Community Revitalization and
Forest Restoration in the Four Corners

Demonstration Grants Program

Evaluation Report

August 2001

Submitted to the

Four Corners Sustainable Forests Partnership by

Tim Richard, MA

Sam Burns, PhD

THE
OFFICE
OF
COMMUNITY
SERVICES

FORT LEWIS COLLEGE ● DURANGO, COLORADO

Four Corners Sustainable Forests Partnership
Demonstration Projects
Evaluation Report

Prepared by the Office of Community Services
Fort Lewis College
1000 Rim Drive
Durango, Colorado (970) 247-7333
August 2001

Ackowledgements

This report and the evaluation study it describes are a result of a single-year grant awarded to Community Services at Fort Lewis College by the Four Corners Sustainable Forests Partnership to evaluate selected recipients of the FCSFP Demonstration Grants Program. Project coordinator was Sam Burns, PhD. Main investigator and report writer was Tim Richard, MA. We wish to thank the members of the FCSFP, the community demonstration projects, Steering Committee members, state coordinators, and staff for the opportunity to gather the stories from the grassroots communities, and to construct from them a mosaic of a much larger narrative of community and ecological sustainability.

preface

The Four Corners Sustainable Forests Partnership is a unique opportunity to understand and evaluate the characteristics of community-based ecosystem management. Initiated in 1999, the Partnership encompasses a combination of forest restoration, fuels reduction and rural revitalization. It also brings under one umbrella an array of demonstration projects, grounded in various community and ecological contexts, which provide a comparative and cumulative framework for study and analysis. This allows us to see the importance of the specific community situations, as well as the forest restoration challenges throughout a large geographic region.

The primary mission of the Four Corners Sustainable Forests Partnership (FCSFP) focuses on the interplay between three factors: unhealthy forests that fall far outside the range of natural variability; historic forest-dependent communities with declining capacity to participate in sustainable natural resource management, and; forest fuels that are prone to catastrophic wildfires. The interdependency among these three factors, while obvious in some respects, remains a formidable challenge to forest resource policy makers, land managers, and wood product workers.

The projects we evaluated in rural communities in the Four Corners region were involved in some aspect of community economic revitalization and forest restoration as its partners worked to increase the ability of small, local timber-related businesses to adapt to economic, ecological and social changes in their communities. No single community-based project can be expected to resolve all of the issues emerging from the interplay of these three factors. If success were thus defined, no single endeavor could hope to be successful. One component or another, often outside the local community's or landscape's boundaries, would be missing or unmanageable. In this first year's evaluation, we have therefore focused on the attributes of each "demonstration project," within a context of the overall regional effort. By examining the attributes of each project within a comprehensive and adaptive regional framework, the likelihood of gathering an accurate picture of the sustainable processes and outcomes of community and ecosystem sustainability is significantly greater.

After one year's evaluation we believe we have gathered an insightful picture of the contributions being made by each demonstration project and the limitations they are facing. We can now better envision the components of a regional, multi-purpose, collaborative effort. We can now more fully and explicitly describe the resources, methods, and skills which such a partnership needs to mobilize on behalf of its members.

Tim Richard
Sam Burns
August 2001
Durango, Colorado

Four Corners Sustainable Forests Partnership
Demonstration Grants Program

Evaluation Report on 1999 and Selected 2000 Funded Projects
August 2001

Contents

Project Descriptions

References

Appendices

Project Description

This summary report presents findings and recommendations resulting from an evaluation of selected demonstration projects that received funding in 1999 and 2000 from the Four Corners Sustainable Forests Partnership Demonstration Grants Program. It describes project-level activities taking place in communities where timber, forests, and public land have played historically significant roles in their social and economic makeup. It begins to identify perspectives and understandings of the issues active in efforts at community economic revitalization and ecosystem restoration. It also begins to clarify regional patterns and trends in renewing a timber products industry while benefiting the ecological health of forests. Finally, it begins to outline the needs for building greater capacity for community revitalization and ecosystem restoration, and where needs and opportunities appear to exist.

The summary report describes how the projects are working toward goals identified to improve harvesting methods and outcomes, develop new products, reach new markets, and create new knowledge and understanding in the interest of building greater capacity for community and ecosystem stewardship approaches to revitalization and restoration.

A number of attributes were identified during the evaluation that appear to be crucial components for progress: Organization, Collaboration, Funding, Workforce and Training, Technical Assistance, Restoration Forestry, Innovating Technology and Cost-Effectiveness, Product Development, Market Development and Marketing, Monitoring, Information Dissemination.

The attributes help to answer the question of the capacity or organizations to achieve their goals or to adapt goals to fit changing conditions. By looking at the internal structure of projects or organization, the overall movement towards revitalization and restoration can be better discerned. The attributes also aid in establishing a foundation for identifying success criteria and indicators for measuring trends towards goals. This more quantitative measure is practical for external dissemination, but extremely useful as an internal measure progress.

During the evaluation, the Office of Community Services at Fort Lewis College assessed current developments of seven organizations and projects, three of which also received follow-up 2000 funding. OCS then analyzed assets, capacities, and potential future directions of the projects both in a local and regional context. Three other projects receiving 2000 funding were also included to a lesser degree. Of these, one completed a survey and information about the others was collected informally over the phone. More

comprehensive study was not conducted because, at the time, it was too early to report substantive information pertaining to the project. Even as late as March 2001, there was not enough progress made, according to one project coordinator to discuss the project in detail.

The research conducted for the evaluation consisted of three data-gathering steps: 1) a survey that was distributed to project coordinators; 2) one field trip per project; 3) follow-up phone calls during the project's duration. Once data was compiled into useful forms for analyzing, in-house review and analysis of findings took place.

More than 30 individuals associated with nine projects were interviewed by survey, phone, and in person in the field. At first, project coordinators were interviewed, a process through which other individuals were identified for further contact during field trips and follow up phone calls. A range of information was gathered from these key sources. Information was recorded in greater detail during field trips to sites where a broader range of key individuals were encountered. The researcher looked for significant features of the project and for story-telling tools, such as histories, descriptions, quotes, and photos. The result has been a reservoir of description and data that contributes to greater understanding of current contexts, which in turn should contribute to future decision making about community and ecosystem restoration.

In a significant development occurred during the evaluation we found that we were continually being drawn beyond the facet of the project that received funding from the FCSFP into the broader context of community- and region-wide efforts at economic revitalization and forest restoration. It was not simply a matter of assessing the effectiveness of FCSFP funding to a specific project, but one of examining the overall effort to build capacity for economic development associated with timber-related industries. The FCSFP contribution was only one part. For example, some grantees were involved in a variety of organizations, including agency and non-governmental partnerships, non-profit organizations, and private businesses. Key sources referred to individuals as important contacts although they were not directly involved in the project that received funding from the Four Corners Sustainable Forests Partnership.

This scenario created an intriguing research dilemma in which the decision had to be made to follow the interview trail through a maze of sources and, if so, how far to go and where to stop. Determining whether enough information was obtained in order to gain a basic understanding of the overall efforts and associated issues, then provide answers that aid the FCSFP steering committee in decision making, became a guiding aspect of the research. The project's budget ultimately limited the degree to which we investigated overall efforts, but we were able to discover a network of individuals building relationships and working towards common interests.

project description

Findings were shared with a FCSFP subcommittee during a mid-December 2000 presentation, then again to the full steering committee February 2, 2001. Subsequent chances occurred the fall of 2001, as well. Progress update information was described in Jan-Feb 2001 and the April-May 2001 issues of the *CPLP Stewardship Initiatives*, a quarterly newsletter prepared by the Office of Community Services at Fort Lewis College. An on-line newsletter was established in mid February to update steering committee members on recent developments.

Findings and Recommendations

Eleven subject areas, or project attributes, were identified during the evaluation as having significant roles in the formation and development of community-based projects. Although there may be others areas, these establish a context in which community economic revitalization and forest restoration are occurring. They are measurable indicators of change over time.

1. Partnership Organization
2. Collaboration
3. Funding
4. Workforce Training
5. Technical Assistance
6. Restoration Forestry
7. Innovating Technology and Cost-Effectiveness
8. Innovating Product Development
9. Innovating Market Development and Marketing
10. Monitoring
11. Information Dissemination

The categories can be used by project participants, as well as by those involved in policy development, to track and measure progress, and to gain more detailed understanding of the broader contexts within which projects operate and which influence outcomes. Essentially, each category is a goal for attaining advancement. They are also useful descriptors of a more holistic picture with which local and regional project participants can build greater understanding of the potential for community-established ecosystem stewardship.

Partnership Organization

While each FCSFP project has some form of organizational structure, there is considerable variation in type. Some of the initiatives can be described as multi-agency or multi-institutional in nature, while others tend more towards a community- or citizen-based approach. The former type could be viewed as an effort to establish a strategic action alliance, while the latter places greater emphasis on empowering grass-roots resources, such as leadership and knowledge. In other instances, the essence of the organization resides in cooperation among producers of wood products. Finally, there are several initiatives that are either a single entity or agency, such as a state university and a related research unit.

In most cases, even within the agency or institutionally oriented initiatives, there is some effort to, or means of, connecting with one or more local communities and a public land area. How these connections between land, community, and institutions are established and maintained greatly determines the character of the organizations, how productively they spend their time, how they make decisions, how they view their purpose and objectives, and how hopeful they are about the future.

