

**Subcommittee on Sedimentation  
January 21, 2015  
Teleconference/WebEx Meeting  
Minutes**

Subcommittee on Sedimentation (SOS) Chair Amanda Cox called the meeting to order at 10:04 a.m. CST. The minutes were prepared by Amanda Cox. Present were:

- Jeff Bradley, President, WEST Consultants representing ASCE, Salem, OR
- Matt Collins, Hydrologist, National Marine Fisheries Service, National Oceanic and Atmospheric Administration (NOAA), Gloucester, MA
- Amanda Cox, Chair, Assistant Professor, Missouri Water Resources Research Institute (MWRRI), Saint Louis University, St. Louis, MO
- Jerry Bernard, retired NRCS, SEDHYD Technical Program Coordinator, Stafford, VA
- Alan Ellsworth, Chief, Aquatic Systems Branch (Acting), Water Resources Division - Natural Resource Stewardship and Science Directorate, U. S. National Park Service
- Marie Marshall Garsjo, retired geologist, Natural Resources Conservation Service (NRCS), Fort Worth, TX; SEDHYD FISC Technical Program Chair
- Doug Glysson, Retired Hydrologist, Office of Water Quality, U.S. Geological Survey (USGS), Reston, VA, SEDHYD Joint Conference Chair
- Meg Jonas, Research Hydraulic Engineer, U.S. Army Corps of Engineers (USACE), Alexandria, VA
- Mark Landers, Federal Interagency Sedimentation Project Chief and OSW, USGS, Atlanta, GA
- Paula Makar, Civil Engineer (Hydraulics), Sedimentation and River Hydraulics Group, Reclamation, Lakewood, CO
- Marian Muste, Research Engineer, University of Iowa representing the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), Iowa City, IA
- Peter Nelson, Assistant Professor, Colorado Water Resources Research Institute (CWRI), Colorado State University, Fort Collins, CO
- Tim Randle, Vice-Chair, Manager of the Sedimentation and River Hydraulics Group, Bureau of Reclamation (Reclamation), Lakewood, CO
- Joseph Schubauer-Berigan, Research Ecologist and Chief, Environmental Stressors Management Branch, USEPA, Office of Research and Development, National Risk Management Research Laboratory, Cincinnati, OH

**Minutes from November 2014 SOS Meeting**

Cox

The minutes from the November 4, 2014 meeting will be circulated by email for approval.

**REServoir SEDimentation**

Landers

The recommendations of the SOS from its November meeting for RESSED are not fully met. The revised RESSED data base with a 'caveat' note as to known data issues had not been posted. Efforts are continuing to get this work done. The team working on RESSED at the USGS had been assigned to other work and is not expected to have further involvement on the program. John Gray has graciously

continued to pursue the goal of a fully functioning evolving RESSED database on a volunteer basis. In moving RESSED forward, potential partnership between the USGS and the Corps of Engineers (National Levee Database Team) is being discussed.

**Reservoir Sustainability**

Randle

Now that ACWI has approved the SOS resolution on reservoir sustainability, SOS should considering the best ways to let managers of dams and reservoirs know about the guidance given in the resolution. The resolution is documented on the ACWI web site at:

[http://acwi.gov/acwi-minutes/acwi2014/FINAL\\_minutes\\_ACWI\\_2014.pdf](http://acwi.gov/acwi-minutes/acwi2014/FINAL_minutes_ACWI_2014.pdf)

A consensus was reached that SOS resolution should be disseminated and several good ideas for doing so were discussed:

- Post the resolution on the SOS website [Amanda Cox will request this]. SOS member organizations are encouraged to post a link on their websites to the SOS website.
- Tim Randle will announce the SOS resolution during the opening session of the SEDHYD conference.
- Meg Jonas will inquire about issuing a press release.
- Internal dissemination of the resolution by SOS members within their own organizations.

The first workshop of the National Reservoir Sedimentation Team was convened in Lakewood, Colorado November 12-13, 2015. Workshop participation included 15 Reservoir sedimentation specialists from Federal agencies, universities, and consultants.

<b>First</b>	<b>Last</b>	<b>Title</b>	<b>Organization</b>
Mustafa	Altinakar	Director & Research Professor, National Center for Computational Hydroscience and Engineering	University of Mississippi
Paul	Boyd	Hydraulic Engineer, River and Reservoir Engineering Section	U.S. Army Corps of Engineers
Deborah	Cooper	Research Hydraulic Engineer, River Engineering Branch	U.S. Army Corps of Engineers
Darrell	Eidson	Hydraulic Engineer, Hydrology and Hydraulics Branch	U.S. Army Corps of Engineers
Ron	Ferrari	Civil Engineer (Hydraulics), Sedimentation and River Hydraulics Group	Bureau of Reclamation
Rollin	Hotchkiss	Professor and Chair, Department of Civil and Environmental Engineering	Brigham Young University
Meg	Jonas	USACE	U.S. Army Corps of Engineers
Kyle	Juracek	Research Hydrologist, Kansas Water Science Center	U.S. Geological Survey
Sean	Kimbrel	Civil Engineer (Hydraulics), Sedimentation and River Hydraulics Group	Bureau of Reclamation
Matt	Kondolf	Department of Landscape Architecture &	University of California,

