

## **FISP Technical Committee Meeting Minutes**

**April 23, 2013 (Web-Ex Meeting)**

### **Attendees**

Mark Landers - USGS

Rob Hilldale - BOR

John R. Gray - USGS

Jim Seleguean - USACE

Roger Kuhnle – USDA\_ARC

Joe Schubauer-Berigan – USEPA

Colleen Rossi -- BLM

Fall meeting minutes were reviewed by the committee. Motion to accept the minutes by Hilldale, seconded by Gray and passed unanimously.

Landers reviewed the 2013 FISP budget with updates. The Technical Committee (TC) approved the revisions.

**Potential Membership Update.** – There was a discussion on who should comprise this technical committee (TC) and some of the funding issues that agencies are trying to work through to support this TC.

Schubauer-Berigan continues to seek support within the EPA

A meeting with BLM HQ was arranged and attended by Landers and Gray in Washington D.C.. The meeting was positive. They are interested in participating but they have no funding for FY13.

Landers has also attempted to meet with USFWS.

### **LISST Approval Memo**

Landers reviewed the salient points of the memo. All TC members indicated that they reviewed this document. Sequoia Scientific, Inc. reviewed the memo and did not have any objections. The TC will vote on approving this memo by email. Send any comments on memo to Landers by 26 Apr 2013.

**Is HIF willing and able to produce and sell Bunte's bed load traps?**

There was concern that one or more vendors are selling Bunte's bed load traps not made to the original specifications. The HIF will begin listing and selling these traps.

#### **Memo/attachment stating conclusions of PP-1774**

Gray discussed the salient points of this memo. Additional transits may marginally increase the accuracy of the results but at great increase in time and cost. In most instances, the benefits of additional transits do not justify the additional expense.

Motion made to:

1. Include Gray 1 pg write-up in these minutes,
2. TC to provide comments by 26 Apr 2013, and
3. Gray to produce memo and give to the FISP chair.

Motion passed.

#### **b. Bag Sampler Memo**

Concern was expressed that the D-96 was not operating isokinetically when used within the recommended ranges. Specifically, there is concern when the sampler is used at water temperatures below 50°F. Landers presented the salient points of this memo. The TC is to provide comments to Landers by 1 May 2013.

Landers demonstrated the spreadsheet he modified to document the test for isokinetic efficiency.

#### **Presentation on FISP-funded projects**

**Sediment Acoustics Index Tool.** Presentation by Tim Straub. Discussed the progress-to-date on the Matlab based software tool to evaluate and develop Sediment-Acoustic regression models, to document these models, and to use the tool to compute time series suspended sediment concentration. They expect to have this work complete by the end of August 2013. This is currently available for beta-testing.

**Pressure Difference project.** Presented by Jeb Brown, USGS, Albuquerque. By measuring the pressure at 2 points in a water column with a precision pressure sensors, and knowing the distance separating them, one can calculate the density of the water and subsequently infer the concentration of suspended sediment needed to produce that density (with some key assumptions). The results were correlated with actual SSC measurements. One more year of sampling (2014) remains in this study.

**Lab and Field Measurements using self-generated noise (SGN).** Presented by James Rigby, ARS Oxford. Partial results of a flume study were presented in which individual gravel particle were dragged over a fixed gravel bed and the self-generated noise was recorded. Additional flume tests are still to be performed and field work is scheduled for Feb 2014 and the final report by December 2014.

**Digital imaging for particle size analysis.** Presented by Dan Gooding and Kate Norton. This device uses digital imaging to assess the particle-size distribution of suspended particles in a laboratory setting. The original device could resolve particle as small as 8  $\mu\text{m}$ . This new work was hoping to resolve particles as small as 2  $\mu\text{m}$ . Some improvements include 1) improved light source by using blue LED with a more uniform wavelength, 2) considering a new camera with greater grayscale resolution. The researchers were encouraged to think about how to miniaturize this system so it could be placed in a device about the size of a LISST-SL.

#### **HIF-FISP activities**

Landers reviewed the items and quantities sold by the HIF last year. There was a discussion about reducing the surcharge that other government agencies (other than USGS) pay when purchasing equipment from the HIF. This surcharge would be reduced to the same surcharge that the USGS pays to purchase equipment. The proposed discount would only apply to voting members of the FISP.

#### **Large Sampler Training**

This would have trained crews in the proper collection of water quality and SSC samples during flood events. This was delayed due to the sequester and has been rescheduled for winter 2014.

#### **Update on Sediment hydroacoustics Leadership Team (SALT) activities (Landers)**

This work group has been having bi-monthly calls to advance acoustic surrogates for the measurement of sediment. The main goal of the work group is to issue guidance on monitoring suspended-sediment concentrations and perhaps size classes with hydroacoustics. They expect to have a guidance document complete by Aug 2013 and are assembling a fact sheet showing the location of sites where sediment acoustics are being collected.

#### **Pressure-Difference Bedload Samplers**

Hilldale let a discussion on the effects of changing the mesh size in Helley-Smith-type bedload samplers. Gray discussed a USGS report that looked into the hydraulic efficiencies in pressure difference samplers and suggested that Bill Emmett may be a good source of information on this topic. Gray reiterated that operator error is considered to be the greatest source of error in collecting bedload data.

#### **D-99 Sample depth to $0.9 \times \text{depth}$**

Gray stated that he previously expressed concern that this approach may miss a lot of near-bed suspended sediment that should be accounted for to confidently state that river mean concentration and load values are technically supportable; however, the magnitude of the potential error may be substantially less than originally surmised after a re-evaluation of the data (and detection of a mistake in data interpretation on Gray's part).

#### **FISP BMH-80**

Gray expressed mild concern that the older BMH-80 samplers that did not have the bottom flange would give a different result than the one with the flange. This is primarily a USGS database issue. After some discussion, it was agreed that potential database issues would almost certainly be comparatively trivial. Additionally, the FISP has “bigger fish to fry” with suspended-sediment and bedload-monitoring issues and hence the topic was not pursued further.

#### **Review of DRAFT 2014 Call for Proposals**

The call for proposals is expected to be out before October. Gray suggested that we have a general statement as one of our focus areas that will allow researchers to submit proposals on unconventional approaches that are not specifically mentioned.

Hilldale suggested that reservoir sedimentation, while not necessarily a focus area, should not be discouraged in the text of the proposal. Add a bullet to this effect.

Add some text to the proposal to encourage work on visualizing and quantifying bedload.