

Adaptive Management

- **Welcome and Introductions**
- **Overview and Update on the Status of RMP**



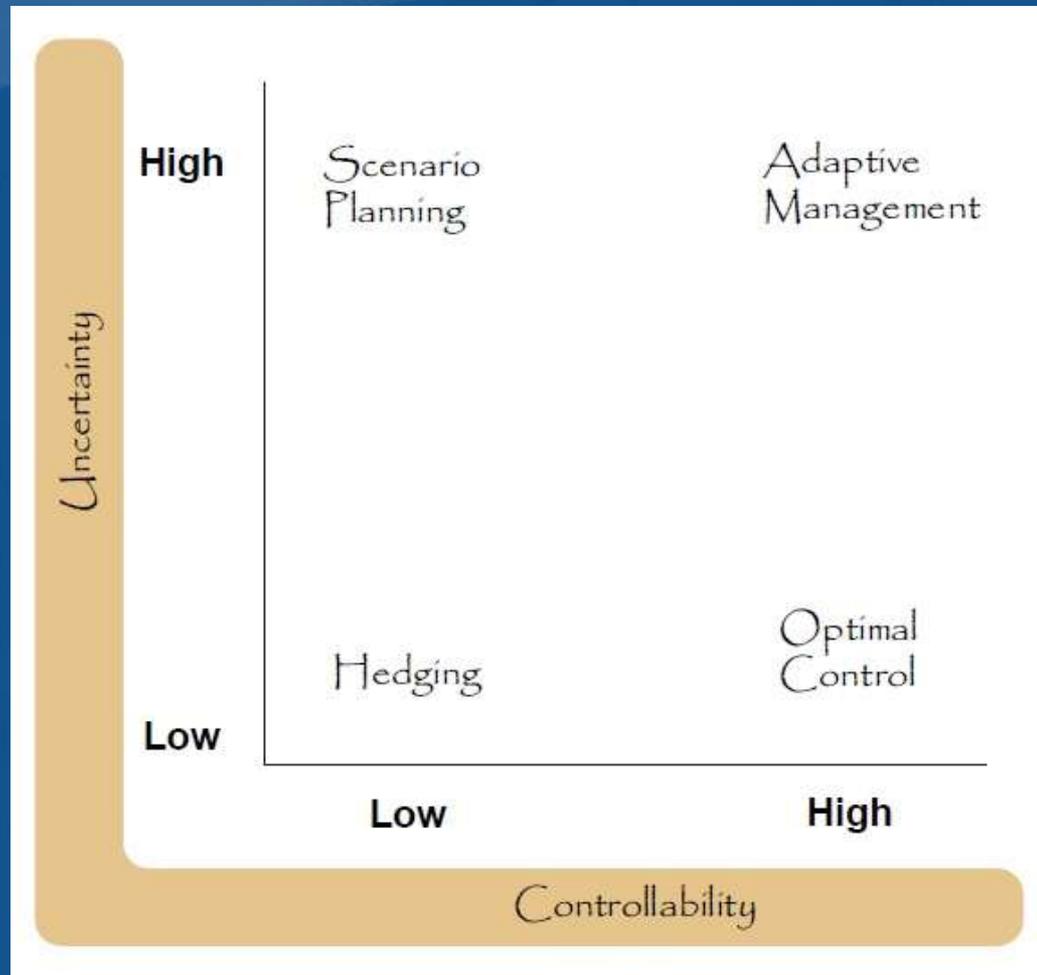
Effective Adaptive Management – An Overview

Adaptive Management

Adaptive management [is a decision process that] promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood.

