

Challenges and Opportunities in Forest Restoration Outreach: The Example of Southwestern Ponderosa Pine Forests



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Ecological restoration is always a complex endeavor

- Ecological complexities: scientific information is never complete
- Social complexities: many stakeholders are involved
- Even when the science is well understood, the practice of restoration links to policy, economics, and ultimately to questions of values

The example of dry ponderosa pine forests in western North America

- Have grown much denser within the last century due to logging, livestock grazing, and fire exclusion
- As a result, they are prone to various ecological injuries, including large-scale bark beetle outbreaks and severe, stand-replacing fires
- Restoration of these forests can solve these problems – and gets a great deal of public attention, funding, and scrutiny



The science is (fairly) well understood

- Reference conditions in this dry climate are probably as well preserved here as anywhere
- Thinning and prescribed burning have both been conducted for decades
- There has been considerable funding for research in these forests due to past timber harvest, livestock grazing, and watershed issues, and current fire danger
- As a result, the science is pretty clear



But science doesn't call all the shots

- Most of this forest land is public
- Public lands management involves many publics and stakeholder groups, with differing interests, levels of knowledge, and values
- Ecological restoration is only one desired outcome for these lands: it has to be balanced with economic production, recreation, aesthetics, and many other factors

As a result, outreach to varied groups is an important component if you're trying to "sell" forest restoration



Who needs to know what science tells us about forest restoration?

- Other scientists
- Forest managers
- Policy makers
- Environmentalists
- Community groups
- Loggers and other restoration workers
- Students
- General public

Different audiences, different approaches

- People in these varied fields are accustomed to acquiring information in varied ways
- To that end, the ERI puts the same information into varied formats and end products
- This isn't a matter of telling different stories, but rather of telling the same story in different ways

How do various audiences learn?

Audience

How learning happens

<i>Audience</i>	<i>How learning happens</i>
Scientists	Peer-reviewed journals Professional conferences Personal contacts with other researchers
Policy makers	Lobbying Media Constituent input Fact sheets
Land managers	Personal experience Some publications Professional training at national, regional, and local levels Constituent input
General public	Media: TV, radio, newspapers, Web sites, magazines Events Brochures and other publications Word of mouth

About the ERI

- Independent institute within a public university
- Mandates to conduct research and provide educational opportunities
- Receives federal and state funding from a variety of sources, for very specific purposes of research and outreach
- Works in a high-profile, controversial sphere of ecological restoration

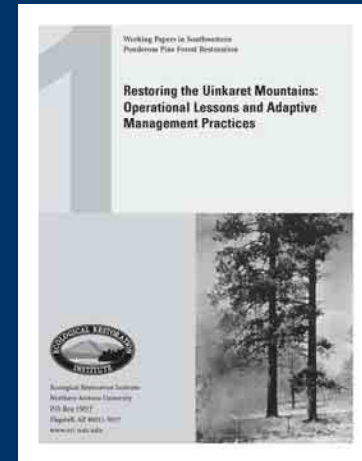
Outreach to scientists

- Articles in peer-reviewed journals
- Professional conferences
- University courses: teaching future scientists



Outreach to land managers

- Working Papers: quick reads on operational issues, available in print and online
- Workshops: in the classroom and in the field, at our campus location and remote



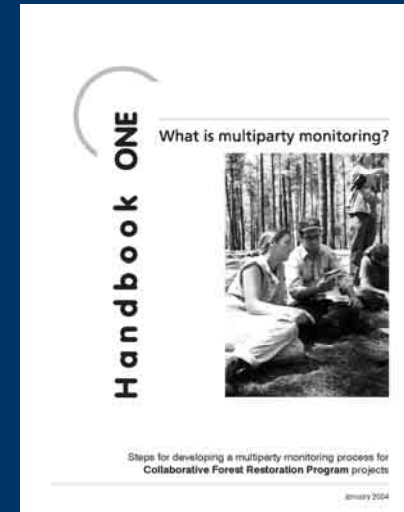
Outreach to policy makers

- Short fact sheets
- Personal contacts
- Field trips
- Participation in advisory groups
- Congressional testimony



