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Science

F I N D I N G S

“Science affects the way we think together.”

Lewis Thomas

ABSORBING THE SHOCK: HELPING COMMUNITIES WHEN CHANGE ERUPTS



▲ A \$1.73 million NWEAI project in Rufus, Oregon, along the Columbia River included these two storage tanks, a new well, and an upgraded distribution system. The project enabled the community to comply with the Safe Drinking Water Act.

“The NWEAI should have long-term favorable effects and be implemented in a far-sighted, strategic manner.”

Northwest Forest Plan, 1993

“We’re from the government, and we’re here to help.” The cynicism in the old cliché is obvious: we all supposedly know what happens when the government arrives in the community to “help.” But what if effectiveness is a primary focus of their efforts? And what if they have more than \$1 billion to spend?

When the Northwest Forest Plan went into effect in 1993, it included the Northwest Economic Adjustment Initiative (NWEAI). The NWEAI was designed “To develop, stabilize and augment the capacity of individuals, businesses, communi-

ties, and tribes to adjust to, and thrive in the face of, declining timber harvests, by increasing the scope and effectiveness of federal investments in economic and community assistance, through improved coordination and integration of federal, state, and local resources and efforts.”

Simply put, the region was in crisis. Changing natural resource management policies meant that timber harvest from public lands between 1989 and 1994 decreased by 80 percent, from private lands by about 25 percent. Clearly, in a region covering many communities dominated by timber-based industry, the economic transition was not going to be easy. And while government help was available, it came with difficulty and in a dozen different forms.

“Prior to the timber crisis, specific authority for job retraining, community and

I N S U M M A R Y

Changing natural resource policies and new ecosystem management strategies affect the people of the Pacific Northwest. But in what context are these changes happening? How can we measure them? And how are they related to economic and community development activities?

When the Northwest Forest Plan was implemented, it included the Northwest Economic Adjustment Initiative, which was designed to mitigate adverse economic change and increase federal, state, local and tribal collaboration.

A research team at the Pacific Northwest Research Station has investigated the previous questions and developed interpretation and supporting geographical displays of an array of social and economic indicators to answer them.

The research results provide economic development practitioners and ecosystem managers with the foundation for effective ecosystem management and economic development that will be relevant and respectful to the people of the region.

economic development, and ecosystem restoration work was vested in no fewer than eight federal agencies and five Cabinet departments,” says Terry Raettig, an economist (now retired) with the PNW Research Station in Olympia, Washington. “Within the broad array of rural development programs, there was no common basis for assembling and considering proposals from client communities and organizations or addressing barriers to effective implementation.”

Could this familiar paradigm be changed?

Raettig worked with Chris Christensen, leader of the Rural Economies and Communities Team in the Seattle Forestry Sciences Laboratory, and Ellen Donoghue, a research social scientist at the Portland Forestry Sciences Laboratory, to examine the effects of the NWEAI on changing social and economic conditions.



KEY FINDINGS



- There is considerable variation in economic diversity, economic growth, and social well-being across the region. Dynamic changes in social and economic well-being are occurring that are directly linked to changing natural resource management policies.
- Timber harvests across the region have fallen markedly since 1990, with particularly large decreases on public lands. Employment in the forest products industry also has decreased, especially in the primary processing sectors, and in counties most dependent on federal timber harvests. But total employment has increased in most counties.
- The Northwest Economic Adjustment Initiative has effectively delivered services to many counties and communities affected by changing natural resource policies. It has emphasized multilevel partnerships, seamless service delivery, and active local participation.
- The Northwest Economic Adjustment Initiative serves as a model for one approach to mitigating the impacts of ecosystem management strategies.

THE GIANT FEDERAL EXPERIMENT

The NWEAI started out as a giant federal experiment, but it has worked in the region because one of its major objectives was to increase federal, state, local, and tribal collaboration,” says Christensen. “To get effective collaboration, in the economic just as in the ecological arena, you need all the different voices at the table.”

The basis for its innovative nature came directly from the set of principles behind the NWEAI. Briefly, it was to have long-term favorable effects and be implemented quickly but in a far-sighted, strategic manner. It was to deliver assistance based on geographic needs rather than conventional programmatic requirements. It was to be region-specific and tailor assistance to many different kinds of effects associated with forest policy changes, specifically by incorporating a high degree of state and local participation.

Chief objectives, Raettig explains, included creating an environment for long-term economic development that respected the character of the communities and their natural resources, as well as developing new mechanisms for delivering assistance. “Funding based on performance, on creating new opportunities and sustainable

jobs, was to take precedence,” he says.

