2012 Report from the Subcommittee on Sedimentation to the Advisory Committee on Water Information's Annual Meeting, July 10-11, 2012

Marie Marshall Garsjo, Chair

Outline of Current SOS Efforts

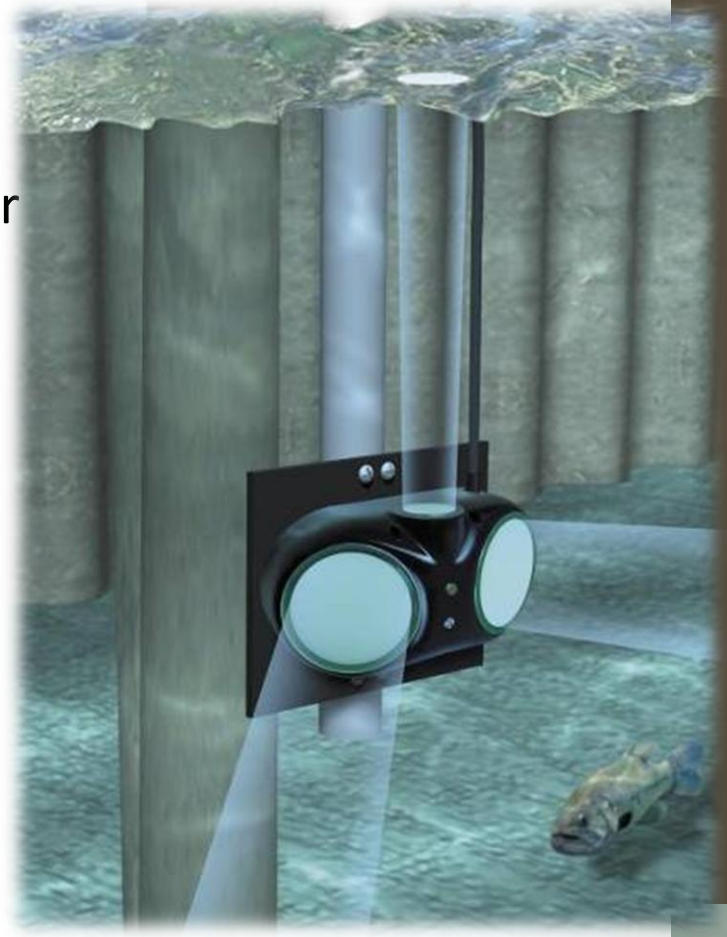
- Sediments Hydro-Acoustics Workshop, March
  - John Gray (USGS)
- Reservoir Sustainability Workshop, this week
  - Tim Randle (USBR)
- Joint Federal Interagency Sedimentation and Hydrology Modeling (SEDHYD) Conference, March 2014
  - Doug Glysson (USGS)
- NSMD – The National Stream Morphology Database
  - Matt Collins (NOAA)
- RESSED – The Reservoir Sedimentation Database
  - John Gray (USGS)
- 2007-2012 Prospectus
  - Marie Marshall Garsjo (NRCS)

Sediments Hydroacoustics Workshop

- Joint USGS–CUAHSI Workshop on Sediment Hydroacoustic Techniques for Rivers and Streams
- ~60 participants, including ~ 30 from Federal agencies and research organizations

3 day workshop March 20-22, 2012

- technological advances
- calibration and uncertainty issues
- applications
- potential opportunities to use the technology to address new research questions



Courtesy of Sontek/YSI, Inc.

Reservoir Sustainability Workshop

- Lakewood, Colorado, July 10-12, 2012
- To develop and describe practical options for managing sediment for long-term reservoir sustainability
- A white paper will be produced following the workshop that summarizes discussions, conclusions, and recommendations
- Expected to help raise awareness of reservoir sedimentation issues and present ideas for achieving reservoir sustainability

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

Joint Federal Interagency Sedimentation and Hydrology Modeling (SEDHYD) Conference March, 2014

- Next conference to be held in last week of March, 2014
  - Peppermill Casino, Reno, Nevada
- Name changed from FISC to SEDHYD
- Conference Chair, Technical Program Chairs, and other key positions have been filled by SOS volunteers
  - Additional volunteers will be welcomed!

National Stream Morphology Database - NSMD

- Data are 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

NSMD Workgroup

to advance development of data exchange

- Workshop in April 2011
  - Developed a set of recommendations to the SOS on conceptualization and development of an NSMD
    - Scope and scale of data exchange
    - Potential data models
    - Administration
- Developing national common reporting standards and a strategy for exchanging consistent stream morphology observations as recommended at 2011 workshop
- Convened ad-hoc subcommittee to make specific recommendations for advancing a national stream morphology data exchange

NSMD Workgroup

- Ad-Hoc Committee tasks:
  - Creating ArcGIS Online NSMD Spatial Portal Guidance
    - Two guidance documents will be written to support the Spatial Portal
      - Charter for the Steering committee
      - Provide best practices for data packaging and submission
  - Pursuing a fully-funded study to more deeply examine the data needs of the community and existing databases
    - Submitted proposal to the USGS and NIWR National Competitive Grants Program entitled ***"Development of Design Specifications for the National Stream Morphology Database"***
      - 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

NSMD Workgroup

- The subgroup published a Forum article in the American Geophysical Union's *Eos* newspaper on May 15, 2012
- Describes their efforts to date and invites interested parties to participate

Eos, Vol. 93, No. 20, 15 May 2012

FORUM

Developing a National Stream Morphology Data Exchange: Needs, Challenges, and Opportunities

PAGE 195

Stream morphology data, primarily consisting of channel and floodplain geometry and bed material size measurements, historically have had a wide range of applications and uses including culvert/bridge design, rainfall-runoff modeling, flood inundation mapping (e.g., U.S. Federal Emergency Management Agency flood insurance studies), climate change studies, channel stability/sediment source investigations, navigation studies, habitat assessments, and landscape change research. The need for stream morphology data in the United States, and thus the quantity of data collected, has grown substantially over the past 2 decades because of the expanded interests of resource management agencies in watershed management and restoration. The quantity of stream morphology data collected has also increased because of state-of-the-art technologies capable of rapidly collecting high-resolution data over large areas with heretofore unprecedented precision. Despite increasing needs for and the expanding quantity of stream morphology data, neither common reporting standards nor a central data archive exist for storing and serving these often large and spatially complex data sets. We are proposing an open-access data exchange for archiving and disseminating stream morphology data.

