

**Social and Economic Effectiveness Monitoring
Northwest Forest Plan**

2002 Annual Summary Report

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Northwest Forest Plan Interagency Monitoring Program

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Executive Summary

This report is a summary of activities accomplished during 2002 by the Social and Economic Monitoring Module of the Northwest Forest Plan Interagency Regional Monitoring Program. The purpose of the Social and Economic Monitoring Module is to assess the social and economic effectiveness of federal forest management under the Northwest Forest Plan (ROD: USDA Forest Service and USDI Bureau of Land Management 1994). During 2002 the Social and Economic Effectiveness Monitoring Team continued the development and refinement of an appropriate monitoring strategy.

Through mid-2002, the module had been charged with answering the ROD evaluation question: *Are local communities and economies experiencing positive or negative changes that may be associated with federal forest management?*

In late 2002 the module's scope was expanded to include an additional evaluation question from the ROD: *Are predictable levels of timber and non-timber resources available and being produced?*

Development of the monitoring program has progressed as a multi-stage process. From 1999 through mid-2002, Phases I and II were completed in cooperation with the University of Washington. The Phase I report (Sommers 2001) reviews available information and recommends developing a community-level model and data collection strategy. Phase II (Sommers et al. 2002, Jackson et al. 2002) focused on developing a monitoring option capable of identifying causal links between federal forest management and local economic and social change.

Peer review during Phase II noted a need to obtain additional or other data types in order to productively describe the social and economic effectiveness of the Northwest Forest Plan (NWFP). Accordingly, beginning early in 2002 the team explored additional options for:

- Delineating and describing small, local communities across the entire planning area (Donoghue and Haynes 2002)
- Using mixed-methods case studies to adequately describe complex socioeconomic changes and relationships in sample local communities (e.g. Yin 1994)
- Monitoring forest actions (for example, contracting, hiring, and grant disbursement) with a greater potential to affect local communities than traditionally measured forest outputs (Moseley and Wilson 2002).

The Monitoring Team continued close coordination with REO executives and managers throughout 2002. Expanded outreach initiated during the year also sought feedback on monitoring needs from Provincial Advisory Committees, and regional and unit-level planners and line officers from the Forest Service and BLM.

Planned work during 2003 includes:

- Continued outreach to National Forest System and BLM unit managers and PACs, in order to better understand information needed by local units
- Updating block group aggregate delineations to reflect changes to Census block groups in the 2000 U.S. decennial Census, and associated community characterizations
- Finalizing data collection and analysis methods for the 2004 report
- Initiating data collection and analysis for the 2004 report
 - Timber and non-timber forest production
 - Agency employment
 - Stakeholder feedback
 - Reviews of existing literature describing NWFP social and economic effectiveness
- Implementing a monitoring pilot using case-study methods in sample communities and forests across the planning area.

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Introduction

In the early 1990s, forest-associated communities in the Pacific Northwest, still struggling with the legacy of recession and timber industry consolidation in the 1980s, were met with new restrictions for cutting timber on federal lands. Concerns over potential cumulative impacts to local communities led to a focus on human and economic dimensions as a guiding principle for the Federal Ecosystem Management Assessment Team (FEMAT 1993:ii).

Accurately discerning the significance or causes of local economic or social change, however, is problematic. This is particularly true when attempting to determine the impacts of a large-scale, regional forest plan on a large but variable set of local communities, each with its own unique social and economic relationships to federal forest management and larger social and economic trends. The lack of data tracking movement of timber to processing sites in various counties and communities is a central issue. The need to re-aggregate published data, or to gather new data, to describe meaningful community units is also problematic. What is known is that small, rural counties in the Pacific Northwest generally fare worse economically than metropolitan counties (e.g. Sommers 2001).

If appropriately designed, a monitoring effort can be used to meaningfully describe social and economic conditions and changes at the local level. However, peer review during 2002 found general agreement among participating social scientists that, rather than attempting to specify the causes of local community change, current work should focus on exploring relationships in order to enrich understanding of the links between federal forest management and community-level social and economic conditions.

Further, an operational definition of the term *community* is needed as a basis for monitoring. A core set of indicators suitable for describing and assessing social and economic trends must be selected and embedded in a model positing relationships between these trends as described at the community level and federal forest management. Once this is accomplished, an enhanced understanding of the strength of associations between various facets of forest management, local community characteristics, and local economic and social change can be developed.