Since it is not within the scope of this analysis to describe in great detail the many organizational attributes of the FCSFP initiatives, it suffices to say that such matters as identity, stability, sustainability, management expertise, optimism, and many other assets, are linked to the types and strengths of the organizations or formal associations that are guiding and operating the projects.

In the longer term, it may be possible to discover a series of organizational attributes, which are more or less suited to the challenges of involving communities in the work of sustainable forest stewardship and economic revitalization. In the short term, there is considerable learning occurring among the various organizational sponsors that is worthy of capturing. Regionally, there is an attempt to integrate ecological, economic, and social goals. However, there exists a lack of cohesion of integrated goals.

Findings

- Genuine concern is expressed by FCSFP stakeholders about the organizational challenges of conducting community oriented, forest stewardship projects, such as, maintaining an active and effective membership, managing contracts, articulating a clear mission, and getting restoration work accomplished on the ground.
- Considerable skill and ability is being demonstrated in many of the initiatives to come up with the necessary and appropriate resources to create viable, efficient, and accountable organizations—in essence to build the organizational capital needed to work in this new endeavor.
- Some organizations are internally challenged by differences among goals and perspectives within their membership, by interpersonal dynamics, or a lack of community understanding, support, and involvement.

partnership organization

partnership organization

- Some organizations are being constrained by external forces or interests, primarily in the environmental policy arena, where there is little consensus about appropriate economic and silvicultural methods for forest restoration, leading to procedural and legal delays in project implementation.
- The greatest challenge seems to be creating a functional, organizational connection between community representatives, managers of the public land agency, wood products workers, and diverse ecological and public interest groups.
- Each project or community-level organization seeks and obtains resources by whatever means are available to them, often by virtue of the dedication of one or a few individuals, who are limited by expertise, remoteness of the community, poor communication networking efforts or opportunities. These factors cause projects to progress at different speeds.
- Little long-term planning for future organization or partnership development, funding, or collaboration is being done among projects, although it is recognized by some as a beneficial need.
- Some project survey respondents remarked on the benefit of involving the community in national forest planning. However, none expressed an in-depth vision or understanding of how such an integration could come about.

Recommendations

- Recognize the administrative and organizational challenges faced by the FCSFP initiatives, and the many efforts being made by key project leaders in terms of vision, perseverance, and team building.
- Encourage mentorship among FCSFP project leaders and members to share knowledge, skills, and organizational models for community-based forest restoration and rural revitalization.
- Through open dialogue, forums, and stories, continue to build community understanding and support for forest restoration.
- Build support for forest restoration organizations, associations and networks through increased administrative capacity and liaison with the federal and state public land agencies, and through clarification of land management policies.
- Enhance coordination of information and emerging knowledge of regional development of rural community economic revitalization and forest restoration by creating a communication network among local, state, and federal government agencies, NGO assistance providers, and private and academic research organizations, business community members, environmental activists, and others with a stake or interest, tied in closely with the public relations campaign currently underway.
- Involve the FCSFP in articulating goals for integration of economic, social, and ecological factors, based on specific community/project locations, demonstrated methods, and current opportunities for balanced integration.

Collaboration

Given the social and environmental conflict over forest uses and resource management over the past decade, some form of collaborative, or cooperative interaction to make choices and carry out development actions is generally viewed as important to successful forest restoration. The collaborative nature of the FCSFP projects is providing many opportunities to develop new and more productive relationships among individuals and organizations, often where they have not previously existed or have been tenuous. The specific focus or nature of the collaborative efforts varies depending upon the historical context of community-forest relations.

In general, collaborative efforts among the FCSFP initiatives emphasize building capacity to conduct sustainable forestry activities on national forest lands, including product utilization and markets. Collaboration is viewed by many project participants as a key step in resolving differences and solving forest health problems. Fundamental to developing collaboration is the need to build relationships between key stakeholders, including public land managers, ecological scientists, environmental representatives, community leaders, economic investors, and wood industry workers. This goal is sometimes quite challenging and resource intensive.

Within the FCSFP projects, inclusive and diverse stakeholder representation is typically considered as a desirable step towards either sustainable economic revitalization or forest restoration. Of the seven projects funded in 1999 by the FCSFP, all involve members with important, individual contributions, including different points of view, a particular expertise, or a set of resources needed to work towards project goals. In some projects, being able to manage the degree of stakeholder diversity is especially challenging. While in others, there is a need or desire to broaden the diversity of membership, due to a feeling that one or more desired stakeholders is not at the table.

One of two approaches seems to be emphasized among the FCSFP initiatives. Either there is a focus on a *community based, forest stewardship* process or there is a tendency towards *a multi-party, strategic management model*. The former is typical of more grassroots, community development projects, or wood producer or worker cooperatives, while the latter is utilized more often by organizational or agency operated projects. Community based approaches are more grounded in democratic, consensus building, intended to resolve historical, social and political divisions. On the other hand, managerial or inter-organizational approaches often occur where organizational resources are more available and where there are ample assets or opportunities for inter-agency and governmental participation.

Whatever the approach to collaboration, participants are sensitive to the expenditure of time and resources to achieve productive outcomes and work on the ground. Few, if any, of the projects have the luxury of spending valuable resources on attempts to collaborate and partner that do not produce reasonable returns. However, repeated experiences with successful collaboration build confidence and momentum; facing continuous public policy or value-oriented roadblocks breeds pessimism and cynicism about the value of collaborative participation.

collaboration

collaboration

Findings

- Building collaborative relationships among community, governmental, business, and ecological or conservation stakeholders, intended to strengthen the overall viability of community-based forestry and sustainable rural communities, is viewed as a necessary, yet challenging, process.
- Not all FCSFP projects have sufficient organizational resources to devote to in-depth, ongoing collaborative or partnership development processes, especially when diverse interests create endless debate or block proposed actions, and when state or national resource management policies do not support local initiatives.
- Collaboration appears to be a successful strategy to encourage forest restoration and rural economic development at a local level, but it is achieving considerably less success when it must incorporate significantly divergent, regional and national interests and policies, from either the public or governmental sectors.
- Major differences in social values regarding ecosystem functions and scientific perspectives about restoration are given as the primary reasons for barriers to collaboration.
- Minimal project-level capacity exists on how to expand the collective experience of the core partnership group outward into the broader community, at a time when most communities lack a basic understanding about the needs for and processes of forest restoration and need collaborative processes to guide and encourage understanding

Recommendations

- Provide more communication resources to express the public benefits of sustainable forestry and community health, in order to gain understanding, acceptance, support, and involvement from the wider community and key constituents.
- Utilizing various media and occasions, present cases about productive, collaborative experiences that have been built among diverse project participants.
- Provide technical assistance and training resources to build capacity among project participants that increase broader responsibility for forest stewardship, utilizing such mechanisms as cooperative agreements.
- Provide neutral coordination to FCSFP projects that need assistance with developing more inclusive or diverse partnership participation among local and regional constituents.
- Strongly encourage each federal land agency to appoint a formal liaison person to each FCSFP initiative.

Funding

Funding for organizations to operate and paying for forest restoration are considered foremost issues, along with the costs of conducting research and providing technical assistance. Funding is described as adequate by some, but most say that considerably more is necessary to support initiatives in development phases and for making projects sustainable. To enhance sustainability, funding types and sources of funding, and their diversity, are being examined.

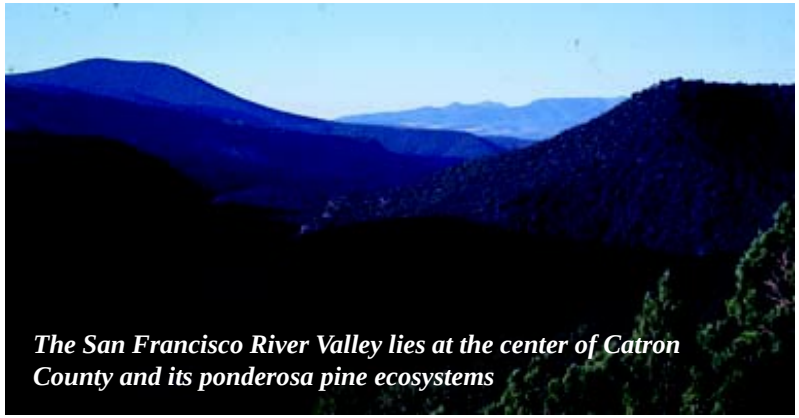
All projects receive some external support in the form of grants and loans. Local, state, and federal sources and foundations are providing funding in most cases. Two or three have received, or are seeking, appropriations from state legislatures. Significant support has come from the Rural Community Assistance program associated with the USDA Forest Service's State and Cooperative Forestry Office. Often, members of the partnership organization are key contacts for funding sources.

While internally generated funding is a major benchmark goal among restoration-oriented projects, little

Catron County Citizens Group coordinator Bob Moore believes that opportunities have been emerging for a number of years out of collaborative interaction occurring among participants. Although there are enormous differences of opinion on methods and outcomes, there is a strongly expressed desire for healthy ecosystems among those who have an interest in the region's economy, social well-being, and ecosystem health. Current efforts are focusing on the revival of a defunct timber mill just south of Reserve, New Mexico, purchased by Catron County and central to efforts to rebuild a lost infrastructure while awaiting NEPA analysis to be completed by about summer 2001.