*DOI Adaptive Management
Technical Manual*

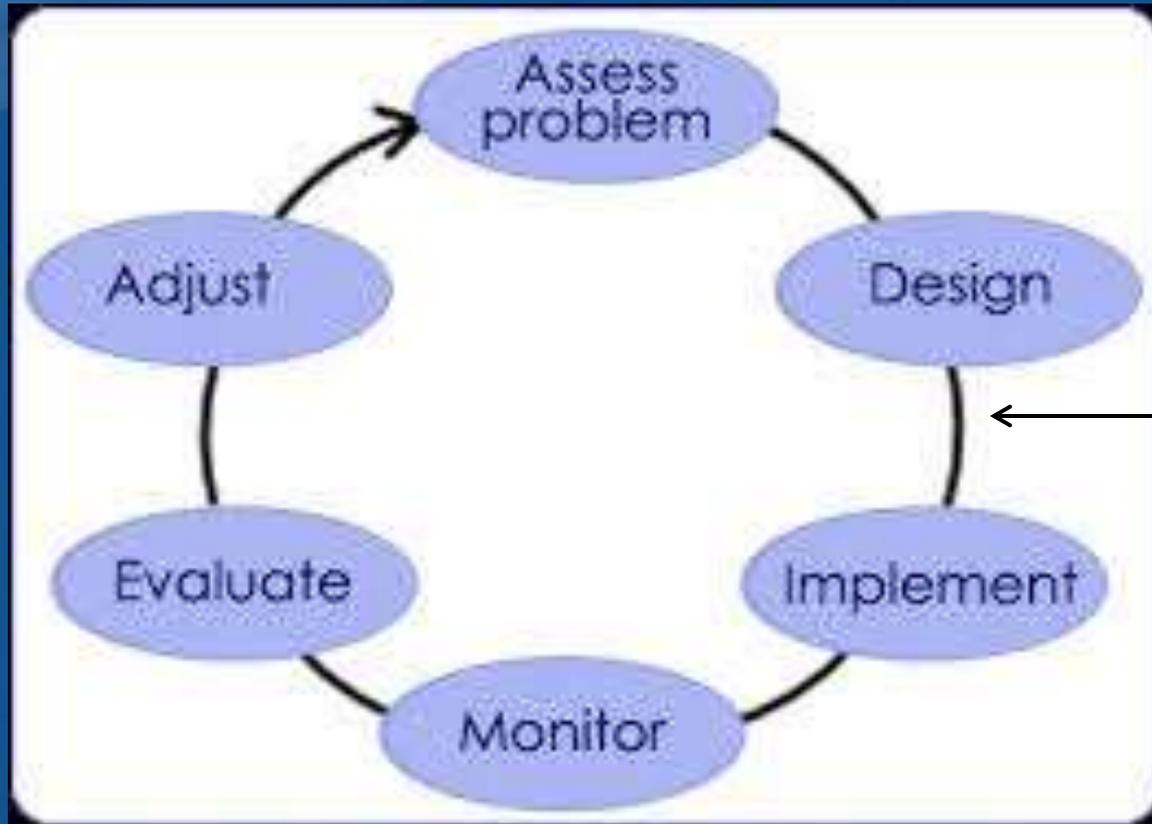
When Do We Use Adaptive Management?



Can NEPA and Adaptive Management Work Together?

- **AM allows for effective resource planning (RMPs, Forest Plans, etc.)**
- **AM provides a powerful tool to prevent significant project impacts (can keep an EA from becoming an EIS)**
- **AM helps ensure that proposed actions and mitigations are effectively implemented such that actual impacts are within those disclosed in the NEPA document**

The Challenge



*NEPA
disclosure
happens here*

How Do We Integrate AM in the NEPA Disclosure Process?

Clear Description of AM

- Who? What? How? Where? When?
- Level of Detail?
 - Enough to disclose effectiveness
 - Enough to disclose potential impacts on all pertinent resources

How Do We Integrate AM in the NEPA Disclosure Process?

- **Wrong Way**
 - *Trust us we will do the right thing*
 - *We have a great toolbox*
 - *We will monitor the situation*
 - *We will develop great mitigation once we implement the project*
- These approaches do not provide a plan or a basis for defensible impacts disclosure under NEPA

How Do We Integrate AM in the NEPA Disclosure Process?

- **Right Way**
 - *Here are the adaptive management tools*
 - *We will monitor these metrics*
 - *These are the thresholds for these metrics*
 - *If the following thresholds are met/exceeded, the following adaptive management will be implemented.*
- This allows for defensible NEPA disclosure of the potential impacts of adaptive management

“Thresholds and Triggers” (You gotta have a plan!)

- Identify potential future situations and appropriate management responses
- Identify indicators that can accurately gauge these situations for a representative resource
- Identify “thresholds” for those indicators that would “trigger” a management response.
- Identify that management response

Examples:

- **Instream flow of the Santa Clara will be monitored. If minimum instream flow goes below 3 cfs, water will be released from Gunlock Reservoir to augment instream flow at a level of at least 3 cfs.**
- **If monitoring indicates visitation is adversely affecting the Moon House, permitted visitation only will be allowed. If impacts continue, the Moon House will be closed to visitation.**
- **If temperatures are high and conditions are dry such that fire danger is extreme, vegetation treatments in WUI areas will be done using mechanical and herbicide treatments only.**

Examples

- **Moab RMP EIS – Drought Management Plan**
 - Changing resource use based on changes in drought condition
- **Loon Mountain Ski Area Expansion EIS – Snowmaking withdrawals**
 - Changing water withdrawals and storage based on winter in-stream flows