Expectations

ROD Monitoring Charge

The Record of Decision for the Northwest Forest Plan (ROD: USDA Forest Service and USDI Bureau of Land Management 1994) requires the implementation of a monitoring strategy to provide data to broadly evaluate the effectiveness of the plan. Through mid-2002, the Monitoring Team was charged with examining the monitoring question:

- *Are local communities and economies experiencing positive or negative changes that may be associated with federal forest management?*

The ROD lists eight types of variables that may be important for monitoring community social and economic conditions and trends. However, recent work considered or commissioned by the Monitoring Team (e.g. Sommers 2001, Jackson et al. 2002, Moseley and Wilson 2002) indicates that the indicators specified by the ROD vary in usefulness to adaptive management. Further, neither the ROD nor the Federal Ecosystem Management Assessment Team (FEMAT 1993) specify data collection protocols or analysis methods to respond to the monitoring charge. Accordingly, as part of the effort to identify appropriate indicators, during 2002 the Team developed the following sub-questions for this evaluation:

How has the supply of forest products and services from federal forests in the NWFP area contributed to social and economic well-being at the local, regional, and national levels since the Plan was adopted?

What values and environmental qualities associated with federal forests in the NWFP area are important to stakeholders, and how well are they being provided for under the NWFP?

How have community and economic assistance strategies and opportunities associated with the NWFP contributed to building community capacity in the NWFP area?

How have relationships between federal agencies and local communities changed since the NWFP was implemented, and what has been the changing role of communities in participating in forest stewardship activities?

During 2002 the Team's original charge was also expanded to include a second evaluation question from the ROD:

- *Are predictable levels of timber and non-timber resources available and being produced?*

The ROD lists seven key items to monitor:

- Timber harvest levels
- Special forest products
- Livestock grazing
- Mineral extraction
- Recreation
- Scenic quality (including air quality)
- Commercial fishing.

The Monitoring Team refined the ROD question as follows, and began relevant data collection late in 2002:

Have Forest Service and BLM units been producing a predictable supply of timber, non-timber forest resources, and recreational opportunities since the NWFP was adopted?

Ten-Year Report

Data and analysis encompassing the years 1992-2002 will be made available in a report to be issued in 2004. The report will include and synthesize results from all modules functioning in the Northwest Forest Plan Interagency Monitoring effort. The report will also present recommendations for modifications to the monitoring program.

History of Social and Economic Monitoring Program Development

Cooperative Agreement with the University of Washington

In 1999 the NWFP Social and Economic Interagency Monitoring Team finalized a cooperative agreement with researchers at the University of Washington to establish a research framework, collect and evaluate readily available data, and estimate the feasibility of developing a monitoring design responsive to the ROD. The agreement was coordinated by the USGS Forest and Rangeland Ecosystem Science Center.

In 2001 the Team received the report, *Monitoring Social and Economic Trends in the Northern Spotted Owl Region: Framework, Trends Update, and Community-Level Monitoring Recommendations* (Sommers 2001). The document establishes that the relevant literature provides no generally accepted theoretical model or framework specifying links between federal forest management and social and economic change at the local community level. Further, the study does not reveal any systematic association between county-level timber harvest trends, and forestry and wood products employment at the county level. Interpretation of this finding is complicated by a lack of published data measuring timber flows across county lines. The report does however identify an association between timber harvest and mill output at the regional level. This association is also difficult to interpret due to probable interaction between employment, rapidly changing technology, and overall market conditions. The author does verify that metropolitan counties in the Pacific Northwest consistently performed better than rural counties in terms of employment growth and wage changes from 1989 to 1997.

Given these findings, a second report was commissioned to outline a potential community-level data collection and research strategy to measure forest-related economic flows into and out of local communities. The objective of this phase was to develop a monitoring option capable of proving or disproving causal relationships between changing federal forest management and economic and social change at the local level. During the preliminary stage of Phase II, the researchers recommended an approach

utilizing extensive individual and household surveying in sample communities. After careful deliberation, the Monitoring Team rejected a survey approach due to its significant technical difficulties and high costs. A less costly social indicators approach was selected for testing.

A test was implemented in Forks, Washington in October 2001. The researchers interviewed 18 long-time residents, and assembled readily available economic and social data. The test confirmed the difference in results yielded by county-level vs. community-level inquiry. For example, residents identified a “West End” area of the Olympic Peninsula as their home community, rather than associating themselves primarily with the Forks Census designation. A draft report describing the indicators approach and Forks test was submitted in early 2002 (Sommers et al. 2002).

Formal peer review of the draft revealed differences of expert opinion regarding the validity of an indicators approach to specify causal links between federal forest management and local social and economic change, or to accurately describe local social and economic change. A final report was commissioned to discuss and respond to the issues raised in peer review, and to make recommendations for the monitoring program.