		Environmental Planning	Berkeley
Greg	Morris	President	Gregory Morris Consultants
Peter	Nelson	CWRRRI	Colorado State University
Tim	Randle	Reclamation Manager, Sedimentation and River Hydraulics Group	Bureau of Reclamation
Rene	Vermeeren	Chief, Hydrology and Hydraulics Branch	U.S. Army Corps of Engineers
Frank	Weirich	IIHR Hydrosience and Engineering	University of Iowa

The primary purpose of the workshop was to develop the short course on reservoir sedimentation and sustainability for the 2015 SEDHYD Conference and to develop a list of frequently asked questions and answers for posting on the SOS website. The complete workshop agenda is attached.

The short course outline was developed at the workshop and participants agreed to be presenters in Reno, NV. A list of 25 frequently asked questions was developed at the workshop and assignments were made to write answers to these questions. Tim Randle e-mailed this preliminary list to SOS members on January 21, 2015 and a list of the questions is attached. Other action items from the workshop are summarized below:

- Create a National Reservoir Sedimentation Team educational web page on the SOS website.
- Develop White Paper on Reservoir Sedimentation and Sustainability.
- Develop a multi-pronged approach to educate and guide reservoir sediment management in the USA.

The total cost to SOS for the workshop was \$5,704.24, which included travel voucher reimbursements to five individuals and the hotel meeting room.

First and Last Name	Title	Lodging	Per Diem	Air fare	Ground Transportation	Total
Mustafa Altinakar	Director & Research Professor, National Center for Computational Hydrosience and Engineering, U of Mississippi	\$361.35	\$231.00	\$724.69	\$252.02	\$1,569.06
Matt Kondolf	Dept Landscape Architecture & Environmental Planning, U of California at Berkeley	\$240.90	\$165.00	\$252.20	\$211.52	\$869.62
Greg Morris	President, Gregory Morris Consultants	\$361.35	\$280.50	\$391.20	\$127.14	\$1,160.19
Peter Nelson	CWRRRI, Colorado State U	\$0.00	\$99.00	\$0.00	\$160.60	\$259.60
Frank Weirich	IIHR Hydrosience, and Engineering, U of Iowa	\$361.35	\$231.00	\$501.70	\$249.42	\$1,343.47
Hampton Inn Denver West / Denver Federal Center: workshop meeting room for two days						\$502.30
Rollin Hotchkiss	Professor and Chair, Department of Civil and Environmental Engineering	No travel voucher submitted.				

## **SEDHYD 2015 Planning Overview**

Glysson/Makar/ Bernard

### Conference and Hotel

- DOI has approved meeting – Doug will draft thank you letter for Wendy Norton’s assistance to Jerad Bales
- Individual agency approval for attendance still needed
  - Need to get word out to other attendees
- Plenary session speakers: if topics are known, they will be added to program
  - Dave Johnson, Deputy General Manager over Engineering and Operations, Southern Nevada Water Authority, Las Vegas, NV – 30 minutes, local welcome
  - Thomas Iseman, Deputy Assistant Secretary for Water and Science, U.S. Department of the Interior – 30 minutes, ACWI welcome
  - Gerald Galloway, PhD, Glenn L. Martin Institute Professor of Engineering, University of Maryland – 30 minutes
- Computer, AV equipment, and catering - will go with hotel bid
- Claudia has developed a Professional Development Hours form and it will be available on website and at registration

### Technical program

- More than 150 papers have been uploaded, less than 100 to go
  - Today is paper deadline. Uploads will close 1/22, resubmit as email to Jerry B after this
  - A few requests for extensions, January 31 is absolute date, send email to Jerry B
  - Technical peer review not provided
- Session chairs – primary for each session set, still need additional volunteers for a few sessions
- On-line program is available at website, with a link to the paper submitted for that talk. This function is not yet turned on. It will be when the proceedings are ready for downloading.
  - Printed program will be developed after all papers are in
  - 5 large screen kiosks behind registration desk and 6 kiosks in front of the concurrent session rooms are available for conference/program info

### Proceedings

- Final papers need to be into Mark S by March 1
- Preliminary downloads of papers will be available at least 1 week before conference
  - Both online and mobile devices will work
  - Final proceedings downloadable from SEDHYD

