

Monitoring of Forest Restoration Projects

The following is adapted from the Multiparty Monitoring Handbook Series published by the Ecological Restoration Institute (ERI) at NAU.

Why monitor? Monitoring provides feedback on the effects of a project. In an adaptive management framework, it allows people to review whether or not they are making progress toward the goals of their program or project and to adapt plans or actions along the way to improve.

What is monitoring? Monitoring is the periodic collection and evaluation of data relative to project goals, objectives, and activities. Implementation monitoring asks “did we do what we said we would do?” Effectiveness monitoring asks “how well did actions work?” Validation monitoring checks the assumptions upon which our efforts are based.

Who should monitor? Monitoring can be done by individuals, agencies or organizations, or by diverse stakeholder groups. Multiparty monitoring is strongly encouraged for long-term stewardship contracts and is required for participants in the USFS Collaborative Forest Landscape Restoration Program. Multiparty processes can potentially reduce duplication, enable mutual learning, build relationships, increase credibility, and reduce conflicts.

Developing multiparty monitoring processes require at least these five steps:

1. Identifying and engaging stakeholders,
2. Building a common understanding,
3. Defining program or project goals and indicators,
4. Developing and implementing a monitoring plan, and
5. Learning from monitoring, assessing the process, and adapting.

Why develop a monitoring plan? Having a plan makes it more likely that the data gathered is useful and meaningful. It ensures that data is collected at the right time and place. It also increases the transparency of the process.

Typical elements of a monitoring program include:

- What will be monitored?
- How will it be monitored?
- Who will do the monitoring?
- When does the monitoring need to be done?
- Where does the monitoring need to occur?
- How and where will the data be stored?
- How, when, and by whom will the monitoring data be analyzed?
- How much will monitoring cost, and how will it be paid for?

What should be monitored? Things that will help guide future management. Some things are simple to monitor; many things are not. Monitoring is potentially time consuming and expensive. It is important to focus on the most important goals of a program or project and choose effective indicators of success or progress.

Some examples of goals discussed by the Upper San Juan Mixed Conifer Working Group include:

- Increasing resiliency of forests.
- Protecting watersheds and water quality.
- Promoting public safety.
- Reducing risks to private property from wildfires.
- Improving wildlife habitat.
- Encouraging appropriate economic development that is scaled to the local communities.

Indicators are used to measure changes in goals. Goals are often broad visions; indicators are specific and measurable. Good indicators should be:

- Relevant for the site and treatment.
- Sensitive to change during the monitoring timeframe.
- Measureable with available and affordable methods that are professionally accepted.
- Not subject to individual or organizational bias.

While measuring “resilience” seems daunting, examining more specific indicators of resilience (such as the Working Group brainstormed on November 20, 2010) is achievable. For example does a project (or perhaps more appropriately, does a five-year program of projects) increase diversity of species, including the mix of size and age classes?

Would we need to invent how to do this from scratch or can we build on previous efforts?

Some original work is needed to adapt to local situations but there are lots of guides and examples plus knowledgeable people available. Some Working Group members, including USFS, CSFS, CDOW, and MSI, already do monitoring and have protocols for some kinds of monitoring. FLC, ERI, NFF, Pinchot Institute, Forest Trust and the USFS have worked together to develop protocols and handbooks. Examples can be found from similar projects such as the White Mountains Stewardship Project and the Uncompahgre Mesas Project.

Links to the multiparty monitoring handbooks published by ERI, examples from other collaborative efforts, and learning sessions can be found on the NFF website:

<http://www.nationalforests.org/consERVE/learning/multiparty-monitoring>

The monitoring report for the first five years of the White Mountains Stewardship Project can be found at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5362084.pdf

An overview of the Uncompahgre Plateau Forest Restoration Project can be found at:

http://www.upproject.org/landscape_assessments/monitoring.htm