Development of common reporting standards and a strategy for exchanging consistent stream morphology observations nationally is needed because recent data collection technologies (e.g., airborne and terrestrial lidar (light detection and ranging)) provide point-rich data sets in a variety of formats. More traditional survey data (e.g., cross-section geometries, longitudinal profiles, and bed material characteristics) are also being collected by a wider array of instrument types than in the past that provide large quantities of data in various formats (e.g., hydroacoustic multibeam echo sounders). Aggregating and serving these data across a common architecture will increase their utility to the large variety of user groups in the public and private sectors. For example, there is a need to have physical channel characteristics georeferenced to digital stream networks (e.g., the National Hydrography Dataset) for modeling applications [*Muste et al.*, 2010]. Standardized stream morphology data will also support tools such as the Consortium of Universities for the Advancement of Hydrologic Science, Inc., Hydrologic Information System that integrates geospatial and observational data for rivers for the purposes of data discovery and access. Developing the data exchange in consultation with international standards organizations including the Open Geospatial Consortium through its Hydrology Domain Working Group will offer opportunities to collaborate with related activities internationally and help ensure the broad adoption of stream morphology standards by government, academic, and private sectors.

The Subcommittee on Sedimentation (SOS), a subcommittee of the Advisory Committee on Water Information, which promotes collaboration on sediment issues, formed a work group in 2009 to investigate development of a national stream morphology data exchange (NSMDE). The NSMDE work group members represent several federal agencies and nonfederal organizations that collect and/or use stream morphology data (see http://acwi.gov/sos/ for more information about SOS and its member organizations).

Although the need and value of a NSMDE is clear to the work group members, its development presents many technical, logistical, and administrative challenges. To begin to address these challenges, the SOS work group sponsored a NSMDE workshop in April 2011 in Middleton, Wis., that explored three primary themes: data exchange scope, data exchange scale and potential data models, and administration. A summary of the workshop, including recommendations to SOS for advancing a NSMDE, is available at http://acwi.gov/sos/sos_stream_morph_db_workshopo_summary_to_SOS_10_13_2011.pdf. The full SOS resolved at its regular meeting in October 2011 that the work group should continue efforts to develop a NSMDE using the workshop recommendations as a guiding framework. Toward that end, the NSMDE work group has convened an ad hoc subcommittee to identify and potentially implement specific actions to achieve a NSMDE as envisioned by workshop attendees. These efforts may be especially timely given recent related discussions in the geodetic community about developing metadata standards for terrestrial laser scanning (i.e., ground-based lidar) [*Phillips et al.*, 2012].

Successful development and deployment of a NSMDE will require the engagement of an interdisciplinary community. We recognize that the effort will only succeed if data submissions are easily facilitated, if data retrievals are user-friendly, and if data are served in a consensus format that is well documented and supports high-quality data. The SOS NSMDE work group welcomes the participation of interested ecologists, engineers, geomorphologists, database specialists, and end users to help make geomorphology data more available for a wide range of assessment, monitoring, and research activities and ultimately help the nation make better resource management decisions.

References

Muste, M., V. Merwade, D. Kim, D. Maidment, and T. Whitaker (2010), Vision and progress: Data models for multi-dimensional representation of the river processes, *J. Hydraul. Res.*, *48*(4), suppl. 4, 58–59.

Phillips, D. A., J. S. Oldow, and J. D. Walker (2012), Outlining a strategic vision for terrestrial geodetic imaging, *Eos Trans. AGU*, *93*(11), 121, doi:10.1029/2012EO110005.

—MATHIAS J. COLLINS, National Oceanic and Atmospheric Administration, Gloucester, Mass.; E-mail: mathias.collins@noaa.gov; JOHN R. GRAY, U.S. Geological Survey (USGS), Reston, Va.; MARIE C. PEPPLER and FAITH A. FITZPATRICK, USGS, Middleton, Wis.; and JOSEPH P. SCHUBAUER-BERIGAN, U.S. Environmental Protection Agency, Cincinnati, Ohio


RESSED – REServoir SEDimentation

What Is RESSED?

- ACWI Subcommittee on Sedimentation Project

- 1950's-era Soil Conservation Service database
- Based on Soil Conservation Service Form 34
- Changes in sediment capacities calculated from bathymetric data taken over time
- Presumed USA's largest/oldest such database
- 1,824 reservoirs, 6,618 surveys in the lower US, 1 in Puerto Rico
- Includes reservoirs from SCS/NRCS (~1,600), USBR (34), COE (427), and TVA (37)

USGS
science for a changing world

USGS Sediment Science and Challenges: Reservoir Capacity Loss

John R. Gray, National Sediment Specialist, USGS Office of Surface Water: jrgray@usgs.gov

