oregon, but the difficult terrain makes treatment costly. Recovery Act funds have enabled the Forest Service to move ahead in important areas



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Figure 9-14—Once fuel reduction work is completed, the forest is less vulnerable to high-severity fire.

along transportation and recreation corridors and near communities. Having these resources has also afforded a more cohesive, landscape-scale view of forest restoration rather than “placing postage stamps of treatment here and there.” For example, the Hope Mountain Stewardship Project, which began before the Recovery Act as a 30-acre demonstration, ultimately treated almost 800 acres with an infusion of economic recovery funds. The RRSNF was well prepared with potential projects when Recovery Act funds became available because it had focused in recent years on obtaining NEPA approval for large project areas.

Agreements with Lomakatsi on the Wild Rivers and Siskiyou Mountains Ranger Districts accomplish more than simply treating more acres. Because Lomakatsi emphasizes skilled workforce training, the work on the Hope Mountain Stewardship Agreement and the Ashland Forest Resiliency project will enhance local capacity for performing quality restoration. Through worker training, collaborators on the Hope Mountain Project formed an ecological restoration advisory team of experts and local stakeholders to monitor ongoing work and evaluate future proposals. The Siskiyou Project, a local nonprofit, developed monitoring plots that will help partners on the project to adaptively learn and adjust management practices as necessary. The Ashland Forest Resiliency Project will also ensure protection of Ashland's watershed, late-successional reserves, and old-growth forest from severe wildfire impacts.

Meadow Restoration and Botanical and Wildlife Enhancement

Overstocked stands have caused the loss of unique meadow habitats and native species on the RRSNF. Restoration projects are helping to reestablish native plants and grasses and protect and expand winter range for elk and other species of ecological and game significance (fig. 9-15). Meadow restoration work on the Gold Beach Ranger District has also given a local nursery the opportunity to practice rare plant propagation.

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Figure 9-15—Open oak meadows are found across the Rogue River-Siskiyou National Forest but are threatened by conifer encroachment.

Blue Ledge Copper Mine Cleanup

This project is anticipated to improve water quality, aid restoration of aquatic life lost because of mine discharge, and prevent sulfuric acid and toxic metals from reaching the greater Applegate River drainage.

Effects on the Agency

During the first round of hazardous fuel reduction funds in March 2009, the RRSNF acquisition management staff dealt with contract administration. For all Recovery Act work after April 2009, contract awarding and administration took place through the EROC Northwest. The RRSNF ranger districts planned and laid out the fuel reduction units. This allowed the districts to create contracts accessible to local contractors of different sizes. Ranger districts also worked with the EROC. The supervisor's office provided overall program management, coordinated with the regional office, and supported the districts as needed. Despite the central role of EROC, workloads from the Recovery Act were still high on the forest. Although a few ranger districts hired one or two temporary staff, they largely shouldered the increased work requirements on top of their regular program. The agency sought to prioritize creating jobs in the private and nonprofit sectors as opposed to jobs in their offices.

Staff at the forest supervisor's office and all five ranger districts greatly appreciated the infusion of economic recovery funds on their forest. The amount of funding for hazardous fuel reduction alone was 20 times the size of the forest's annual appropriated budget available for fuel reduction work. This allowed the accomplishment of high-priority work that has been "on the shelf." On the Powers and Gold Beach ranger districts, there has typically been little fuel reduction, but the districts are at risk of mixed and high-severity fires in some of their forest types. These ranger districts were enthusiastic about their ability to treat important areas.

Challenges

Despite the extensive benefits that Recovery Act funding has brought to the RRSNF and its local communities, there also have been challenges.

Lack of Business Capacity in Coos and Curry Counties

Although the RRSNF enabled a large number of local companies to work on labor-intensive projects, these businesses are almost entirely in Jackson and Josephine Counties. There are hardly any known forestry support contractors in Coos or Curry Counties. Communities like Powers once had a base of small contractors who worked with the Forest Service. Depressed forest industry conditions and difficulty in accessing changing federal bid mechanisms have eliminated many of these local businesses. This situation is illustrative of the challenges that “public lands communities” located in or adjacent to large tracts of federally managed lands face. Curry County is 69 percent public land. Without measures to support and redevelop local business capacity, the ability of its communities to benefit from their natural resource base is limited. The impacts from Recovery Act fuel reduction work in these counties have been solely from crews purchasing supplies, food, and lodging. However, there are strong local construction contractors in this area. Companies from Coos Bay and Agness were able to capture two road maintenance projects.

