

**Subcommittee on Ground Water**

In-Person Meeting

October 28 and 29, 2015

USGS Headquarters, Reston, VA

**Attendees:** Bill Cunningham, federal co-chair, USGS representative; Bob Schreiber, non-federal co-chair, ASCE representative; Lauren Schapker, executive secretary, NGWA, Daryll Pope, USGS; Gary Rowe, USGS; Carmel Walters, U.S. Forest Service; Tom Patton, Montana Bureau of Mines & Geology; Greg Oberley, U.S. EPA Region 8; Jessica Lucido, USGS; Karl Wozniak, Oregon Department of Water Resources; George Roadcap, Illinois Water Survey; Scott Harder, South Carolina Department of Natural Resources; Mike Wireman, Granite Consulting; David Wunsch, Association of American State Geologists; Janae Wallace, Utah Geological Survey; Janie Hopkins, Texas Water Development Board; Jill Dean, U.S. EPA, Dave Langseth, Gradient & NGWA representative; Jeff Davis, Cardno, Inc.; Mary Musick, Ground Water Protection Council; Cary Betz, Texas Commission on Water Quality; Mary Scruggs, USDA; and Tim Parker, Parker Groundwater.

**Remote Attendees:** Brownie Wilson, Kansas Geological Survey; Chris Hawkins, Mississippi Department of Water Quality; Kristin Sorrel Mississippi Department of Water Quality; David Cobb, Mississippi Department of Water Quality; Mark Belden, Oklahoma.

**Welcome:**

Bill Cunningham and Bob Schreiber called the meeting to order at 8:17 a.m. Bill provided the SOGW with an overview of the schedule and logistics of the USGS building, including health and safety procedures.

Bill and Bob each discussed their goals for the two-day meeting of the SOGW, noting a desire to make new connections and have collaborative discussions with those present. In addition the co-chairs expressed an interest in continuing the public supply well debate, looking to the future of the portal to identify what tools data providers might need, and get attendees up to speed on the work being done at the state level.

**Background Information Presentation (Bob Schreiber):**

Bob delivered a presentation focusing on the background, history, and status of the NGWMN, designed to ensure participants were up-to-speed on the origins of the network. The NGWMN was modeled after the ocean modeling network and was designed to fill the "groundwater" gap in the larger Advisory Committee on Water Information.

Bob provided the attendees with a timeline of the progression of the NGWMN from the formation of the SOGW in 2007 through the success of several pilot programs and the creation of the Framework Document to where the Network currently stands as it begins the process of the competitive grant program. He reiterated that the NGWMN has been careful to focus on "walking before running." Funding the Network was mired in politics, with funding being authorized, but never appropriated until FY2015.

## Attachment 1

The success of the pilots, work with EPA labs, and the creation of the portal were discussed from a macro-level, noting that the specifics of the various components of the NGWMN will be covered in subsequent presentations. Jessica Lucido gave a brief overview of the Center for Information Data Analytics (CIDA), and Mike Wireman discussed the history of NGWMN work with EPA labs.

Bringing the attendees up to speed on the present-day status of the NGWMN, Bob asked Lauren Schapker to give a brief overview of the funding status of the Network and a forecast for what might be seen in subsequent years. She noted that non-defense discretionary spending will receive an increase, though the attendees debated whether or not that spending increase would result in much of a change in funding.

Bob provided attendees with some highlights from the full meeting of the Advisory Committee on Water Information, including the potential for an effort to create a new subgroup within ACWI that focuses on economics of water data management, as well as feedback from ACWI participants that asked for estimations on the cost of implementing the Network nation-wide. Mary Scruggs noted it is important to also estimate the cost of not monitoring, which would factor in subsidence, drilling deeper wells etc. Gary Rowe commented on the work that the NAWQA project is doing, on calculating the costs of treating water when you're not monitoring it. USGS' Ken Belitz is leading the effort.