Eric Evenson, Coordinator, WaterSMART, USGS, eevenson@usgs.gov

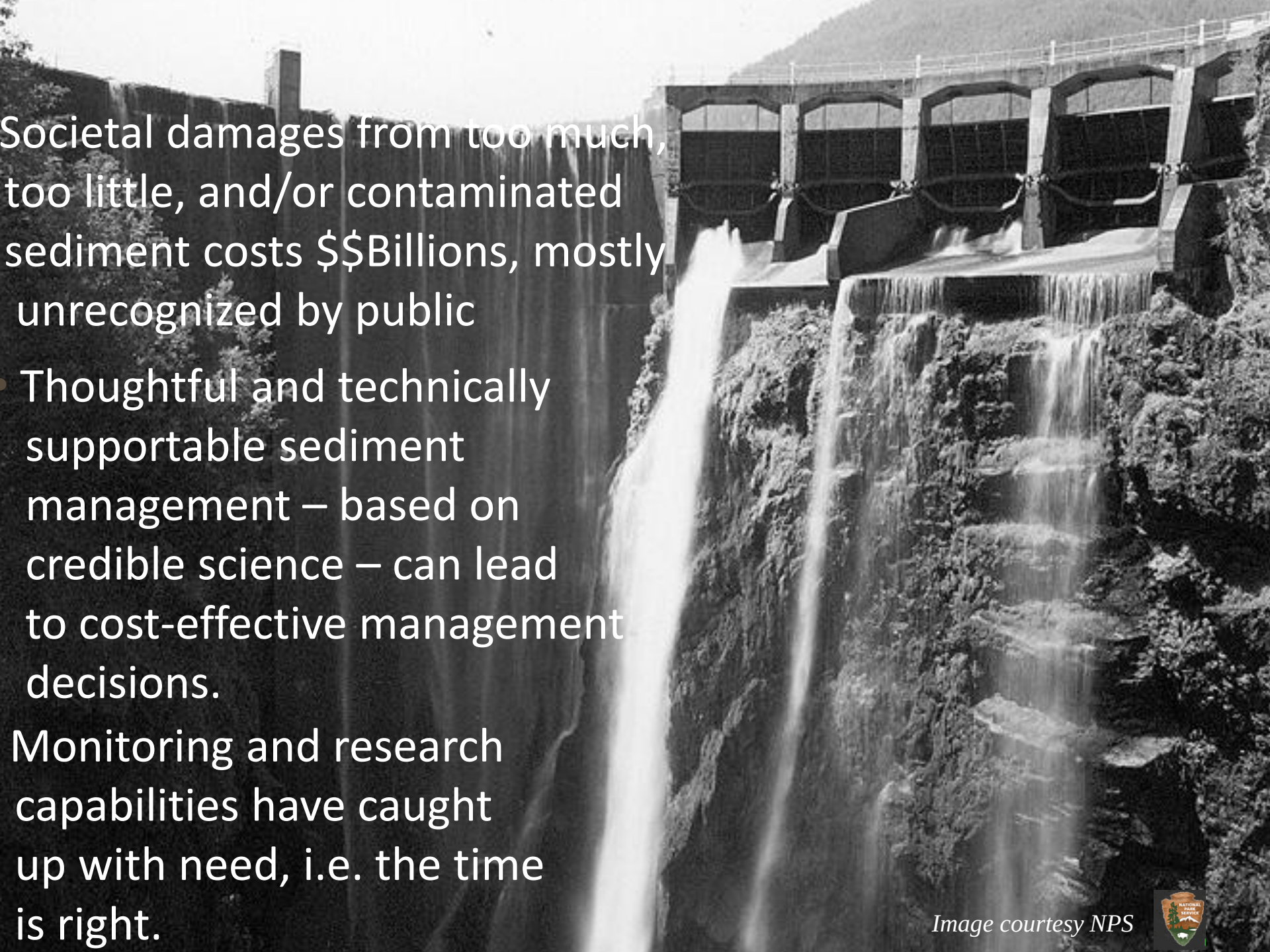
U.S. Department of the Interior
U.S. Geological Survey

Outline for RESSED Discussion

I. Societal Relevance of Fluvial Sediment

II. Status and Plans of the RESSED Database

III. Reservoir Capacity



- Societal damages from too much, too little, and/or contaminated sediment costs $$Billions, mostly unrecognized by public
- Thoughtful and technically supportable sediment management – based on credible science – can lead to cost-effective management decisions.
- Monitoring and research capabilities have caught up with need, i.e. the time is right.

Image courtesy NPS

I. Societal Relevance of Sediment

National Perspective

Accessed January 26, 2012

National Summary of Impaired Waters and TMDL Information, USEPA

Causes of Impairment for 303(d) Listed Waters

Description of this table

NOTE: Click on a cause of impairment (e.g. pathogens) to see the specific state-reported causes that are grouped to make up this category. Click on the "Number of Causes of Impairment Reported" to see a list of waters with that cause of impairment.

Cause of Impairment Group Name	Number of Causes of Impairment Reported
Pathogens	10,722
Metals (other than Mercury)	7,621
Nutrients	6,893
Organic Enrichment/Oxygen Depletion	6,367
Sediment	6,142
Polychlorinated Biphenyls (PCBs)	5,457
Mercury	4,747
pH/Acidity/Caustic Conditions	4,096
Cause Unknown - Impaired Biota	3,366
Turbidity	3,129
Temperature	3,013
Salinity/Total Dissolved Solids/Chlorides/Sulfates	1,897
Pesticides	1,872

Remove the sediment…

"End" 9 of top 10 impairments

Google Related | Web Pages | Minnesota's Impaired Waters and Total Maximum Daily Loads ... | Impaired Waters Process | Virginia DEQ - Water Quality Assessments

I. Societal Relevance of Sediment –$$Billions

- $**0.7 billion**: Missouri River Recovery Program, Environmental Management Program, upgrades of low-flow water-supply infrastructures (per COE estimates).

- **$0.8—$1.1 billion**: Created Louisiana's coastal wetlands annual costs (per COE estimates).

- **$1.1 billion**: Dredging costs in support of about 490 million tonnes of commerce on the Mississippi and Ohio Rivers in 2007 (per COE estimates).

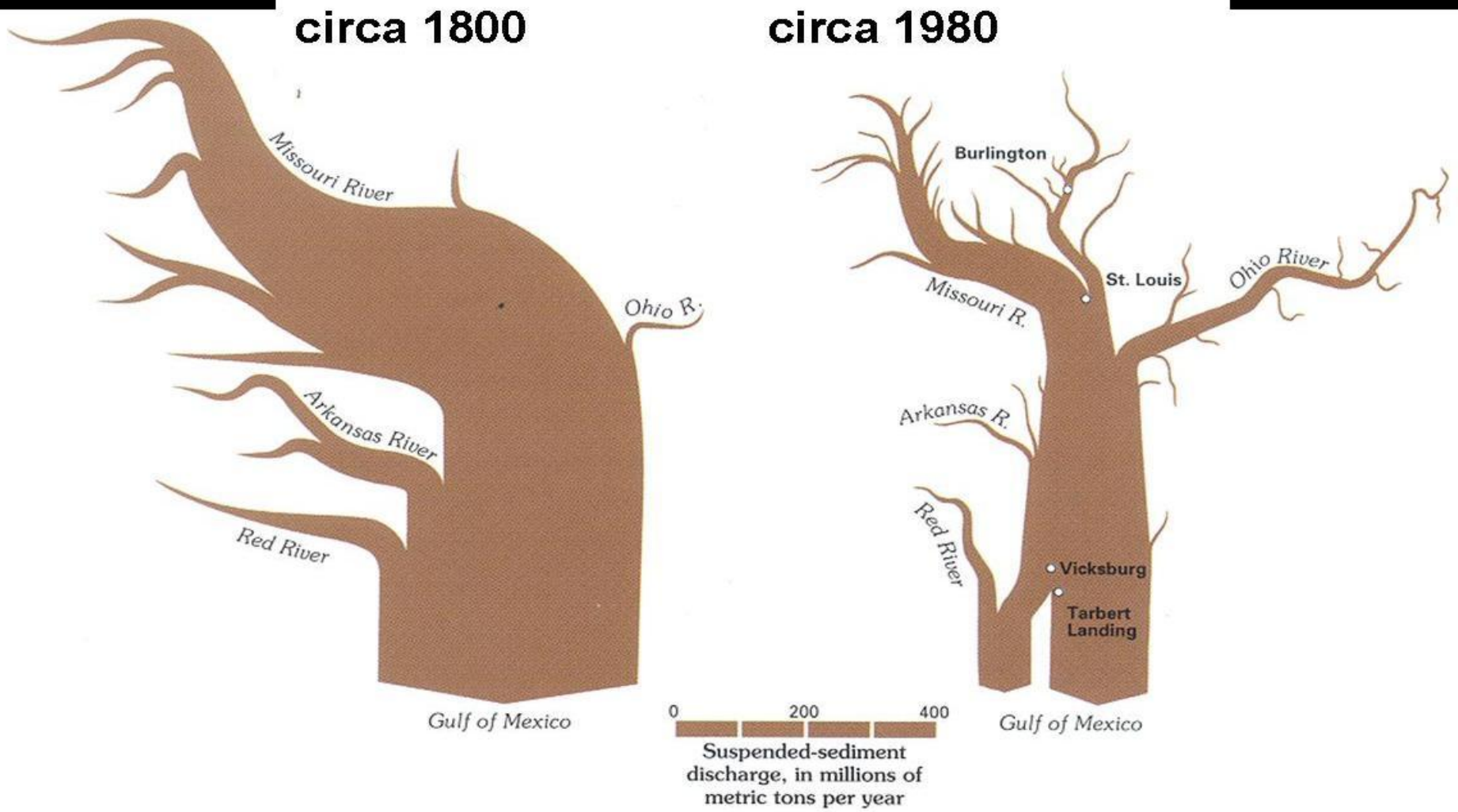
- **$1.5—$2.5 billion**: Cost for three to five overflow diversions constructed to build wetlands in Louisiana; up to 20 could be constructed (per COE estimates).

