

SUBCOMMITTEE on SEDIMENTATION
WebEx Meeting Minutes
June 28, 2012
11 AM, EDT

Request for volunteer to take notes for this meeting

Cox

There were no volunteers to take notes. It was suggested that each of the presenters submit a summary of their presentation/discussion to be included in the minutes. Further, it was suggested that we establish a rotation schedule for taking notes. Amanda Cox will work with Marie Garsjo to prepare a rotation schedule prior to the next meeting.

The meeting was called to order. Present were:

- Alan Ellsworth, Water Resources Division Liaison for National Park Service (NPS), Washington D.C.
- Amanda Cox, Vice-Chair and Research Scientist, Colorado Water Resources Research Institute, Colorado State University (CWRRI)
- Bill Wilber, USGS, National Water-Quality Assessment (NAWQA) Program
- Bob Gilliom, USGS, National Water-Quality Assessment (NAWQA) Program
- Casey Lee, USGS, Kansas Water Science Center
- Charlie Crawford, Hydrologist, USGS, National Water-Quality Assessment (NAWQA) Program
- Deborah Cooper, Research Hydraulic Engineer, USACE, Coastal & Hydraulics Laboratory (CHL)
- Doug Glysson, retired, Hydrologist, Office of Water Quality, USGS, Reston, VA, and SEDHYD
- Jeff Bradley, President, WEST Consultants, representing ASCE
- Jerry Bernard, retired Natural Resources Conservation Service (NRCS)
- Joe Schubauer-Berigan, EPA, Cincinnati, OH
- John R. Gray, National Sediment Specialist, Office of Surface Water, USGS
- Kevin Laurent, USGS, RESSED FilemakerPro Team Member, Reston, VA
- Jenifer Bracewell, USGS, RESSED FilemakerPro Team Member, Reston, VA
- Marie Marshall Garsjo, Chair, and retired Geologist, NRCS, National Design, Construction and Soil Mechanics Center, Fort Worth, TX
- Mark Landers, Chief, Federal Interagency Sedimentation Project, and Office of Surface Water, USGS, Atlanta, GA
- Matt Collins, Hydrologist, NOAA, National Marine Fisheries Service (NMSF), Massachusetts
- Matt Römken, Director National Sedimentation Lab, and Researcher in erosion processes, Agricultural Research Service (ARS), Oxford, MS
- Meg Jonas, Assistant Levee Safety Program Manager, U.S. Army Corps of Engineers (USACE), Washington D.C.
- Paul Makowski, Federal Energy Regulatory Commission (FERC), Washington D.C

- Paula Makar, Hydraulic Engineer, USBR, Sedimentation and River Hydraulics Group, Lakewood, CO
- Tim Randle, Manager of the Sedimentation and River Hydraulics Group, USBR, Lakewood, CO

Update on April 5 meeting minutes

Cox

There is a rough draft of the April 5 minutes. Feedback on specific sections has been requested from each person who led a section. The minutes will be adjusted using the feedback, and a draft of the minutes will be sent to the committee via email in approximately one week for review. Committee approval of the minutes will be made electronically.

USGS NAWQA Sediment Retrospective Project

Lee

Casey Lee from the USGS Kansas Water Science Center gave a presentation on “National Synthesis of USGS suspended-sediment data” to provide an update on the National Water-Quality Assessment Program (NAWQA) and obtain feedback for the next decade. The USGS NAWQA program is planning to undertake a national synthesis of sediment data for the first time. The intent of the presentation was to inform SOS members of the national synthesis of sediment data effort, solicit feedback, and identify opportunities for partnership. Sediment synthesis is overdue and there are a number of unanswered questions regarding sediment movement, including the following:

1. How much sediment is moving (and when) to key receiving waters?
2. Where, and to what degree, have natural sediment loads been altered by humans?
3. Have agricultural management practices altered downstream flux?

There is a widely distributed network of streamflow and sediment sites through time and space; relatively good, accessible data to analyze; and substantial ongoing work. Technology is rapidly advancing the tools and resources that can be used both in and out of the field, including sediment surrogates, geospatial data, and data aggregation and analysis. A graph indicating location of 302(d) listed sediment/turbidity impairments in the continental U.S. was shown.