Community Economic Revitalization Teams (CERTs) were established at both the regional and state level, along with a multiagency command in Washington, DC, to provide policy and oversight. Each had specified review activities; key among these were to assure equitable funding, consistent service delivery, and improvement in process.

The CERTs provided coordination between the various entities involved and provided the basis for community empowerment. Local commitment was required and typically emphasized coordinating and consulting with local stakeholders about public participation and demonstrations of commitment through in-kind and in-cash contributions.

“Community-focused economic development enables the NWEAI to capture a community’s flexibility and creativity, its ability to recognize its problems and concentrate on solutions, service delivery, and its commitment to its members,” Raettig adds.

“The emphasis on multilevel partnerships, seamless service delivery, and active local participation has avoided many of the

pitfalls of traditional economic assistance programs,” says Donoghue. “It is a time-demanding process to remove interagency barriers and then keep them down, but CERT leadership worked hard at this, and they’ve seen a lot of positive community changes as a result.”

To be able to judge the effectiveness of government-funded community development activities during a difficult transition, the research team first reviewed many social and economic changes.

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To provide scientific information to people who make and influence decisions about managing land.

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THE COMPLEXITY OF COMMUNITY CHANGE

To see how changing natural resource policies are affecting the people of the Pacific Northwest, many questions have to be addressed, Christensen explains. What are the opportunities and impacts? In what context are they happening? How can we measure them? How are they related to economic and community development activities?

“There is a growing awareness that ecosystem management decisions and actions must explicitly consider the human dimensions of the ecosystem as well as the biophysical dimension,” she says. “Coherent interpretations and supporting geographical displays of an array of social and economic indicators help us to answer these questions.”

One of the challenges for researchers was to develop a useful set of indicators to monitor the social and economic dimensions of well-being. What should be included? Which indicators were proxies for other trends? Which indicators had to be excluded for lack of resources to pursue them, and would this affect the resulting pictures of the region?

“The Record of Decision asked for information on the effects of federal actions on rural communities, but it was difficult to get down to the level of communities with the funding we had,” Christensen explains. “We based our study on the county level, but what is really needed is to go in both directions from there—down to a more detailed level, and up to an aggregated larger landscape.”

Donoghue adds, “Important stories are being left untold if we look only at the county level. Identifying communities is crucial when we’re trying to measure social and economic well-being across such diversity. In the northern spotted owl region, we have identified 1,300 communities with a combined population of 4.5 million people.”

In addition, the team was brought in after the initiative was set in motion, thus forcing them to do a retrospective rather than a more indepth concurrent analysis.

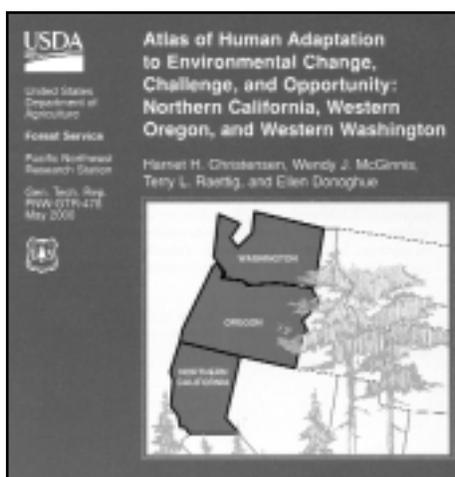
“With increasing populations, shifting public values, and global influences,

🏠 **LAND MANAGEMENT IMPLICATIONS** 🏠

- The location, patterns, and magnitude of social and economic conditions and changes including interpretation and analysis are the foundation for including human considerations in ecosystem management and planning.

- The location and magnitude of changes in timber harvest levels and associated changes in forest products industry employment are an important consideration in targeting ecosystem management activities that offer alternative or enhanced economic development opportunities from natural resource products and services.

- The lessons learned from implementing the NWEAI provide economic development specialists with the opportunity to replicate institutions, activities, and practices that have worked and discontinue or improve those that have not.



▲ *The Northwest Economic Adjustment Initiative was a part of the 1993 Northwest Forest Plan, designed to help communities adapt to changing natural resource policies in the tri-state area.*

change is of course inevitable,” she admits. “But how change is dealt with is a central question right now, and while research has a lot to offer, we are still grappling with which indicators should be pursued and to what depth.”

What came out most clearly is that community change and community response to change are complex issues that are difficult to track.