- **$2.5 billion**: Sediment damages and remediation to reservoir-storage facilities (per ARS and USGS estimates).

- **$25—$65 billion**: Annual physical, chemical, biological, and sediment damages in N. America, most damage is in U.S. (SCIENCE, 1995, Pimental et al., adjusted for inflation)

- **$$ Unknown, but Undoubtedly Substantial**: Gulf Hypoxia, sediment management from dam removal, sediment-quality impairments, etc.…….

I. Societal Relevance of Sediment

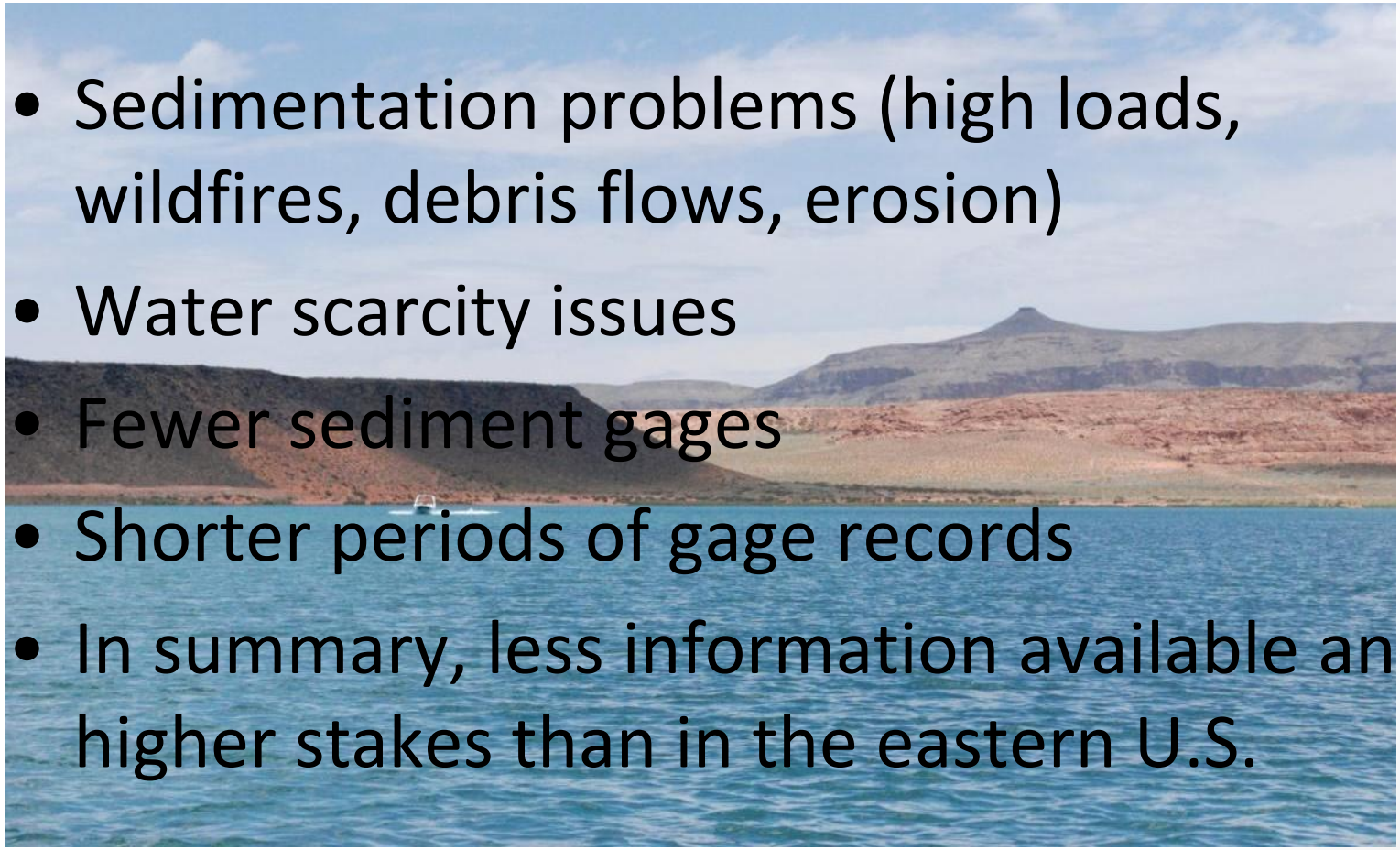


Example of Human Impacts on Basin-Scale Watersheds – Small Scale Effects are Magnified

