

Adaptive Resource Management: Concept and Application

Aaron D. Flesch and Brian Powell

RECON Environmental, Inc.

&

University of Arizona, School of Natural Resources

Outline

- Traditional management
- Adaptive management
 - Process
 - Challenges
- Application to our meeting

Traditional Management

- Conventional wisdom
 - Political and social concerns
 - Best current data (if any)
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- Trial and error approach

Adaptive Management: Philosophy

Traditional management plus...

- A structured process for “learning by doing”
- Management as an experiment
- Hypotheses-testing framework
- Information gained is used to revise management through built-in feedback mechanisms

Adaptive Management: Definitions

A process for continually improving management practices by learning from the outcomes of management programs.

A process where management is applied experimentally to evaluate alternative hypotheses about a system.

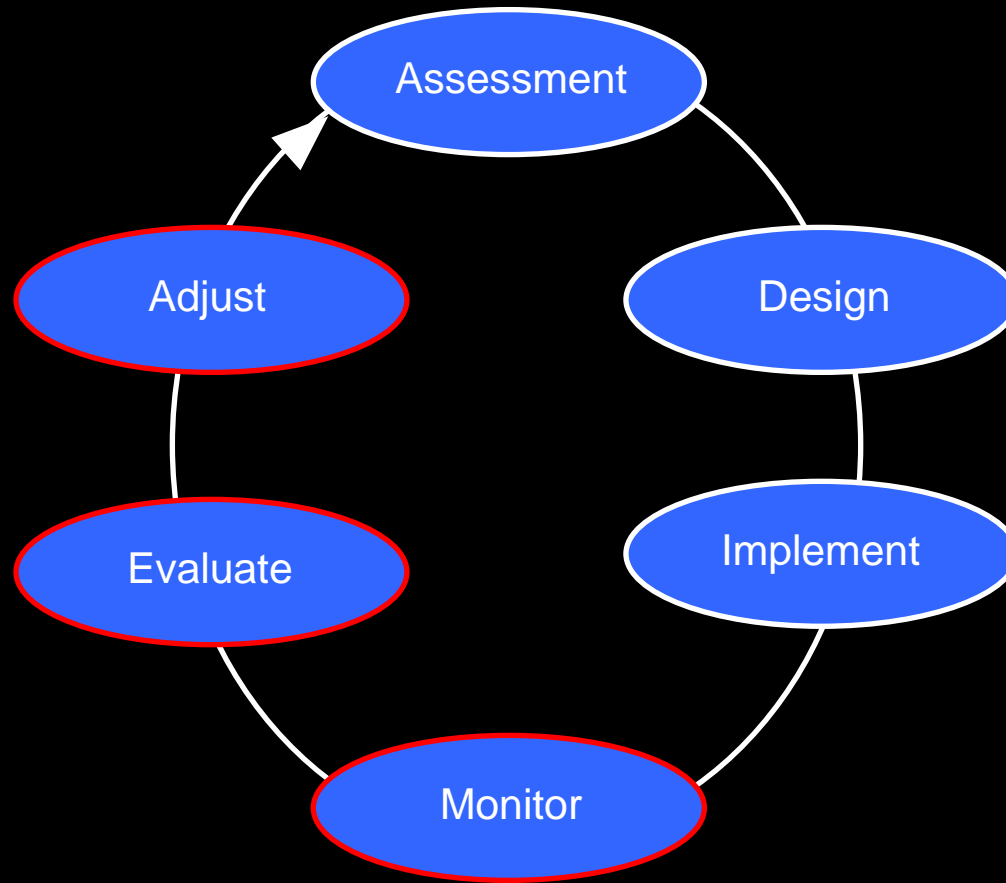
Adaptive Management: History

- In 1950s for industrial operations
- For natural resources:
 - Holling, C.S. 1978. Adaptive environmental assessment and management. Wiley.
 - Walters, C.J. 1986. Adaptive management of renewable natural resources. McMillan.

Why Adaptive Management?

- Mistakes are expensive!
- Lots of options but only one may work
- Nature is complex
- High uncertainty and variation

Adaptive Management Process



Monitoring

Choose

- Parameters
- Methods
- Sampling design
- Sample sizes
- Effort allocation
- Data analysis



Parameter Selection - Past

Scientist's criteria

- Ecological relevance
- Sampling efficiency
- Conservation value and threat



Parameter Selection - Today

Managers criteria

Value for...

- Assessing change
- Triggering management
- Evaluating and adapting existing management