“The impacts are naturally not uniform from county to county or rural area to rural area; in fact, neighboring counties can have quite opposite changes,” Raettig points out. “Regional economics as a field has tended to build up from the county

NWEAI FUNDING BY CATEGORY OF ASSISTANCE			
Category of assistance	Fiscal year		
	1994	1995	1996
- - -Percent- - -			
Workers and families	7	9	6
Business and industry	31	23	29
Community and infrastructure	37	53	50
Ecosystem investment	25	15	15
Total	100	100	100

Source: Tuchmann and others 1996.

▲ *The NWEAI funding provided four categories of assistance.*

level, and this works well in the Midwest or the South, where counties are generally smaller, but in the West you get greater extremes within single counties.” He cites as examples King County, Washington, home to Seattle and many small rural communities, and Lane County, Oregon, home to such vastly different cities as Eugene in the Willamette Valley and Florence on the coast.

The team’s research produced “The Atlas of Human Adaptation to Environmental Change, Challenge, and Opportunity: Northern California, Western Oregon, and Western Washington,” a collection of data and stories in a mapped format the researchers believe will become increasingly common in socioeconomic assessments.

WRITER’S PROFILE

Sally Duncan is a science communications planner and writer specializing in forest resource issues. She lives in Corvallis, Oregon.

MAPPING PEOPLE AND COMMUNITIES

The atlas attempts to synthesize the diversity as well as the social and economic health of the Northwest Forest Plan region. It seeks to demonstrate how and in what direction change has occurred.

The maps in the atlas answer the following questions: How are Pacific Northwest communities changing in the face of reduced timber harvest, and what have been the effects on private timber harvest and county revenues? How have populations changed, or selected social issues such as rates of poverty, property and violent crimes, and alcohol-related incidents? Is the study area singularly dependent on natural resources, and what federal assistance has aided cities and rural areas?

“With this document, the stage is set for dialogue, debate, and development of a set of clear indicators that can be monitored through time. The atlas is a tool for decisionmakers, civic leaders, economic development practitioners, researchers, and others interested in understanding change, easing the transition, and finding and pursuing opportunities to enrich society,” Christensen notes.

It is beyond the scope of the atlas to explain the “why” of change, she says. This would require a scientific research design with well-defined dependent, intervening, and independent variables. Change in a community or county, such as high immigration, is never due to any one factor, but to several factors, including regional, national, and global factors.

The mapped information provides the knowledge and basis for changing future ecosystem management strategies and proposals at the local level as well as longer term strategic planning and assessment activities, Christensen notes. If there are ecosystem management activities that offer new or enhanced economic development opportunities from natural resource products and services, tracking changes can help those emerge from the data.

“The atlas is the end result of a long distilling process,” Raettig explains. “The spatial representation is essential because the Pacific Northwest as a region is not under stress, but individual counties can reveal the range of impacts. The truth is in the details.”

What, then, did the details reveal?

VISIBLE HUMAN CHANGES

The major impacts predicted from the timber crisis—the demise of the timber industry in many rural areas and selected community collapse, for example—did not always come about as imagined.

The dramatic drop in timber harvests has had the most impact, and employment in the forest products industry has decreased. The largest decreases have occurred in the primary processing sectors, particularly in those counties most dependent on federal timber harvest, Raettig notes. The volume decreases were especially large on the Olympic Peninsula, in the Washington Cascade Range, and in coastal and southwest Oregon.

“Wood products employment decreased in most counties of the region and percentage of decreases were particularly large in the counties along the Columbia River, in southwestern and along coastal Oregon, and in northern California,” he explains. “In certain areas, secondary wood products manufacturing caused increases in wood products employment.” Counties that have historically received large payments from federal timber sales have been insulated from rapid declines by federal legislation.

Unemployment rates for northern California, the Washington Cascade Range, and selected coastal communities have consistently been higher than the rate

in the rest of the region, the researchers found. Wages in nonmetropolitan areas were consistently lower than those in metropolitan areas in each state. Manufacturing overall declined in the region studied.

On the other hand, there was a general trend of increasing industrial diversity over time in both the region and the Nation, for they both have undergone a fundamental shift from a manufacturing

economy to a knowledge-based economy. Violent and property crimes, and alcohol-related incidents, did not reveal distinctive patterns as expected. Net migration also did not reveal significant change.

Beginning in fiscal year 1994, the NWEAI began to allocate its \$1.2 billion over 5 years. Raettig notes that four counties in the region received between \$20 and \$30 million. Most of the eligible counties received \$10 million or less.