CCCG coordinator Bob Moore visits the grounds of a defunct mill near Reserve that the Catron County commissioners bought in hopes of rejuvenating a local timber industry.

Bridging gaps in Catron County



The San Francisco River Valley lies at the center of Catron County and its ponderosa pine ecosystems

It is not uncommon in communities experiencing controversial and emotional issues to find people with rigid views and those who either don't understand collaboration or just don't want to join in finding more cooperative ways to address differences and complex issues. This is often the case in Catron County, where public land issues have gained notoriety during the last decade.

"Obstacles constantly jump up and hinder efforts that test the patience of even the most tolerant person," said Bob Moore, coordinator of the Catron County Citizens Group. The citizens group is a cooperative partnership effort created to support the local community in addressing social and economic issues in Catron County, New Mexico.

Moore gave for an example the Corner Mountain Timber Sale that was prepared to harvest 300 acres of burned trees remaining after a 7,000-acre forest fire. The stop-gap restoration sale aimed to keep local timber businesses going for a few months. An appeal stopped the sale, angering those "looking for reasons to be even angrier," and feeding their reasons to criticize any attempts at community-based conservation.

The effort to improve multi-party cooperation is perhaps the most defining characteristic of the community-based forestry efforts in Catron County where the citizens group encourages collaboration to build capacity to conduct sustainable forestry on the Gila National Forest.

The effort to improve multi-party cooperation is perhaps the most defining characteristic of the community-based forestry efforts in

The Catron County Citizens Group is trying to "bridge the gap" between those more rigid in their positions and the "tremendous support" the citizens' group receives from the local community," Moore said. Whether it is with those who have been particularly suspicious of commercial logging on public land or anti-environmental critics, the group is motivated to support both timber-related businesses for forest restoration and NEPA activities related to timber sales.

Moore described the citizens' group as diverse with strong partnership interaction, although environmental representation is weak. At least four agencies and as many representative community members form the Board of Directors of the non-profit group. Meetings are open to the public and as many as 100 citizens have attended some.

Difficulty of efforts to build effective collaboration stems from the lack of participation of environmental activists, many say.

"Collaboration is a dynamic force of opposing sides working together for common goals. Thus working together becomes a toleration of one another," Moore said. "The more staunch environmental organizations will not participate in process and therefore trust is lacking to gain support."

The situation is further characterized by environmentalists being unwelcome in local group efforts while the activists themselves refuse the interactive group process for more formal means of influencing national forest policy and management. That entails appealing proposed harvesting projects and filing lawsuits.

"We are just asking them to give us an opportunity until we can get this thing going," he said, referring to anti-logging interests in the area.

The "thing," or things in the case of the FCSFP-grant related project, is an ambitious set of landscape-scale environmental analysis projects aimed to rebound from the economic and social decline Catron has suffered from for more than a decade.

or no income from sales and services is occurring. Projects lacking strong partnership and collaborative organization rely more exclusively on external funding for all of their organizational needs, while the larger more resourceful ones have resources available from within their ranks. Several organizations have 501 (c) 3 non-profit status and others are seeking it in order to improve access to funding sources and operate more cheaply.

What little private, entrepreneurial investment is occurring suggests that there are increasing opportunities to invest and that there is investor confidence. Private commercial enterprises that receive investment funding appear to be able to acquire equipment and raw supplies from available sources (private or public) at viable prices. This activity parallels efforts of cooperative partnership initiatives to address gaining access to small-diameter timber on public land, which currently is not readily available. While private enterprises are focused less on restoration activities than the partnership initiatives and their associated projects, a few appear to be increasingly in a position to aid in moving raw material from forest to processing to consumers.

Findings

- Funding areas include: research, (value-added) product development, equipment associated with harvesting and milling, partnership or collaborative development, information dissemination tools, jobs and salaries, construction projects, school education initiatives, and technical assistance.
- When asked, most projects say they need funding for equipment purchases, organizational operation and job development, such as coordinator and worker salaries. Other areas of interest include, training (of particular interest: business activities, such as bookkeeping and writing a business plan), information dissemination, education and communication, and marketing.
- There has been some debate over whether to provide technical assistance funding directly to local community-based activities or to professional technical assistance providers.
- While the question of where assistance money would be best spent is still in the process of being answered, the current congressional appropriations for revitalization, restoration, and urban-wildland fire-risk reduction seem to be generating a variety of projects and initiatives that could improve the potential for both assistance and sustainability (this is where innovation seems to be occurring).
- Private investment and some local public funding has led to reopening and retooling two mills, which are bridging a gap between available low-cost raw materials and affordable hauling costs to markets which are providing adequate demand for the products the mills are making. However, this is a tenuous endeavor. One mill may be struggling after initial efforts showed promise, while other efforts in others areas are starting up to revive long-closed mills.
- Projects that have received the most funding are either those that have been around longer, can demonstrate greater advancement, have an administrator with good skills at bookkeeping and

funding

networking with funding sources, or receive backing from a major institution, such as a university, institute, or foundation. The more grassroots projects often lack these elements and don't have ready access to gaining them. The FCSFP role may be to support smaller initiatives than bigger ones, but greater anticipation surrounds larger projects for success on larger scales.

- Stakeholders debate whether it is better to pay for restoration through reinvestment in publicly funded mechanical thinning for forest health, based upon values for ecological restoration, or through market-based commercial operations, based upon values preferring community economic development. Some sort of blending of the two perspectives of funding restoration may be emerging as more initiatives develop.
- While FCSFP funding has aided some projects to continue pursuing goals and indirectly influence their ability to receive funding from other sources, none report directly leveraging funds, due in part to the lack of dollars to leverage, a lack of expertise in funding development strategies, or that the dollars were received to purchase equipment.
- Detailed accounts of partner contributions in terms of dollars, whether they are in-kind services or otherwise, were difficult to obtain, due to the qualitative nature of many contributions and lack of emphasis of administrators on closely accounting for this aspect of activities.
- Some concern is emerging that larger, traditional commercial timber interests, more capable than small, community-based businesses to invest in large-scale, small-diameter timber harvesting, could harm efforts to integrate rural community economic revitalization with ecosystem restoration.
- A difference in the merits between stewardship development versus economic development exists among people in which short-term economic needs may out-compete for funding with longer-term social needs to cultivate new relationships among communities, institutions and natural resources.

Recommendations

- Determine what funding areas best fit the FCSFP's purpose and vision in supporting initiatives and projects both at the local- and regional levels.
- Allocate contract and grant dollars through a clear, concrete FCSFP vision and purpose, supported by a familiarity with actual projects and initiatives, enhanced by the growing practical experiences of the partnership's members.
- Strengthen the ability to match funding with where the project has the greatest ability to advance. This requires sufficient familiarity with the project in order to identify where its strengths and greatest opportunities exist.
- Provide more opportunities to strengthen fundraising skills and networking among initiatives.
- Effectively utilize the USDA Forest Service's Economic Action Plan Program as an important catalyst for development.

Workforce Training

Ever since major Forest Service timber policy shifts and the subsequent decline in timber-industry occurred, the loss of traditional timber jobs has been a constant concern. As a result of more recent progress in establishing new directions for economic revitalization and forest restoration, the question of workforce and training is being revisited, particularly in the case of restoration forestry. For example, organizational and administrative training for participants within collaborative partnerships is considered crucial to project longevity. This is increasingly desired if not especially sought for small, grassroots community-based initiatives whose members have little background in this component of their operation. In some localities, short-term goals involve creating jobs to establish an infrastructure for a local, small-diameter industry, such as a milling operation, harvesting newly prepared timber sales, or fuel- reduction, thinning operations associated with the National Fire Plan.

While FCSFP support of projects and organizations has created a few jobs, or helped to maintain some existing jobs, such as project coordinators, other new jobs have been created through private enterprises indirectly associated with partnership-based organizations.

A claim in some communities that there are not enough timber-based workers seems more intuitive than based on factual employment data and current demographics. Not having "skilled" workers may be more accurate. However, some workers in local areas have skills that may be transferable to new modes of application. In most cases, especially in areas suffering from the poorest economic conditions, such as Catron County, potential workers demonstrated a willingness to retrain. This is useful to know because an increase is expected in the need for workers for a restoration-based industry that appears to be emerging.

This emerging view suggests that in this time of transition in the relationship between communities, businesses, and ecosystems a new kind of worker will be needed that is oriented to restoration activities. Increasingly, a need is projected for training of forest- and mill-workers to perform tasks associated with restoration forestry, such as new types of harvesting, processing, and marketing of small-diameter materials. Sample activities include building round wood products for the construction industry, solar kilns, using restoration-oriented harvesting equipment, basic skills at running a small business, to name a few.

Jobs information presented in this evaluation may not be a complete, accurate picture of overall developments, since projects evaluated represent only a few of the initiatives throughout the region. Further analysis may reveal many more jobs being created, both traditional and those with restoration emphasis.

Findings

- Other than seeing a need for trained workers, little has been done to determine if organizations in need of training have the capacity to learn what is the nature of the needed skill, obtain the training externally, or if the organization can provide training to their own members or to others.
- While emphasis continues on the need to supply timber to existing industry's businesses and jobs,

workforce training

workforce training

some initiative participants are projecting a need for a new kind of worker, possessing a greater orientation to restoration activities.