Job Quality and Durability in Forestry Support Work

Recovery Act funding has provided opportunities for contractors to maintain crews, and in some cases, add jobs and equipment. However, the concentration of contracting businesses in Jackson and Josephine Counties created highly competitive bidding conditions for this work. Forest Service staff reported receiving over 13 bids per contract. Agency staff and contractors acknowledged that bids were very low, particularly in the first few months of Recovery Act activities. One contractor commented that “our bids are getting very, very low...it was shocking to me. It doesn’t make sense to us how other companies get these jobs without losing money.” All contractors interviewed discussed

the challenge of low bids. The ability of contractors to cover their costs, ensure safe working conditions, and pay fair wages through such low bids is uncertain. Contractors who held more than one contract reported that they attempted to balance losses on difficult jobs with gains on others.

Another challenge is job quality and duration in forestry support jobs. Labor-intensive jobs in forestry support can have poor working conditions. Wages, benefits, training, and safety provisions can differ greatly from contractor to contractor. There is evidence that restoration work can create skilled family-wage jobs (Nielsen-Pincus and Moseley 2010). However, such quality jobs tend to be those similar to traditional forest industry or road construction activities, such as thinning larger commercial-value logs from plantations or using heavy equipment to restore a stream channel. Jobs such as thinning and piling tend to earn lower wages (Moseley and Reyes 2006), although workers on federal service contracts are paid fixed service wages (fig. 9-16). It is rare for a forestry support worker to



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Figure 9-16—Workers hand-thin madrone with chain saws.

hold a family-wage, year-round position. A large proportion of the forestry support workforce in southwestern Oregon is Hispanic. Hispanic workers can be American citizens or landed immigrants, but many are migrant laborers or guest workers under the H2B program. Studies of contracting work across the West have found that Hispanic workers are more likely than White workers to be seasonal laborers who travel far from their homes, lack benefits, and experience unsafe working conditions (Moseley 2006, Sarathy 2008). There is also some concern that guest workers who may not stay in the region are not appropriate recipients of Recovery Act job opportunities. Public perception of the economic recovery often assumes that Recovery Act dollars should benefit local communities through durable family-wage job creation.

Actualizing an Integrated Restoration Economy

Because costs of transport remain high and infrastructure is limited, most thinned material from Recovery Act fuel reduction projects is burned in the woods rather than utilized as biomass. The exception was thinning in the Page Snow Park unit, on the Wild Rivers Ranger District, where older second-growth materials were sent to South Coast Forest Products and Rough and Ready for lumber and woody biomass. However, extensive biomass utilization has been difficult in this area because of the rugged, remote terrain and high costs of transport to processing facilities. This means that the majority of jobs created through fuel reduction in southwestern Oregon have been at the removal end of the forest restoration economy, where they are limited in duration. Although the biomass workforce and markets are in their infancy, processing and green energy at the utilization end promise skilled work opportunities for rural communities and a market to make ecological restoration pay. At a fundamental level, the abysmal timber and housing markets temporarily limit large financial returns on Forest Service Recovery Act investments, but lessons learned from biomass utilization on the Page Snow Park project may eventually help communities move to capture alternative value streams, if there is social support.

Key Findings

Contracts and agreements of different sizes helped spread benefits. By breaking down a project into different sets of activities and a range of sizes, the RRSNF created opportunities to engage a range of contract skills, equipment, and size.

Recovery Act work opportunities helped maintain forestry support job opportunities in the region.

Although only a few contractors reported adding jobs to complete Recovery Act work, all contractors interviewed indicated that the opportunities that the work provided kept them from reducing their existing workforce.

Recovery Act funding provided crucial momentum to existing forest restoration and stewardship contract projects. Recovery Act funds contributed to the Ashland Forest Resiliency (AFR) project and to work under the Wild Rivers Master Stewardship Agreement, which are both multiyear projects. These resources helped support the ongoing collaborative AFR process, and allowed the Hope Mountain Stewardship Project to expand its acres treated.

