



## **ACWI 2007 January 17-18, 2007**

**[Please reference the ACWI Slide Library for [Meeting Presentations.](#)]**

### **Opening remarks by Bob Hirsch**

Opening remarks were made to attendees by Bob Hirsch. Bob highlighted the following: Streamgaging Program reports, NAWQA Data Warehouse, WEF 2-page factsheet, and the Cooperative Water Program (CWP) briefing sheet.

Bob introduced Mark Myers, Director, US Geological Survey (USGS) with brief background comments.

### **Welcome Remarks – Mark Myers, USGS**

Mr. Myers opened with a thank you to ACWI for the opportunity to attend the meeting and noted the diverse representation of agencies within the advisory committee. Water is central to many key issues we are facing as a society. The Director noted the importance of data integration – this is key. How do we integrate the data? We need to create a lens, a lighthouse, out of many flashes of data; work toward building data warehouses. The USGS streamgaging system is an example of a wonderfully fused data asset. How do we fit all of the data together and make it useable to managers? Data quality and the science behind the data are important. The work that ACWI is doing is extremely valuable.

- Challenge – motivating a science agency during time of budget decline. How do we do this?
- Mission – need to convey the value of the science and data and make sure underlying budget support is present
- Sees ACWI as key component to making this happen. Thinking of long-term needs of society, not just the issues of the moment

**Doug McLaughlin** asked Director Myers about his thoughts on getting agencies to put money towards such efforts when these issues aren't the issue of the day.

**Mark Myers** responded that we need to build an understanding of how science works. Convince local officials all the way up to Congress. Need clear communication. The science community needs to be collaborative not competitive. Look at national issues coherently. If we don't do the science today, we atrophy. Scientific community needs to work to answer questions together.

**Introductions around the table** – Introductions were made around the table.

### **Guest Speaker – Robin O'Malley, The Heinz Center**

- Filling the Gaps.... For National Reporting on Ecosystem Condition -- Reference <http://www.heinzctr.org/index.shtml>

- Data that were made available in the 2002 report have been updated twice since the report was published, and the new report will be available in 2007.
- Reports are published every five years with data updates in the interim.
- Have worked in 3 areas with heart of work being done in indicators – intended to get process started
  - Core national indicators pushed into prominence
  - Get the big picture on the nation's ecosystems
- A lot of good work, but...
  - Resource limitations still remain
  - Few entities with integration as their sole mission
  - Lack of “central nervous system” capacity to make strategic decisions
  - Inability to compare and aggregate
- Goals for economic information system
  - Macro-scale management
  - Micro-scale investment decisions
- A lot of good bottom-up work, but we need institutional stability and orientation to integration/coordination mission. Need for top-down strategic component to system.
- How do we put a system together? Not connected in a way that guarantees persistence over time

**Bob Hirsch** asked who comprises the National Council.

**Robin O'Malley** responded that the Council is a 10 member panel (NAPA) which will be looking at a series of options for institutionalizing options for national indicators. The tentative target is for senior staff in Interior and EPA to implement changes in the Fiscal 2009 budget. Recommendations are needed by late summer. This is on a short cycle, and opportunities for outside comment will be short.

**Bob Hirsch** stated ACWI's intention to communicate with the National Council.

**Robin O'Malley** encouraged ACWI to contact Ted Heintz in order to have a voice in how this process moves forward.

**Tim Smith** commented that Ted Heintz will be speaking at the next SWRR meeting in Washington, DC, next week.

#### **ACWI Report: The National Water Quality Monitoring Council** (Chuck Spooner, Co-Chair)

Chuck Spooner gave a report back to ACWI, noting the reorganization of the Council work groups. Chuck noted that the Council is a flexible entity that evolves to reflect the issues being worked on. Chuck asked for ACWI concurrence on the reorganization of work groups under the Council.

#### **ACTION: ACWI Concurrence on Work Group Reorganization**

##### **Questions:**

- Bob Hirsch requested that the Council distinguish between the colors used on the graphic with Chuck explaining that the highlighted groups are new.
- Bob Hirsch asked if any of the current groups would be sunset.
- Doug McLaughlin asked that a written description of the functions of the work groups be presented to ACWI. Chuck indicated that some of the groups have outline statements.
- Peter Evans requested information about NEMI. Chuck responded -- known as NEMI – <http://nemi.gov> . EPA has long-listed the lab methods. MB decided that performance data

needed to be available for methods. NEMI provides performance data. Starting to add field methods.

**ACTION: Bob Hirsch asked that ACWI see a written description of the function of each work group before ACWI approves the new work group structure.** The committee will be electronically polled.

