Monitoring Challenges Teleconference 10 Dec 2012

Attendees:

Peter Evans, ICWP	Chandra Pathak, COE	Robert Mace, WSWC
Wendy Norton, USGS	Chris Reimer, NGWA	Bill Cunningham, USGS
Robert Mason, USGS	Doug McLaughlin, NCASI	Darrell Osterhoudt, ASDWA
Mike Norris, USGS	Brandon Kernan, ASDWA	John Jansen, NGWA
Terri Moore, USGS	Dave Wunsch, AASG	Ben Pratt
Pixie Hamilton, USGS	Sue Lowry, ICWP	Charlie Crawford
Jim Kolva, USGS	Earl Greene, ICWP	Steve Dye
Kevin Dennehy, USGS	Judy Campbell Bird, ACWI-NLC	Tim Williams
Mary Musick, GWPC	Marie Garsjo, NRC Ret.	Mike Charles
Bob Schreiber, ASCE	Fred Bloetscher, AWWA	

Teleconference: The call-in number is 1-855-547-8255 (toll free); Access code: 53700

Agenda:

1:00 pm Introductions and Agenda Review
1:10 pm Revision/Acceptance of Notes from Previous Meetings
1:15 pm Review of Surface Water Monitoring Networks
   a. Strategic Streamgages
      i. Federal "backbone" gages (~3,200 gages)
      ii. Other federal, state, tribal, interstate & local interest gages (~4,800 gages)
   b. Network support infrastructure
   c. Quality assurance
      i. Standards & procedures
      ii. Training (for USGS & others)
2:14 pm Discussion, Agreement on Next Steps
2:30 pm Adjourn

Action Items:

1. Wendy will send everyone the link to the USGS Strategic Directions document (http://pubs.usgs.gov/of/2012/1066/).

2. Peter Evans will re-sequence the rest of our sessions to accommodate a briefing by Eric Evenson, and will send out the proposed schedule change along with the notes from today's teleconference, so people can let us know whether changing the schedule creates a hardship.

Meeting notes:

Does anyone have any changes that need to be made to the draft meeting summary from the last call? Since no one has offered changes, we will consider the meeting minutes from the last call approved.

Robert Mason gave a presentation on the streamgaging program (see PowerPoint presentation).

Question – I was interested in the cost-per-gage numbers you showed, and I was wondering if making the swap to Aquarius will help reduce the amount of work per gage in terms of records processing. *Answer* – The cost savings may even turn out to be as much as quarter time. We do need to do a better job monitoring our costs and getting a handle on how much we save by changing methods.

Question – How do you establish priorities for technology development? *Answer* – We recognize there are certain technologies we want to engage (we can do a better job, for instance, with ADCPs); but the big cost threshold is the need to make a measurement in the first place, and in traveling out to the gaging site. What we do at the gage site really doesn't make much difference in the cost. We try to make small investments into testing a variety of new methods.

Question – For some applications, low-flow accuracy is more important than high-flow accuracy; how do you characterize the importance of accuracy for high and low flow, depending on the drivers (TMDLs, etc.)? *Answer* – At continuous record stations, there is generally no difference in accuracy we strive for, whether it's low-flow or high-flow. We do need high-flow measurements to help us understand changes that high-flow events may make to the stream channel; however, we also operate "specialty networks" that focus only on the low end of the hydrograph and don't collect the full range of the record. We also have to consider that customer needs change over time, so we may need high-flow information in the future at a site where we are not currently collecting it.

Question – Your graph of FTE … was that number of gages per FTE? *Answer* – Yes, but those numbers were mostly for the eastern part of the country, not the whole country. *Question* – On the expenses breakout, you had 30% for field work, but I didn't see FTE in that graphic; is that because some people are part-time, where you have shifted groundwater people to work on the streamgaging network temporarily? *Answer* – There was a shift in program emphasis because of groundwater monitoring reductions in Florida; and the State has taken up some of the work that we stopped. *Question* – Does the FTE graphic include State participation? *Answer* – No it does not.