Lessons Learned

Proper time and coordination is necessary to design projects to maximize local benefit. Although “shovel-ready” projects in the initial round of fuel reduction money were targeted to distressed counties, there was a rush to get the contracts out, which meant that there was limited time to consider breaking them up into sizes accessible to smaller contractors, to ensuring community collaboration on forest management decisions, or to develop any new relationships with nonprofit partners. Meadow restoration and enhancement funding, which came out more slowly and later in the year, gave district offices the time to reach out to local partners and establish arrangements that would maximize community benefits.

Recovery Act project outcomes will reflect the socioeconomic opportunities and constraints of their local context. The benefits of economic recovery projects will be multiplied if they are invested in a place with existing partnerships and a commitment to building the capacity

for a restoration economy. Stewardship agreements and contracts, biomass utilization components, nonprofit partnerships, and county partnerships all have the ability to put not only job creation but also retention and workforce development at the forefront of economic activity. Examples:

- A. Through a preexisting master stewardship agreement and two key nonprofit partnerships on the Wild Rivers Ranger District, Recovery Act funds were invested in several fuel reduction projects with workforce training as a central objective. As a result of years of collaboration, the trust and cooperation that could ensure broad benefits from the recovery projects were already in place.
- B. A Curry County commissioner and the Gold Beach District Ranger actively sought youth and jobs corps organizations and ensured that the EROC understood their desire to offer opportunities to local partners.

Economic recovery projects are an opportunity to learn valuable lessons for the future. In the future, these experiences could offer valuable evidence about the catalytic role of the Recovery Act in collaborative efforts. Efforts to coordinate, implement, and monitor both projects are also building community understanding of and involvement in forest restoration. The unique model that the partners are using to leverage their individual capacities and accomplish work that requires social support will be a valuable source of lessons for future projects.

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Appendix

This study was conducted using a case-study approach, a common research method applied when social scientists want to study the who, what, how, and why of contemporary events within a real-life context (Yin 2003). In this case, the research team was interested in how USDA Forest Service American Recovery and Reinvestment Act (hereafter referred to as Recovery Act) projects were developed and carried out, why they were chosen, who was involved, how they affected the agency, what the environmental impacts were on lands where they were implemented, and what the economic and social effects were for project recipients, employees, and rural communities. The research team was asked by Forest Service Washington office Recovery Act staff to conduct case studies in several states that had received a substantial amount of Forest Service Recovery Act funding (which totaled \$1.15 billion). Eight states were selected: Alabama, Arizona, California, Idaho, Michigan, Montana, North Carolina, and Oregon.

Case-study sites within each state were identified based on the following criteria: (1) relatively high county economic distress ranking (see USDA FS 2009), (2) rural location, (3) high level of Forest Service investment, (4) early implementation and significant on-the-ground outcomes by summer 2010. We identified sites that met as many of these criteria as possible by talking to the Recovery Act point(s) of contact in each Forest Service regional office. We then talked to the point of contact for each recommended case study to get a sense of the status of project implementation; anticipated environmental, economic, and social outcomes; and the local Forest Service unit's interest in being involved in an assessment of socioeconomic impacts. The research team met to discuss the recommended projects for each state. In consultation with Washington office Recovery Act staff, we chose case studies that best met our criteria, that represented a range of project types (e.g., fuel reduction, invasive species management, road or trail construction, biomass utilization, facility improvements), and that involved different branches of the

Forest Service (National Forest System, State and Private Forestry, and Research and Development).

Qualitative data about the projects and their effects were gathered using semistructured, face-to-face interviews. We used purposive sampling to select interviewees (Lindlof and Taylor 2002). This method is appropriate when scientists need to identify key informants who have specialized knowledge about the event being studied. Working with the local point of contact, we identified Forest Service employees who had knowledge of how the project was developed and carried out, partners who had received Recovery Act funds and participated in project implementation, and individuals who benefited from jobs created or retained as a result of the project. Most interviews were recorded and transcribed for analysis purposes. Additional qualitative data were collected from secondary sources such as local newspapers, existing socioeconomic studies, and Forest Service documents.