**Dan Walker, OSTP** – Remarks on the Network for US Coastal Waters and Their Tributaries

- Nationally, the problem arose in the early 90's
- Next stage is to do pilot studies. Opportunity for people to participate in implementation stage
- Frame a formal request to ACWI to continue this effort
- Need to demonstrate relevance to decision-making for this effort to succeed.
- Encourage Council and ACWI to keep dual goals in mind

**Emery** – Elaborate on decision-making at various levels, particularly at watershed level. How are these pilots going to deal with needs of watershed communities which differ from the needs of those managing these systems

**Dan** – Need philosophies that allow people working in individual estuaries to set tone.

**Mallard** – Walk through next presentation.

**Emery** – NAWQA has been around for a while. Why are we doing pilots when this has already been done in a sense by NAWQA?

**Gail Mallard, USGS** – Next Phase of the Network

Gail provided a brief introduction of the Network; noting that activity will be on the National level. The scale is appropriate for both the national and regional levels. Efforts are national in scope, not federal, and coastal centric, going to the HUC-6 level. The Network is intentionally coastal centric because this was the charge given to the Council by CEQ as part of the Ocean Action Plan. NWQMC accepted this charge on behalf of ACWI.

- ACWI approved the Network report in April 2006 with 2 recommendations
  - Presentations to CEQ, NSTC, GEO, ORRAP, ICOSRMI, EPA, NOAA, USGS, DOI, and others
  - ICOSRMI – accepted that we should go forward with pilots
  - Feedback was positive – the Network provides a good look at what would be happening at the national level, can go to managers locally to see if they should be doing something
  - Interagency Coordination Staff – OSTP, EPA, NOAA, USGS
    - Tasking statement approved by ICOSRMI and directed to NOAA, EPA, and USGS
    - Agree to move forward with pilot studies
    - Letter from Committee on Ocean Policy requests ACWI's continued involvement in the Pilot Phase
      - Asking for feedback from ACWI – broad agency input. NWQMC is very interested in having a role as the network moves forward towards implementation.
  - Next steps were discussed
    - Announce plans to potential partners
    - Select partners and confirm timing of project
    - Coordinate work with ACWI and its subgroups
    - Report every 4 months to JSOST, SIMOR, and SWAQ
    - Keep potential future partners informed
    - Report back to ACWI on January 2008 on results of pilot studies
  - Gail provided a listing of potential partners.

## **Discussion:**

**Fred Bloetscher** asked about what type of agencies are we looking for?

**Gail** noted that proposals will likely come from already assembled local groups – state monitoring councils, etc... It was made clear that we want the package to tell us who is involved in the partnership.

**Bob Hirsch** suggested that one agency author the document with supporting letters endorsing the idea.

**Fred Bloetscher** asked if the committee is looking for new things that don't exist or looking for places where there is a lot of data that is not coordinated.

**Gail** responded that the steering committee has discussed looking at a data-rich area and an area that is data-poor to look at data gaps. Also address the coordination of data. Not looking at putting new sensors on the ground. Looking at analysis of what's out there.

**John Jansen** -- Can you get this done in 2007?

**Gail Mallard** responded that we needed to be out of the blocks sooner. We said that we would have a draft at end of 07, mid-February proposal. Wondered if we could design it in a year and it was done. Selecting places where folks are knowledgeable about on-going monitoring in their area. If we postpone, we might not be able to answer important questions in the budget cycle.

Gail continued, noting that we have groups that have expressed interest, but want to give others an opportunity as well. The effort involved may be too great if there are too many pilot studies.

**Bob Hirsch** commented that there are no new resources in 2007, but this does not preclude new resources from becoming available in 2008.

**ACTION:** Formal letter asking for ACWI to continue to be part of pilot study process – **VOTING ISSUE**

**Hirsch** – Bring forward to continue this effort. Interest in continuing, though some worry on whether it can happen

**Motion made to accept ACWI's charge to council to carry this forward.**

**Motion seconded by Don Dycus**

**Thank you from Dan Walker**

**ACTION:** Roundtable discussion on ACWI input on criteria for pilots

**Subcommittee on Hydrology (SOH) Update** (Samuel Lin, FERC)

**Chairs:** Samuel Lin and Steve Blanchard

Samuel Lin, FERC, briefed ACWI on Subcommittee of Hydrology activities for the year. Mr. Lin recognized 2006 as a year of progress and production. Goals for 2007 are to improve the availability and reliability of surface water quantity information.