- In some areas, the workforce "is adequate at best" and there are perceptions that finding people to fill projected roles will be difficult because competent, skilled individuals will be needed for positions that don't pay well.

Recommendations

- Gather more current data describing the regional workforce related directly and indirectly to timber.
- Collect a database of current and projected training needs of projects across the region and determine what training and financial resources will be needed to fulfill them effectively.
- Tie training to the greater context of changes occurring in communities and economies across the region, seeking to create a more cross-disciplined, educated workforce, linking good entrepreneurial ideas to incentives to do business planning.
- Develop business training opportunities for current/new rural, timber-related business operators.
- Size timber sales small enough so that small, local contractors can conduct an adequate share of restoration services (e.g., thinning, burning, watershed restoration and by-product utilization).

Technical Assistance

Most projects are benefiting from, and/or providing, a rather wide range of technical assistance services. Types of assistance being provided and received include: project management; hands-on community and project guidance and consultation in product development and workforce training; various agency involvement in project development and administrative support; grant-writing; coordinating and networking participants; ecological science research and silvicultural prescription development; economic cost-benefit computer modeling; facilitation of community dialogues; entrepreneurial development; technical, economic, and ecological research; and youth involvement.

While more in-depth study is called for, there is ample available technical assistance reaching some projects, while in others little is reaching communities and projects. In any case, there seems to be a substantial benefit from having a technical assistance component in these still-early phases of building a region-wide economic revitalization and forest restoration framework. A few projects have built in technical assistance by virtue of its membership, such as the Grand Canyon Forests Association in Flagstaff or Gila WoodNet in Silver City, both of which have partners with expertise or who are associated with service-oriented organizations. Either of these type of organizations could provide assistance to other initiatives, either now or in the future, related to low-impact harvesting equipment developments or other assistance.

The kind of assistance needed by a project or initiative depends upon where the project or community is in its development. Early on in their development, projects need organizational and partnership development expertise. Those deeply involved in actual forest restoration need ecological, silvicultural, and harvesting capacities. Much depends on where the project is geographically located; for example, near or far from a university technical assistance center.

Discussion with a number of project participants brought out areas in which they believed technical assistance is needed, including continued product development, business administration and development, market development, marketing, and workforce training.

A distinction has been made between providing assistance from the outside as opposed to within the community receiving the assistance. Currently, the benefits of funneling technical assistance dollars to the community level or to professional assistance organizations which in turn aid community-level activities are not clearly documented or understood. While it is more difficult to be part of a community as a technical assistance provider having the needed, specialized expertise, it is considered by some to be more beneficial in the long run than providing assistance from outside the community context. More remote initiatives, such as Vallecitos, New Mexico, or Wayne County, Utah, require outside assistance if they are to receive any at all. Business organization and training are often mentioned, along with access to timber.

Findings

- While projects range widely in the kind of assistance currently being received, the availability of technical assistance overall was rated as less than adequate during 2000. This may be due to a

The assumption has been made by some sources that there are not enough skilled workers to provide the kind of labor needed for restoration activities. In Vallecitos, NM, for example, we were told that many forest and mill workers have found jobs elsewhere in other industries, leaving too few workers. However, La Madera staff continually emphasized their need to develop jobs that pay good money for people in the local area. This suggests that there actually is a workforce, as well as a demand for creating jobs in the local area. Currently, it is expected that a number of workers will be needed for construction of new round wood products (see framework matrix), however they all will need training to build quality products that will sell to markets. Marketing and market development skills will also be needed to link to harvesting and milling operation, all of which it would be preferable to provide locally, rather than from outside of the area.

shortage in specific kinds of assistance available to the more remote projects.

- A lack of awareness exists on the part of some community-level participants of the kinds of assistance that are available, where to find them, and how to contact and contract with them.
- There is a need for technical assistance from providers who are sensitive to local identities and autonomies, especially in the more remote communities where there is a history of self-sufficiency.
- Remoteness of some rural communities from technical assistance providers hampers achieving regular, continual opportunities for assistance development; e.g., research knowledge is not reaching the most remote and less-funded community-based efforts efficiently, or in a timely manner.
- Locally, there is a lack of experts, such as millwrights and ecologists, who are knowledgeable about restoration forestry. Millwrights, for example, are needed for such infrastructure-building activities as retooling defunct mills for handling new materials. Ecologists are needed for understanding local forest histories and structures.

Recommendations

- Strategies should be developed to provide assistance in a regular, continual process of building capacity for self-sustaining operations.
- Technical assistance needs to be sensitive to local identities, while simultaneously recognizing the regional atmosphere of change and innovation that is driving rural revitalization and forest restoration.
- Describe where the project or community is in its development process as a key step in defining the needed assistance and how best to provide it.
- A regional technical assistance matrix should be created, showing needs by project and location, where the TA is available, how it can be delivered, and how it was successfully applied.
- New low-impact harvesting equipment is needed to practice true restoration forestry.
- Better means of exchanging research and practical technical assistance between researchers and communities should be established.

technical assistance

Madera and TA provider explore niches and jobs for workers

Jay Lynch is an old friend of Bob Dettmann, Rural Community Assistance program coordinator for the Forest Service, Rocky Mountain Region. Years ago, Bob was ranger on the Bayfield District of the San Juan National Forest. Jay lived in Bayfield then as he does now. When Dettmann asked Lynch if he was interested in helping the Madera Forest Products Association in developing new products out of small-diameter timber and training local workers to build them, he accepted.

Lynch describes his involvement in the community for the last several months as "an emotional one" that reminds him of a three-year stint in Central America as a Peace Corps volunteer fresh out of college.

"We're trying to get people to focus on producing stuff people will buy," he said describing his technical assistance role with Madera in Vallecitos, New Mexico.

Recently, Lynch and Madera members, such as Manuel Gurule and Sandra and Joe Samora, learned people will buy deck railings built of small diameter timber preserved with a dip-diffusion treatment. Madera was one of the first Four Corners Sustainable Forests Partnership projects to experiment with the borate-based preservation treatment, which was introduced to them by Tim Reader who coordinates the FCSFP Marketing and Utilization Program.

Project members hope that green logs soak in a borate-based dip will provide an alternative niche product to toxic preservations used in the US.

This spring, in response to two contracts to build decks out of small-diameter timber, totaling about $5,000, Lynch and Gurule converted a solar drying kiln built last year into a wood preservation plant. The warmer space will treat the increased amount to timber with the dip diffusion process.

Describing one of the contracts, Lynch said the untreated rustic roundwood decks at a well-known guest ranch near Durango rotted out in only 10 years.

Last year, Lynch's proposal to teach design and construction techniques needed to utilize small-diameter timber in structural and decorative trusses was accepted by the FCSFP. The project has involved harvesting green logs, preserving them, building deck rails and trusses, then shipping them to Colorado markets.

A bridge in Vallecitos, NM, built of small-diameter timber dipped in borate preservative, is one experimental product among others.

Current demand for deck railings for large custom-built homes and for gabled entry ways for affordable housing units in Colorado is strong, which makes training of local workers to build trusses "valuable up here in Colorado," Lynch said.

"If there's a demand, why can't we create a product," Lynch said. Answering his own question, he said because there is hardly anyone left in town to work, since so many workers are leaving to find jobs elsewhere.

Optimistic that they found a key to filling a product niche and a market need with the cheaply preserved roundwood, he and Madera are looking to beef up their borate supplies and use current products as marketing tools to drum up more business.

"We're promoting borate-treated materials as a safer alternative to CCA-treated materials (copper-chromate-arsenate)," Lynch said. A controversy over the health hazards of "stained green lumber" has flared up across the country. Outlawed in Japan, Europe, Australia and New Zealand, "other treatment systems will be important just around the corner," Lynch predicted.

Restoration Forestry

The restoration forestry component is characterized by two major activities: 1) developing, applying, testing; 2) monitoring of science to guide restoration and building of an infrastructure for economic revitalization. While individual organizations and projects are at differing stages of development, all are working on some facet of implementing small-diameter restoration projects, which are key to integrating economic, social and ecological goals.

During recent months, a number of initiatives have worked to integrate mill development, the purchase and development of equipment, and other harvesting-related activities. At least two enterprises are retooling and reopening mills and increasing a workforce in anticipation of the completion of national forest environmental assessments by about 2001 and 2002. While short-term developments are receiving considerable attention, a few projects are timing their goals on five- to ten-year ranges, even further to 20 years.

Current efforts at revitalization and restoration are exploring the concepts of an appropriately scaled local, small-diameter industry, and establishing restoration harvesting guidelines that are acceptable to many interests. They are encouraging the Forest Service to increase small restoration-oriented sales made available to local harvesting and milling businesses. Many hope stewardship contracting will let operators work competitively at the local level.

Some years ago, only a few silvicultural prescriptions were available for application and subsequent examination of their effects. Now, several are debated among agency, environmental, academic, and industry interests who disagree over their appropriate application. “Pre-settlement reference conditions” versus “natural functions” versus “restoration treatment” versus “fuels reduction” illustrate a range of ecosystem treatments being proposed by various advocates. Support for one or another is based upon social or political values, as much or more as on the science of ecology. Furthermore, many among the public, lacking even basic knowledge of forest biology, often argue positions based almost solely on social beliefs and values. These and other debates are affecting the capacity of local and regional efforts to progress towards economic revitalization and forest restoration, a goal that once brought people together into common vision and cooperative interaction.

