

# RSM-U Reservoir Sedimentation Workshop

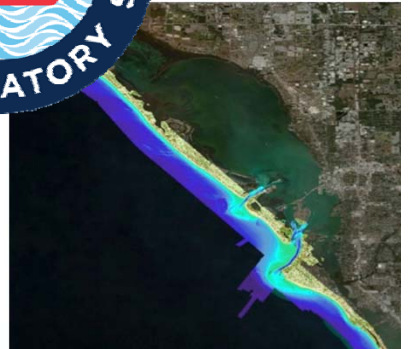
Reservoir Sediment Management Actions – Preventing  
Sediment from Entering Reservoirs

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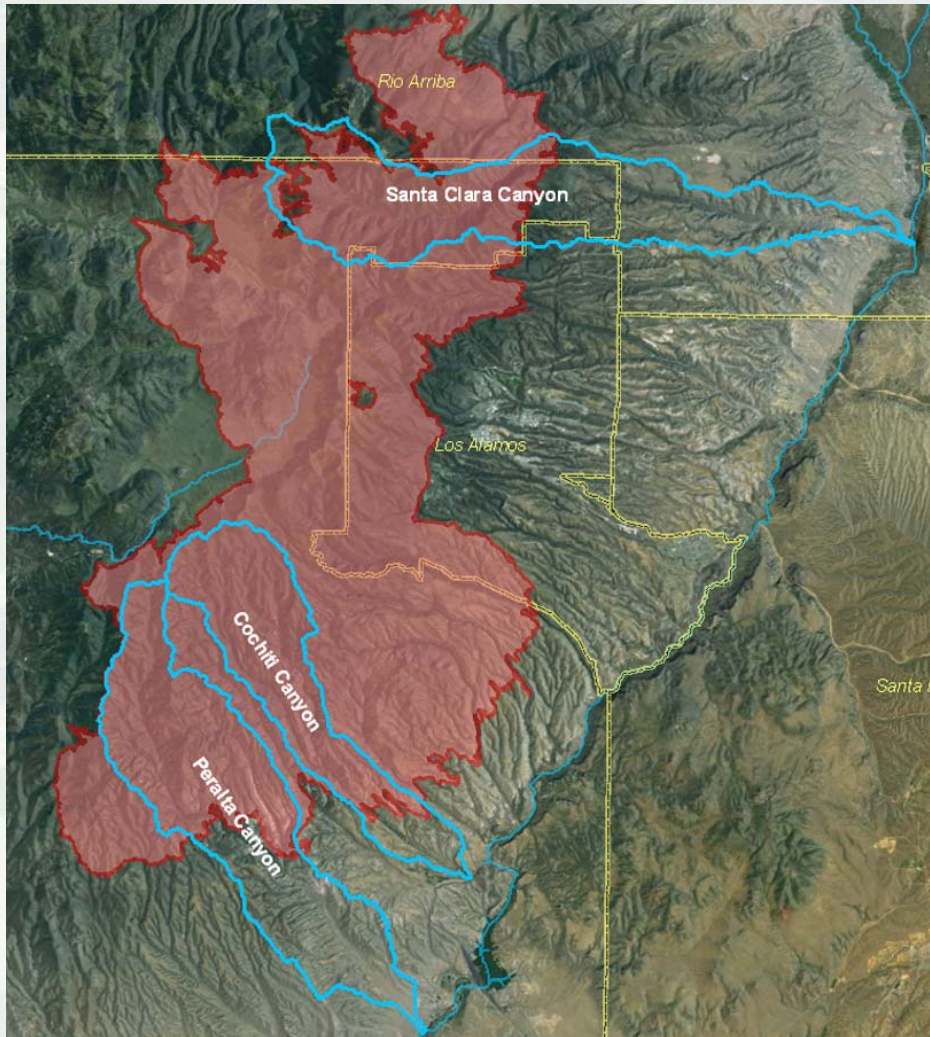
# Discussion Overview

- Topic: Reservoir Sediment Management Actions – Preventing Sediment from Entering Reservoirs
- Duration: Approximately 20 minutes
- Key Points:
  - ▶ Introduction and Overview
  - ▶ Watershed Sediment Management
  - ▶ Recap and Summary





# Watershed Sediment Management



## Preventing Sediment from Entering the Reservoir

- Upstream sediment management methods intended to extend reservoir life
- Morris et al., 2004 identify two primary management strategies
  - Sediment Yield Reduction
  - Watershed Sediment Storage
- Recommend considering system-wide approach to implementing strategies



# Watershed Sediment Management

- Upstream sediment yield reduction incorporates erosion control and stabilization approaches to mitigate sediment erosion from tributary watersheds.
- Watershed sediment retention strategies include checkdams (or Sabo dams), sediment traps or debris basins, and sediment diversion (warping).
- Due to the complexity and large number of variables involved in reservoir sedimentation problems, no single management strategy can be suggested.
  - ▶ No 'Cookbook'



# Watershed Sediment Management

- Non-Structural methods include:
  - ▶ Changes in Land Use and agricultural practices
  - ▶ Forest Management (i.e., contour felling, mulching, revegetation etc.)
  - ▶ Reducing bank slopes
  - ▶ Others?