Ongoing efforts include the quality-assured USGS sediment database and national-scale summaries of sediment and ancillary data. The following graphs were shown: (1) a graph indicating extent and length of discrete sediment sampling across the continental U.S.; (2) a graph indicating extent and length of discrete sediment sampling at USGS sites both at and immediately downstream from USDA MRBI basins; (3) a graph illustrating suspended-sediment concentration during high flows (exceeded 1-10% of the time) for the continental U.S.; and (4) a graph of the median percentage of silt/clay (less than 63 micrometers in diameter) for the continental U.S.

Planned efforts included a NAWQA QWDATA portal, analysis of data and methods to compute constituent flux, spatial analysis using the Spatially Reference Regression on Watershed attributes (SPARROW) model, and trend analysis in key settings. A screen shot from the SPARROW Decision

Support System National Suspended Sediment Model was shown and the following link to the SPARROW website was provided: <http://cida.usgs.gov/sparrow/>. An example was discussed where SPARROW was used for reservoir planning for the Perry Lake watershed in northeast Kansas. The planned annual sedimentation rate was 1.06 million tons/year, the SPARROW estimate was 1.42 million tons/year, and the actual mean rate estimated from bathymetry was 1.45 million tons/year.

Possible efforts include a sediment-specific data portal which would include multi-agency data from a real-time national sediment network. Further, the sediment-specific data portal could incorporate ancillary data and tools to be used to query and analyze data. An example was provided that used the discrete data from the USGS National Sediment Network data from the Mississippi River at Thebes, IL. A graph was provided that compared streamflow versus flow-weighted, suspended-sediment concentration (FWSC) by year. Further, a plot was provided that illustrated a nonparametric, single change-point identification in annual FWSC for the USGS streamgage on the Mississippi River at Thebes, Illinois.

The following conclusions were made during the presentation. A national-scale sediment synthesis can (1) improve the visibility and utility of sediment data; (2) provide guidance for local data collection and studies; (3) provide tools that allow agencies to answer important questions; and (4) help managers through decision support tools. Anyone with feedback or interest in collaboration should contact John R. Gray (jrgray@usgs.gov) or Casey Lee (cjlee@usgs.gov).

Summary of Sustainable Water Resources Roundtable Meeting, Arlington, VA

Cox

Amanda Cox gave a presentation on May 30-31 summarizing the current SOS efforts at the Sustainable Water Resources Roundtable (SWRR) meeting held in Arlington, VA. Presentations were given by many of the ACWI Subgroups including the National Water Quality Monitoring Council, the Subcommittee on Ground Water, and the Subcommittee on Hydrology. In addition to the presentations given by the ACWI Subgroups, there were multiple presentations and panel discussions. The following is a list of the panels and presentations:

- Panel on Water Sustainability in the Departments of Defense and Homeland Security
 - Army Water Security Strategy, Paul Koch, Marstel-Day
 - Army Net Zero water initiative pilots across the U.S., Kristine Kingery, Acting Director, Army Sustainability Policy
 - USACE actions around climate change, Jeff Arnold, Army Corp of Engineers
- Panel on Current Work on Water Sustainability in Federal Civilian Agencies
 - EPA, Ron Hoffer, EPA Senior Advisor on Water Sustainability
 - Water Stewardship in the Forest Plan, Katherine Smith, USFS
 - Federal Managers Responses to Climate Change, Frank Reilly, LMI
- Water Sustainability Applications

- Application of Water Stewardship Tools to Large Industries: Great Lakes Case Studies, Penelope Moskus, LimnoTech
- The Army Water Boot Print, Frank Reilly, LMI.
- Water Sustainability for California's Water Plan, Rich Juricich, California Dept. of Water
- Community Participation in Federal Water Related Environmental Programs
 - The Walkable Watershed - a stewardship case study in Richmond VA, Miranda Maupin and Cheryl Little, Skeo Solutions
 - BLM's Public Involvement in NEPA, Kerry Rodgers, BLM Planning and NEPA Branch
 - Social Media - community participation tool, Marianna Grossman, Sustainable Silicon Valley

The SWRR meeting wrapped up with a presentation and discussion of the Alliance for Water Stewardship's International Water Stewardship Standard. The presentation was given by Edwin Pinero, Chief Sustainability Officer, Veolia Water N. America. The following summarizes the presentation and discussion:

- The Standard aims to
 - Support water users in taking appropriate actions to evaluate and improve their impacts on watersheds
 - Build on other water-related tools, helping users to reduce their water risk and generate social, environmental and economic benefits.
- Standard is based on four principals of water stewardship
 - Water Governance
 - Water Balance
 - Water Quality
 - Important Water Areas
- The link for the standard is <http://allianceforwaterstewardship.org>
- There is a draft standard available here:
 - <http://allianceforwaterstewardship.org/what-we-do.html#water-stewardship-standard>

Federal Interagency Sedimentation Project (FISP)

Landers

The mission of the FISP is to support and advance accurate standardized samplers and methods for sediment and water-quality sampling. The FISP accomplishes this mission by directing the manufacture, quality assurance, and supply of samplers for federal agencies; by supporting federal sediment and water-quality sampling with guidance and training; and by conducting and sponsoring research on new samplers, sediment surrogate metrics, and methods. Mark noted that while FISP is functioning well in supplying and quality assuring existing samplers, the need for research on new methods cannot be fully met because Federal participation and funding have dwindled over last decade.

Mark discussed an ongoing research focus on developing interim guidance for estimating suspended sediment concentration (SSC) time-series data from surrogate measurements using acoustic Doppler

current profilers. This guidance is particularly needed as several studies within and across Federal agencies are applying highly inconsistent, often wrong, and incomplete methods using this technology. Most studies report, at best, model error. Uncertainty and bias are typically unknown for these methods. Moreover, the technology and methods are highly complex. Minor changes in instrument set up, which may be automatic, will alter ratings. Instrument to instrument differences are known to occur. Sediment Acoustics methods will advance in the next few years to much broader use. Without specific, recognized Federal guidance, the results will often be non-comparable, and of unknown accuracy.

FISP has, in an effort to address this need, funded selected sediment-acoustic research studies over the last few years; is communicating with Federal agencies conducting sediment-acoustic studies; co-sponsored (with SOS) a CUAHSI workshop in March 2012; and a multi-agency Sediment Acoustic Leadership Team (SALT) has been formed for this effort. The scope of the research needed to develop methods for accurate, reliable, consistent sediment data from acoustics is much greater than current funding can address. However, the SALT hopes to provide in 2013 interim guidance on computing SSC time series for fixed, in-situ acoustic velocity meters.

REServoir SEDimentation (RESSED)

Gray/Laurent/Bracewell

Summary: The 2.5-year software development/port effort in support of COE Mission-Critical Reservoir Program is coming to a close, thanks to:

- \$69K COE and \$80K USBR funding since 2009,
- Considerable services by the USGS starting around 1997 and continuing to the present, and
- Efforts of the COE (Meg Jonas, Deborah Cooper, Jim Leech, Jennifer Gitt, Paul Boyd, and Dan Pridal) and the USGS RESSED programming team (Kevin Laurent and Jennifer Bracewell).

USGS expects to have the COE project more or less complete in August. Additionally, we intend to have all USBR Excel spreadsheet data ported to the FilemakerPro environment in July.

General Outline of Presentation to the Subcommittee on Sedimentation, June 28, 2012:

- Brief History of RESSED John Gray
- Overview of the original RESSED FilemakerPro project
 - Port from Access to FilemakerPro
 - Provide user-friendly update capability
 - Provide useful reports
- What was Discovered, Needed Kevin Laurent
 - Illogical, patchwork schema was a grief-causing dead end
 - Geolocation and other errors
 - Multiple base versions of Form-34 – a database manager’s nightmare
 - Nebulous documentation resulted in need for max reverse engineering

- On and on...
- What was/will be Accomplished (“ * ” additional to original project goals) Jen Bracewell/
Kevin Laurent
 - * Logical “21ST century” schema developed (Big Deal)
 - Input functionality complete
 - Reports mostly complete
 - QA/QC for data entry far along
 - Runtime version being used by COE
 - Runtime merge capability needs to be completed
 - USBR data port (based on 2012 funding) in progress
- Plans, FY2012 4th Quarter John Gray
 - Closure on COE Mission Critical project and low-level support
 - Closure on USBR data port
 - Ensure merge capability for COE runtime versions in Districts
- Plans, FY2013 and thereafter: A syllogism... John Gray
 - If full, based-funded project
 - Hold workshop of experts to develop objectives/realistic goals
 - Identify project team
 - Expand to public release at earliest reasonable time
 - If partial (\$50K-\$80K), work with funding orgs on priorities
 - If no support, understand COE will work internally; USGS work ends
- Perspectives: Member organizations on their behalf and for SOS

Discussion on Funding / ACWI Resolution (6/28/2012 1-2 p.m.)