Some Uses of Reservoir Sedimentation Data

- Determine if a threat to public water supply is imminent or foreseeable
- Fine-tune water releases to minimize capacity-loss effects on flooding, water use
- Design allocations for reservoir sediment-storage to minimize future threats
- Manage sediment deposits ("move this pile of sand over here")
- Rehabilitate aging or damaged structures
- Design sediment-sluicing and other sediment-management structures
- Estimate mass of captured sediment and associated solid-phase constituents, such as carbon, plus selected sediment-bound contaminants, and
- Assess resource conditions related to land cover, land use, and rates of erosion and sediment production

Reservoir Sedimentation is a Special Concern in Western States



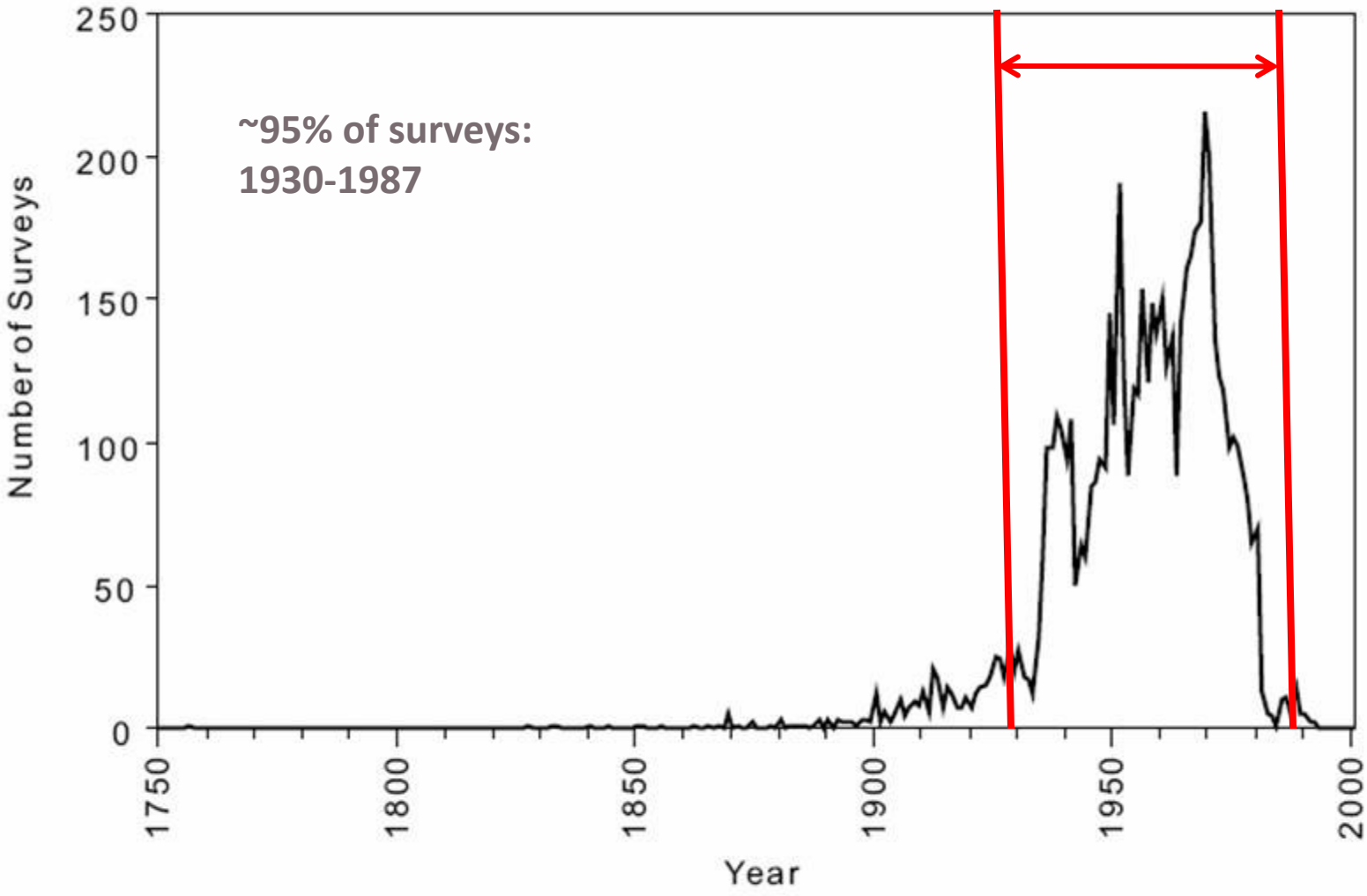
- Sedimentation problems (high loads, wildfires, debris flows, erosion)
- Water scarcity issues
- Fewer sediment gages
- Shorter periods of gage records
- In summary, less information available and higher stakes than in the eastern U.S.

Whisky's for drinkin'; water's for fightin'.

Abbreviated RESSED History

- 1950's origins "pre-computer"
  Historical Data are GOLDEN (1755-1997)
- 1987 last data collected by SCS
- 1993: NRCS finds unmarked magnetic tape…
  - RESIS II

RESSED Reservoir Surveys by Year



USGS

Abbreviated RESSED History
.....and then

- 1998-2008: USGS carbon budget analyses
- 2008: USGS/SOS places data on-line as "giveaway"
- 2010-2011: Programming effort began, CoE and BoR provided one year $$
- 2011: ACWI resolution encourages support
- 2012: CoE project completed this summer
  BoR data ported to FileMakerPro by July

RESSED IS UP AND RUNNING

SCS Form 34

Lake Meade
Page 1 of 3

Issues

Geolocation and other errors

Multiple versions of SCS Form 34

Illogical patchwork “schema”*

*Database structure described in a formal language supported by the d.b. management system that refers to the organization of data; a set of formulas called integrity restraints imposed on a d.b. that ensure compatibility between parts.

RESERVOIR SEDIMENT DATA SUMMARY

LAKE MEAD (HOOVER DAM) — NAME OF RESERVOIR

62-1a — DATA SHEET NO.