# Watershed Sediment Management

- Structural methods include:
  - ▶ Rip rap bank stabilization (i.e., longitudinal stone toe protection)
  - ▶ In-channel flow redirection structures (bendway weirs, dikes, spur dikes, etc.)
  - ▶ Grade control structures
  - ▶ Check Dams or Sabo Dams
  - ▶ Sediment Traps or Debris Basins





# Watershed Sediment Management

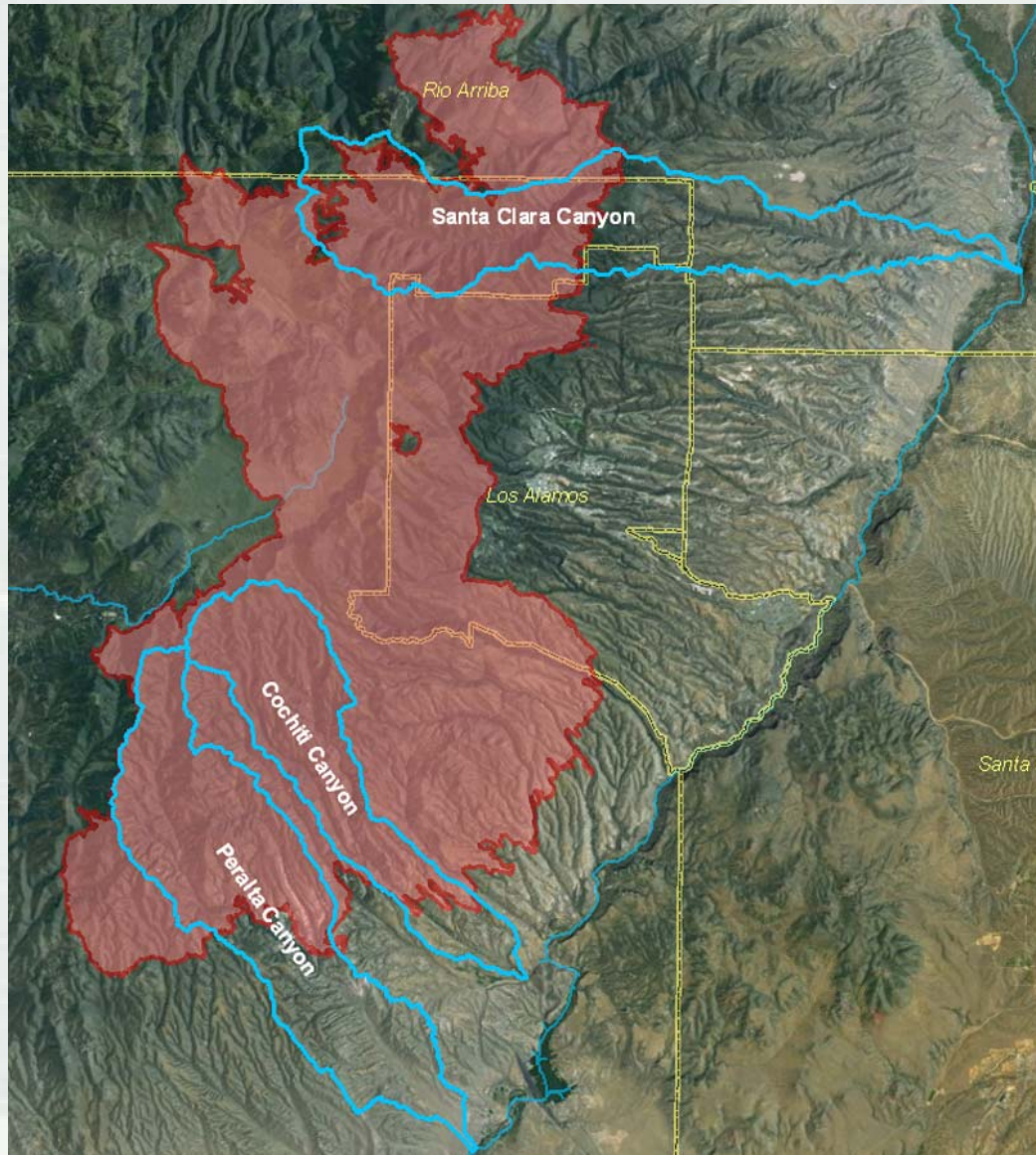


Managing the watershed may be the most effective sediment control measure, if possible. Certainly feasible on small watershed, but may be cost prohibitive on larger ones.





# Recap and Summary





# Questions?

