

# Community Outreach Meeting Bonita Peak Mining District Adaptive Management Pilot Program

July 2019

# Meeting Objectives

- ◆ Provide an overview of Adaptive Management (AM)
- ◆ Present and discuss the AM Site Management Plan (SMP)
- ◆ Discuss how the AM SMP will be developed and how it will be used.
- ◆ Discuss how stakeholders may be informed throughout process.
- ◆ Solicit questions and feedback

# Presentation Outline

- ◆ Meeting Objectives
- ◆ Adaptive Management Primer
- ◆ Overview and Role of SMP
- ◆ Next Steps
- ◆ Q&A Session

# ADAPTIVE MANAGEMENT PRIMER

# Adaptive Management Primer

## ◆ So What is AM?:

- Various defined and discussed.
- Incorporated into natural resources management in 1970s.
- EPA STF definition: “...formal and systematic site or project management approach centered on rigorous site planning and a firm understanding of site conditions and uncertainties.”
- Rooted in sound use of science and technology
- Encourages continuous re-evaluation and prioritization of activities to account for new information or changing conditions.

# Adaptive Management Primer

## ◆ What AM is not:

- Trial and Error.
- An end in itself.
- A silver bullet.
- One sized fits all.
- Make it up as we go.

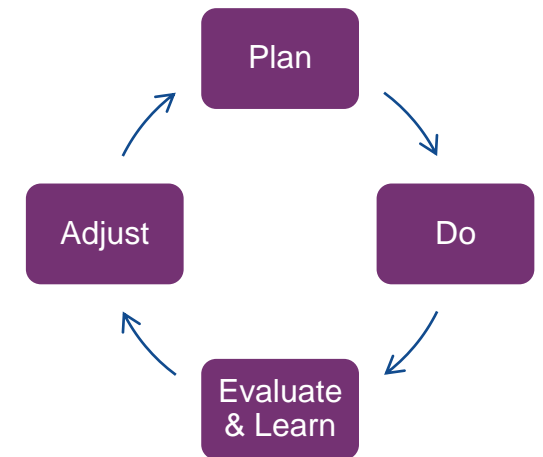
*“adaptive management is a very powerful, yet poorly understood natural resource management tool...but (it) must be understood by those who use, support, fund, and challenge it.”*

*-Van Cleve et al. 2003*

# Adaptive Management Primer

## ◆ AM Elements

- Define Site/Project Objectives
- Model(s) the site being managed
- Identify potential actions
- Monitor and evaluate outcomes
- Incorporate learning into future decisions
- Stakeholder participation



# Adaptive Management Primer

## ◆ Issues Common to Complex Sites

- Competing views of site priorities and site understanding
- No clear plan for managing uncertainty
- Lack of structured and documented decision-making
- Linear project management mentality
- Contracting and funding challenges to facilitate innovative and dynamic decision making





# Adaptive Management Primer

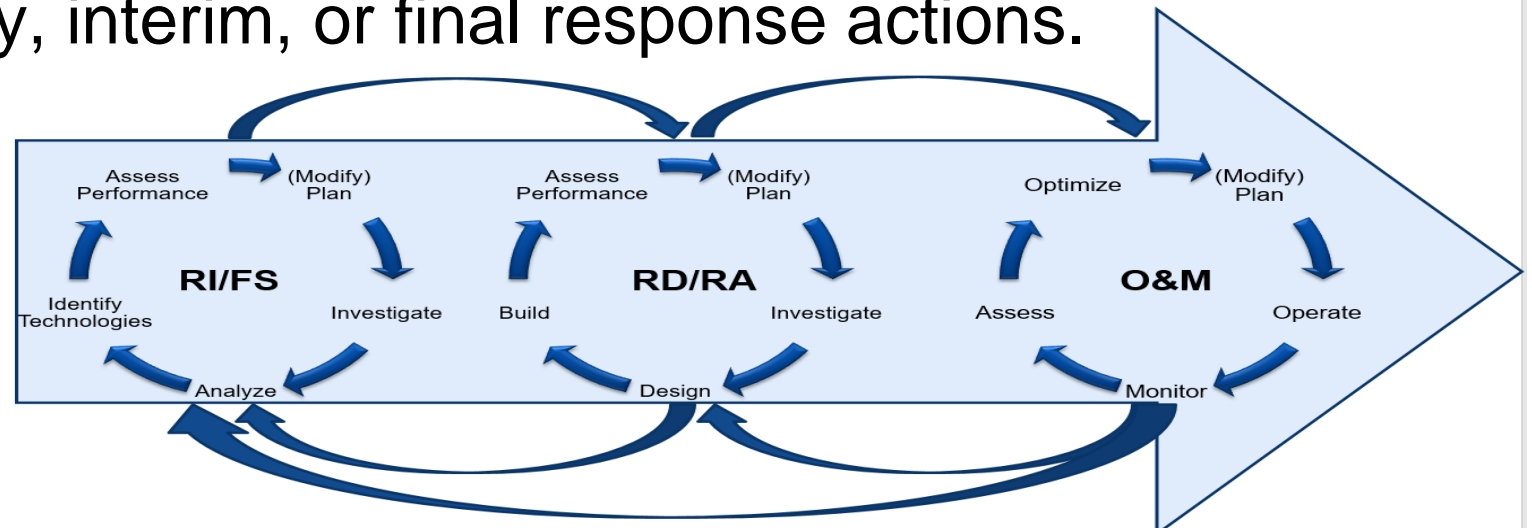
## ◆ Superfund AM Site Level Applications