Quantitative data about social and economic conditions in the case-study locations were obtained from the U.S. Census Bureau's Population Division and Small Area Income and Poverty Estimates Program, the American Community Survey, the Bureau of Labor Statistics, the National Center for Education Statistics, the Bureau of Economic Analysis, and the Department of Agriculture's Economic Research Service to help understand the state and local socioeconomic context. Table A-1 describes these sources and the data that came from them, in more detail.

Quantitative data about Recovery Act projects highlighted in the case studies were obtained from corporate databases including USAspending and Recovery.gov. Table A-2 describes these sources in more detail. Figures for number of jobs reported came from quarterly reports submitted to Recovery.gov by award recipients.

Recovery Act investment by state was calculated using information provided by the Forest Service Washington office, current through September 8, 2009. In states that received funding for multistate projects, the total investment

Table A-1—Sources of socioeconomic data used in case studies

Source	Data	Web address
Population Division, U.S. Census Bureau	Population estimates including total population, population by age group, population by race, and origin. 1990, and 2000–2009.	http://www.census.gov/popest/counties/asrh/
Local Area Unemployment Statistics Program, Bureau of Labor Statistics	Monthly unemployment, 1990–2010.	http://www.bls.gov/lau/
Small Area Income and Poverty Estimates Program, U.S. Census Bureau	Percentage of resident population living in poverty, and median household income, 1989–2008.	http://www.census.gov/did/www/saipe/index.html
National Center for Education Statistics, U.S. Department of Education	School enrollment, K-12, and students eligible for free or reduced-price lunch, 1986–2008.	http://nces.ed.gov/ccd/
USDA Economic Research Service	Percentage of resident population who have completed high school and college, 1970, 1980, 1990, 2000. Rural Urban Continuum Codes, 1974, 1983, 1993, 2003.	http://www.ers.usda.gov/Data/Education , and http://www.ers.usda.gov/Briefing/Rurality/
Regional Economic Information System, Bureau of Economic Analysis	Employment by industry, 1990–2000, 2001–2007.	http://www.bea.gov/
American Community Survey, U.S. Census Bureau	Housing statistics.	http://www.census.gov/acs/www/

Table A-2—Sources of government spending data used in case studies

Source	Description	Web address
USAspending.gov, maintained by the U.S. Office of Management and Budget	Database of all federal awards. Data include award identification numbers, project descriptions, funding, recipient information, and more.	http://www.usaspending.gov/
Recovery.gov (official Web site of Recovery Act spending)	Database of Recovery Act spending, including quarterly reports filed by award recipients detailing job creation.	http://www.recovery.gov/

figure is further broken down to indicate funding for both state-specific projects, and the state's share of multistate projects. Because there were no readily available data indicating each state's share of a multistate project, it was assumed that every state involved in a multistate project received an equal portion of the funding. Therefore, investment figures for states that received multistate project funding are given as approximations rather than hard figures. Approximations are indicated with the use of a tilde (~).

The Recovery Act requires recipients to report number of jobs in the form of fractional full-time equivalent (FTE) jobs. Only jobs that are funded directly by Recovery Act dollars are considered, and there is no differentiation made between existing jobs or newly created jobs. At the end of each quarter, the recipient takes the total number of hours worked and funded by the Recovery Act, and divides it by the number of quarterly hours that constitute a full-time schedule to calculate the number of FTE jobs. The number

of quarterly hours constituting a full-time schedule may differ depending on job standards, but is typically 520. (This assumes that a typical full-time position is 40 hours per week. A quarter is 13 weeks, 40 multiplied by 13 is equal to 520.) Therefore, if a recipient records that in one quarter, three employees worked a total of 1,300 hours that were paid for by the Recovery Act, they will divide those 1,300 hours by 520 and report 2.5 FTE jobs.

Drafts of each case-study document were reviewed by at least three individuals who participated in their development, including Forest Service employees and project recipients, prior to publication.

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Metric equivalents

When you know:	Multiply by:	To find:
Inches	2.54	Centimeters
Feet	0.305	Meters
Yards	0.914	Meters
Miles	1.609	Kilometers
Acres	0.405	Hectares
Square feet	0.0929	Square meters
Square miles	2.59	Square kilometers
Cubic yards	0.765	Cubic meters
Tons	0.907	Tonnes or megagrams



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