

# Subcommittee on Sedimentation

2014 Report to the Advisory Committee on Water Information's Annual Meeting, August 19-20, 2014

Amanda Cox, PhD, PE – Chair

Colorado Water Resources Institute

Tim Randle, PhD, PE – Vice-Chair

US Bureau of Reclamation

Meg Jonas, PE – presenter

US Army Corps of Engineers

# Outline of Current SOS Efforts

- Joint Federal Interagency Sedimentation and Hydrology Modeling (SEDHYD) Conference
  - Doug Glysson (USGS)
- NSMD – The National Stream Morphology Database
  - Matt Collins (NOAA)
- RESSED – The Reservoir Sedimentation Database
  - John Gray (USGS)
- Reservoir Sustainability
  - Tim Randle (USBR)
- Technical Activities

# Joint Federal Interagency Sedimentation and Hydrology Modeling (SEDHYD) Conference

- SEDHYD is April 19-25, 2015 at the Peppermill Hotel in Reno, NV
- The website is up and running: [www.SEDHYD.org](http://www.SEDHYD.org)
- Conference approval: still awaiting approval from US Department of Interior
- Approach is that once DOI gives approval, approval for federal employees from other agencies will be easier to obtain

# National Stream Morphology Data Exchange - NSMDE

- Need: development of national common reporting standards and a strategy for exchanging consistent stream morphology observations
- Primarily channel and floodplain geometry and bed material size measurements
- Wide range of applications and uses for stream morphology data
  - culvert/ bridge design
  - rainfall- runoff modeling
  - flood inundation mapping
  - channel stability/sediment source investigations
  - climate change studies
  - navigation studies
  - habitat assessments
  - landscape change research