TIMBER HARVEST CHANGES IN THE NWEAI REGION BETWEEN 1989 AND 1994			
State and ownership	1989 harvest	1994 harvest	Decrease
	<i>--- Thousand board feet ---</i>		<i>Percent</i>
California			
Private	1,739,725	1,240,907	-28.7
Public	738,002	93,866	-87.3
Total	2,477,727	1,334,773	-46.1
Oregon			
Private	3,329,772	2,834,066	-14.9
Public	3,862,062	648,673	-83.2
Total	7,191,834	3,482,739	-51.6
Washington			
Private	4,027,278	2,965,848	-26.4
Public	1,929,039	592,045	-69.3
Total	5,956,317	3,557,893	-40.3
NWEAI region			
Private	9,096,775	7,040,821	-22.6
Public	6,529,103	1,334,584	-79.6
Total	15,625,878	8,375,405	-46.4

▲ Timber harvest figures dropped dramatically between 1989 and 1994, particularly on public lands. Many rural communities were directly affected.

ALLOCATING TO GREATEST NEED

The NWEAI provided four categories of assistance: workers and families, business and industry, communities and infrastructure, and ecosystem investments. The largest category of recipients has been community and infrastructure; the smallest has been workers and families.

“The initiative was oriented to delivering economic assistance to the places it was needed as efficiently as possible. No new government programs were created,” Raettig notes. “Instead, it folded in all the existing programs and focused on how best to deliver the needed services.”

EXTENDING THE DATA

The primary emphasis of the NWEAI was to break down interagency barriers and develop collaborative solutions to community problems. Along with seamless delivery and one-stop applications designed to get help to recipients as fast as possible, all three researchers believe these were goals well-met. Of course individual counties can always be found where the success rate was not high, but overall their research revealed that the objectives of the NWEAI stayed in focus, and most of the money found its mark.

“Further, the sharing of lessons learned about what works and what doesn’t has provided a means to influence future program improvements. The NWEAI provides a model for economic recovery assistance that has worked in this region and that could be applied in other regions of the country and possibly even overseas,” says Christensen.

In general, she says, this and other assessments of the NWEAI have concluded that there have been important improvements in the federal delivery system. The NWEAI explicitly provides for learning from successes, and correcting, not repeating, policy and administrative failures through the CERT process. This practice has led to an ongoing improvement process.

The array of information, interpretations, and findings related to social and economic indicators is being used by the Regional Ecosystem Office for ongoing monitoring activities. Already the data can be used by economic development special-

Recipients included individuals, companies, municipalities, universities, and more. Projects included small business incubators, drinking water and wastewater treatment plants, lending programs, job retraining such as Jobs in the Woods, and business and industry loan guarantees.

“I was initially surprised at how many infrastructure programs like drinking water and wastewater treatment plants there were,” Donoghue recalls. “But it quickly became apparent that these were long-overdue projects that provided not just baseline facilities to small communities but employment and development opportunities as well.”

ists to replicate institutions, activities, and practices that have worked and discontinue or improve those that have not.

Perhaps more importantly in natural resource-based communities, the data can guide economic development specialists, managers, and community members toward forms of ecosystem management that target activities that offer alternative or enhanced economic development opportunities from natural resource products and services, Christensen says. “These could include projects that focus on direct natural resource management activities as well as those that enhance local economies affected by changing resource management policies and commodity production levels.”

FOR FURTHER READING

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Many places that went for infrastructure projects, she notes, were communities that quickly saw how to link up opportunity and need. The process went more smoothly for communities that were already well-networked, who had proactive leaders, and who had dealt with getting grants or loans before.

“In Oregon, for example, one of the requirements for receiving funding was the completion of a strategic plan for your community, and many were held back by not having gone through this process,” she says. “It tended to be the communities with higher capacity for change—the ability to adapt—that had clearer visions and were thus more likely to receive assistance.”

By engaging local knowledge and participation and by using federal and state government programs as coordinated conduits for help rather than difficult paths to funding, the government can, in fact, be here to help.

CORRECTION

In the July 2001 issue of “PNW Science Findings,” a photograph on page 1 inappropriately showed a golden chanterelle to illustrate old-growth dependant species listed for protection under a federal mandate. This mushroom was originally placed on the list due to taxonomic uncertainty that was later resolved. This common species was then removed from the list. About 60 species have been pulled from the list to date, with improved information.



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