DAM

1. OWNER Interior - Bureau of Reclamation	2. STREAM Colorado	3. STATE Nevada - Arizona
4. SEC. 29 TWP. T22S RANGE R65E	5. NEAREST P.O. Boulder City 6NE,	6. COUNTY Clark-Mohave
7. LAT 36° 01' " LONG 114° 44' "	8. TOP OF DAM ELEVATION 1232 1/	9. SPILLWAY CREST ELEV. 1221.4 2/

RESERVOIR

10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL	12. ORIGINAL SURFACE AREA, ACRES	13. ORIGINAL CAPACITY, ACRE-FEET	14. GROSS STORAGE, ACRE-FEET	15. DATE STORAGE BEGAN
a. FLOOD CONTROL	1229	162,600	1,587,000	32,471,000	
b. MULTIPLE USE 3/	1219.61	156,600	27,661,000	30,884,000	Feb. 1, 1935
c. POWER					
d. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN
e. IRRIGATION					
f. CONSERVATION					
g. INACTIVE	895	33,400	3,223,000	3,223,000	Mar. 1, 1936

17. LENGTH OF RESERVOIR 152 4/ MILES — AV. WIDTH OF RESERVOIR 1.65 MILES

WATERSHED

18. TOTAL DRAINAGE AREA 167,800 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 10 6/	INCHES
19. NET SEDIMENT CONTRIBUTING AREA 167,600 5/ SQ. MI.		23. MEAN ANNUAL RUNOFF 1.30	INCHES
20. LENGTH MILES	AV. WIDTH MILES	24. MEAN ANNUAL RUNOFF 11,610,000 7/	AC.-FT.
21. MAX. ELEV. 14,400	MIN. ELEV. 640	25. ANNUAL TEMP: MEAN	RANGE

SURVEY DATA

26. DATE OF SURVEY	27. PERIOD YEARS	28. ACCL. YEARS	29. TYPE OF SURVEY	30. NO. OF RANGES OR CONTOUR INT.	31. SURFACE AREA, ACRES	32. CAPACITY, ACRE-FEET 8/	33. C/I. RATIO, AC.-FT. PER AC.-FT.
2-1-35	–	–	(D)	10 ft.	163,000	32,471,000	2.80
9-30-48	13.7	13.7	(D)	10 ft.	163,000	31,047,000	2.67
10-14-64	16.0	29.7	(D)	10 ft.	163,000	29,755,000	2.56

26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW, ACRE-FEET			36. WATER INFL. TO DATE, AC.-FT.	
		a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE
9-30-48		12,526,000	17,260,000	175,362,000	12,526,000	175,362,000
10-14-64		10,083,000	18,160,000	161,335,000	11,610,000	336,697,000

26. DATE OF SURVEY	37. 8/ PERIOD CAPACITY LOSS, ACRE-FEET			38. TOTAL SED. DEPOSITS TO DATE, ACRE-FEET		
	a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR
9-30-48	1,424,000	104,000	0.621	1,424,000	104,000	0.621
10-14-64	1,292,000	80,750	0.482	2,716,000	91,450	0.546

26. DATE OF SURVEY	39. AV. DRY WGT., LBS. PER CU. FT.	40. SED. DEP., TONS PER SQ. MI.-YR.		41. STORAGE LOSS, PCT.		42. SED. INFLOW, PPM	
		a. PERIOD	b. TOTAL TO DATE	a. AV. ANN.	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE
9-30-48	65 9/	879	879	0.320	4.39	8,460	8,460
10-14-64	60	572	714	0.282	8.36	7,700	7,760

WICP Water Information Coordination Program
ACWI Advisory Committee on Water Information

Subcommittee on Sedimentation

The Reservoir Sedimentation Database (RESSED)

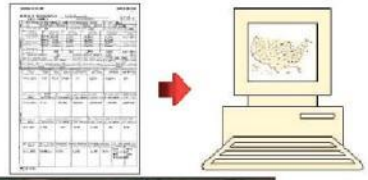
WELCOME TO THE RESERVOIR SEDIMENTATION (RESSED) DATABASE

The Advisory Committee on Water Information, Subcommittee on Sedimentation's Reservoir Sedimentation (RESSED) database enables access to sedimentation-survey data for selected United States reservoirs. These data or their visual representation are available via:

- A Relational Database containing all Subcommittee on Sedimentation's compiled reservoir-survey information to facilitate analyses related to reservoir-sediment deposition.
- Interactive Maps for viewing reservoir-survey locations and ancillary information, and
- List of Reservoirs and Individual Data Sheets used to populate the relational database for all but two of the surveyed reservoirs.

RESSED, developed in March 2009 from its predecessor RESIS-II, is a work-in-progress, dynamic database. The Subcommittee on Sedimentation seeks additional or revised quality-assured sediment-survey information to improve and expand RESSED.

Relational data
Interactive maps
Lists of reservoirs
Individual data sheets



Placed On-Line
in 2008
Access Database
"Giveaway"

Technical support for this Web site is provided by the U.S. Geological Survey.

U.S. Department of the Interior | U.S. Geological Survey
URL: http://ida.water.usgs.gov/ressed/index.cfm
Page Contact Information: RESSED Web Support Team
Last Modified: 07/14/2009

USA.gov

USGS

The Reservoir Sedimentation Database (RESSED) - Windows Internet Explorer

http://ida.water.usgs.gov/ressed/interactive_map/index.cfm

File Edit View Favorites Tools Help

The Reservoir Sedimentation Database (RESSED)

WICP Water Information Coordination Program

ACWI Advisory Committee on Water Information

Subcommittee on Sedimentation

The Reservoir Sedimentation Database (RESSED)

INTERACTIVE MAP

Select a State

Select a State or View the Reservoir Master List by Data Sheet Number.

AK - AL - AR - AZ - CA - CO - CT - DE - FL - GA - HI - IA - ID - IL - IN - KS - KY - LA - MA - MD - ME - MI - MN - MO - MS - MT - NC - ND - NE - NH - NJ - NM - NV - NY - OH - OK - OR - PA - PR - RI - SC - SD - TN - TX - UT - VA - VI - VT - WA - WI - WV - WY -