- There was a lot of discussion on this which basically came down to what Doug said-“Don’t push funding issue with ACWI to the point of alienating other agencies. They all acknowledge the value of RESSED.”
- Meg – ACWI approved a non-binding resolution for USGS to fund RESSED in July, 2011.
- John Gray - Eric Evenson (USGS WaterSMART Coordinator) is very supportive, but:
 1. The only way that the WaterSMART initiative might support the RESSED project is if WaterSMART is funded. This won’t happen until an FY13 budget is passed, and in this election year, it is doubtful that USGS will have a budget until after the presidential election.
 2. If/when WaterSmart funding comes through, other projects to be supported by WaterSmart will need to ‘buy in’ to the need to support RESSED.
- Tim Randle suggested releasing a new static data set to the public to publicize the project.
- Jerry Bernard – Not just trying to put a database together, but need to keep gathering all the data that’s out there.
- Matt Römkins – Need to publicize the significance of the database to various user communities and stock holders - Recreation, Agriculture, Dam Failures...

SOS slot on next ACWI meeting July 11, 3PM (45 minutes)

- Marie Garsjo will give SOS presentation via WebEx

WestFAST – Alan Ellsworth will attend their monthly meeting today. John asked him to mention RESED and ask for a slot on the agenda for their next meeting.

Summary

- Tim Randle – “Plan B [no money] cannot mean nothing.”
- John’s reply – Need a minimum of \$80K to continue.

Stream Morphology Data Exchange

Collins

Matt Collins provided a brief update on the Stream Morphology Data Exchange efforts. The name has been changed from “Stream Morphology Database” to “Stream Morphology Data Exchange”. Additionally, the “Development of Design Specifications for the National Stream Morphology Database” proposal submitted to the National Institute for Water Resources (NIWR) Water Resources Research National Competitive Grants Program is still under review. Finally, the subgroup recently published a forum article entitled “Developing a National Stream Morphology Data Exchange: Needs, Challenges, and Opportunities” in American Geophysical Union’s EOS on May 15, 2012, which described their efforts to date and invited interested parties to participate. Matt Collins will send a copy of the article to the SOS committee members via email.

Reservoir Sustainability Workshop

Randle

A workshop sponsored by the SOS on reservoir sedimentation and reservoir sustainability will be convened in Lakewood, Colorado, July 10-12, 2012. The workshop objective is to develop and describe practical options for managing sediment for long-term reservoir sustainability in the United States.

The workshop will consist of a series of sessions, each with an invited lecture followed by concurrent small group discussions and a summary discussion by the entire Group. A white paper will be produced following the workshop that summarizes discussions, conclusions, and recommendations. This white paper is expected to help raise awareness of reservoir sedimentation issues and present ideas for achieving reservoir sustainability. General workshop topics and speakers are listed below:

- Keynote Lecture – Greg Morris, GLM Engineering Coop, Santurce, Puerto Rico
- Existing and future Reservoirs Sedimentation Issues – Ron Ferrari and Kent Collins, Reclamation, Denver, CO
- Frequency and Extent of Reservoir Sediment Monitoring – John R. Gray, USGS, Reston, VA
- Reservoir Sustainability Options – Professor Tetsuya Sumi, Kyoto University, Japan
- Applicability and Cost of Reservoir Sediment Management Options – Rollin Hotchkiss, Brigham Young University, Provo, UT

- Reservoir Bottom Sediments: An Archive of Historical Human Activity and its Environmental Effects – Kyle Juracek, USGS, Lawrence, KS
- Sustainable Water Supply: Policy Implications – George Annandale, Golder Associates, Lakewood, CO
- Research Topics: Modeling Turbidity Currents – Yong Lai, Reclamation, Denver, CO

Tim Randle requested that they contact him if they are planning on attending and have not already contacted him.