Table M.1 Drought Severity Classifications

Category	Description	Possible Impacts	Palmer Drought Index	CPC Soil Moisture Model (Percentiles)
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.	-1.0 to -1.9	21-30
D1	Moderate Drought	Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.	-2.0 to -2.9	11-20
D2	Severe Drought	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	-3.0 to -3.9	D2
D3	Extreme Drought	Major crop/pasture losses; extreme fire danger; widespread water shortages or restrictions.	-4.0 to -4.9	D3
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies.	-5.0 or less	

Additional indices used, mainly during the growing season, include the USDA/NASS Topsoil Moisture, Crop Moisture Index (CMI), and Keetch-Byram Drought Index (KBDI). Indices used primarily during the snow season and in the West include the River Basin Snow Water Content, River Basin Average Precipitation, and the Surface Water Supply Index (SWSI).

Adaptive Drought Management Plan

Severe (D2):

- Send drought letters.
- UDWR coordination for big game herd control.
- Prepare local seasonal precipitation graphs.
- Suspend or limit seed collecting activities.

Extreme (D3):

- No new surface-disturbing activities in areas with sensitive soils (subject to valid existing rights or actions associated with other valid permitted activities; see oil and gas Appendix C for definition of surface-disturbing activities).
- Changes in livestock use would be based on site-specific data on those allotments that are affected by drought.
- OHV use and competitive motorized events would be confined to designated roads and routes within the open OHV area.
- Require additional erosion-control techniques/BMPs for surface-disturbing activities (e.g., hydromulching).
- Limit prescribed burns and vegetation treatments.

Exceptional (D4):

- Changes in livestock use will be based on site-specific data on those allotments that are affected by drought.
- No new surface-disturbing activities (subject to valid existing rights or actions associated with other valid permitted activities).
- Consider closing areas to public entry.

Adaptive Drought Management Plan

Severe (D2):

- Send drought letters to all permittees encouraging water and soil conservation.
- Coordinate with UDWR to maintain big game herd populations at a level that ensures meeting rangeland health standards.
- Suspend seed collecting activities.

Extreme (D3):

- No new surface-disturbing activities in areas with sensitive soils (subject to valid existing rights or actions associated with other valid permitted activities; see oil and gas Appendix C for definition of surface-disturbing activities).
- OHV use and competitive motorized events would not be allowed or would be confined to designated routes only.
- Require an erosion control plan, including detailed erosion-control techniques/ BMPs (e.g., hydromulching, sedimentation mats, straw wattles, etc.) for all permitted surface-disturbing activities
- Do not allow prescribed burns and vegetation treatments.
- Reductions in livestock use would be implemented for those areas where drought would not allow maintenance of rangeland health standards.

Exceptional (D4):

- No new surface-disturbing activities (subject to valid existing rights or actions associated with other valid permitted activities).
- Areas with sensitive soils and vegetation would be closed to public entry.
- Livestock would be removed from BLM lands.

Lessons Learned

- **Clear unambiguous criteria make for clear adaptive management.**
- **“Total Flexibility” is not a plan!**
- **Required flexibility is obtained by identifying relevant criteria.**
- **Think “if – then”**
- **Collaboration is critical**

Questions?

Adaptive Management

How Can we Integrate it Into
SPRNCA?

Recreation

- **Action: Making a site more accessible to the public [e.g. Boquillas Ranch]**
- **Uncertainties:**
 - Amount of visitation
 - Impacts that could occur from that visitation

Issue

- How to minimize impacts to cultural resources from increased visitation?

Monitoring

- **Vandalism - presence / absence.**
- **Photopoint – changes over time.**
- **Increased trail numbers.**
- **Presence of Litter.**

Thresholds

- **Physical degradation of the cultural site:**
 - **Vandalism (willful).**
 - **Theft (looting).**
 - **Inadvertent impacts to the site from visitation (touching or stepping on the site).**
 - **Action: Education the public about the importance of these sites. (monitor)**
 - **Action: Restrict access to permitted access only. (monitor)**
 - **Action: Close the site. (monitor)**

Riparian Vegetation

Threshold

- **Degradation of the riparian vegetation due to visitor use.**
 - **Action: Allowing access to the riparian area but to designated routes only. (monitor)**
 - **Action: Prohibit all access to the riparian area except foot access. (monitor)**
 - **Action: Close riparian areas to public access. (monitor)**

Questions?

Adaptive Management

Panel Discussion on How Adaptive Management is Used on Las Cienegas NCA

Panelists

- **Karen Simms (BLM)**
- **Doug Duncan (USFWS)**
- **Ian Tomlinson (Lessee Empire Ranch-Cienega Allotment)**
- **Gita Bodner (The Nature Conservancy)**
- **Larry Fisher (Moderator)**

Questions for Panel?

Closing and Next Steps