Multiparty Monitoring for Sustainable Natural Resource Management

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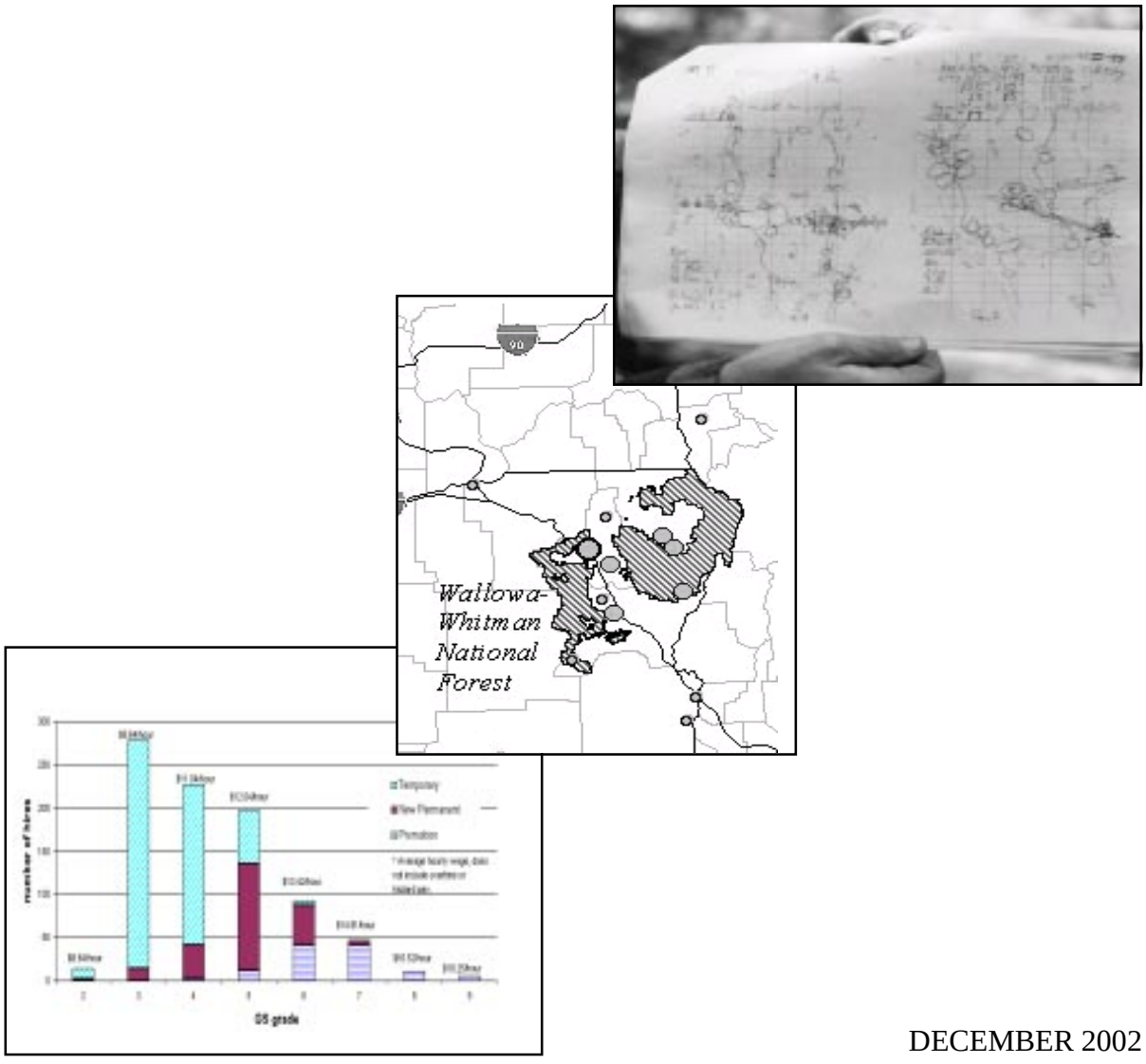

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Additional copies of this guidebook are available at http://ewp.uoregon.edu/guidebook or http://thewatershedcenter.org. They can also ordered by calling (541) 346-0675. Print copies cost $25 for copying, shipping, and handling. CD ROM versions are available for $15.