A final report submitted in July, *Monitoring the Community Impacts of the Northwest Forest Plan: Alternative Methodologies* (Jackson et al. 2002), notes that “there is no easy, valid, inexpensive means for doing effectiveness and validation monitoring of communities.” The researchers recommend the case study approach “as the most efficient way to study complex relationships.” As part of the case-study approach, an indicators methodology is rejected in favor of extensive surveys of individuals and local businesses, despite the attendant “costs and impracticality”. The full-text reports are available on the NWFP monitoring website, www.reo.gov/monitoring.

Weighing the Monitoring Options

Extensive longitudinal surveys in sample communities

The final University of Washington report provides recommendations for establishing causality between forest management and community outcomes. Extensive longitudinal surveys of individual community members could track economic change at the level of a fundamental economic unit, the local business. Surveys could also be used to track socioeconomic change at the level of a fundamental social unit, the household. By linking individual economic experience with household outcomes, the survey method would be likely to detect links between forest management and social and economic outcomes.

However, the administration of community surveys would be prohibitively expensive, could potentially miss significant portions of the community, and raises concerns over individual privacy. The use of longitudinal surveys to monitor change would also require a means of tracking large numbers of individuals moving among communities or into and

out of the region. Results might be difficult to generalize to all communities in the planning area. More important, the NWFPP effectiveness monitoring program has a broader charge than solely validating causal relationships. Peer review of the draft paper (Sommers et al. 2002) suggested that the participating agencies pursue additional or other monitoring designs in an effort to assess the social and economic effectiveness of the Northwest Forest Plan. Accordingly, during 2002 the team continued to carefully consider and refine other monitoring options.

US Census data to describe block group aggregates

Recent large-scale assessments (e.g. Doak and Kusel 1996) have relied upon topography, ownership, built infrastructure, and local expert input to aggregate US Census block groups as units for local socioeconomic analysis. Similarly, Donoghue and Haynes (2002) use proximity to census places, school districts, roads, presence of public lands, and Census socio-economic data to delineate and characterize non-urban block group aggregates (BGAs) across the Pacific Northwest. During 2002 the Monitoring Team considered the potential use of BGAs as analysis units to represent all local communities in the planning area.

Other case-study methods

Several recent large-scale social and economic assessments (e.g. Forest Community Research 2002) have relied upon case-study methods other than surveys applied in sample communities. The University of Washington researchers tested and ultimately rejected a case-study approach relying on indicators to specify causal relationships between forest management and local social and economic change (Jackson et al. 2002). However, case studies can integrate various data collections methods: primary data collection including surveys, interviews, focus groups, and observation, and secondary sources such as historical documents, data from services providers, or the US Census (e.g. Yin 1994). During 2002 the Monitoring Team considered the potential for applying a variety of case-study methods to sample communities across the region.

Monitoring forest hiring, contracting, and grant disbursement

Recent work by Moseley and Wilson (2002) recommends monitoring forest hiring, contracting, and grant disbursement as effective ways to identify critical local effects of forest management. Such measures may also be amenable to adaptive management. During 2002 the Monitoring Team began to weigh incorporating these recommendations into the monitoring program.

Client Outreach

From 2000 through 2002, the Social and Economic Monitoring Team cooperated closely with the Interagency Regional Monitoring Team, Monitoring Program Managers, Regional Interagency Executive Committee, and Interagency Science Committee. During 2002 the Monitoring Team began to expand its outreach to other potential users of the monitoring data. Team members presented information about program development, and solicited feedback about data needs from:

- NWFP Provincial Advisory Committees (PACs) representing National Forest and BLM units as well as local stakeholders
- Pacific Northwest Region National Forest System planners
- BLM Oregon planners
- USFS Pacific Northwest Research Station scientists
- Representatives of state Congress members.

Plans for the Upcoming Year

Work during 2003 is expected to include the following:

- Continued outreach to National Forest System and BLM unit managers and PACs, in order to better understand information needed by local units
- Updating block group aggregate delineations to reflect changes to Census block groups in the 2000 U.S. decennial Census, and associated community characterizations
- Finalizing data collection and analysis methods for the 2004 report
- Initiating data collection and analysis for the 2004 report
 - Timber and non-timber forest production
 - Agency employment
 - Stakeholder feedback
 - Reviews of existing literature describing NWFP social and economic effectiveness
- Implementing a monitoring pilot using case-study methods in sample communities and forests across the planning area.

Literature Cited

Doak, Sam C. and Kusel, Jonathan. 1996. Well-Being in Forest-Dependent Communities, Part II: A Social Assessment Focus. Pp. 375-402 *In* Sierra Nevada Ecosystem Project, Final Report to Congress, vol. II, Assessments and Scientific Basis for Management Options. Davis, CA: Centers for Water and Wildland Resources.

