

## Monitoring Challenges Teleconference 18 Oct 2012

### Attendees:

Bob Schreiber	John Beebe	Peter Evans
Brandon Kernen	John Gray	Robert Mason
Cathy Tate	John Jansen	Steve Heiskary
Christopher Lant	Judy Campbell Bird	Terry Cheek
Doug McLaughlin	Marie Garsjo	Wendy Norton
Jerry Webb	Mary Musick	
Jim Kolva	Mike Norris	

### **Question: We need to begin our effort by talking with the managers of the USGS monitoring networks. What types of issues do we want to discuss with them?**

*John Jansen* – I'd like to hear from the USGS monitoring programs what elements they see as critical – i.e., the core elements they want to protect.

*Musick* – What's happening with the groundwater monitoring component of the National Water-Quality Assessment (NAWQA) Program?

*Heiskary* – I'd like to learn where partnerships can be pursued, even if a State/local agency would be the one performing this work.

*Jansen* – Suggestions as to how we can use technology to improve efficiencies, to cut back on labor/manpower required.

*Schreiber* – Regarding partners, we should look to the private sector as well as government entities, and focus on the drivers for monitoring (hydrofracking, for example, in the case of groundwater). Perhaps private industry would be willing to help fund monitoring if we focus on drivers.

*Judy Campbell Bird* – Compilation of the kinds of efficiencies that have already been undertaken; what has been tried, what worked, and what didn't work.

*McLaughlin* – Data quality objectives: what specifically is known or available about how accurate various measurements need to be for various uses of the data? How much inaccuracy can we tolerate?

*Gray* – Data quality is a fundamental issue. In most cases, we don't know what the accuracy is, and that needs to be a part of this. In the near term, it may be more expensive to include info on data accuracy, but in the long term it will provide cost savings.

*McLaughlin* – How are the data being used, and what accuracy is desired/required for each of these uses?

*Schreiber* – ACWI member organizations would certainly be happy to contribute knowledge and help toward answering questions like the one McLaughlin just raised. In terms of the technology aspect of

the question (cost versus accuracy), partnering with academia and industry to perform R&D is important.

*Kernan* – What flexibility does USGS have in allocating funds to research studies versus monitoring? Especially in the short term, do we have flexibility to make quick, tactical changes in allocations to help protect data collection activities that may be in financial trouble?

*Jansen* – How can we find efficiencies in areas where other organizations are already collecting data? Can those data collection sites be made part of our monitoring network?

*Evans* – I think we have gotten a pretty good basic overview of the USGS monitoring programs, through the recent ACWI meetings, so maybe we want a more specialized briefing from USGS program coordinators (for example, the relationship between the national program and the water science centers, ideas that have already occurred to USGS program managers, a budget overview that will help us focus our thoughts on items where we can have the most impact).

*Schreiber* – Relationships with the State partners are important to focus on too.

*Garsjo* – Who will be doing all the work on this?

*Norton* – We don't know yet. That's something we need to figure out: what product can we realistically deliver by June 2013, and who will do the legwork to get this product finished on time?

*Musick* – How much is USGS willing to accept monitoring done by other entities and use the data in their programs? This is something I would like to learn more about. Also the use of modeling and surrogate watersheds – how much are they used by USGS?

*Evans* – In describing this effort to ICWP, I've heard concerns about what happens if we're successful in figuring out how USGS can do more with less. That could be an invitation to cut the budget for USGS water monitoring, so we need to be careful.

*Schreiber* – My first reaction to Peter's point is that we need to do a good job of marketing and tell very compelling examples about what happens when we lack monitoring in an area where monitoring is needed for making decisions on resource management (water-energy nexus; drought; etc). Hopefully people on this group can quickly provide examples of places where data is needed but lacking, and why the lack is a problem.

*Evans* – The question Anne brought us concerned maintaining USGS programs and capabilities within a shrinking Federal budget; this doesn't mean that the funding for these programs needs to shrink, but it does mean that we're less likely to get **more** resources for these programs in the future. So looking for efficiencies and additional partnering opportunities seems to be where we should point our efforts.

*McLaughlin* – We need to be as quantitative as possible in describing why the existing monitoring efforts are important for providing information needed in response to specific drivers. Don't let critics tell us that the programs can sustain cuts because "some monitoring is better than none." We need to be concrete about why monitoring is needed for bridge construction and other vital projects.