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ILLUSTRATIONS

INTRODUCTION

Using this Guidebook

This guidebook offers suggestions about how to develop a multiparty monitoring program for:

- Employment results (quality jobs) of restoration and maintenance of public lands
- Utilization of by-products of ecosystem management
- Grants and other investments
- Ecological effects of fire restoration efforts

It is designed to help communities and their agency partners monitor activities related to ecosystem management and community forestry, especially implementation of the National Fire Plan. As such, it is primarily focused on public-lands issues, especially in the West. However, many of the indicators could be adapted to different contexts by using new data sources or modifying measures.

It provides examples of the types of questions a multiparty team may wish to ask when monitoring and how to go about answering them. The guide offers examples so that you can develop measures that respond to the needs, problems, and controversies in your area. We encourage you to select the ones that best fit your needs and develop additional measures to match your purposes.

Necessary Skills

We have sought to create a monitoring system that requires a minimum of data analysis skills; you do not need to have taken any statistics courses. But, monitoring requires time to gather data, analyze them, and write up results. And, you will need to be familiar with some data management computer program such as Excel and have access to the World Wide Web.

This guide presents methods of multi-party monitoring. Thus, it is a process of shared learning and discovery. To be successful, monitoring teams will likely need to build or enhance relationships with agency staff, key stakeholders, and others implementing restoration projects. By building trust early on, you will increase the effectiveness of your monitoring program and the chance that these key players will use your information to improve their future projects.

Organization of this Guidebook

The guidebook begins with a section on monitoring basics that provides preliminary information about monitoring and an exercise for groups to work through as they develop a monitoring plan. There is a worksheet that can be photocopied or adapted to meet your partnership's needs. The rest of the guidebook is broken into five major sections (modules) that focus on particular areas of monitoring—contracting, public employment, by-product utilization, grant programs, and ecological monitoring. In each module, there

are tables that list suggested indicators and why they might be monitored. These can be photocopied and handed out to help your partnership chose which indicators to monitor. The matrices are followed by instructions about where to get needed data and how to calculate results. This detailed information is designed for those who are going to collect and analyze the data. Finally, each section includes worksheets that are really sample survey forms you can use to gather information not available from other sources.

These worksheets and tables can be downloaded as separate documents from http://ewp.uoregon.edu/guidebook or http://thewatershedcenter.org. You can use these sheets as handouts during your meetings and modify them to fit your circumstances.

The Modules

The guidebook provides monitoring modules in five topic areas.

Employment results—contracting

This module suggests how to monitor federal procurement contracting for forest and watershed restoration and maintenance work. It describes ways to measure job quality, business health, and the types and amounts of contracts that federal land management agencies or other organizations are letting. The module suggests measures that involve compiling existing data or talking with contractors and workers.

Employment results—government hiring

This module provides measures to determine what kind of impact federal hiring has on your community.

By-product utilization

The by-product utilization module suggest ways to determine how much material removed from restoration projects is being used, how much is being used locally, and how much value is being added through local manufacturing. It also provides suggestions for determining the health of the businesses that are or could be using the by-products of restoration.

Grant and other investments

This module describes ways to track grant funds. It focuses particularly on Forest Service grants and agreements.

Ecological effects

The ecological module offers suggestions for program-level monitoring of the ecological effects of restoration, especially as it relates to fire-hazard reduction.