Donoghue, Ellen M. and Haynes, Richard W. 2002. Assessing the viability and adaptability of Oregon communities. Gen Tech Rep. PNW-GTR-549. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

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Forest Community Research. 2002. Report on the Northwest Economic Adjustment Initiative. < <http://www.fcresearch.org/neai/index.htm#intro>>

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Moseley, Cassandra, and Wilson, Lisa J. 2002. Multiparty Monitoring for Sustainable Resource Management. Eugene, OR: Watershed Research and Training Center and Ecosystem Workforce Program, University of Oregon. December 2002.

Sommers, Paul. 2001. Monitoring Socioeconomic Change in the Northern Spotted Owl Region: Framework, Trends, and Community Level Monitoring Recommendations. Technical Report. Seattle, WA: USGS Forest and Rangeland Ecosystem Science Center, Cascadia Field Station, and College of Forest Resources, University of Washington. February 2001.

Sommers, Paul, Lee, Robert G., and Jackson, Elizabeth. 2002. Monitoring Economic and Social Change in the Northern Spotted Owl Region: Phase II—Developing and Testing an Indicators Approach. Draft Technical Report. Seattle, WA: USGS Forest and Rangeland Ecosystem Science Center, Cascadia Field Station, and College of Forest Resources, University of Washington. January 2002.

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Yin, Robert K. 1994. *Case Study Research: Design and Methods*. Thousand Oaks, California, London, and New Delhi: Sage Publications.

Information Road Map

Key Partners

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Website

Descriptions of the monitoring modules, and many of the full-text documents, are available to clients and the general public through an Interagency Regional Monitoring website at <http://www.reo.gov/monitoring>.

A brochure featuring highlights of Monitoring Program elements is also available from USDA Forest Service, Pacific Northwest Region, Public Affairs Office.

Budget Information

1.a Cooperative Agreement between USGS and the University of Washington for development of a socio-economic monitoring plan for the NWFP.

The agreement was reached in order to establish a research framework, collect and evaluate readily available data, and estimate the feasibility of developing a monitoring design at the community level.

USGS Cooperative Agreement 1434-98HQAG2200 Subagreement 98200HS005

Obligated: FY99 - \$27,000

Final Report: Sommers, Paul. 2001. *Monitoring Socioeconomic Trends in the Northern Spotted Owl Region: Framework, Trends Update, and Community Level Monitoring Recommendations*. Technical Report. Seattle, WA: USGS Forest and Rangeland Ecosystem Science Center, Cascadia Field Station, and College of Forest Resources, University of Washington. February 2001.

1.b Assistance Modification to Cooperative Agreement between USGS and the University of Washington for development of a socio-economic monitoring plan for the NWFP.

The cooperative agreement was modified to detail and test an appropriate community-level monitoring methodology. The change agreement added \$25,000 to the budget for additional work in an amended statement of work.

USGS Cooperative Agreement 98HQAG2200 Subagreement 98200HS005

Obligated: FY01 - \$25,000

Draft Report: Sommers, Paul, Lee, Robert G., and Jackson, Elizabeth. 2002. *Monitoring Economic and Social Change in the Northern Spotted Owl Region: Phase II - Developing and Testing an Indicators Approach*. Draft Technical Report. Seattle, WA: USGS Forest and Rangeland Ecosystem Science Center, Cascadia Field Station, and College of Forest Resources, University of Washington. January 2002.

1.c Development and submission for publication in *Society and Natural Resources* of a paper discussing the issues associated with developing a methodology to describe socioeconomic impacts of the Northwest Forest Plan. Paper to respond to issues raised through peer review. The purchase order added \$5,999.47 subsequent to the USGS Cooperative Agreement.

Purchase Order 43-04h1-2-0111

Obligated FY03 - \$5,999.47

Final report: Jackson, J. Elizabeth, Lee, Robert G., and Sommers, Paul. *Monitoring the Community Impacts of the Northwest Forest Plan: Alternative Methodologies*. Final Technical Report. Seattle, WA: USGS Forest and Rangeland Ecosystem Science Center Cascadia Field Station, and College of Forest Resources, University of Washington. July 2002.

2. Expenditures for 2003

Estimated costs for developing and implementing NWFP social and economic effectiveness monitoring during fiscal year 2003 total \$439,383. A cost breakdown is shown in Table 1.

Table 1. FY2003 Estimated Costs

Type	Cost
Salary	\$199,881
Travel	\$ 26,515
Lab/Admin	\$ 24,925
Equipment	\$ 8,812
Case Studies	\$161,325
Collaboration Project	\$ 17,925
TOTAL	\$439,383