Done

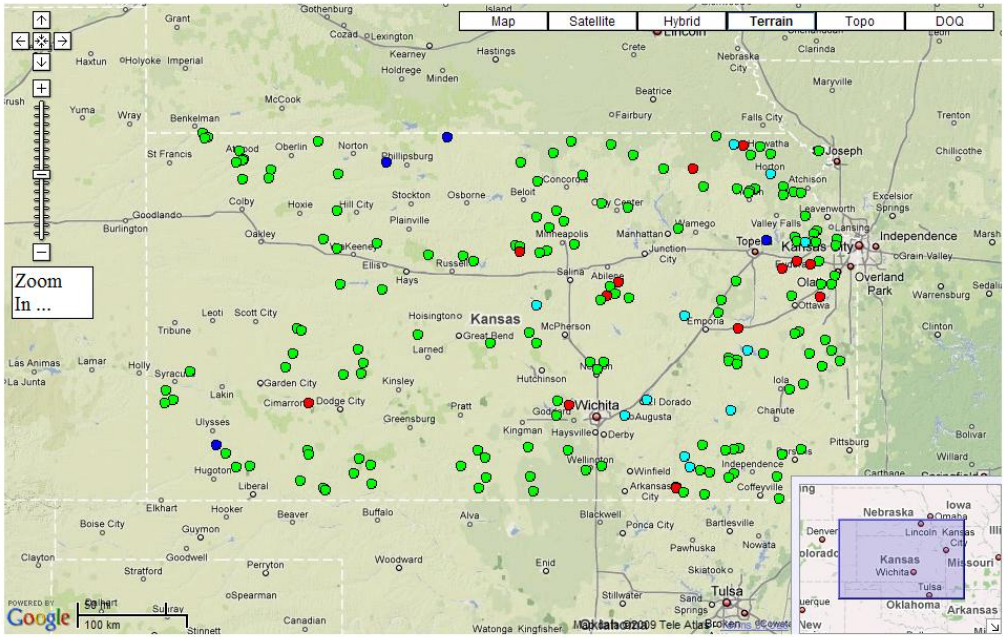
The Reservoir Sedimentation Database (RESSED) - Windows Internet Explorer

http://ida.water.usgs.gov/ressed/interactive_map/selectstate.cfm/011D084517540242B2/index.htm

File Edit View Favorites Tools Help

The Reservoir Sedimentation ...

- DOWNLOAD AND DOCUMENTATION
- INTERACTIVE MAP
- LIST OF RESERVOIRS
- ENHANCEMENT AND EXPANSION
- UPDATING RESSED - INTERIM GUIDELINES
- ACKNOWLEDGEMENTS
- SELECTED REFERENCES
- ACRONYMS
- CONTACT



Kansas

● Verified on 1:24,000 topo map ● NHD lat/lon of dam outlet, & Verified on 1:24,000 topo maps ● NID lat/lon

● Original datasheet lat/lon ● Located at nearest post office

Reservoir Name	County	Water Course	Data Sheet	Reservoir Map	NID ID
ADAIR	CHAUTAUQUA	NORTH CANEY RIVER	45-25	Map	
ADAMS	HARPER	TRIB. OF BLUFF CREEK	46-26	Map	
ALBERT SAUVAGE STOCKWATER DAM	RAWLINS	SAPPA CREEK	33-15	Map	KS01762
AMERINE	HAMILTON	TRIB. OF LITTLE BEAR CREEK	47-14	Map	KS03546
BARBER	RICE	TRIB. OF ARKANSAS RIVER	46-45	Map	
BARRETT	HARPER	WILD CREEK	46-31	Map	

Done

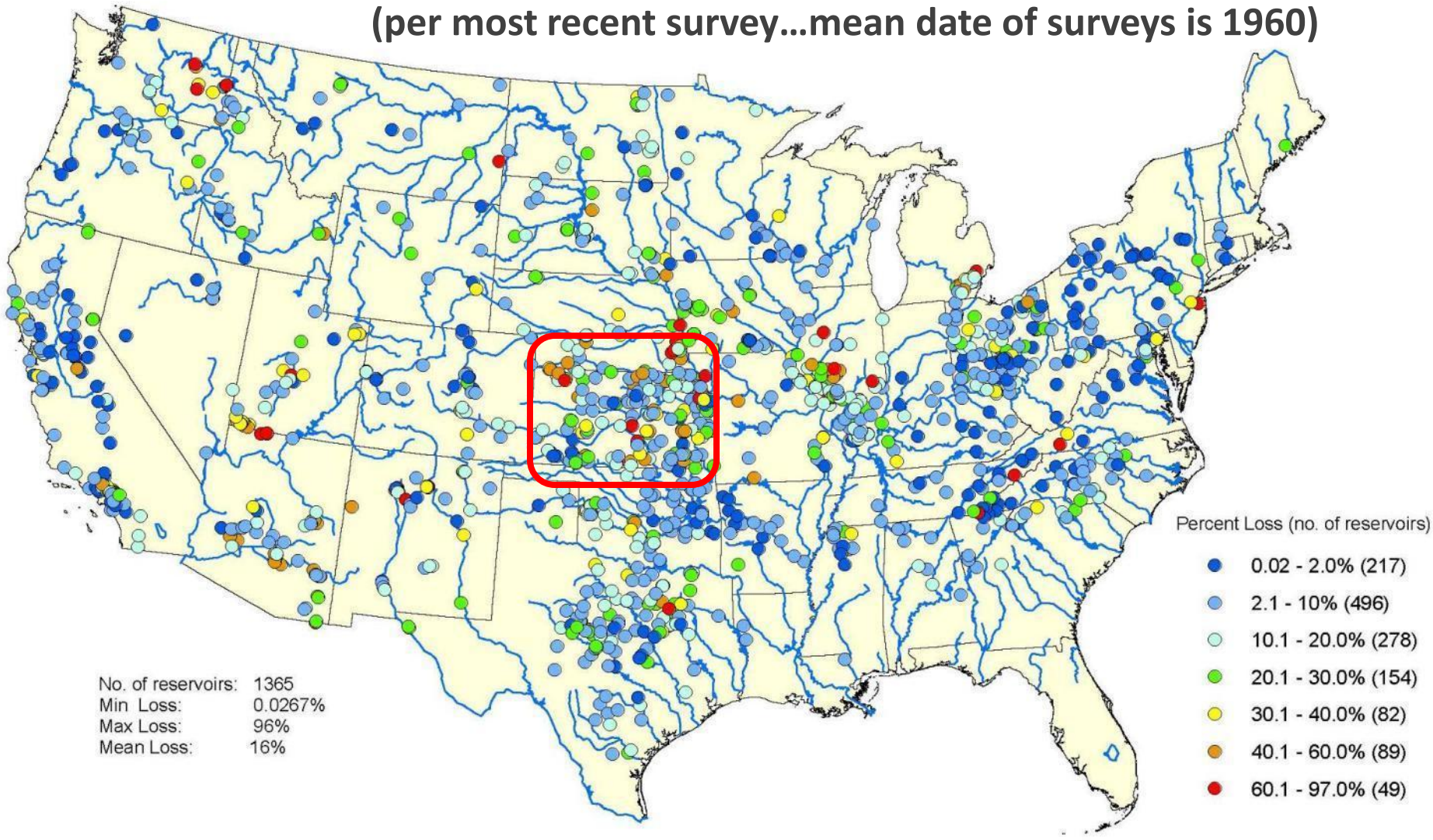
Internet

100%

Total Reservoir Capacity Loss in Percent

RESSED Total % Capacity Loss

(per most recent survey…mean date of surveys is 1960)