**Action: Gary will work to get the NAWQA project to brief the SOGW at a future meeting.**

### **NGWMN Status (Daryll Pope):**

Daryll gave the SOGW a presentation on the status of cooperative funding agreements for data providers. Daryll provided an overview of the difference between a network and a database, and demonstrated how the wells operated by the states and USGS will work together to provide specific data, but also broad system level observations, as well.

Daryll discussed the non-competitive and competitive funding opportunities available in FY2015, due to \$2.6 million in appropriations received. Competitive funding opportunities will be focused on connecting agency databases to the network, selecting and classifying sites, and adding new data providers.

He highlighted several accomplishments that implementation of the network can point to at this stage. First, the network has several pilots that have been able to identify gaps in the network. Many of these gaps will be filled by some of the non-competitive agreements that are underway.

Secondly, Daryll pointed to the development of several tip sheets as a key accomplishment. The tip sheets are valuable tools for current and future data providers and serve as a companion piece to the framework document. Karl Wozniak asked that they consider more specificity in future tip sheets for data providers.

## Attachment 1

Work completed by USGS Science Centers helped to accomplish increases in water level and water quality data through the years and the centers have helped to identify distribution of data providers across the country.

The creation of a Program Board is another recent accomplishment that the SOGW can point to. The Program Board will have three key components: USGS, data providers, and SOGW members. Members of the Program Board will also be spread out with representatives throughout the country. The Program Board will serve as the review team for proposals received and will ultimately rank, review and prioritize which applications should receive funding. Recruitment is currently underway, and Daryll is looking for volunteers.

Daryll informed the SOGW that the program announcement should be released in the next few weeks, but an exact date has not yet been determined. The program announcement will highlight the type of projects that can receive funding, the types of entities that can apply for funding, and the procedure for evaluating and awarding funds. Daryll will conduct webinars on the program announcement to provide additional information and answer frequently asked questions for potential applicants. Because it is still unclear the number and type of proposals that will be received, some uncertainties in the process remain.

Once the program announcement is released, Daryll highlighted various stages of the communications effort to promote its release. USGS will draft a press release that other organizations may use to circulate to their networks.

**Action: Lauren will circulate the program announcement and draft press release to SOGW members.**

### **Data Provider Updates: (Various)**

#### **Texas-Janie Hopkins**

Janie provided the SOGW with an update on Texas' involvement with the NGWMN. She noted that despite drought conditions in parts of Texas, groundwater reductions continue. She detailed the aquifer structure and groundwater management strategy in Texas, noting 98 different groundwater districts that provide water level information, and a groundwater database that has information from 140,000 different wells.

Currently, they collect data from 9 major and 21 minor aquifers, and also voluntarily receive water level and water quality data from 7200 privately-owned wells. Within the NGWMN, they are currently contributing water level information from 425 wells and hope to begin contributing water quality data and real-time updates soon.

#### **Montana- Tom Patton**

Tom reviewed the aquifers in Montana, noting Montana's major aquifers differ east to west from intermontane basins in the west to regional nearly flat-lying sandstones in the east. Additionally, alluvial sand and gravel aquifers correlate with major river systems.

**Commented [PT1]:** Lauren – at this point I am not too sure what I actually said last fall. But this revised text describes Montana's aquifers a little better.

## Attachment 1

There are more than 250,000 wells throughout the state. Tom discussed the range of aquifers that Montana draws from, and noted the multi-state nature some, which, for example, poses the question of well density comparisons between Montana's network and potential networks in Wyoming, North Dakota and South Dakota. Daryll noted that the NGWMN tip sheets may aid in helping to answer this question, by providing information on how many wells per state per aquifer.

1,010 monitoring wells exist within the Montana Network, which collect time-series data on water levels throughout the state. Readings are collected quarterly, and multi-decadal records demonstrate water levels are fairly comparable to where they were in 1950s. A subset of these wells will be selected for the NGWMN.

### **Illinois-George Roadcap**

George discussed challenges to Illinois groundwater supply, given increasing reliance on groundwater in central and NE Illinois, particularly around Champaign-Urbana. He noted that community cooperation has increased and cooperators are realizing the value in reporting good data. George demonstrated using MODFLOW to take monitoring data and make it more accessible to the public.