SEDHYD Planning Overview

Glysson, Bernard, Makar

The workgroup requested proposals from four areas: Reno, Las Vegas, Tucson, and New Orleans. They received proposals from nine hotels. Five proposals were received from Reno; three proposals were received from Las Vegas; one proposal was received from New Orleans; and Tucson did not respond. New Orleans was eliminated from the list because of the high costs of food and catering.

The workgroup visited the remaining eight hotels. They eliminated the Silver Legacy in Reno because the conference would have to be held in two separate building, which were approximately one block apart. From the remaining five hotels, the workgroup recommended the Peppermill Casino in Reno. This recommendation was based on: 1) negligible cost difference between the remaining venue options, 2) the hotel being located away from downtown Reno, 3) there are restaurants and shopping centers located nearby, and 4) the hotel having many hi-tech features. Further, the workgroup recommending holding the conference the last week in March of 2014 based on venue availability.

A motion was made by Marie Garsjo to accept the recommendation from the sub workgroup to hold the conference at the Peppermill in Reno during the last week in March of the 2014. Matt Collins seconded the motion. The vote was unanimous.

A discussion was held regarding how the accounting is conducted by the subgroup for the conference. The intent was to provide documentation for future subgroup members since the conference is held every four years and some of the subgroup members have recently retired. The conference is fully funded with registration fees. Historically, there has been left over money and ACWI suggested the money could be kept and used to pay for workshops or similar projects. There are two accounts for leftover money generated by money left over from the SOS portion; and two accounts for the Subcommittee on Hydrology in a credit union in Nevada and there is an IRS tax-exempt number for both. The general process for writing checks is: Doug Glysson sends documentation on his purchase to Paula Makar, then issues a check to her for review.

Although Doug Glysson has retired, he will continue with his current role in the SEDHYD Conference as before his retirement. The SOS is extremely grateful for his continued help.

Other Business

Garsjo and Cox

The annual ACWI meeting will be held on July 10-11 in or near Reston, Virginia, and a representative from the Subcommittee should be present to give an update of our activities. The SOS timeslot on the tentative ACWI agenda for July 11 is at 3:00 pm EDT. The SOS update presentation for the ACWI meeting can be given via WebEx. Marie Garsjo, SOS Chair, agreed to give the presentation via WebEx, since many of the SOS members local to the Washington DC area were unavailable. In particular, the ACWI annual meeting was scheduled to be held on the same dates as the Reservoir Sustainability Workshop held in Denver.

Marie Garsjo intends to have a draft of the Prospectus for 2007-2012 to the subcommittee for review by the end of July.

Tim Randle inquired about allowing one of Rollin Hotchkiss' graduate students to post bed-load measurements on the SOS website and there were no concerns stated regarding allowing this posting.

Fall SOS Meeting, Port Angeles, Washington, August 20

Garsjo and Cox

The Fall SOS meeting will be held on Monday, August 20th, at Port Angeles, WA. A field trip will be held on the next day, August 21st. If planning to attend the Elwha River field trip, each member must register online <http://elwharesearchconsortium.wildapricot.org>. Tim Randle will reserve a space at the hotel for our meeting. Amanda will send out an email to get an approximate number of in person attendees for the meeting.

Identification of FY-2013 Officer Candidates

Garsjo and Cox

Doug Glysson indicated that it would be ideal to have a long-term federal SOS member as the chair for 2014 considering the SEDHYM Conference will be held that year. The "tradition" for SOS Officers has been that offices are held for one year and the elected Vice-Chair would assume the Chair Office the following year. [ed. sic, refer to Terms of Reference]. John Gray suggested Tim Randle as the Vice-Chair for 2013 which would place him as the Chair for 2014. John Gray indicated that Tim Randle has been a past Chair for the SOS and has not served for a number of years. Marie Garsjo suggested that she would be willing to continue as the Chair for a second year. Amanda Cox indicated that she was interested in holding the Chair position for the 2013 year. Matt Collins motioned to vote for Amanda Cox for Chair and Tim Randle for Vice-Chair for 2013. Matt Römken seconded the motion and a vote was conducted. The vote was unanimous.

The meeting was adjourned.

After the meeting was adjourned, John Gray requested to include a half-hour for a presentation or discussion of the SPARROW model at the fall SOS meeting.