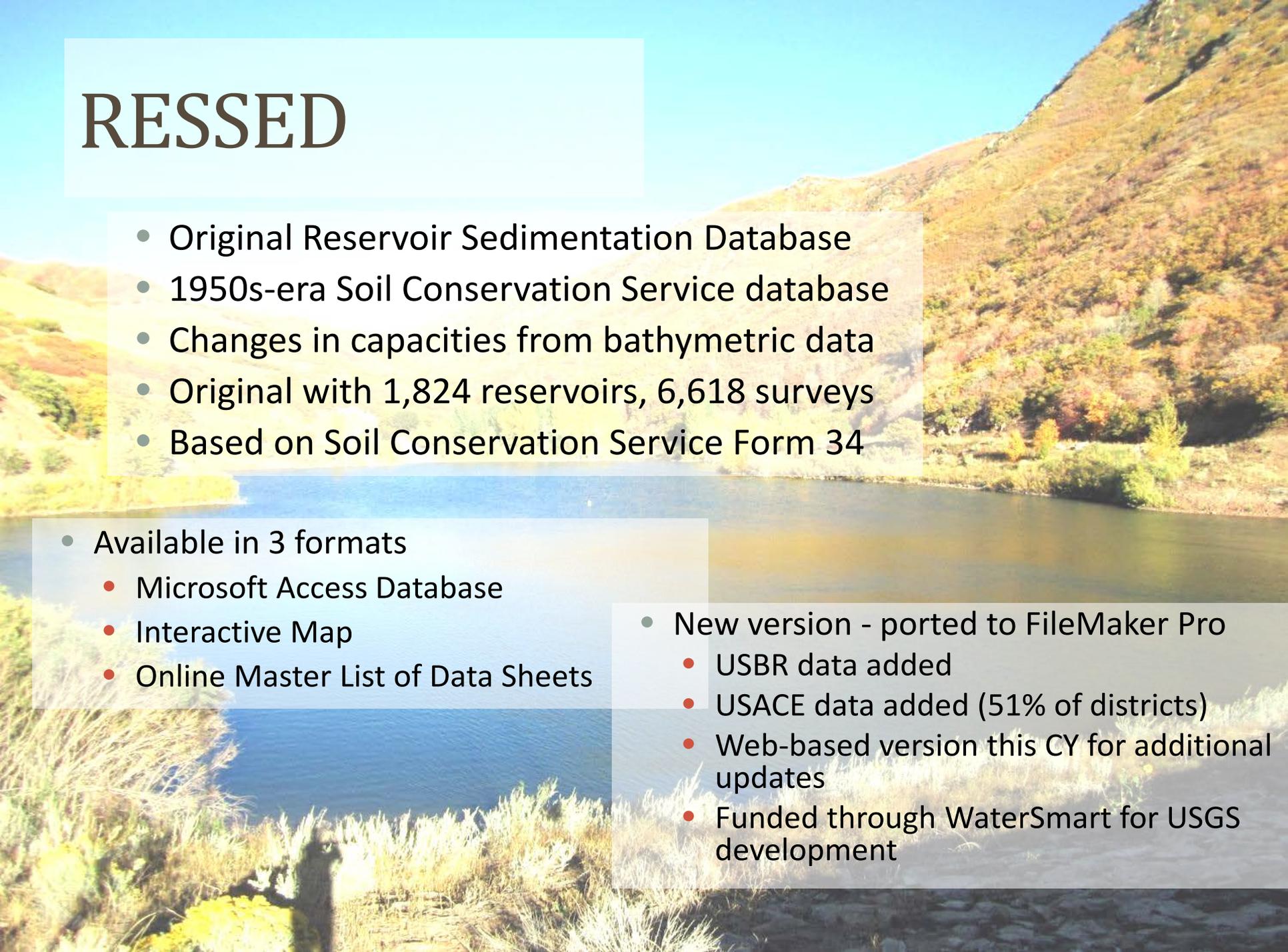


# NSMDE Proposals



- Convened an ad hoc subcommittee to make specific recommendations for advancing a national stream morphology data exchange
- Pursuing a fully-funded study to more deeply examine the data needs of the community and existing databases
  - Critically review available morphology data and their origin
  - Critically review databases and information systems relevant to the NSMD
  - Conceptualize and formulate the design specifications for the NSMD
  - Assemble an NSMD blueprint for an actual watershed using existing resources
- Several development proposals have been submitted, and the subcommittee is considering responding to other solicitations

# RESSED

- Original Reservoir Sedimentation Database
  - 1950s-era Soil Conservation Service database
  - Changes in capacities from bathymetric data
  - Original with 1,824 reservoirs, 6,618 surveys
  - Based on Soil Conservation Service Form 34
- Available in 3 formats
    - Microsoft Access Database
    - Interactive Map
    - Online Master List of Data Sheets
  - New version - ported to FileMaker Pro
    - USBR data added
    - USACE data added (51% of districts)
    - Web-based version this CY for additional updates
    - Funded through WaterSmart for USGS development
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# Uses of Reservoir Sedimentation Data

- Complement to fluvial sediment gage data
- Determine impacts to public water supply and other purposes
- Fine-tune water releases to minimize capacity-loss effects on flooding
- Design reservoir sediment-storage allocations
- Manage sediment deposits
- Rehabilitating aging or damaged structures
- Designing sediment-slucing and other sediment-management structures
- Estimating mass of captured sediment and associated solid-phase constituents, such as carbon
- Assessing resource conditions related to land cover, land use, and rates of erosion and sediment production



# RESSED – update

- USGS is developing the web-based data entry interface (anticipated this CY)
- Remaining USACE districts have been instructed to wait and use the web-based version (beta test) for data entry (can use existing version for organizing data)
- USACE is performing data verification on data that has been submitted
- FISC paper in progress



# Reservoir Sustainability

- Goal: to develop and describe practical options for managing sediment for long-term reservoir sustainability in the US
- Task Committee on Reservoir Sedimentation and Sustainability (composed of SOS members)
- National Reservoir Sedimentation Team (wider membership). Raise awareness of reservoir sedimentation issues and present ideas for achieving reservoir sustainability
- Technical updates and webinars
- **Reservoir Sustainability Resolution**



From USBR Website “Delta Behind Matilija Dam, from Paul Jenkin, Surf Rider”

# Reservoir Sustainability Resolution



From USBR Website "Delta Behind Matilija Dam, from Paul Jenkin, Surf Rider"

# Technical Activities

- Technical update, USGS National Water-Quality Assessment Program (NAWQA) Sediment Web Portal. Casey Lee, 20 November 2013
- Technical update, Federal Interagency Sedimentation Project, funded proposals. Mark Landers, 20 November 2013
- Webinar, “Reservoir Obsolescence or Sustainability: A New Paradigm for Sediment Management,” Dr. Greg Morris, 13 November 2013
- Webinar, “Sustainable Water Supply and Climate Change,” Dr. George Annandale, 15 January 2014
- Technical update, Elwha River Restoration Project. Jennifer Bountry and Tim Randle (USBR), 3 April 2014
- Technical update, Federal Interagency Sedimentation Project, funded proposals. Mark Landers, 25 June 2014
- Next meeting will be held in Washington, DC on 4-5 November (hosted by NOAA)

Thank You