- Best applied early in the Superfund site characterization and remediation process
- Encourages early stakeholder engagement for high-level site strategy and approach
- Consider how early or interim response actions may be implemented throughout the site-wide RI/FS
- Captures stakeholder priorities to inform a transparent and structured decision-making process

# Adaptive Management Primer

## ◆ Structure Site-Level Decision-Making Will:

- Align resources to collect information critical to addressing key site uncertainties to support site strategy
- Identify how response action outcomes will be evaluated and inform future management decisions; and
- Ensure information supports CERCLA and NCP-consistent remedy decisions for all early, interim, or final response actions.



# AM Pilot Program at BPMD

- ◆ AM Pilot program focuses on bringing Superfund AM application from “*concept*” to “*reality*” by developing and/or implementing AM Framework
- ◆ The Tool: AM Site Management Plan (SMP)

# OVERVIEW AND ROLE OF THE AM SMP

# Purpose of the AM SMP

- ◆ Plan Purpose: provide a formal process to achieve site goals and maintain forward progress, while documenting the decisions made along the way
  - Transparent process
  - Outline how documentation will be completed
  - Provide schedule for periodic review/updates of goals and site strategy
  - Document the process for prioritizing actions
  - Provide methods for course adjustments based on evolving Site understanding (risk, technologies, effectiveness, stakeholder input, etc.)

# Bonita Peak AM SMP

- ◆ Establish and Document Guiding Principles
  - Goals
  - Site Strategy
- ◆ Adaptive Decision Making Process
  - Stakeholder engagement on principles, strategy, and priorities
  - EPA leads planning actions
  - Project execution plans build on lessons learned
  - Monitoring and assessment feeds into next steps
  - Re-prioritization built into planning process after each remedial action is completed

# Guiding Principles

- ◆ EPA's Goals (Status: Completed in 2019)
  - Water Quality Improvements
  - Stabilize Source Areas
  - Minimize Unplanned Releases
- ◆ Site Strategy (Status: in development)
  - Based on existing priorities at the Site
  - Detailed strategy and objectives for next 10 years
  - Higher level strategy and objectives for completion of the project

# BUNKER HILL EXAMPLE

## ◆ Project Overview

## ◆ Goals:

- Reduce risks to human health
- Control sources of contamination
- Reduce risks to wildlife and aquatic resources
- Promote long-term stewardship

## ◆ Site Strategy – focus for next 10 years

- Recreational sites: Target high-risk areas. Implement measures to reduce human health exposure.
- Wetlands: Seek opportunistic actions with low re-contamination potential. Implement 3-4 remedial actions and assess effectiveness
- Source control: Pilot test 2-3 source control measures.



# Bonita Peak Adaptive Decision Making

- ◆ Outline the tools and procedures for
  - Decision making
  - Documenting decisions
  - Documenting lessons learned
  - Incorporating knowledge into future actions
  - Cadence for revisiting guiding principles
  
- ◆ List key stakeholders and detail engagement process
  - Indicate when engagement will take place
  - Indicate type of input engagement: informational vs consultation

# Example: Bunker Hill AM Decision Making

- ◆ Three broad action areas: Source Control, Human Health, and Wetlands
- ◆ Stakeholder input evaluated using a formal process for input and documentation
- ◆ EPA evaluates recommendations and selects actions for current cycle (~1-5 years)
- ◆ Actions documented in Project Execution Plans
- ◆ Implementation/Monitoring/Assessment of Projects
- ◆ Incorporate lessons learned into planning for next cycle
- ◆ Solicit and incorporate stakeholder input and prioritize actions using multi-objective decision analysis

# NEXT STEPS

# Next Steps

## ◆ Status for BPMD Pilot

- Federal and State Agency kickoff meeting to discuss BPMD AM SMP (completed June 2019)
- Complete draft of guiding principles (Planned completion date: August 2019) and share with stakeholders.
- Draft SMP anticipated in October 2019. To be shared with stakeholders.
- Incorporate feedback and complete of Final SMP in December 2019

# QUESTION AND ANSWER SESSION

# ***THANK YOU FOR PARTICIPATING***

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