### Registration (very close!)

- Cvent is vendor – has more info on extras and best payment options
  - Hotel link for room registration will be provided with per diem and lower rates
  - Conference get credit for these registrations so we need to use it
- Assistants – all agencies need to help out, especially Sunday and Monday

### Exhibits

- Mark has a long list to be contacted (~50), waiting on registration opening
- Doug will get together proposal for exhibit security and out for selection by mid March

### Student Program

- 12 student papers, Amanda will get judging process started
- Student luncheon – Amanda will contact agency reps
- AV assistant list being compiled, send ideas to Jeff Harris, [jharris@westconsultants.com](mailto:jharris@westconsultants.com)

## Field Trips and Short Courses

- Final Descriptions online in preliminary program
- Patty's Tours selected, contract and deposit sent, final payment in April

## **Federal Interagency Sedimentation Project**

Landers

The current focus of the FISP is on indirect, surrogate methods for monitoring suspended sediment and bed load; and on improved data and understanding of physical sampler performance. The funded research projects (noted in the prior SOS minutes) reflect these priorities. Internal FISP research is focused on evaluation of the performance of FISP flexible bag-type, depth integrating suspended sediment samplers; and on sediment-acoustic methods. A fact sheet on continuous suspended sediment monitoring using acoustics was prepared and is available at:

<http://pubs.usgs.gov/fs/2014/3038/>

The next meeting of the FISP Technical Committee (TC) that governs the FISP will be April 18th 2015 in Reno, NV prior to the SEDHYD Conference.

## **Prospectus Update**

Jonas

Meg Jonas (USACE) is summarizing high priority sedimentation and river engineering research and development needs for a SEDHYD paper. This will be done soon, and should be a good starting point for the Subcommittee to use in developing a prospectus.

## **National Stream Morphology Data Exchange Proposals**

Collins

Matt briefly described the status, which is similar to the status reported at the November meeting. Further development of the NSMDE concept relies on external funding. The two ongoing prospects are a proposal led by Amanda to the NASA ROSES Terrestrial Hydrology program (A.16). Her 2013 proposal was not funded, but the team received positive feedback and they may reapply in the future. Marian is planning to resubmit his proposal to the USGS Water Resources Institutes (WRI) solicitation on Feb 19, 2015. He is seeking a letter of support from David Maidment, a NSMDE 2011 workshop participant, since Marian believes the NMSDE would support the aims of Maidment's ongoing National Flood Interoperability Experiment. He will also seek updated letters from earlier supporters.

## **SOS Financial Update and Account Access**

Randle

The SOS currently has both a checking and savings account. Doug Glysson controls both accounts and Tim Randle and Paula Makar have the authority to sign checks. A succession plan needs to be developed for Doug's retirement. One person needs to oversee the accounts and two people also able to sign checks. Also, need two people to review the monthly account statements for accountability. Doug will resign as the Chair of the Conference about six months after the conference when the accounting is finished up. Money in the SOS accounts must be used for like purposes for which it was collected (collected for FISC Conferences) such as workshops and meetings.

## **Scheduling of Next Meeting**

Cox

Historically, the SOS has met on Friday morning before the conference for two hours. It was decided that the meeting will be held Friday, April 17, 2015 from noon to 2:00 pm PDT (following the meeting the time was changed to 1:00 to 3:00 pm PDT to allow more travel time on Friday morning for members).

The meeting was adjourned at 11:38 CST

**Advisory Committee on Water Information, Subcommittee on Sedimentation  
Task Committee on Reservoir Sedimentation and Sustainability  
National Reservoir Sedimentation Team**

**Meeting and Workshop Agenda  
November 12-13, 2014  
Hampton Inn, 137 Union Boulevard  
Lakewood, CO 80228**

**Wednesday, November 12**

- 8:30 AM      Introductions
- 8:45 AM      Objectives and Mission for the National Reservoir Sedimentation Team (Tim Randle):
- Provide training on reservoir sedimentation and sustainability
  - Provide publically available web-based resources
  - Develop interagency protocols for web-based storage and retrieval of reservoir survey datasets
  - Encourage storage of sediment survey data in the national reservoir database RESSED
  - Formulate a white paper on reservoir sedimentation and sustainability
- 9:15 AM      Rollin Hotchkiss will give updates on the following topics:
- Millsite reservoir sediment management project in Ferron, Utah: 404 permit process.
  - Sandhills sediment management project in Nebraska: EPA regulations.
  - Perspective as the chair of the Environmental Advisory Board for the Army Corps.
- 9:45 AM      Other Updates
- 10:00 AM      Break**
- 10:15 AM      Develop short course on reservoir sedimentation and sustainability for the Federal Interagency Sedimentation Conference (April 19, 2015, Reno, NV)
- Target audience
  - Training objectives
  - Presentation by Dr. Greg Morris, President, Gregory Morris Consultants
  - Training agenda
    - Importance of reservoir sedimentation (e.g. population increases, declining groundwater levels, and climate change)
    - Reservoir sediment monitoring
- 11:45 AM      Lunch break**