While progress on the ground is hampered by regional disagreement over appropriate science and its application, efforts are being made locally to identify where and how different methods are best applied. Notably, testing and monitoring of various silvicultural prescriptions are in early stages. General anticipation is being expressed among many project-level participants looking to the future rojected monitoring results.

Despite more global forces of national policy and timber economics playing out, capacity has been building within and among initiatives to move towards various reachable goals. For example, references to a “timber” industry that operates on ecological principles are increasingly made. Strong sentiment is expressed for creating a self-sustaining, ecologically aware industry that serves as a tool to help build ecosystem and community stability. Although such an industry may not exist technically, a vision of it is growing as participants work to develop its components, such as low-impact harvesting equipment, small-diameter products, trained workers for new methods of harvesting and utilization, and other FCSFP supported efforts.

Findings

- An adequate supply of raw timber for harvesting and processing operations continues to be a priority issue for many, who view harvesting and thinning activities lagging behind product development and other key revitalization and restoration efforts. In contrast, however, the question is being raised more recently, that if there were access to the huge existing reserves of small-diameter timer, the industry would not be able to handle even a fraction of it.
- Few existing small-diameter products and harvesting processes are said to be profitable enough to sustain a comprehensive forest restoration program at a sub-regional scale. The questions of whether the current catalog of products sustain a restoration program is easily answerable at this time.
- Public acceptance, understanding, and support of economic revitalization and forest restoration are rated by many as weak, but are strongly viewed as ultimately indispensable for achieving the goals of sustainable forest restoration.
- The tension between: 1) treating forests before they are lost to catastrophes; and 2) waiting while ecological and social questions are addressed suggests a continuing social and scientific disagreement about the fundamentals of naturally functioning ecosystems.
- In some locales, Forest Service timber sales are too large for small companies to bid competitively and many believe the agency is unable to fully support community-based restoration forestry.
- A few people propose that common agreement be established concerning restoration forestry standards and guidelines; for example, a diameter cap, a Forest Service planning framework that addresses restoration, and a scientific process that guides where, when, and what types of restoration should occur.
- Despite the slow pace of implementing treatments, in part due to legal and administrative delays hampering larger scale projects, some project participants remain committed to ultimately conducting landscape scale assessments and treatments.

Recommendations

- Catalog and widely disseminate current restoration prescriptions being tested, or planned, describing the ecological context, stand structure, fire regime, and the scientific reasoning being applied in the vegetative treatment and harvesting methods.
- Utilize or encourage greater participation of university-based research and outreach to enhance public communication and understanding of economic revitalization and forest restoration.
- Expand the capacity of national forests supervisors' office and their ranger districts to conduct restoration forestry, and expand the participation of state divisions of forestry.
- Develop and utilize community-based stories to illustrate how new relationships among institutions, communities, public lands are supporting sustainable, restoration forestry and rural revitalization.

restoration forestry

Flagstaffers aim to be effective despite distrust and poor public confidence

John Gerritsma is the Coconino National Forest's representative to the Grand Canyon Forest Partnership project. Although he has been with the Forest Service for 23 years, he was not a player in the project's founding after the urban-interface fires of 1996.

When the partnership was started, there was "little communication with the folks on the ground at the ranger district" Gerritsma said. Some of the Coconino NF leadership felt that the partnership was a good idea if it could get community support for creating a more natural condition in the woods.

Also, it was hoped that the "focus of debate" would be shifted towards getting the work done, rather than criticizing the agency itself. Working around Flagstaff on restoration-type projects had been very difficult because of contentious views about restoration prescriptions.

During the first several meetings, environmentalists came with a degree of enthusiasm, and "fresh ideas" appeared along with a possibility of looking at resources from a different perspective. But then, a strong emphasis on restoration gave some "environmentalists" the impression that the partnership had adopted the "Wally Covington approach," and that it would use a single prescription for large-scale harvesting that would set a pattern across the West.

The conflict then shifted from "the environmentalists versus the Forest Service" to "the environmentalists versus the partnership."

While Northern Arizona University, where Covington does his research, possesses a lot of scientific horsepower, Gerritsma believes the so-called "Flagstaff model" has acquired a lot "stigma," becoming negatively labeled as a *pre-settlement* model.

Furthermore, it has been difficult to document and present the adaptive changes being made in the model. Some public interests defined the "baseline treatments" as the selected prescription for the whole ecosystem, which Gerritsma believes Covington wanted only for purposes of comparison.

The Partnership never planned to adopt this prescription over the whole landscape, Gerritsma said. Six to eight different approaches have been used so far in the Fort Valley project.

"We had a different perspective about the demonstration plots than we would have for the whole landscape," Gerritsma said. "We were looking for different options."

"The mistake we made was that we wanted to look at restoration on a landscape level," Gerritsma said. But it was too close to town. We have never gotten over the stigma created by the belief that we are making an open forest "carte blanche" across the whole urban interface.

The pragmatic question for Gerritsma is how the partnership should balance its commitment to sustainable restoration with urban-wildland interface whose advocates are concerned about a more expeditious approach to fuels reduction.

Before and after photos depict the changes made by restoration thinning on a harvest near Flagstaff. Proponents argue over what presecritpions are appropriate and how large they should be.

"We need to be accountable to the citizens by doing something effective with restoration" he said, that is, something that is based in sound ecological science. He then went on to ask, "Can trust be built concerning the ecological restoration approach of NAU?"

"The restoration process will take 200 years. Even if we treat only 20 percent of the landscape, let's treat it effectively. This is what the partnership is gravitating towards. That's the compromise, to do restoration well."

Innovating Technology and Cost-Effectiveness

Local entrepreneurs and organizations are beginning to develop low-impact restoration harvest machinery that is more appropriate for dense, small-diameter stands. This will achieve at least two important objectives. First, it will reduce the damage that is often done by large-scale equipment. Smaller machines that are more maneuverable in dense stands could reduce or eliminate the need for skidding. Second, it will become cheaper to purchase and operate smaller harvesting machinery, which will in turn reduce the overall cost of logging. This would create incentive for small-business operators to get involved in restoration for profit. These developments will support the common desire to have many small operators across the region.

Research is also occurring to develop software to analyze economic aspects of utilization of small-diameter timber. There is an increase in interest among some to test the software in the field and this will probably happen increasingly during the coming months. At least one enterprise in Eager, Arizona reported significant cost reducing results from using a prototype program being developed at the USDA Forest Service Pacific Northwest Research Station. The station does not intend to distribute the software, but plans to prepare a report, probably next year, which describes their findings.

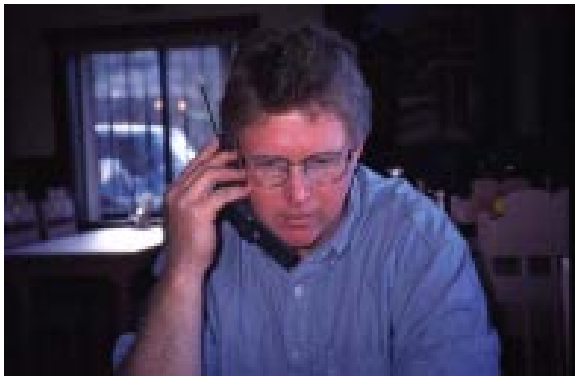
Findings

- Experimentation using a chemical dip-diffusion treatment to preserve green small-diameter timber has resulted in successful tests of treated materials and in interest in commercializing the process.
- A lack of market awareness and acceptance as an alternative to pressure-treated wood preservation is an obstacle to diffusion, however it may be less toxic than treatments that dominate markets.
- The production costs of commercial applications of dip diffusion is not clearly understood.
- At least one effort is occurring to start up a retail business using double-diffusion to treat round wood, then sell the treated products.
- At least two projects were involved in retooling defunct mills for small-diameter processing.

Recommendations

- Determine the means whereby the FCSFP's technology and product development resources can best be connected with the community-based projects and initiatives to:
  - identify research and testing needs at the project or community level;
  - determine who and where research and testing capability and resources exist;
  - communicate results of harvest technology, product testing, and material utilization from research and development centers to the local projects;
  - conduct hands-on demonstrations and workshops to increase technology transfer.

innovating technology & cost-effectiveness



Gila WoodNet founder builds new tools for community and forest well-being

Gordon West looks more like a young business man than a logger or a miller. But he has been involved in "total manage-ment" of wood products, from harvesting to value-added products, for most of his career.

Right now, West is director of Gila WoodNet, a non-profit business with a mission to develop equipment and technology appropriate for small diameter logging and to teach people to do that type of harvesting. His efforts are in association with the Community Ownership Development Council, a pellet manufacturing business in Silver City, among a few others, that will add greatly to the education and networking among forest-based workers and communities, he said.

> "I'm taking the part of my business that I enjoy and turning it into a non-profit business that helps the forest."
>
> *—Gordon West, Gila WoodNet director*

This is West's second attempt to start a WoodNet; the first was in his home state of Idaho.

A "woodnet" is not a cooperative, nor is it membership based, West said.

West's perspective is of a business man, a woodworker, and a construction contractor who has experimented on the side with developing new timber products and harvesting technology. He shows an environmentalist's value for forest health and aesthetics, and a concern for community well-being.