He noted one of Illinois' biggest challenges has been getting Illinois' state databases to "talk" to the portal. For that reason, implementation has slowed until web services issues can be worked out. Water level data is anticipated to be added within the next few months. Illinois also has been partnering with Wisconsin to expand measurement of its shared aquifer and is also working to convert old public supply wells to monitoring wells.

### **USGS Sites-Daryll Pope**

Daryll noted that existing USGS sites are focused on cleaning up existing pilots and expanding where possible to look at responses to changes in climate. They continue to work with state agencies, as much as possible, to continue to grow these networks. Because the database connections already exist, expansion is fairly simple—participants just need to select and classify wells. This is ongoing.

### **Utah—Janae Wallace**

Janae discussed efforts to implement a network in Utah. Until recently, most of activity has occurred so far on the Utah/Nevada border and near Moab, UT. Because of septic tanks, nitrate concentration continues to be a major issue. Wells are currently selected based on where previous monitoring has taken place, however funding from EPA will allow for monitoring in a few new areas. Sites are also based on accessibility, importance, and geographic spread.

In 2014, 40 wells were sampled, and this number increased in 2015. This work was done as part of the EPA water quality pilot project. They look forward to continuing to increase the number of samples and are very close to uploading information to the portal.

### **Oregon-Karl Wozniak**

Oregon has had a surface water availability program for over 20 years, but as streams are overallocated, groundwater is increasingly coming under stress. Several different well monitoring programs exist throughout the state, and Oregon is working with various state agencies who oversee these programs to try and merge them under one program. Data is currently split by county, and most data is from after the 1970s. Most wells throughout the state are measured quarterly, but there is a lot of variability within the measurements.

Current challenges that Oregon is facing include stacked aquifers, the prevalence of private wells, and IT support. Karl estimated that within six to twelve months, they'll have portals in place to transmit data to the NGWMN. In addition, given the increasing reliance on groundwater, those who plan to develop land and use water resources will be required to put in observation wells to help stimulate and grow the network.

Daryll noted that Oregon's challenges help to illuminate some of the hurdles those states without the experience of pilot programs are having. Daryll also mentioned that you can test connections to the portal as you go along and are not required to have all of the sites identified before connection to the portal. One site can allow you to begin to test connections.

### **South Carolina-Scott Harder**

Scott explained South Carolina currently has 475 wells, most in the coastal plain. Monitoring in the Piedmont region is also conducted. There has not been much focus much on water quality within his agency. Though Scott is from Department of Natural Resources, he mentioned that the Department of Health and Environmental Control also conduct sampling, but it is unclear the amount and type of data they collect.

He highlighted the various aquifers South Carolina relies on, and noted that data is updated every two months. South Carolina has two real-time monitoring sites in place, used for drought monitoring, and there is potential for that data to be added down the road.

Scott told the SOGW that IT will be brought in around January and referred SOGW colleagues with questions to contact Alex Butler, who is the lead for the project.

Jessica brought up the challenge of potentially double-counting well sites by USGS and SC DNR, which underscores the importance of using identification tags. The SOGW also discussed the importance of well choice, so that locations are not too close to pumping wells. Because wells can change or be recategorized, David Wunsch wondered if archived information is kept. Jessica replied that CIDA has a log of all changes made to the well registry and that we could also add a tracking feature for wells that have gone dry.

### **Oklahoma-Mark Belden**

## Attachment 1

Mark discussed Oklahoma's network, which is new for 2015. The Department of Environmental Quality and Oil and Gas Commission each conduct some monitoring, and an update to the state's water plan created an ambient groundwater monitoring program. He told the SOGW that the network has been underfunded and only monitoring conditions annually in the winter. However, they just finished the third year of sampling and plan to have 750 baseline sites with an additional 140 trend sites.

The program has six people working on groundwater monitoring, and manpower challenges are leading to challenges in getting network up to speed. The current proposal to USGS would look at two bedrock aquifers with five wells in each that would have continuous recorders.

