A Triangular Approach to the Adaptive Management Circle

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Point

- The "manager" should not do the monitoring, at least not alone.
- Adaptive management can facilitate collaborative or third party monitoring and research.

Outline

- Historical background: why is my first point not obvious?
- Adaptive management: why it facilitates shared or third party research and monitoring
- Example: SNAMP project (research results)
- Monitoring as part of a social ecological system (SES)
- Gradient of monitoring options

Evolution of Public Land Management Models

I. Trained experts make the decisions
   -- Pinchot's progressive conservation ethic
   – Through 1950s

USFS

EX: National Forest Organic Administration Act of 1897
   -- Established the forest service
   -- Protect forests and manage them scientifically

"*The American people are ignorant of the danger, we must inform them*"
Theodore Roosevelt 1895.

Defining the problem: Theodore Roosevelt, 1895

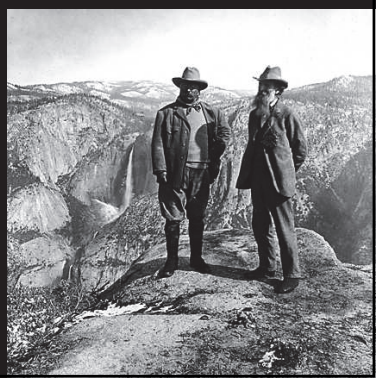
- Many of the people in these imperiled regions are not permanent inhabitants at all, they are mere nomad, with no intention of remaining…and with still less idea of seeing their children grow up there. They…care nothing whatever for the future of the country.
- Damage is felt far away, so the federal government must be involved.

Gifford Pinchot

- "Conservation is the foresighted utilization, preservation and/or renewal of forests, waters, lands and minerals, for the greatest good of the greatest number for the longest time"
- Must have highly efficient, focused production of foresters

John Muir, 1895

- "One soldier in the woods, armed with authority and a gun, would be more effective in forest preservation than millions of forbidding notices"



Letter from Shasta Trinity Forest Supervisor to local stockman during WWI

"Preventable fire is more than a private misfortune. It is a public dereliction.

At a time like this of emergency … it is more than ever a matter of deep and pressing consequences that every means should be taken to prevent this evil …

...it is therefore the patriotic duty of the stockman to prevent fire" (Morrow 1918)

(*L. Forero, PhD dissertation, 2004)*

Public Frustrations

- Assumption of WHAT forests are to be managed for
- Early mismatch between "scientific" forestry and…
  - Indian burning
  - Grazing
  - Fire-prone ecosystem
- Later mismatch between "scientific" forestry (clearcuts) and recreation

"Manage for the greatest good of the greatest number for the longest time"

Model I: highly trained professionals decide what that is

Evolution of Land Management Models

Model II. Involving the public

- NEPA 1969
- 1960s – 2000s

- *"The days have ended when the forest may be viewed as trees and trees viewed only as timber. Soil and water, grasses and shrubs, fish and wildlife, and the beauty that is the forest must become integral parts of resource manager thinking and actions"*
  - *Senator Hubert Humphrey 1976*

The National Environmental Policy Act (NEPA):

- Requires Federal agencies to analyze the short- and long-term adverse environmental consequences of a range of proposed management alternatives, including no action
- Result of the NEPA process is some type of an environmental impact assessment document

NEPA: Public Hearings

- Provides a mechanism for people to comment
- Research results: most people find it "better than nothing"
- A "consultative" approach

Frustrations

- No necessary action on NEPA comments
- Sets up opportunities for lawsuits because of procedural requirements
- Costly and time consuming

Numerous attempts at participatory community, collaborative management

- Allow more interaction, development of hybrid team culture of shared norms and values, shared meanings and understandings
- Encourage stakeholder participation in goal setting and methods.
- Use local knowledge
- Build "trust"

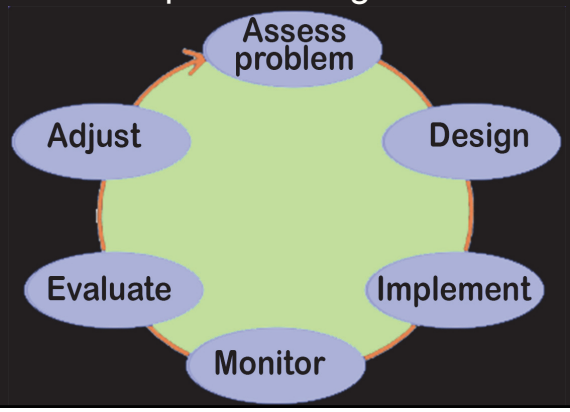
Frustrations

- Misunderstandings of agency responsibilities, especially non-delegation
- Difficulty in choosing participants, lack of broad representation, ability to participate, money and time talk
- Local or National publics?