"I'm taking the part of my business that I enjoy and turning it into a non-profit business that helps the forest," he said. His part has been to fabricate a "yarder-forwarder" out of a "Nikken off-road articulated dump truck," that will lift and load freshly cut logs onto a trailer, making it possible to reduce or eliminate the need for skidding.

Gila WoodNet's non-profit approach is necessary for its overall mission, which is to test the principle of harvesting and adding of value to pine only 5-12 inches in diameter. West and colleagues established a non-profit organization rather than a commercial operation because, "we know we can't do it as a commercial business, so we don't have to have big trees to pay for it."

West and Todd Schulke, a member of WoodNet's Board of Directors, also with Southwest Forest Alliance, say that it's time to more seriously consider the need for society to pay the cost for forest health. They reason that if the timber industry and the Forest Service had begun logging the nation's forests with an ecological, rather than an industrial, emphasis we would not have today's forest health problems.

The issue for them and others is not jobs and lifestyles of traditional land-based economies, but what is best for the ecosystem, West said.

"Who knows all there is to know?" he asked. Not enough people know what ecologists have learned about the biology and the structure and functions of ecosystems, he adds. If they did, particularly those who live in rural areas located near public lands, they would be better equipped to deal with social and economic changes their communities are experiencing.

A Memorandum of Understanding has been prepared between Gila WoodNet and the Gila National Forest in conjunction with a restoration project being prepared for harvesting the summer of 2001. The MOU is an agreement to cut only according to the prescription to improve ecological conditions. Gila WoodNet will try to use whatever comes out of the harvesting.

"We're agreeing to not let economics be part of the equation at all," West said. "The economics start with the by-products of the harvesting. There's got to be an element of patience. If we can do this correctly now, the trees will get bigger and the forest healthier."

Product Development

Much research has occurred to create products made from small-diameter timber. Several kinds of potential products have been generated among the various projects. Interest in product development is focused and intensive among such partners as the USDA Forest Service, the Forest Products Laboratory (Madison, Wisconsin) and small, local timber business owners and wood workers.

Products that fill market demand are considered essential, however it has been difficult in many cases to match products with market demand. Small-business owners, academic and agency researchers, and others are attempting to develop niche products that respond to local demand. Some are making progress in developing products that are attractive in regional and national markets. Making products available in large volume to large markets remains a key to making commercially viable restoration profitable. This is key also to removing large volumes of raw material in order to effectively restore forests in a timely manner. The distances from product manufacturing locations to markets is a key factor that has also come into play.

Products being experimented with, or sold, by evaluated projects include: fireplace pellets and logs; structural sawdust/cement blocks; vigas; beams; rough-sawn dimension lumber; a greenhouse; solar drying kilns; a potential new standard of "3x" laminated dimension lumber; fence posts and poles; latillas; cants for shipment to Mexico where pallets are constructed; furniture; firewood; an inexpensive, safe chemical treatment to preserve round wood; and an assortment of crafts, such as jewelry boxes, lamp stands, and flutes.

Even with all of this momentum, a lack of confidence exists within private industry to invest in developing products. The future availability of raw materials from national forest lands remains a significant limitation for many locales. Not only is confidence weak in the overall regional ability to move raw materials from the woods to value-added processing, and then to consumer purchases, but little thought is occurring, or at least is being widely shared, about a more holistic picture of regional revitalization and forest restoration.

Findings

- While product development has received, and still receives, emphasis from a wide range of interests, many say that further small-diameter product development is necessary (as evidenced by 2001-02 demonstration grant funding).
- While a couple of enterprises show some promise of profits, most projects are still in an initial phase of developing products and testing them. As a result, there is not yet enough data to quantitatively demonstrate the results of small-diameter timber product development in the marketplace.
- Stress testing of small diameter timber is one need being referred to most recently. Biomass for energy development is another area of interest, especially in Arizona, but increasingly in all four

product development

product development

Four Corners states.

- There is somewhat of an atmosphere of entrepreneurship in early development and a growing demand in a couple of areas to provide custom home products, such as timber beams, house logs, and other specially crafted products for homes.
- A fireplace log manufacturing plant began operation during summer 2001 at a defunct mill in northern Arizona that potentially may be able to move large volumes of waste material and small-diameter material.
- Small-diameter sort yards and small-business incubators are being planned at two mill sites as part of overall activities. No progress has been reported, since these endeavors are barely beyond the idea stage, and not fully implemented.

Recommendations

- Publish a comprehensive catalog of small-diameter products being developed, tests of their attributes and suggested uses, and potential products for further development.
- Develop a document that catalogs various material utilization methods and analyzes their cost-effectiveness.
- Illustrate through stories that entrepreneurship is sometimes as important to successful utilization as technical product development.
- Increase opportunities for demonstrating new products and materials utilization at state and regional workshops.
- Support attendance of project participants to the Smallwood 2002 conference planned for May i Albuquerque.

Mike Casebier, General Manager LB International

Revived Winslow mill recycles biomass and fresh hope for the future

Not since the timber industry declined has Winslow seen such a promising timber enterprise come around

Private entrepreneurship and investment stand to be major forces in the restoration forestry movement that seems to be grab bing the West. So much so that Jim Lehman and his "stockholders" are risking the purchase a 68-acre mill site in Winslow, Arizona and transforming it into a manufacturing plant.

Lehman and General Manager Mike Casebier spent months renovating the old planing mill to manufacture fireplace logs made with waste paper and "biomass," which is a fancy word for anything from nutshells to slash and small-diameter chips from restoration harvests.

The logs, trade named "PureBlaze," are stamped into shape by specially designed machinery into the size and shape of a cinder block. They are fibrous like cardboard that has been soaked in liquid wax, smashed in a trash compactor into its finished shape, then air dried.

Asked about the process of manufacturing the logs, Lehman said in a matter-of-fact tone, "It's boring really."

A tour of the mill confirms that the actual manufacturing process is the most boring part of a remarkable story. Not since the timber industry declined from changes in national forest policy and management, and shifts to environmentally sensitive views towards public lands has Winslow seen such a promising timber enterprise come around.

Lehman, who described his lot as a lifelong effort to develop an environmentally useful business, has been experimenting with his log-making business for two decades.

This time, he believes, the timing is right. Things are falling into place. Funding and facilities are coming together. Market demand is strong and supplies of waste paper and biomass seem endless. The railroad spur at the mill can export to markets nationwide. The world is ready for ecologically appropriate products.

"Our goal is not just profit," Lehman said. Better fuel for heating and sustainable economic development are major motivations behind LB International, he said. A small-diameter sort yard and small-business incubator site are planned at the site to support restoration efforts.

News about LB International spread quickly last summer around Winslow, which has suffered from a depressed economy. Many out of work laborers, anticipating the plant's opening, harbored hopes of landing a job. Several regularly knock on the office doors asking for work.

"We have a stack of filled-out applications this high," Mike Casebier said holding his thumb and forefinger about two inches apart.

"Three or four men a day sometimes come by," he said. Sure enough, three middle-aged Hispanic men knocked while he spoke and asked if he was hiring yet.

"Not yet, but keep checking back," Mike said optimistically.

"They've been by before," said the office manager, who then described Pancho, the only man they had so far hired as a groundskeeper.

"So many men were coming and asking for jobs that one day I told Jim and Mike, 'Give one of them a job! If we're not ready to open up for business, at least show them we intend to!' So we hired Pancho as groundskeeper and just look at the place. Look at the work he's done. He's been great!"

LB International began production during April 2001. Lehman and Casebier hired six workers to prepare for opening and six more afterwards.

Lehman said hundreds of jobs could be created in connection with possible development of a high-speed, small-diameter sawmill at the business park being planned for the 68-acre mill property.

Market Development and Marketing

The overall movement of community-based forestry seems only now to be nearing a point where promotion can be effective. Marketing relies on the development of products and identification of markets before it can begin to bridge the two as part of the business of timber harvesting and timber products industries. Despite the general sense that the market development factor of the equation is weak and needs continued pursuit, projects and initiatives have been linking to markets with modest results. At least 10 general markets can be linked with the FCSFP projects being evaluated and more probably exist beyond what has been documented so far.

In some cases, the market has been identified, but often is not large enough or close enough to where the products are created. Many markets are localized and tied to local products, thus constraining growth potential. However, few existing initiatives or enterprises are confident about the availability of raw materials from forests to invest resources on broader market development.

Few initiatives have focused exclusively on market development. Most organizations are focusing on product development as a step prior to identifying new markets; however, combining product with market development appears to work better when markets are already known. In contrast, some success has been experienced by first finding markets with a demand that already exists (whether local, regional, or beyond), then developing products to deliver to them (for example, energy and biomass). In some cases, a product is readily adapted, or value-added, to meet the demand.

Much of the reason for the lack of marketing activity stems form a lack of expertise and vision in marketing among project participants. Projects show a range of ability to conduct market development. The most rural communities lack expertise in market development, as well as marketing, in addition to being physically distant from potential markets. Those with the most resources for research are obviously in the best position to lead the way in researching market potential.

Findings

- Areas of interest identified through the evaluation that are part of activities or on the drawing board include:
    - Locating markets for new products,
    - Creating products for previously unknown markets,
    - creating value-added products for existing and new markets,
    - expanding the market area available to projects and initiatives,
    - locating affordable transportation modes to link to markets,
    - building or importing greater expertise at the local level for developing markets and conducting marketing, and
    - developing marketing tools, such as websites.