### **Delaware-David Wunsch**

David provided an overview of Delaware's monitoring program, noting the challenges posed by layered aquifers, which results in clusters of wells throughout the state. The program monitors mostly water levels, but also monitors water quality and tests for nutrient pollution throughout the state.

Delaware has a groundwater modeler on staff, which tracks the flow and transport of contaminants. However, additional IT support will be needed to help connect web services and consolidate portal information.

Given Delaware's history working with the network, Mike Wireman asked about what has changed through the years. David noted that in Delaware's case, its industrial past has generated "noise" that sometimes makes monitoring more difficult. Presently, agricultural industry withdrawals have generated cooperation between states.

### **Kansas-Brownie Wilson**

Brownie highlighted the uniqueness of Kansas, noting the wetter east portion of the state and the dryer region toward the west. The network currently has 1,400 wells throughout the state that are measured in the winter and are predominantly irrigation wells. The network also contains continuous monitoring trend wells.

Monitoring groundwater is spread throughout multiple agencies, but they are in the process of consolidating them and hooking the network together in addition to categorizing wells. On the issue of water quality, budget cuts have prevented this from going forward. However, they look forward to considering this in the future.

### **Mississippi- Chris Hawkin, Kristin Sorrell, David Cobb**

Mississippi has been actively monitoring groundwater wells since the 1990s, but also have readings from the 1940s and 50s. 193 wells are being measured, most in the Coastal Plain aquifer system. For the most part, they are measuring existing wells in easy to reach locations. Of the 82 counties in Mississippi, they are monitoring from all but 13 counties.

Web services continues to be a challenge, and they look forward to migrating to a single service platform. They are still developing the schema they plan to use.

Chris noted he found it very helpful to hear how other states are managing their networks.

### **North Carolina-Daryll Pope**

Daryll gave a brief status update on North Carolina's network. He noted 600 wells are currently on North Carolina's network and North Carolina has a website where they serve data.

Daryll discussed the benefit of having multiple states sharing data across the coastal plains aquifer because it allows larger questions to be answered and trends to be identified.

### **USGS National Water Quality Program-Gary Rowe**

Gary discussed the reorganization of USGS' water mission area and noted how the mission of the NAWQA program aids and is aided by the information provided by the NGWMN.

Gary highlighted the four groundwater-related mission areas of the NAWQA program: what is the quality of the nation's groundwater, is it getting better or worse, what human factors affect groundwater quality, and how might groundwater quality change in relation to changing land use, water use or climate.

The program is built around 20 principal aquifers and consists of multiple trend networks and has been organized into 10-year phases. The third phase is just beginning and is focused on principal aquifer networks, which will assess groundwater quality from a three-dimensional level, in an effort to gauge how groundwater quality changes over time.

When considering NAWQA and NGWMN collaboration, many opportunities for benefitting each network exists. Gary suggested that the two will help identify and fill-in gaps that may exist in either network. In addition, the state-level contacts in either network could lead to collaborative studies. As the NAWQA program monitors trends, NGWMN time series data could help inform NAWQA trends. There could even be an opportunity for joint reports on groundwater levels and quality to be produced.

After the participants discussed aspects of the network like frequency of monitoring and use of the data, the group also discussed ways to model outreach for the NGWMN after the success that NAWQA has had in connecting with groups. In addition, Mary M. questioned the inclusion of volunteer monitoring, which Gary said is occurring little by little, but questions remain over distribution of the data.

### **Breakout Sessions:**

#### **Group 1) Use of Public Supply Well Data in NGWMN**

## Attachment 1

The group began by revisiting the framework document to determine what that document stated regarding the use of public supply wells (PSWs). The framework document stated that abandoned supply wells could be used, if static, for the water-level network. But given the security concerns associated with the level information required to be in network (i.e. location information), it was determined unlikely to have PSWs included, unless on a state-by-state basis.