Outreach to community groups

- Publications: Working Papers and Handbooks
- Technical assistance and participation in community-based forestry efforts in Arizona and New Mexico



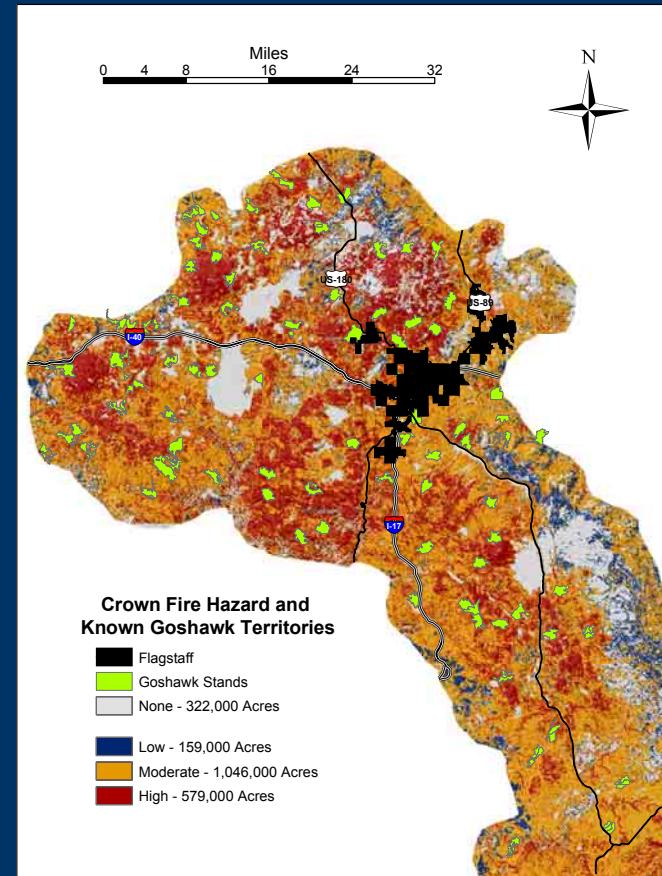
Outreach to the general public

- Brochures and newsletters
- Festivals and educational presentations
- Outreach to radio, TV, newspapers



Bridging the disciplines

- How do we get these disparate groups together?
- Western Mogollon Plateau Adaptive Landscape Assessment: Linking scientists and land managers to set restoration priorities
- Quick “translation” of science into land management strategies through publications, workshops, and personal contacts



Challenges in translating science: 1

- It takes a long time to do ecological research: this conflicts with the urgency policy makers, land managers, and members of the public feel
- Short-term results can be skewed by climatic variability and other factors
- It can be problematic to extrapolate from one site to another
- Even good science can't tell us "enough" about all the ecological complexities

Challenges in translating science: 2

- Scientists have a proprietary interest in their research results, and often wait for peer-reviewed publication (which can take a while)
- Managers, policy makers, and members of the public want specific prescriptions, and scientists don't want to give them

Challenges in translating science: 3

- “Translation” difficulties: care needs to be taken in terminology, teaching level, etc
- Competing science: when different sides make different scientific claims, it is imperative for us to be impeccably accurate in our own claims and our own language

Our goals

- To get accurate information out there so that managers and others can make good decisions
- To make ecological restoration THE land management paradigm for the 21st century
- This is happening – but we need to act as watchdogs, making sure that “restoration” really means *ecological* restoration

The results

- May not be what they would be if we made all the decisions ourselves, but perhaps we can push the decision-making onto a better trajectory – just as restoration can push an ecosystem onto a healthier trajectory
- There's never a true end point: ecologically and socially, it's as much about the process as about the results

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- ERI: 928-523-7182, www.eri.nau.edu