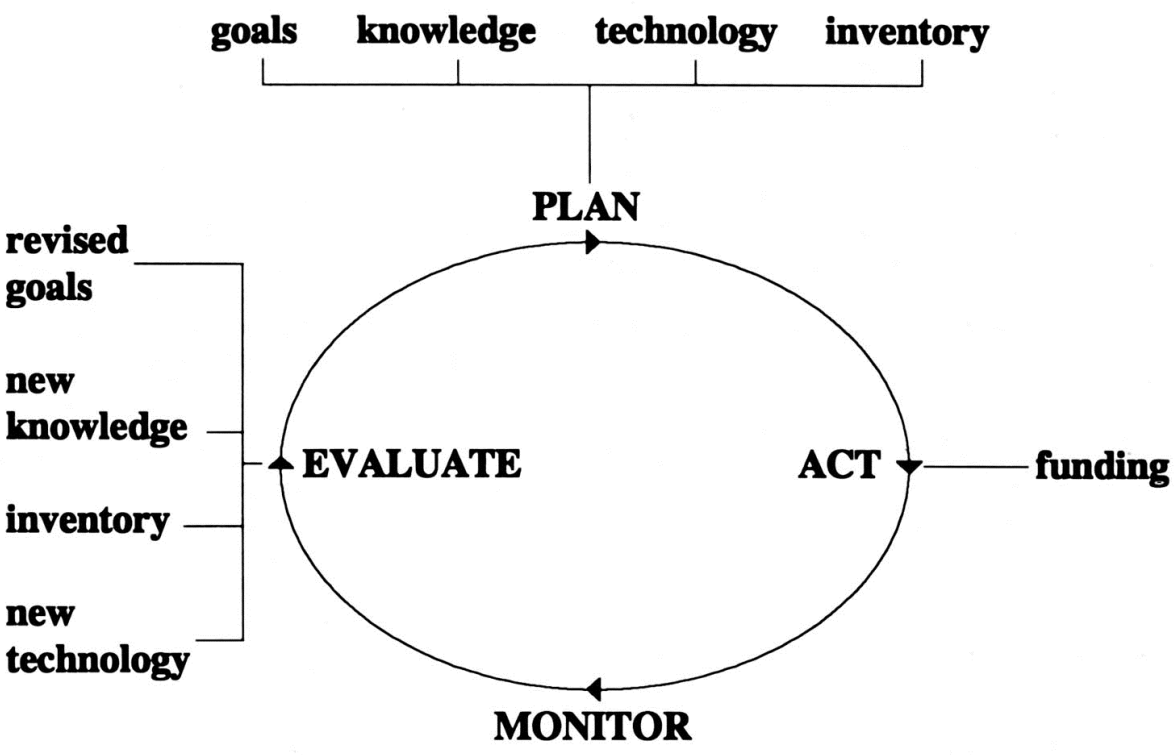
MONITORING BASICS

Monitoring activities related to ecosystem management and community forestry involves keeping track of the effects of these activities on local communities, organizations, businesses, and ecosystems. It also involves using this information to improve future ecosystem management and community-forestry projects and programs. Implemented effectively, monitoring can:

- Resolve controversy and disagreements
- Build trust
- Allow communities, agencies, and stakeholders to learn and adapt

As Fig. 1 shows, monitoring is a key part of the adaptive-management planning process. Experimentation and learning require understanding of the effects of actions taken.

FIGURE 1
Adaptive Management Model of the Northwest Forest Plan



Source: Forest Ecosystem Management Assessment Team, *Forest Ecosystem Management: An Ecological, Economic, and Social Assessment* (July 1993), figure VIII-5.

There are numerous types of monitoring and many different configurations of people who participate in monitoring (see Fig. 2).

FIGURE 2
Types, Scales, and Levels of Monitoring

Types
- Biophysical
- Economic
- Social/cultural
- Legal/administrative

Scales
- Project
- Program
- Community or county
- Region
- State/country

Participation
- Single-party monitoring
- Third-party monitoring
- Multiparty monitoring

Focus
- Input
- Output
- Outcome

Focus
- Implementation
- Effectiveness
- Verification

One can monitor any number of topics, including the biophysical, social, economic, or administrative consequences of activities. The modules in this guide focus primarily on socioeconomic monitoring and secondarily on biophysical monitoring. Biophysical monitoring might, for example, evaluate the soil compaction of a mechanical thinning operation. Counting the number of people working on a restoration project that received health insurance would be an example of socioeconomic monitoring.

One can also measure at different scales—the project, program (all the projects together), community, regional, or national levels. Project-level monitoring might involve counting the number of worker hours involved in implementing a single contract. One could also collect the total number of worker hours involved in all thinning contracts in a single year across one national forest. That would be programmatic monitoring. The Montreal Process, Criteria and Indicators for Sustainable Forestry was designed for national-level monitoring. These categories are fluid; one person's program is another person's community. This guidebook focuses primarily on program-level monitoring—across contracts, across businesses, across grants. However, you often have to gather information on the individual projects first and then aggregate those results to draw conclusions about the program.

Monitoring also varies by who is involved in the process. Single or first-party monitoring is implemented by those who develop and implement the project or program. For example, a tree-planting contractor counts and reports the number of trees planted per acre and then, a year later, returns to calculate survival. Or, the Forest Service creates its own standards for soil compaction and monitors the amount of compaction that occurs on each project. In third-party monitoring, the people who develop the protocols and collect the data are independent of the people performing the action. Most forest-certification programs include third-party monitoring to ensure that the certified companies are meeting standards. Finally, multiparty monitoring involves both the people that are implementing the projects and other interested parties. In multiparty monitoring, a diversity of people come together to develop questions and methods to answer those questions. For example, community residents and the Forest Service might develop a multiparty-monitoring process to determine effects of road closures on hunting access and stream sedimentation.

