

**ACWI Workgroup on USGS Monitoring Challenges in a Shrinking Budget Environment
Teleconference
8 April 2013**

Attendees:

Peter Evans, ICWP	John Wells, ACWI-SWRR
Wendy Norton, USGS	Chris Reimer, NGWA
Bill Wilber, USGS	Steve Heiskary, NALMS
Donna Myers, USGS	Marie Garsjo, ACWI-SOS
Mike Yurewicz, USGS	Dave Wunsch, AASG
Kevin Dennehy, USGS	Mary Musick, GWPC
Carol Lewis, USGS	Darrell Osterhoudt, ASDWA
Jim Kolva, USGS	Ben Pratt, SRBC
Mike Norris, USGS	Tony Willardson, WSWC

Action Items:

- We need to ask groundwater, surface water, and water quality network teams what could be done to reduce costs of monitoring in each of their areas; our recommendations can reiterate the need for USGS staff to look at this question, along with questions related to time spent in the field and the amount of collaboration that is already occurring.
- **ALL:** Before the April 22 teleconference, please look at the ideas Peter has outlined in the documents that are on the website (http://acwi.gov/monitoring-challenges_wkg/minutes/index.html) under the April 8 Meeting heading.
- **ALL:** Before the April 22 teleconference, please fill out the questionnaire that Peter Evans sent on April 5.

Minutes from last meeting were approved, with changes requested by Kernan and Reimer.

Peter Evans went over the specific actions that Anne Castle requested in her November 2012 letter.

Identify, prioritize options for achieving program objectives including –

- **Funding sources** – any ideas for how USGS can explore additional alternative funding sources that haven't been tapped previously? One suggestion is to charge for data (pay-for-use). We already have some recreation outfits that pay us directly to help support streamgages. We also cost-share with Tribes, and we have numerous Federal agencies who already provide funds to support USGS monitoring. NIH and NSF might be able to help, but we're not sure. Regulatory agencies should write in some funding provision to help fund the monitoring that is needed as part of the regulatory/permitting process; there could be a surcharge on permits that would fund monitoring that's needed. We have some of this (FERC) in the area of streamgaging, but this practice could possibly be extended to the water quality arena (for NPDES, etc.). Where there are monitoring issues/concerns (whether they're hydraulic fracturing, NPDES, etc.), regulatory agencies need to consider the cost of monitoring when they set the requirements/costs for the permitting process. Somebody commented that USGS should have a bottom-up process for developing program, and not just a top-down process; we need input from customers in the centers, through the Regional offices, to help define our program

development process. Response was "we already do that" – but perhaps the water science centers can collect information from stakeholders regarding the question "if we have to cut something, what could you do without?" The insurance industry could be a source of interest/funding also, especially now that they're trying to quantify the impacts of climate change.

- Collaboration, leveraging, delegating** – more training of States/localities by USGS, with States/localities/regions actually doing the monitoring. We do this in a limited way already (National Groundwater Monitoring Network, National Network of Water Quality for Coastal Waters and their Tributaries). In some States, the locals or volunteers already do a lot of this, but their data don't meet the USGS data quality requirements; in these cases, additional training could help assure higher quality data. One of the downsides is that USGS would lose its leverage over where monitoring is conducted, since USGS would no longer be paying for or conducting the monitoring itself. We could look at the National Groundwater Monitoring Network proposal as a model, since States can do some things more cheaply. States would need to meet minimum data standards before their data would be included in the USGS system. Perhaps USGS HQ needs to standardize decisions on whether to let States/non-Feds do some of the data collection for us, rather than leaving the decision to each individual water science center director. Perhaps the terms for accepting furnished records need to be adjusted; at minimum, they could be standardized across the whole country. Need to make sure National Groundwater Monitoring Network is coordinated with NAWQA efforts too; substantial effort has been made in that direction, and data are already being shared using the web portal that already exists; unfortunately, a lot of States don't have the money to push their data through that web portal. USGS could lead the effort to standardize data (minimum quality, standard formats; meta data) collected by others. Some types of monitoring can be collected by others (not USGS) in a cost-effective manner, but others cannot; and when it comes to water quality monitoring, the analysis of samples requires a laboratory. With respect to long-term records, we need to be especially careful about outsourcing data collection at long-term sites, to ensure that consistent methods are used over the long haul. Opportunities for collaboration and leveraging and delegation will vary, depending on the capabilities and funding of the local organizations, the types of sampling being done, the location and size of the water body being measured (safety issues), and many other factors. We need to also be sensitive to the risk of bias, depending on who the work is outsourced to. We should also look within the Federal community, including among USGS program areas, as well as between Federal-State agencies.
- New and emerging technology** – Schreiber and Kernan have been discussing this. Web services may fall into this area (new technology). Many innovations in this area require an up-front investment before you recoup any benefit or dollars. In some areas we may have some very case-specific technologies that could work for us (suspended sediment sampling – using the same sensor to get velocity and turbidity); in many cases this involves using a single sensor for multiple measurements. What costs us the most is getting employees into the field, so any technological advance that allows us to get people into the field less frequently is an improvement; also, the fact that the sensors are real-time enables us to send a tech to the sampling site when there is a problem, rather than just sending them out on a regular schedule. Changing technology and methods have already allowed us to save a great deal of money in the area of water-quality sampling for pesticides, but these improvements have only allowed us to stay afloat, rather than sinking; these improvements have NOT allowed us to "get ahead." Any type of new technology that is considered as a recommendation from this group to Anne Castle

Comment [wen1]: Correction: the NGWMN has not yet been implemented. Expected funds in the FY13 budget were never received due to the CR. It is PLANNED, but not yet done.