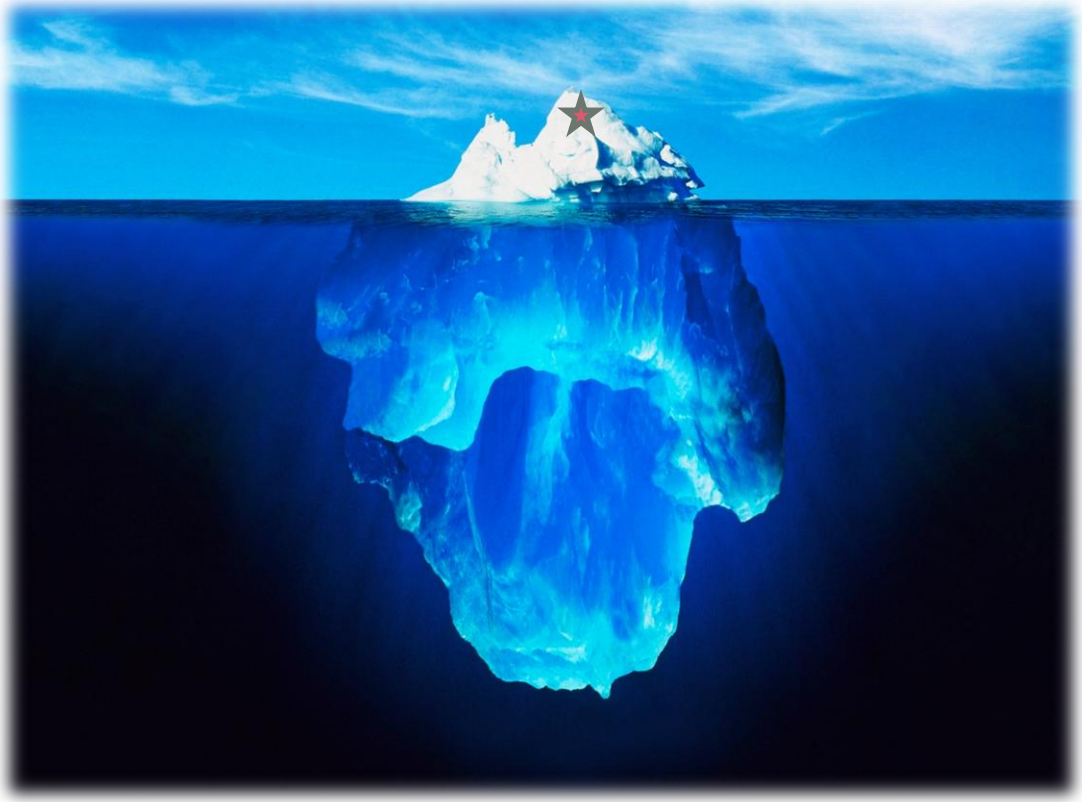
432 reservoirs (~32%) have lost 10-30% capacity as of last survey

RESSED Reservoirs –

- Let's do a little math:
  - Exactly **1,824** reservoirs in RESSED
  - **~80,000** dams in the National Inventory of Dams
  - ~**6 – 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 dams in the NID (not all are cross-listed)
  - **~0.03%** of U.S. impoundments

Considered by the total numbers of reservoirs, those in RESSED are a "drop in the bucket".

RESSED Database –



- **~2%** of dams in the National Inventory of Dams
- **~0.03%** of U.S. impoundments

This is just the tip of the iceberg

There is a huge need for more reservoir sedimentation data!

A National RESSED database will provide:

- Unrestricted/free access and use
- Update capability by any user (free data to planners, researchers)
- A flexible, robust schema amenable for the 21st Century
- Linkages to key databases
  - National Inventory of Dams
  - National Hydrography Database
  - StreamStats
  - National Water Information System, others
- Quality-control data – a ***first*** for reservoir database
- Capability for local, regional, and national-scale spatial/temporal analyses by anyone:
  - Universities
  - State and local organizations, Conservation Districts
  - All Federal and research organizations under the Subcommittee on Sedimentation's umbrella

Be It Also Resolved that the ACWI recognizes the value of understanding the rates at which the Nation's reservoirs are losing capacity, so that proactive measures might be taken to ensure the long-term viability of public water supplies and other water needs; and

Be It Also Resolved that the ACWI encourages the USGS to incorporate the RESSED database into an appropriate ongoing program and to provide the requisite financial support to maintain the RESSED database in FY 2011 and thereafter. Further, the ACWI encourages the USGS to collaborate with ACWI's member agencies and organizations in developing and expanding the database.

WaterSMART—Reservoir Capacity

An integral part of the Water Census is to understand and report national and regional status and tends of water in storage in the hydrologic cycle. This includes snow and ice fields, groundwater, lakes, and reservoirs.

WaterSMART

We work with the remote sensing and modeling assets of USGS and NASA, along with the reservoir information sources of USACE, USBR, TVA and others to develop a model of regional and national reservoir storage status.

…..nice segue to RESSED

It is possible that the WaterSMART initiative might support the RESSED project if WaterSMART is funded.

RESSED needs

The RESSED database development team has indicated that a RESSED project funded at $1 million over a 4-year period (or, a smaller sum a proportionally longer period) is needed to address a number of deficiencies associated with historical RESSED data; render the application fully supportable on-line; and to construct a RESSED for the 21st century that takes advantage of the huge number of reservoir surveys 'just waiting' to be included in a national reservoir sedimentation database.

Can the Nation afford NOT to track reservoir capacity losses and – with low- and high-flow statistics – identify those that might fail to meet their intended use(s)?

Future of RESSED

- ACWI resolution is non-binding (July 2011)
- No long-term funding has been identified for RESSED
- Absent funding after September, the effort will unfortunately go more or less into "suspended animation“

Alternative FY 2013 Plans

- With full funding:
  - Base-funded project
  - Hold workshop of experts to develop objectives & realistic goals
  - Identify project team
  - Expand for full public release at earliest reasonable time
- With partial funding ($50K - $80K)
  - Work with funding organizations on their priorities
- With no support
  - COE will work internally
  - USGS work ends

Thank You

Subcommittee on Sedimentation