Some states give permission, like Ohio, but the useful data would likely be on the water quality side, more than for water levels. The SOGW discussed ways the data could be distinguished on the portal and state by state variances in how PSWs are handled. Karl suggested a survey to get a better handle on how each state handles different wells.

Tim Parker began a conversation on state handling of well log data, given California's decision to make well log data public. Bob suggested there could be an opportunity for the SOGW to promote preservation of well log data given the number of organizations, like NGWA, interested in the topic.

Bob noted the discussion points to the fact that, as the network gets up and running, the framework document may need to be updated. Daryll highlighted that the tip sheets can serve as a bridge to provide updated information until a revision of the framework document becomes necessary.

Mary M. suggested further conversations be held on how various types of wells are handled in the portal, and Dave W. seconded that perhaps a conference would be useful to promote this topic. Mary M. suggested a future GWPC meeting as a possible venue.

### **Group 2) Data Provider Breakout**

Daryll provided an overview of the second breakout session focused around communicating with data providers. The group covered a range of options for communication between data providers and the SOGW and agreed that many of the steps already taken, like the development of tip sheets, has been very helpful for those newly involved in the network.

The group suggested more regular communication with the data providers, whether at a quarterly conference call, through a newsletter, or on special extended additions of monthly data provider calls. Several data providers commented that hearing from other states on how they are implementing their networks has been very helpful.

Mike Wireman brought up the need to also do outreach to other federal agencies and to ensure that the right people are being made aware of the Network (i.e. Mike Shapiro, Chris Carlson etc.) and that activities between the agencies are also coordinated. Bill mentioned quarterly meetings that EPA and USGS have, where the network is discussed.

Bob asked how states and non-federal agencies might be kept better in the loop on activities of the SOGW. He suggested that materials be developed that more clearly

highlight the benefits of the network and the potential of being “left-out.” Daryll suggested something along those lines be developed for the data provider page.

### **Overview of EPA Labs Program—Greg Oberley**

Greg discussed the work EPA has been doing with regional labs, in using water quality testing services as a “carrot” to engage states in beginning groundwater monitoring programs. While not all labs are participating, EPA has done a good job at making sure lab directors are aware of the service and engaging where there are data providers interested and available. The next steps are to conduct more advertising of the services to attract participation.

Greg told the SOGW he’s considering putting together a national QAPP that will work across all regional labs. This standardization should hopefully make details like what paperwork needs to be submitted and quality assurance easier for applicants.

Bill noted the program announcement should include a link to EPA, but there needs to be a conversation about the longevity of the program and whether capacity is there to make it a more formal part of the services offered to data providers. Mike Wireman suggested they try to move away from the EPA labs program or at least make sure that data providers are aware that at some point support will end.

Bill asked the data providers to provide feedback on how they would handle a transition from have EPA’s services to handling sampling and testing on their own. New data providers noted it would be challenging to continue the sampling without funds, but suggested that it could be done on a less frequent basis, like every five years. Existing data providers also noted that the Framework document outlines a timeframe for data providers to begin handling water quality information. Mission creep should be avoided.

**Action:** Daryll will arrange a work group to put together language on the EPA labs opportunity for future program announcements.

### **USGS Tape Calibration Study—Bill Cunningham**

Bill discussed the results of a tape calibration study that served to examine variation across USGS offices. A copy of the report can be found here:

<http://pubs.usgs.gov/of/2014/1236/>.

The study examined tape calibration to determination were variations were coming from. Bill noted that steel tapes provided the best results for consistent tape calibration, but they are no longer being manufactured.

The SOGW discussed the results of the study and examined concerns over human error that could also result in variation. Friction against the well casing and surface tension were discussed as additional challenges to consistent readings. Many factors that could cause variance were discussed and how these could create issues with data in the portal. The error in a given measurement is a combination of instrument error and measurement error. The point of a calibration program is to reduce or eliminate the instrument (non-human) error.

### **Webinar for Potential Applicants: Daryll Pope**

Daryll gave a dry-run of the webinar he planned to give to potential applicants for USGS funding. Daryll's webinar gave the details of the network, the application process, and the types of activities funding can cover. In addition, his presentation also covered the review process, the structure of the Program Board, and requirements from the states.