*Norton* – The quantitative aspect is something we have struggled with, especially in terms of monetary value and cost savings.

*Campbell Bird* – If we look at how the data are used to support decisions, that's much easier to figure out (what kinds of information do you need for making some types of information?). If we begin by outlining the needs we see for data and information, and what we're able to provide at current levels, and what we've already done to achieve efficiencies, then we can move toward recommendations and their ramifications for better meeting those needs.

*Schreiber* – We're working in a realm where perception is 80-90% and the rest is quantitative information that would be used to make decisions on funding. We need to make sure that some of our examples focus on the perception side of things, and not just focus on hard numbers.

*Evans* – Recently ICWP helped USGS organize value-engineering studies, in which ICWP invited private sector participation in a series of workshops to develop plans for surface-water, groundwater, and water-quality data collection, and to look at USGS operations in the field versus in the office. We may want to look at this study because it is an example of progress that has already been made, but also because it may serve as a guide to new opportunities for partnerships.

*Mason* – I do appreciate the value-engineering effort, and we did learn a great deal from it; but I would clarify by saying that based on the study, we gained a better overview and appreciation of what we do, day in and day out; the study helped us realize that we need to streamline our in-office work processes (we're working on that now).

*Kernan* – We should review regional and State monitoring councils and look at opportunities to leverage our activities through them; they may be aware of opportunities we're not aware of.

*Mason* – The USGS program managers are available to serve as a resource for this group; but some of the questions we need answers for would be better answered by people outside USGS (customers, stakeholders have different needs for various purposes, and we need to take that into account). I ask that people on this group think about how they might inform themselves on questions like this.

*Norris* – I would put an exclamation mark behind what Robert just said. We produce the highest quality data we can because we don't know how each user is going to use it. Some of the questions we've discussed reach beyond operational or technological efficiencies, into the realm of data uses and quality.

*Schreiber* – We really need to take advantage of the Floodplain Managers, and other groups that use USGS data, to ensure that we have all points of view we need as we consider these questions. I would be glad to help facilitate that.

*Norris* – I would like to work with you to get that type of information because I don't have it.

*McLaughlin* – I appreciate the point that USGS is producing the highest quality data they can (and the reasons why); but the link with users of the data is crucial.

Note from *John Gray* sent after the call (included here because it's pertinent to the data quality discussion): Regional, national, and global data needs presuppose the availability of some consistent "base-level" datasets. These datasets are the "gold standard" used for water allocation assessments,

modeling sediment fluxes that may be required to rebuild Louisiana coastal wetlands, etc. USGS data are that standard. If we substantially reduce the availability of those data, there would be a domino effect on the ability to wisely manage water and related resources. Stated in simple terms, the value of reliable, consistent, and comparable data is hard to overstate. That doesn't mean more efficiency cannot be gained in our data-collection efforts – we continue to improve in this regard – but we must be careful to protect and maintain our ability to produce adequate base data of an acceptable, and ideally known, quality.

*Garsjo and Musick* – Information on who is already operating monitoring networks Texas is available on the website of the Ground Water Protection Committee in Texas. Would that be useful?

[Note: Only the groundwater monitoring information is available on that website and can be found in Chapter 3 of the Texas Groundwater Protection Strategy at [http://www.tceq.state.tx.us/assets/public/comm\\_exec/pubs/as/188.pdf](http://www.tceq.state.tx.us/assets/public/comm_exec/pubs/as/188.pdf). However, surface water monitoring information (quality and modeling for available streamflow) is available at the Texas Commission on Environmental Quality website.]

*Norris* – Yes, any information we can get on users' perspectives and needs is extremely valuable.

*Evans* – As we've talked about the Water Census, the question of data confidence is one of the questions that the ad hoc design workgroup struggled with. Is it possible to estimate the level of confidence we might have today if the National Streamflow Information Program (NSIP) had been fully implemented 10 years ago? That might help us in determining the risk we would be taking if any of these program resources/capabilities were to be diminished.

**ACTION: Wendy will email today's notes to the group, along with the link to an internet poll to help set up the next meeting (in about 3 weeks), and along with an outline of the types of questions we want the USGS program coordinators to answer. Also, a copy of the letter from the Secretary will be sent to the whole workgroup as soon as it's available. Will also notify USGS program coordinators about the types of questions they will be asked.**