Comment [wen2]: Comment: Doing things more cheaply is really not the point, because the full cost of data collection is arguable. The point is that States are already collecting data. If they are, the USGS should not duplicate data-collection efforts. We should work together.

needs to reduce overall costs; we don't want to recommend new technologies that are going to be more expensive in the long term (for example, monitoring from a helicopter).

- **Priorities for monitoring locations, data parameters, and interpretive studies** – Do we have the right number of monitoring locations? It depends on what we're using the data for. We should probably have a national focus first – what are the important national issues that USGS must address? After the national focus, then other parties can weigh in and take responsibility for some or all of the additional monitoring sites. Do we need to prioritize our (water quality) monitoring locations in a way that supports our models? USGS has national and regional models, but we're a long way from reach-level models. What about prioritizing monitoring sites in accordance with the goals of the Clean Water Act (designated uses)? The issues surrounding prioritization of monitoring sites are quite different depending on whether we're discussing streamgaging, groundwater monitoring, or water quality monitoring. Water science centers have to deal with the national needs and the local needs, and find a way to make it all work together.
- **Use of geospatial data and statistical methods** – [ran out of time – did not discuss]
- **Reduce the cost of monitoring** – We can look at all our field and lab activities and try to eliminate redundancy (reduce the number of labs, etc.). Reducing the number of NWIS centers also would eliminate redundancy. How do we balance on-the-ground monitoring with remote sensing technologies? One way to reduce costs *for USGS* would be to leverage more non-Federal dollars into the program; but this doesn't reduce costs overall. **ACTION: We need to ask groundwater, surface water, and water quality network teams what could be done to reduce costs of monitoring in each of their areas; our recommendations can reiterate the need for USGS staff to look at this question, along with questions related to time spent in the field and the amount of collaboration that is already occurring.** One way to reduce trips to the site is to reduce the frequency of calibration at each site; this would require that we simply accept the idea that the data will lose some quality as we get farther away from the last time the site was calibrated. This calibration process/frequency already varies from site to site, depending on the type of channel and other factors. For future discussion with ACWI, we may want to discuss what the impact would be if we reduced our trips to calibrate sites; we just need to figure out how much bigger the error bars around our data will be, and what level of data quality we can live with. ACWI could sponsor a stakeholder review of accepted standards and practices and ask the stakeholders for an evaluation and recommendations on these practices.
- **Collect, manage, and deliver data and apps for public use** – [ran out of time – did not discuss]
- **ACWI Coop Program Task Force recommendations** – The prior ACWI evaluations said overwhelmingly that the major problem is insufficient funding; that's not an option for us, based on our charge. ***Anyone who hasn't already read the recommendations in these reports is strongly encouraged to do so.***

Next meeting is April 22 at 1:00 pm Eastern Time. At that time, we'll talk about how to most effectively organize the report we send to Anne Castle. **ACTION: Before April 22, please look at the ideas Peter has outlined in the documents that are on the website (http://acwi.gov/monitoring-challenges_wkg/minutes/index.html) under the April 8 Meeting heading.**

Have any ACWI member organizations filled out our questionnaire? No, not yet. We might consider asking them to do so. It could be especially valuable for people on this workgroup to fill it out and send in their results so we can discuss at the next teleconference. **ACTION: Before the April 22 teleconference, fill out the questionnaire that Peter Evans sent everyone on April 5.**

Addendum to the meeting minutes from one of the participants:

ACWI needs to quickly come up with an explicit approach for dealing with probable budget reductions in the near term. Rather get "into the weeds" at the national level of exactly how to achieve this, an alternative is to develop a process for dealing with reduced budgets, aligning existing monitoring efforts, and promoting a forum for ongoing regional monitoring collaboration. The approach below could be utilized to achieve this:

- 1) Ensure a regional water monitoring council is established for all areas of the country. Membership on the council should consist of federal and state agencies, professional associations and academia that collect or use monitoring data.
- 2) ACWI should identify the characteristics that make a monitoring site essential, a priority, or not a priority.
- 3) Monitoring councils should establish monitoring priorities for their region.
- 4) Regional monitoring councils should guide federal agencies on monitoring initiatives including:
 - a. Identification, consolidation and alignment of regional monitoring initiatives
 - b. Opportunities for non-federal agencies to assist with federal monitoring efforts
 - c. When monitoring budgets are curtailed, where to eliminate monitoring based on the guidance provided by ACWI and priorities identified in item 3, above
- 5) Regional monitoring councils should evaluate other funding sources or sources of services to preserve and improve monitoring networks.
- 6) Regional monitoring councils shall report annually to the public and elected officials on the efficiency and adequacy of regional monitoring networks.