Daryll reiterated that he will not be able to aid applicants in the process, but will put together a "Frequently Asked Questions" document to assist.

The group provided comments to Daryll to help him add details and provide additional clarification. There were concerns that support for data providers needed to be highlighted more, as well as more detail on the exact types of activities that would be funded and that its made very explicit what activities will not be funded. Clarification on matching funds, in-kind services, and how proposals will be evaluated.

Daryll agreed to take their comments and questions and make revisions to the presentation before the webinar is conducted. Beyond his webinar and the FAQ document, Daryll and USGS staff will not be able to assist with specific questions as proposals are assembled.

### **Parking Lot Review**

The SOGW addressed several items in the "Parking Lot" section of the agenda and created task forces around addressing each:

*Continuous Data:* Currently the only continuous data on the portal is water level data, but multiple proposals have requested additional data on other times, for instance, spring flow. The SOGW discussed issues surrounding water quality data and some suggested that on a long-term basis, the portal may need to be modified to account for this. The SOGW will have to determine whether or not the changes are worth making and what time of data should be included in the expansion (nitrates, chlorides, pH?) The group also aired concerns over the speed of the network if continuous data is included.

Volunteers for the task group: Mary Musick, Daryll Pope, Scott Harder, Cary Betz

*GRACE:* GRACE data cover a very large "footprint", though NASA has a follow-on mission planned that will reduce the size of that footprint. This is valuable data, but there are some concerns from scientific community on how these data are being applied.

Bob recommended we try to get NASA more engaged with the NGWMN because the Framework Document aligns with the mission of GRACE. Mary M. suggested that university consortiums could also be a good venue to get engaged in.

Bill has been in contact with Matt Rodell, who is NASA's lead, and Rodell has agreed to join a meeting of the SOGW in the future.

## Attachment 1

Volunteers for the task group: George Roadcap, Mike Wireman, Jessica Lucido, Jeff Davis

*Water Use:* Terms of reference does not include water use, only water quantity, and the SOGW needs to dissuade folks from thinking we mean water use, when we say water quantity. USGS does water use compilation every 5 years and it is compiled in an aggregate fashion. USGS has had challenges to fund the compilation, but it continues to be done.

Because of the SOGW model, water use program instituted a grant program to work with states to improve how states compile information and they'll now be able to provide information more than just once every 5 years. They saw the success of the Subcommittee and are now taking a similar approach.

Task of the group would be to get the word out on the work being done by the water use group and to answer how much groundwater is being used. This would be a good complement to the NGWMN monitoring data. Variations between states will be difficult, due to variations in well permitting requirements.

Volunteers for the task group: Daryll Pope, Dave Wunsch, Tim Parker, Mary Musick

*Well Logs:* Those interested in discussing participating in a task group around the preservation of well logs should see Bob Schreiber to discuss further.

By the next ACWI SOGW Face to Face meeting, the task groups should complete the following:

- o Designate co-chair, chairs
- o On next monthly we'll describe the task groups, recruit and require them to be on agenda for each monthly
- o Task groups should tackle whether SOGW should address this.
- o What is the overall SOGW role in each issue?
- o Proposed or recommended approach should be determined, starting with the most simple
- o Need to see whether the terms of reference will need to be updated and if so, how? Use the next ACWI Annual Meeting as target for have draft changes to terms of reference ready for review.

### **Overview of the Portal—Jessica Lucido**

Jessica provided a history of the portal's development and conducted a demonstration of how the portal works and the types of data included in the portal. She took the group through a series of recent changes in the portal to include more filters and also made a point of demonstrating the ways in which state agencies are given credit for the data on the portal.

She also highlighted the number of security features present to protect data providers by not disclosing any personally identifiable information and noted many of the web services protocols are adapted from the Water Quality Portal.

She asked the SOGW to continue to think of improvements to the portal and to present any suggestions or issues with the portal to Jessica, so she and her colleagues at CIDA can work to address them.