Adaptive Management

- Learning by doing
- Complex systems & uncertainty - must learn and adapt
- Management as experiments
- Can be participatory

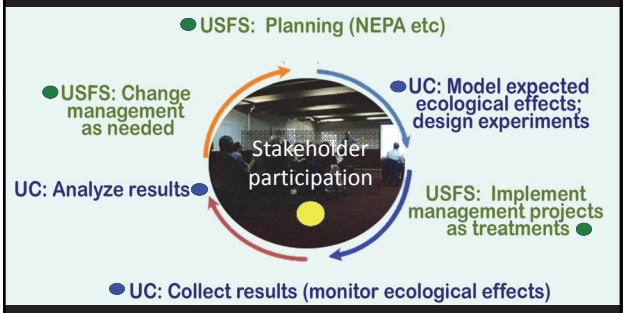
Adaptive Management



Sierra Nevada Adaptive Management Project (SNAMP)

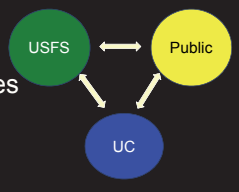
- Participatory adaptive management effort with the public, University of California, and Forest Service
- To research the effects of tree thinning by the Forest Service to reduce fire hazard
- Impacts on water, wildlife and fire
- Highly controversial, initiated by a multi-agency memorandum of understanding

SNAMP Adaptive Management



Evolution of Land Management Models

Model III. Checks and balances
- Third party research
- ➜ SNAMP



"Adaptive management must be a participatory process that engages scientists, stakeholders, and managers in a long-term relationship grounded in shared learning about the ecosystem and society"
--SNAMP Workplan

Does having UC involved in SNAMP influence the way you think about the project?

- "Having the university involved gave me a grain of hope that there will be a moderating influence"
- "More credibility"
- "Less likely to have personal bias or beliefs. Gives it credence."
- "Less susceptible to politics and budgets."
- "Creates an opportunity for experiment."

- "…because I have more trust in the process due to UC role, I am less likely to participate – I am not needed for our interests to be represented…"

Characteristics of the Third Party

- Being seen as independent or neutral is critical to being credible
- Important to believe that the agency/manager will listen to the researchers monitoring ecological change and management impacts
- Direct stakeholder contact with researchers is appreciated

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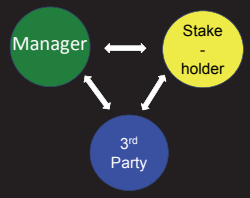
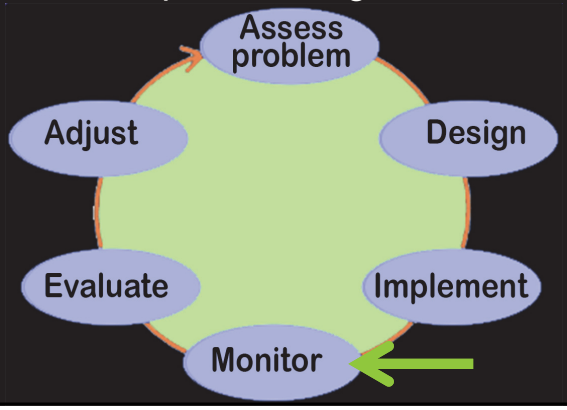
Evolution of Land Management Models

Third party monitoring

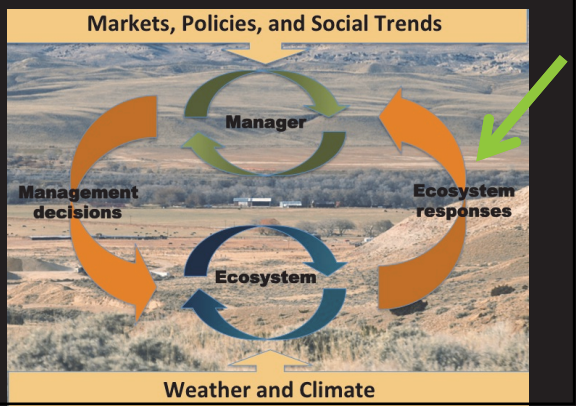


- "trust but verify"

Adaptive Management



Social Ecological System



Monitoring/Research/Learning

- Monitoring is often neglected
- The learning part of the adaptive management process
- There are several general approaches to monitoring between the manager doing the monitoring and third party monitoring

Other "3rd Parties"

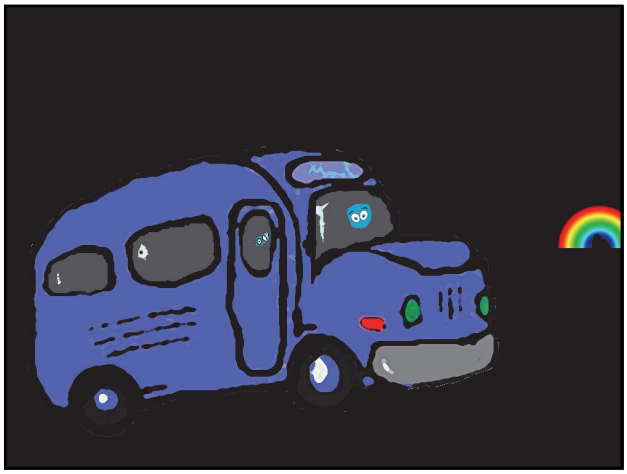
- BLM and NRCS Natural Resources Inventory Assessment
- Consultants
- NGOs, Non-profits

NRCS Natural Resources Conservation Service

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Gradient?

- Not contentious, or for your own purposes:
  self-monitoring
- Somewhat contentious at local scale between manager entity and community:
  all parties, shared, or joint monitoring
- Controversial/polarized:
  third party monitoring



Conclusions

- Lots of people emphasize "trust": building relationships is important, but
- There is a lot at stake, and differences in power and impacts and representation
- Trust but verify? Monitoring and research should be transparent and shared whenever possible.

"Building trust" is really building a process people have confidence in

- Mutually understood and mutually credible (trusted) monitoring and research
- Third party presence may be needed, and can be part of a participatory adaptive management process.