- Markets that have been identified include: arts and crafts; local and regional home construction and landscaping (including developers, homeowners); firewood, including southern California; pellet manufacturers and consumers; restaurants (Vallecitos greenhouse); local craftsmen and woodworkers (solar drying kilns); farm- and ranch-related; recycling; furniture; pallet manufacturing.
- A growing need is to expand the market area that is available, or potentially available, for initiatives into more regional and national scales. One area identified has to do with developing an artisans, cultural image, similar to that created for American Indian weavings.
- Benefits of adding value to existing products as an avenue to providing for existing and new markets is generally accepted as conventional wisdom. However, it is not clear how much work has been done on a regional scale to better understand potential or existing markets for use of new products. More specifically, no known documentation exists on the flow of goods, services, and dollars related to direct base (exports), indirect base (business to business), and residential services (spending within community business to consumer).
- Business development aimed at larger market areas appears to be increasingly favored and appears to be linked to desires to develop larger-scale harvesting of larger volumes of raw materials.
- While market development and marketing are considered vital components for success, sources of building technical expertise or bringing this assistance to the local projects are not plentiful.
- Although a number of products are being developed and limited markets exist, there are not yet adequate economic incentives to support significant capital investments in many of the projects.

Recommendations

- Encourage further market research at research stations and academia where resources are more available and through which new knowledge can be disseminated to community projects.
- Identify and disseminate sources of market development and marketing, including assistance providers, local and state government departments, colleges and universities, and private industry.
- Begin gathering data that outlines the flow of goods, services, and dollars in and out of communities as a baseline for eventually identifying sustainable economic opportunities.
- Put a story on the product. Whatever the product is, tell the story inherent in the product when it is presented to the consumer. Give customers a chance to know what they are buying and that they are contributing to community economic revitalization and forest restoration, sustainable ecosystems and communities, and social well-being.
- Create marketing training opportunities for local operators in such topics as trade shows, technology and computer use for design and business management; designing and preparing print materials (brochures, photos, ads, etc.); accessing the media; finance and business issues relevant to small woodworking businesses; marketing round tables; marketing processes.

market development & marketing

Monitoring

Whether motivated by political or ecological reasons, most everyone who participated in the evaluation study recognizes and agrees that monitoring is an essential component of local and regional efforts. While *ecological* monitoring is commonly mentioned, *economic and social* monitoring are important components as well.

The development of a monitoring process for economic revitalization and forest restoration is considered by all as essential to transforming evaluation findings into positive organizational actions. Tracking progress at different points in the revitalization and restoration process also aids the integration of monitoring with project implementation and operation.

So far, all initiatives are reporting almost no ecological monitoring since little harvesting has been done. Some baseline data is being gathered by one project and proposals for guiding monitoring methods are being made by another initiative. Some economic study findings are available, as well as computer software to employ in harvesting, utilization, and cost-benefit analysis. Little, if any, social evaluation has been conducted, documented and distributed. Both social and economic analysis, such as this evaluation, is producing early data about initiatives and projects that can be monitored for changes over time.

It is generally considered important to continue describing where local and regional projects are in their process of evolution as a basis for building an informational foundation for continued monitoring.

Findings

- A number of computer software programs are being developed that track economic elements of restoration forestry. The USDA Forest Service Pacific Northwest Research Station and Northern Arizona University (Ecological Research Institute) are involved in computer-based modeling. Both are developing software in partnership with members of a couple of projects benefiting from FCSFP funding.
- Overall progress in forest restoration has not occurred long enough for monitoring to become an immediate focus. While some monitoring of prescriptions may be occurring in conjunction with actual harvesting, new knowledge gathered from monitoring is not widely distributed.

Recommendations

- Formulate monitoring tools, including a self-assessment scorecard/workbook, success criteria matrix, and an infrastructure map of product transportation and utilization, all of which can be useful for determining where projects and regional efforts have come from, what their current status

monitoring

is, and how far they could potentially advance, given current realities.

- Encourage multi-party monitoring, which is considered more successful and creates opportunities for relationship building among diverse entities possessing distinct views.
- Create a reporting format for monitoring the social, economic, cultural, and ecological components of community and ecosystem management.
- Standardize a monitoring and project planning framework as a basis for adaptive management that receives general support from diverse organizations.
- Computer-based software for economic analysis that catalogs and analyzes restoration-related activities should be developed, then disseminated to stakeholders.

Information Dissemination

Information dissemination is typically defined as transferring information to various audiences in order to generate awareness, inform, educate, persuade, network and so on. It is a positive attribute of an effective organization. The general goal of information dissemination is to cultivate awareness and understanding of a topic in order that the listener or recipient can use the information in their own situation or in a new application.

Newsletters and at least one newspaper are the tools most commonly utilized by FCSFP initiatives for spreading information to broad audiences. Not all projects develop these media. Conferences and workshops have been put on by the larger initiatives, but the smaller ones have not built a dissemination process from their communities. This is not due to a lack of interest, but to a lack of journalistic skills, communication resources, or the project is not ready to share accomplishments. Indeed, many projects need information flowing into their communities more than out of them.

A couple of projects are in the initial phases of developing and seeking funding for extended educational programs that reach and involve K-12 school children. Their dissemination strategy is based on a generational timeframe, as project organizers aim to instill in young people natural resource and community values to prepare them for adulthood and for building careers.

Still other FCSFP members seek more interaction with members of other initiatives and projects. They see opportunities to compare their experiences as the best means of learning about how to make progress in restoration forestry and rural revitalization. However, this can often be difficult because of distances, costs, and the energy it takes to create occasions for interaction.

Lack of public participation in, and a common understanding of, ecological restoration is increasingly pointed out as a barrier to progress. Education and civic dialogue, generated through information dissemination, are widely accepted as means for overcoming the barriers. In a couple of initiatives, efforts are being made to expand public participation and increase public acceptance regarding forest restoration, and the

information dissemination

information dissemination

science underlying harvesting prescriptions and projects. In one partnership, ideas are being explored to increase public dialogue and involvement by setting standards for restoration in the Southwest.

A growing volume of research studies and papers is being generated, which can contribute to a broader understanding of sustainable forest stewardship. Topics covered include ecology, resource utilization, and economics of restoration among others. Two areas of need are viewed as being particularly significant: first, that restorations be designed to fit specific ecosystem needs, and that ecologists, economists and other scientists, perhaps through a university connection, study and teach the silvicultural, economic, community needs of specific locales and landscapes. Obviously, practical avenues for obtaining such knowledge and disseminating it to community-based people and organizations are not always available, especially in distant rural areas.

While monitoring of prescriptions may be occurring in conjunction with actual harvesting sites around the region, new knowledge gathered from this specific monitoring is not widely distributed from researchers to wood industry workers and scientists, and to the public in an understandable and useful format.

Findings

- Because local projects are pursuing their specific, and some times unique goals in relative isolation, there is considerable difficulty in providing timely updates of work in progress and results.
- Opportunities for information sharing within and across local and regional communities, while desired, is not keeping pace with the degree of learning occurring on specific FCSFP projects.
- There is a lack of communication infrastructure needed for project participants to interact regularly on a regional scale—to learn and disseminate lessons, to discuss issues, and to network.
- More communication and information sharing is needed between FCSFP state coordinators, steering committee members, and project-level participants.
- A need was expressed for more effective support between projects and the USDA Forest Service and related state agencies for community-based forestry initiatives.
- Some criticism of communication styles of some agencies on critical issues involved, such as wolf reintroduction or the scale of a proposed harvest, hinders the ability of all interests to communicate productively.
- Region wide, few means exist for disseminating important lessons learned and project accomplishments to key audiences that are specifically designed to build information, awareness, understanding, acceptance and participation in restoration forestry and community sustainability.

Recommendations

- Regular, continual, long-term information sharing should be funded and implemented across multiple geographical and jurisdictional boundaries, utilizing diverse media strategies. Ongoing communication among project coordinators, industry representatives, community leaders, and other participants across the region would enhance learning, collaboration, and public support.
- Create civic dialogue, workshop, and various dissemination programs across the region to increase the education and involvement of stakeholders and the general the public.
- Effective efforts are needed towards expanding public participation and increasing its confidence regarding forest restoration, the science underlying harvesting prescriptions and projects, and agency and partnership organizations.
- Strengthen efforts to employ specific communication means, utilizing a full range of media to present news and issues in constructive and knowledge-building ways, including newsletters/ papers; online listserv/news service; (semi) annual seminars; video programs; field interviews and dialogues.

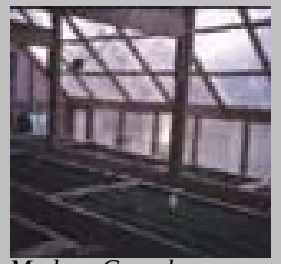
Sandra Samora and Cindy Seely found a master gardener from Telluride to provide technical assistance to Madera Forest Association in Vallecitos, New Mexico by browsing the Internet.

Sandra Samora

They were searching for someone who could help them design a greenhouse for their high-altitude climate. There was no chance that they would find such a person in the local area.

Cindy Seely

Even while the greenhouse is enjoying some success in its first year of its vegetable growing operation, it is difficult to foresee the degree of success a greenhouse built of locally treated roundwood will have as a kit that Madera is considering producing. The fact that the sisters were able to find someone willing and able to share her expertise with Madera and Vallecitos shows the power of communication tools to help the community towards its goals.