**Breakout Sessions (Day 2):**

**Group 1—Formation of Program Board**

Daryll went over in more detail the process for creating the Program Board. The breakout group highlighted the need for diversity, both from various regions and various perspectives. They settled on 3 regions, representing the East, Central, and West. The Program Board will be predominantly comprised of existing data providers and federal agency staff.

The Program Board also discussed the development of evaluation plans for applications for funding. Maggie Eastman from the USGS Office of Acquisition and Grants participated in part of the session to discuss the proposal evaluation process.

**Group 2—Portal Use and Performance**

Jessica continued her earlier presentation by soliciting feedback from the breakout group on suggestions for updating the portal. The portal's focus has remained narrow, in order to preserve portal performance, and targets those users who would like to download data from the portal and take it elsewhere for analysis and those users who are focusing on very local area. However, the mid-range of those users looking for more regional perspectives is lacking.

The group discussed what's next for the portal and highlighted different groups who may be interested in using the portal, like those with mining interests, various advocacy groups or congressional/federal agency staffs, and the media. The portal will also look to expand data visualization techniques in the future to improve its utility.

**Action Items from Two-Day SOGW In-Person Meeting**

**Items Related to Program Announcement:**

Action item: OUTREACH PLAN FOR PROGRAM ANNOUNCEMENT Lauren will circulate to SOGW, Bill will send to USGS Science Centers, Pixie Hamilton will also circulate; Mary M. suggested that the EPA regions also notify their states.

Action item: Reach out to following as new recruit targets: ECOS, Rick Copeland

Action: Call together a work group to put some language/announcement of EPA labs opportunity to be used to feed to various agencies as an interim way to provide a tool. They can then pass it along to others.

#### Attachment 1

Action Item: Add to portal website changes to advertise the program announcement and potential benefits to data providers in “Get Involved” section

Action: Daryll will add well registry information slide and in-kind contribution slide to webinar; Will also prepare an FAQ document on the program announcement

#### **Conference-Related Action Items:**

Action: Gary may try to get NAWQA to brief the SOGW at a next meeting and will investigate the possibility to get them at the Summit on the work they've been doing

Action: Follow-up on abstracts submitted by George Roadcap, Karl Wozniak and Dave Wunsch, Mary Musick, Bob Schreiber for the NGWA Summit and Mike Wireman will make sure the abstracts get to the right place

Action item: Consider a group visit to lab outside of Las Vegas when SOGW members are in town during NGWA Expo

Action item: Consider a joint meeting with GWPC next September in Tampa to increase engagement with data providers/promote the network; Also consider a session on PSWs

#### **Website/Portal Actions:**

Action: Develop tip sheet on when PSWs may be appropriate and what type of documentation would be required plus pros and cons.

Action: Make sure we have a way that the PSWs are distinguished on the portal from database side and the mapping side of things and to update the splash page. Splash page should clearly demonstrate all of the types of wells that are used in the network.

Action: Start bringing in water level accuracy field on the portal and start encouraging data provider to include it, keeping in mind it may result in updates needed for the portal. Only thing needed is to have existing data providers go back and look at what they have; Preserve significant figures of water levels throughout the portal.

Action: Revisit the SharePoint site and what's on it. Compile selection of presentations to place on sites for SOGW members to use for outreach

Action item: Compile a list of the presentations on the network that have been given.

Action: User Needs Assessment/Briefing on the NGWMN and portal use to Hill officials, other targets like media, feds, technical groups to demo the portal and get feedback.

#### **Miscellaneous:**

Action: Leverage SOGW membership to populate other ACWI groups to broaden influence of SOGW efforts—consider the two new subgroups (GW-SW interaction subgroup, and Economics/Water Subgroup) as well as the climate change ACWI group

Attachment 1

Action: Add to parking lot: SDWA and raw water data for getting water quality.

Action: Add to parking lot: Have NGWMN look to model of NAWQA program for their efforts to raise awareness.

Action: Definitional issues --- "what does local mean, maintenance."