Question – Can you talk about how much of the USGS effort for streamgaging and how it fits into the overall USGS mission? *Answer* – Streamgaging is a fundamental part of our mission; in order to make sure our communities have the right amount of water at the right place at the right time, we need to have a robust and widespread network. For 2013, the USGS request was $1.1 billion; the Water Mission Area request is about $210 million, and streamgaging is a small portion of that.

Question – When a USGS Water Science Center (WSC) receives NSIP funds, how is the amount decided? How much of the funding goes to an NSIP gage? If it's already a Cooperative Program gage, does it get partial support from NSIP funds and partial support from the Coop Program? *Answer* – The NSIP does not allocate dollars to a specific streamgage. We allocate dollars to a WSC; we look at the number of desired NSIP gages in a State, and at the proportion of those gages that are already operational, and that is our algorithm for deciding how much funding goes to each WSC. The funding of the Federal backbone network is very complex, but the simple thread of the narrative is that the 47 WSCs greatly value the Federal backbone stations, so those stations are a priority that's on their mind all the time; these stations are also a high priority for our non-Federal partners (there are about 3,200 of these stations now, and the Coop Program contributes fully or partly to about 52% of them). We also have huge support to the streamgaging network from other Federal agencies: COE, FERC, others. Funds

directly appropriated to NSIP fully fund 500 stations and partly contribute to an additional 900. Arrangements with States, localities, FERC entities, and other partners vary widely across the country.

Question – One of the points that Mike Norris made back in November was that NSIP began based on a concern about network instability (loss of gages due to disappearance of local funding support); do you know the extent to which the infusion of NSIP funding has helped this problem? *Answer* – It has definitely made a measurable difference in the stability of the NSIP backbone sites, yes. However, NSIP only funds (fully or partly) about 3,200 gages; there are 4,800 additional gages being paid for by our partners, and we couldn't do what we do without those gages. We do not match funding for a gage (in the Coop Program) unless it fits into the list of national priorities; but we will operate a gage that's not on our national plan if it's fully funded by someone else.

Question – Are you doing anything with remote sensing? Working with NOAA? *Answer* – Yes, we have a series of aerial flights planned for the spring, to test new technologies for streamgaging. Other kinds of data (water use, for example) can definitely use technology, and Eric Evenson can probably speak to that when he briefs us.

Question – Are other countries ahead of us technically, and can we learn from them? *Answer* – It varies by country, but generally we're ahead of the game. Generally Canada, Australia, Germany, England, and others come to us for training. The Japanese are ahead of us though, in the area of streamgaging.

Question – You mentioned DOD as the source of one technique; do you anticipate running into difficulties such as running into security restrictions when you want to implement new technologies developed by DOD? *Answer* – DOD has actually been very helpful in providing knowledge and insight; our trouble is in translating these assets into civil applications.

The schedule called for the next meeting (January 14) to focus on the groundwater monitoring network, and the January 28 meeting to look at the water quality networks. Eric Evenson can brief us on the Strategic Directions document January 14 but not prior to then. So we could have him brief us then, instead of doing groundwater that day.

ACTION – Wendy will send everyone the link to the USGS Strategic Directions document (http://pubs.usgs.gov/of/2012/1066/).

ACTION – Peter Evans will re-sequence the rest of our sessions to accommodate a briefing by Eric Evenson, and will send out the proposed schedule change along with the notes from today's teleconference, so people can let us know whether changing the schedule creates a hardship.

Next meeting is January 14 from 1:00 – 2:30 p.m. Eastern Time.

Addendum to minutes from Dec 10 teleconference – Comments from Bob Schreiber:

- Following up on the interchange regarding “security concerns preventing implementation or adaptation of techniques”: DHS could be a key player in this, given the linkage between “security” and DHS’ basic purposes related to public safety, through FEMA. Thus, the suggestion is for our working group to consider formulating this thought into a recommendation.
- One more question that Robert Mason and Pixie Hamilton could address: How many non-USGS streamflow gages have been and are continuing to be operated in the U.S.? (And related

questions include: Does the USGS serve the data from such gages through a data portal, and are the data from such gages available for stats processing via Streamstats or other similar USGS-provided online systems?) If info on such non-USGS gages is not readily available, and/or even if such info is provided, then our working group could consider formulating a recommendation(s) in this regard.