- 1:15 PM Continue development of training sessions
- Training agenda (continued)
    - Sustainable sediment management practices (e.g. reductions in watershed sediment yield, reservoir sediment bypass, pass through, and flushing, and mechanical and hydraulic sediment removal)
    - Economics of reservoir sediment management
    - Dam Decommissioning
  - Assignments
  - Other workshop venues?
- 3:00 PM Break**
- 3:15 PM Continue development of training sessions
- 4:00 PM Paonia Reservoir Sedimentation Problems, Colorado
- 4:40 PM Update on Elwha River Restoration Project: Sediment Management
- 5:00 PM Adjourn

### **Thursday, November 13**

- 8:30 AM Development of web-based resources
- Answers to frequently asked questions
  - Protocols for answering new questions
  - Photo Gallery
  - Bibliography and publications
- 10:00 AM Break**
- 10:15 AM Continued development of web-based resources
- 11:45 AM Lunch break**
- 1:15 PM Continued development of web-based resources
- 3:00 PM Break**
- 3:15 PM Develop interagency requirements for web-based storage and retrieval of reservoir survey datasets.
- 3:45 PM Brainstorm ideas to encourage the storage of sediment survey data in the national reservoir database RESSED.
- 4:00 PM Discuss plans for a paper on reservoir sedimentation and sustainability.
- 4:45 PM Workshop wrap-up
- 5:00 PM Adjourn

## Frequently Asked Questions about Reservoir Sedimentation and Sustainability

Goal: Brief concise reply to an NPR level listener/reader with links to more information  
Use Google Doc or common document to avoid a flood of emails. Add a name or initials to any changes

Sean Kimbrel will create a dummy Gmail account natressedteam@gmail.com to have a shared Google Drive of documents (done)

1. What is a dam and reservoir system, and what are the benefits provided by dams and reservoirs? **Mustafa Altinakar**
2. How are dams and reservoirs operated? **Paul Boyd**
  - a. What is a reservoir water management plan?
3. How many dams are there? **Mustafa Altinakar**
4. What is the process of reservoir sedimentation? **Greg Morris**
5. Is reservoir sedimentation a problem and why should we care? **Tim Randle**
6. What are its effects? **Tim Randle and Sean Kimbrel**
  - a. How does reservoir sedimentation affect the different water storage uses of the reservoir pool? **Sean Kimbrel**
  - b. What are the problems associated with reservoir sedimentation? **Tim Randle**
    - i. When and where do these problems occur?
    - ii. Can dam safety be affected? **Greg Morris**
7. Is it a problem in all regions of the USA? **Deborah Cooper**
8. Is the nation's capacity to store water decreasing over time? **Sean and Deborah**
9. What was the original plan to manage reservoir sedimentation behind dams? **Rollin Hotchkiss**
10. Are dams in the USA designed to manage reservoir sedimentation? **Rollin Hotchkiss**
11. Who is responsible for managing reservoirs? **Meg Jonas**
12. How can reservoir sedimentation be measured and monitored? **Rene Vermeeren and Kyle Juracek**
13. Where in the watershed does sediment come from? **Meg Jonas**

- a. How does watershed sediment yield change over time? **Meg Jonas**
  - b. How does land use change affect sediment yield? **Mustafa Altinakar**
  - c. How does wildfire affect reservoir sedimentation? **Peter Nelson and Frank Weirich**
14. How do droughts and floods affect reservoir sedimentation and water supply? **George Annandale**
15. How will climate change affect reservoir sedimentation and water supply? **Meg Jonas**
16. How does reservoir sedimentation affect downstream environments (e.g. channel/coast)?  
**Matt Kondolf**
17. What will happen if nothing is done to manage reservoir sediment? **Rollin Hotchkiss**
18. What is reservoir sustainability? **Greg Morris**
19. What are the beneficial uses of reservoir sediment? **Matt Kondolf and Sean Kimbrel**
20. Is sediment a pollutant? **Kyle Juracek**
21. What are the problems associated with contaminated sediments? **Kyle Juracek**
22. Can sedimentation be managed to prolong reservoir life? **Greg Morris**
- a. What are the potential sediment management strategies? **Greg Morris**
  - b. Under what circumstances are the various management strategies most applicable? **Greg Morris**
23. What are the elements of an effective reservoir sediment management plan? **Greg Morris and George Annandale**
24. What is the cost to deal or not deal with reservoir sedimentation? **George Annandale**
25. How would we pay for reservoir sediment management? **George Annandale and Rollin Hotchkiss**