

Science based forestry

What is not science based forestry

- Anecdotal
- Unreplicated

Adaptive management

- **Hypothesis**
- **Implement**
- **Assess**
- **Revise hypothesis**
- **Implement**

What is a hypothesis

1. **theory needing investigation: a tentative explanation for a phenomenon, used as a basis for further investigation**

The hypothesis of the big bang is one way to explain the beginning of the universe.

2. **assumption: a statement that is assumed to be true for the sake of argument**

[taken from MSN *Encarta*]

What science to use?

- **Good science**
 - Peer review
- **Appropriate science**
 - ?

Forest Biology

Examples:

- **How trees grow**
- **How nutrients cycle**

Ecology

Examples:

- **How do disturbances affect the forest?**

Wildlife biology

Examples:

- **Habitat requirements**
- **Population levels**
- **Life cycles**

Social science

Examples:

- **What is beautiful?**
- **What do people want from their forest?**

modeling

Examples:

- **Assumptions of simplicity**
- **Mathematical assumptions**

planning

Examples:

- **Harvest scheduling**
- **Roads**
- **Recreation**
- **Access**

Elements of science based decision making

- **Taken from paper by Szaro and Peterson**

Why make forestry science based?

- **help facilitate productive discussion among different and competing interests**
- **help focus the discussion on choices and their consequences rather than on polarized positions.**
- **highlight the range of available choices, and may even lead to new options that balance competing interests.**

Why make forestry science based?

- **increase the understanding of management decisions and help lead to the expected outcomes.**

Science information is viewed as the basis for the forest management decision-making process:

- **Better decisions**
- **Perceived as better decisions**

Science information is readily available and presented in a manner that facilitates easy use

- **Synthesis**

Science information is fully used and considered in making natural resource management decisions

- Professional staff and the decision maker are aware of the relevant science information.**
- They understand the relationships presented in the science documents**

Science information is recognized as important but only as one of the pieces of information considered in a decision

- **Science information is just that, “information”.**
- **It alone does not direct a decision**
- **Scientists should not advocate a particular solution to the policy or management issue**

Any decision will require integration of many considerations of which science information is only one

Barriers

- **Researchers sometimes inappropriately advocate policy positions and values:**
- **Too few mechanisms and appropriately trained personnel exist to accomplish the timely transfer of new scientific knowledge**
- **Decision makers and the public do not always consider or understand the scientific information available**