SOS MISSION: Promote & Support Development & Standardization of Equipment, Methodologies, Tools, Calibration/Performance Criteria, for Collection, Analysis, Interpretation, Interchange & Dissemination of Sediment Data & Related Technical Information

SOS MEMBERSHIP – 15 organizations

- Agricultural Research Service
- American Society of Civil Engineers
- Consortium of Universities for the Advancement of Hydrologic Science
- Bureau of Land Management
- Colorado Water Resources Research Institute
- Federal Highway Administration
- Forest Service
- National Center for Earth-surface Dynamics
- National Oceanic and Atmospheric Administration
- Office of Surface Mining
- Bureau of Reclamation
- University Councils on Water Resources
- Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Geological Survey
DAM REMOVAL/SEDIMENT MANAGEMENT

- **Goal:** Develop guidelines for managing sediments impounded by dams slated for removal
- Workshops held in 2008 (Portland, OR) and 2009 (State College, Pennsylvania)
- Guidelines written and evaluated via test cases
- ASCE might publish the guidelines
- Bureau of Reclamation Lead
Subcommittee on Sedimentation

- Goal: Render river morphology data accessible for scientific and management community.

- EPA, NRCS, NOAA, BR, CUAHSI, USGS

- Draft database elements identified (June 2010)

- Workgroup deliberating – progress slow
Subcommittee on Sedimentation

Workgroups

- Federal Interagency Sedimentation Conference
- Dam Removal Sediment Analysis
- National Geomorphic Database
- Reservoir Sedimentation Database

RESSED

USGS
What Is RESSED?

- Originally an SCS paper database
- Changes in capacities computed from surveyed bathymetric data (+/- acre feet/year)
- 1,824 reservoirs, 6,618 surveys, lower US, 1:PR
- Based on Soil Conservation Service Form 34 (1953)
- Presumed to be largest such database for US?
- From an unmarked cardboard box, 1993…

...a...work...in...progress
RESERVOIR SEDIMENTATION DATABASE
(RESSSED:  http://ida.water.usgs.gov/ressed/ )

• Short-Term Goal: Render current static database dynamic (updatable and queryable).
• Long-Term Goal: Develop a truly national, robust, reservoir sedimentation database
• Status: On-line as static MS Access DB (4/2009)
• COE-USGS RESSED-Filemaker Pro project: Render RESSED updatable/queryable, FY10 (COE-USGS project, COE funded – J. Webb)

Subcommittee on Sedimentation
A QUICK (AND INCOMPLETE) LOOK AT RESERVOIR SEDIMENTATION RATES
RESSED Reservoir Surveys by Year

95% of surveys: 1930-1990
RESSED Annualized % Capacity Loss

~82%: <2% capacity loss/year (1,124/1,365 reservoirs)
Extrapolated to 2010 Total % Capacity Loss

- AND ~24% HAVE LOST >100% CAPACITY???

- “I wouldn't bet a penny that this shows accurate current conditions” (data analyst Dave Stewart, USGS, 7/13/10).

- Unfortunately, *no one knows* (on a national scale).

- **EVEN IF REALITY IS SOMEWHERE IN BETWEEN**
  
  IF “WHISKEY’S FOR DRINKIN’, WATER’S FOR FIGHTIN’” -- WHAT DOES THIS PORTEND FOR THE FUTURE OF THE NATION’S WATER SUPPLIES?

- ~39% have lost > 60% capacity (539/1,365 reservoirs)
As of 7/2010,

- 1,824 reservoirs in RESSED
- ~80,000 dams (ergo reservoirs?) in the National Inventory of Dams
- ~?6 million – 9 million impoundments in the U.S. (USGS National Hydrography Dataset; Renwick, Miami of Ohio)

Hence, the number of reservoirs in RESSED are:
- ~2% of number of dams in the NID (but not all cross-listed)
- ~0.03% of U.S. impoundments

RESSSED Reservoirs are much less than the “tip of the iceberg”
THE NATION NEEDS A CAREFULLY DESIGNED AND MAX-POPULATED NATIONAL “RESSED-FUTURE”

- UNRESTRICTED ACCESS/USE
- LINKED TO OTHER DATABASES (NID, STREAMSTATS…)
- UPDATABLE AND QUERYABLE
- CAPABLE OF STORING ALL RELEVANT DATA
- ANALYZABLE LOCAL, REGIONAL, NATIONAL SCALES

A PERMANENT RESSED PROGRAM IS NEEDED
By September 2011, the SOS will have taken RESSED as far on “internal resources” as possible

- RESOURCES REQUIRED
  - ~$250K/year for each of 4 years
  - ~$75K/year thereafter

- The SOS seeks the ACWI’s assistance toward RESSED program development.
The End Beginning?

http://ida.water.usgs.gov/ressed/