The Need for Reservoirs, Pt. II

RSM-U Reservoir Sediment Management Management Workshop
2 August 2017

Travis Dahl
ERDC-CHL, River Engineering Branch
Reservoir Purposes

- Flood Risk Reduction
- Hydropower
- Fish and Wildlife
- Water Supply
- Recreation
Reservoir Sediment Definitions
Flood Risk Reduction

- Reduce or prevent flood peaks
- 33% of storage across all USACE projects
- USACE dams
  - prevented $485 billion in damages from 2004 to 2013
  - $13.4 billion in damages prevented in 2013
Hydropower

- In 2015, 249 TWh of hydropower were produced in the U.S.
  - 6.1% of U.S. electricity production
Fish and Wildlife

- Reservoirs can support a variety of wildlife.
Water Supply

- Municipal and Industrial (M&I)
- Primary water source for many cities
- Industrial uses
  - Cooling
  - Process Water
  - Dilution of effluent
USACE Water Supply

- USACE has M&I water supply agreements at 136 reservoirs
  - 9.8 million acre-feet
  - 90% of this storage was part of the original project plan

- Reservoir sedimentation decreases the conservation pool available for M&I.
Irrigation

- 46 Corps projects in the West with irrigation as authorized purpose
  - Administered by Bureau of Reclamation
  - 533 individual irrigation agreements
  - Accounts for nearly $5M in O&M costs
- 12% of dams in National Inventory of Dams
Recreation

- Boating
- Swimming
Recreation

- Fishing
Conclusions

- Many uses for reservoirs, including:
  - Flood Risk Reduction
  - Hydropower
  - Fish and Wildlife
  - Recreation
  - Irrigation

- All are impacted by reservoir sedimentation
Questions?