Each type of monitoring has its place; which one you use depends on your circumstance. This guidebook is written with multiparty monitoring in mind. We believe that the topics covered in this guidebook are best addressed through a multiparty monitoring process. Many different groups of people—from agency staff, to business owners, workers, residents, elected officials, economic development organizations, and community groups—have a stake in these issues and can contribute ideas, data, and insight to the development and implementation of the monitoring. Moreover, early involvement of diverse stakeholders makes it more likely that the results will be accepted by a large number of people and used in subsequent decision-making.

Getting Started

As you start forming your monitoring program, use Worksheet 1 to develop your monitoring plan. To create a multiparty-monitoring program, you have to decide who needs to be at the table, what you want to learn, where your data will come from, who will analyze the data, who will write up the results, and how the results will be distributed.

There are endless data that can be collected and analyzed. As a group, you need to decide upon the purposes of your monitoring project. As you develop the purposes of your monitoring program, consider:

- What are the goals of the program you want to monitor? How will you know if you succeeded or failed?
- What parts of the program are controversial?
- What parts of the program are new or involve unknown consequences?

Use the answers to these questions to direct your monitoring.

Selecting Measures

Once you and your partners have agreed upon program goals and issues that you want to track or learn about, you will have to develop "measures." In general, measures are specific data you gather and analyze to determine if the desired outcome has been reached. Measures are used to track progress or gather information for learning. Finding a positive or negative impact of key measures may shed light on whether the goals and objectives are being met.

The challenge of choosing measures is that there are many different ways of getting at what you want to know and most of them are imperfect. Measures typically tell you some of what you want to know, but rarely will they reveal exactly what you want. Some measures tell you about inputs while others help you understand outputs and outcomes. In input is something that you do to achieve your goal. An output is what you get from your actions. Outcomes are the effects of your inputs and outputs. For example, perhaps you want to reduce soil erosion on a steep slope. Planting trees might be an input; seventy-five acres of growing trees might be an output; and reduced soil erosion might be an outcome.

Consider another example: the hypothetical Town of Brewery. Residents are concerned that young people are leaving the community after they graduate from high school. They believe the best way to address this is to help young adults prepare for working in the community's major industry, chocolate making. They created a program to teach participants how to make chocolate and fix chocolate making equipment.

To monitor their program, Brewery residents decided to count the number of young adults that participated in it and the number of graduates who were hired by one of the town's chocolate factories within three months of completing their program.

The first measure—the number of people participating in the training program—is a measure of the program's inputs. The second measure—the number of people who found jobs at one of the factories—is an output. But if they stopped there, would they know if their strategy succeeded? Did they reduce the departures of young adults from the community? Tracking this information would be monitoring an "outcome."

As you develop your monitoring program, think carefully about what each measure will reveal. Does it tell you about inputs, outputs, or outcomes? Be careful not to get too bogged down with this exercise. Rather, think about what you are trying to accomplish and whether the data you are gathering will answer your questions. Also, keep in mind what information you will be able to access. It often seems that you cannot find the data for your ideal measures; you may have to modify them to fit the available data.

One last note about selecting measures: Instead of using inputs, outputs, and outcomes, the Forest Service talks about implementation, effectiveness, and verification monitoring. Implementation monitoring asks, did we do what we said what we were going to do? It ties most closely to inputs. Effectiveness monitoring looks at outputs; it asks if your

actions help you meet your objectives. Validation monitoring asks, did your actions lead to the outcomes you expected.

Worksheet 1: Questions for Developing a Monitoring Program

Developing a Plan

Q 1) Who should be the "multi" in your multiparty monitoring program? That is, who do you want or need to involve in your project?

Q 2) What are the goals of the program to be monitored?

Q 3) What are the objectives of the program to be monitored?

Q 4) What activities will be undertaken to achieve the goals and objectives?

Q 5) What are the areas of disagreement about how goals or objectives should be met?

Q 6) What assumptions do you have about the purposes of the program you will monitor and the impacts it will have?

Selecting Measures

Q 7) How will you measure the inputs?

Q 8) How will you measure the outputs?

Q 9) How will you measure your outcomes?

Q 10) What measures will you use to address controversies?

Nuts and bolts

Q 11) What will be your data sources? (Can you use data already collected or will you collect new data?)

Q 12) Who will collect and compile the data?

Q 13) How will you analyze your data? Who will do this?

Q 14) How will you report the data and to whom?

Q 15) How will you incorporate your analysis into planning and future implementation?

Q 16) How much time and money will you need and where will it come from?