Madera Greenhouse

Summary Conclusions

What is the current strength of the movement to revitalize rural community economies and restore forested landscapes? Where is it progressing, where is it stumbling? How successful will the movement be? Will many people need to change their thinking and actions accordingly as realities are newly understood? Given current realities, what can we do now to address immediate needs while also working towards a long-term regional vision? These are some of the questions posed in connection with evaluating demonstration projects that received funding from the Four Corners Sustainable Forestry Partnership in 1999-2000.

In addition to these questions, the following synthesis of findings gives a sense of current status of the overall efforts of rural community economic revitalization and forest restoration, as well as identifies some of the issues brought out during the evaluation. Some of the findings presented here, and in more detail in the *Evaluation Report,* are posed as potential future strategies to implement.

Overall, the listed summary themes are meant to stimulate discussion among steering committee members that generates greater understanding about rural community economic revitalization and forest restoration in the Four Corners. It is hoped that the discussion will identify actions that stem from a better grasp of current realities and the needs they reflect. Through dialogue, current themes can be more accurately articulated, and previously unknown or overlooked themes, issues, or developments may emerge. The themes are not in any order of priority.

Organizational Sustainability

The vitality and sustainability of community projects is being constrained by internal partnership diversity and a lack of external, resource management policy support for restoration. Attempts to remain inclusive of the many interests at the local and regional level, and develop a cohesive partnership strategy, demand considerable organizational resources. Community-based efforts are also constrained by diverse and often disparate perspectives about restoration goals and methods, and the linkage to rural revitalization.

Networking and mentoring among some of the projects may offer opportunities for collaborative learning and problem solving. Clarification of restoration goals and policies, and careful integration with rural community development goals is a challenging, long-term need.

Public Support/Community Involvement

Most community projects have not been able to develop broad community awareness and support to a degree that could deepen public understanding of restoration needs and economic revitalization goals. Preparing descriptive and personal stories about community stewardship efforts, as well as sponsoring forums on the civic benefits of sustainable forestry and community health, are potential strategies to pursue.

Agency Communication

Many projects suffer from a limited avenue of communication with the relevant state and federal land management agencies. Specific project needs for moderate amounts of wood products and technical support could be addressed more efficiently through a much stronger, or formal, liaison between the project and federal and state land agencies. Clarification between the roles of the four state foresters and the local national-forest leadership would enhance communication.

Restoration Economics

Many believe there are pros and cons to a restoration economics policy which says that returning the forests to a sustainable ecosystem level should be funded through revenues from the thinned materials. While in some instances the thinning itself can be reimbursed, the costs of more in-depth watershed restoration activities cannot be offset by traditional economic (commercial) development, given the scale of ecological challenges. Some believe that a more sustainable ecosystem can be achieved if the ecology is the primary goal. This will prevent gearing up a "traditional timber industry" which is economically sustainable, but some spokespersons believe is not the direction for the future. An appropriate regional economic strategy for forest restoration is needed.

Funding Strategies

Community-based projects express specific funding needs that address their current situation. Funding requests for equipment and staff have been increasing. Linking regional FCSFP funding strategies with local needs is critical over the long-term. How can local needs be translated into a regional vision of community and ecological sustainability? Can communities be engaged in a strategic assessment of needs that better prepares them individually and regionally for the on-going processes of social, economic, and ecological adaptation?

summary conclusions

summary conclusions

Developmental Training

Training needs include not only concerns about skilled persons to work in the woods and mills, but also to adapt to the greater context of social and economic change and the new demands of entrepreneurship. Restoration forestry, in its many dimensions, requires technical, business and community organizing skills. Local communities need to be able to acquire these skills for their citizens and work out cooperative arrangements for pooling and sharing expertise, capital, equipment and markets. Knowledge about restoration ecology and timber harvesting should be supplemented by business entrepreneurship, community development and strategic marketing skills.

Economic Scale

Restoration sales and project sizes need to be scaled to fit small business and redevelop capacities of a small- to moderate-size, rural timber industry. Timber sales, which are too large in scope, will exceed the capabilities of local communities, defeating the purpose of rural revitalization. Creating a balanced and integrated system of harvesting, restoration, and utilization will be a significant challenge, not only for the local communities, but also for the public land managers.

Technical Assistance Needs

Getting a handle on technical assistance needs consists of a careful connection between specific project development strategies, local cultural values and identities, and assistance availability. Geographic remoteness and sensitivity to local community lifestyles present unusual challenges. Helping communities know what technical assistance they need, without disempowering them with external aid, needs to be a specific objective. A regional technical assistance matrix of available subject matter and sources, utilized in tandem with a collaborative assessment of local needs would be appropriate.

On The Ground Restoration

Actual restoration is still being limited by a variety of obstacles—by debates about the basic science of forest restoration, by differing social values concerning the role of public lands—in communities, the region and nationwide—by a lack of standards for restoration harvesting methods, by limited public understanding and support for community-based restoration, and by reduced land agency capacities to adapt in order to integrate resource stewardship and economic revitalization in rural communities. The long-term, adaptive

management and community development nature of restoration and economic development needs to be recognized and addressed.

Marketable Products

Community projects, or other enterprises, are making some progress in finding uses for small-diameter materials. A couple are making breakthroughs in entrepreneurship, efficient utilization of underutilized materials, and adding value to raw material. Many more projects need product ideas ready to work on, or implement, and that have market opportunities beyond local areas. A catalog of feasible small-diameter products, attributes, uses, with accompanying methods and costs of production, and market locations and pathways, would be useful. Regional market feasibility of value-added products needs to be addressed.

Regional Infrastructure

Many community projects are operating within local community and county economic systems. While some are succeeding at this scale, the issue arises as to the long-term viability of a revitalized, restoration-oriented, wood products industry. An examination of the regional infrastructure for product availability and flow, transportation capacity, diversified processing and marketing is warranted. Suggestions have been made for the development of a wood products industry and an infrastructure assets and needs map.

Partnership Communications System

Information that stays abreast of local community partnership and project developments, as well as the strategic processes of the FCSFP, is a significant need. A regional communication infrastructure, supported by increased state coordinator interaction, and occasioned by civic dialogue with relevant publics about integrated restoration forestry and rural revitalization, is a significant need. Progress, which is being made by local communities and projects, needs to be shared in a collaborative learning mode. Policy issues and networking needs could be surfaced in a more timely manner. The fundamental identity of the regional partnership could be advanced with increased communication, networking and mentoring.

Balance and Integration of Strategic Goals

The six strategic goals of the FCSFP address essential themes: “merge environmental and economic concerns; strengthen and diversify rural economies; increase regional expertise on small diameter wood

summary conclusions

summary conclusions

utilization, marketing, and innovative forest restoration strategies; reduce the loss of natural resources as well as improve wildlife habitat; develop and expand markets for products made from small diameter material; and increase regional agreement and understanding around forest restoration through numerous learning forums."

Based on the first year evaluation, these remain appropriate regional goals.

However, for some participants, the FCSFP initiatives are primarily about rebuilding a stable, wood products industry in previously timber-dependent communities. For others, the FCSFP is a means of implementing forest restoration, and for others still it is a "fuels reduction" strategy. While the FCSFP can work to achieve all of these goals in an integrated manner, to evaluate its projects solely on the basis of just one of them, would be to judge it a near-failure on the others. Keeping each of these overarching strategies in play, and in some degree of balance relative to the other, is essential given their importance in the region, but it makes reaching a cohesive regional partnership more challenging. The future identity, public acceptance, and sustainability of the partnership's efforts may depend largely on the degree to which it can coordinate, balance, and integrate its goals and strategies.

References

A Systematic Assessment of Community-Based Resource Management Partnerships. http://www.umich.edu/~crpgroup/proposal.html .

Conley, Alex and Ann Moote. (2001, Feb.). *Collaborative Conservation in Theory and Practice: A Literature Review*. Tucson, AZ: Udall Center for Studies in Public Policy, University of Arizona.

Gray, Gerald J., Maia J. Enzer, and Jonathan Kusel (eds.). (2000). *Understanding Community-based Forest Ecosystem Management*. Haworth Press.

North Central Regional Center for Rural Development. (2000). *Measuring Community Success and Sustainability*. Ames, Iowa.

Five overarching goals are identified in this interactive workbook that readers may find useful in guiding the development of understanding and decision making. The goals are visions for guiding activities associated with community economic revitalization and ecosystem restoration. The five types of outcomes consistently identified by members of rural communities in the research clearly are relevant to the Four Corners Sustainable Forests Partnership. The five outcomes may be useful to steering committee members, communities, and projects for identifying goals that accurately account for reality and for measuring progress towards achieving them. The task of measuring progress can be narrowed down by using the five outcome areas as guides. They are: Increased Use of the Skills, Knowledge, and Ability of Local People; Strengthened Relationships and Communication; Improved Community Initiative, Responsibility and Adaptability; Sustainable, Healthy Ecosystems with Multiple Community Benefits; Appropriately Diverse and Healthy Ecosystems.

Sonnichsen, Richard C. (2000). *High Impact Internal Evaluation: A practitioner's guide to evaluating and consulting inside organizations*. Thousand Oaks: Sage Publications.