- 2006 accomplishments
  - membership drive
  - promote teamwork
  - post-meeting activities

- increasing contacts with other committees
  - publishing quarterly issued newsletter
- 3 active work groups – chairs were given a certificate
  - report soon
- Hydrologic Modeling working group
  - Successful interagency joint meeting -- Hydrologic Modeling conference and Interagency Sedimentation Conference
  - 600+ participants
  - Next conference being planned for 2010
  - Reference <http://www.jfic.org>

#### **Hydrologic Frequency Analysis Work Group Update (Will Thomas)**

- Developing guidance for flood frequency estimates for ungaged watersheds and for flood frequency analysis for watershed regulated by flood control structures
- List of frequently asked questions and answers on bulletin 17B posted on the Web site
- “Evaluation of Flood Frequency Estimates for Ungaged Watershed” posted on-line
- 29 of 43 Bulletin 17B references are on the USGS Web site under the OSW Web site – [water.usgs.gov/osw/bulletin17b/bulletin\\_17B.html](http://water.usgs.gov/osw/bulletin17b/bulletin_17B.html)
- Research needs
  - Proposed plan is research that can be accomplished in a reasonable time frame (1-2 years) with limited resources
  - Compare performance of EMA to the current bulletin 17B procedures for analyzing samples
  - Test on gaging station data (80 samples) and review of comparisons to the published literature
- Work will be done this year with no additional funding requested. Coordination, review and approval process to be completed in 2008. Product will be a new Bulletin 17C describing the new procedures. Review and approval will be coordinated with SOH, ACWI, and OMB with public comment period.

#### **Satellite Telemetry Interagency Working Group (STIWG) Update (Ernest Dreyer, USGS)**

The STIWG acts as a user group for major users of the GOES DCS and advises NOAA/NESDIS of user requirements. The STIWG coordinates funding for user-desired improvements to GOES DCS. Members include USBR, USGS, USACE, BLM, FS, NOAA, NPS, and Department of State – major users of real-time data.

- Major 2006 activities
  - 2 meetings in 2006
  - Issue paper outlining GOES DCS vulnerabilities and recommending a more formally documented strategic plan for continued operation of GOES/DCS
  - Concerns of STIWG presented to SOH, ACWI, and Western Governors Association
  - Awarded SBIR to Sutron Corp. for DCPI operations – target objective is to provide a prototype receiver and a concept of operation to NOAA/NESDIS & GOES DCS users
  - Started discussion with manufacturers to specify a binary protocol standard and explore compaction methods to maximize efficiency
  - Cooperation with USGS & NOAA/NESDIS – transfer funds to USGS to support development of Emergency Data Dissemination System (EDDN).
  - Process to develop systems to better manage shared software and metadata
  - Worked with Kay Metcalf to identify and mitigate constraints and susceptibilities for GOES DCS operation on current and future satellites
  - Work with NOAA to better communications

## **NOAA Response on the GOES/DCS (Charlie Bryant, NOAA/NESDIS)**

Mr. Bryant opened his presentation with a thank you to ACWI for the invitation to speak and to the STIWG for raising the issues at hand. Mr. Bryant expressed NOAA's commitment to operate GOES DCS – involved for @25 years, noting that there is no reason to not expect funding in future appropriations.

STIWG issues were addressed:

- Issue 1 - Continuity of Command and Control (C&C)
  - NOAA has 2 backup C&C facilities for GOES
- Issue 2 - GOES Data Collection System (DCS)
  - DCS automatic processing system (DAPS)
    - Primary system
    - Fully redundant
    - Located at the WCDAS
  - DAPS backup
    - DCS alternative data dissemination (DADDS)
    - Provides basic data distribution capability
    - Initial capability scheduled for installation 1/31/07
  - Plans for DADDS redundancy
    - Build initial DADDS capability
      - Establish a redundant DADDS at the NSOF (3<sup>rd</sup> quarter CY07)
  - Geographic separation – meets critical infrastructure protection (CIP) requirement of 50 miles separation
- Issue 3 – COO Plans
  - NOAA regularly reviews and updates COO Plans, Business Continuity plans (BCP), and CIP Plans
  - NOAA satellites and ground systems are National Critical Infrastructure (NCI) assets
  - Can share plans, but must be controlled by NOAA since they are NCI
- Issue 4 – Availability – transponder
  - Is there enough redundancy to support program?
    - Since 1994, 100% availability for GOES DCS service
    - Current availability – 4 satellites
      - GOES 11 and 12 operational
      - GOES 10 supporting South American operations
      - GOES 13 in on-orbit storage
    - Have sufficient availability – are well supported
- Issue 5 –
  - GOES-N (13) O and P requirements are fixed
    - GOES 13 stored in orbit
    - GOES O in storage on ground
    - GOES P being finished up and will be stored
    - NOAA will review GOES-R requirements and assess options for transponder configurations – not launched until 2014

The on-going issue of partnership is a concern. NOAA recognizes the importance of the GOES DCS stakeholders and welcomes the opportunity to increase the effectiveness of communications on issues of mutual interest. Acknowledge the role of the STIWG in representing the broader user community's interests and desire to assist NOAA in exploring options.

### **NWQMC National Monitoring Conference –**

Bob Hirsch commended the efforts of the conference planning committee on such a successful conference.

- Successful 2006 conference (Chuck Spooner, EPA)
  - San Jose in May 2006
  - Chuck reviewed past themes of the monitoring conferences and gave an overview of the 48 sessions that were available
    - 4 of the 48 were devoted to the NMN
  - 872 total attendees, 232 were presenters or poster sessions
  - Chuck made recognition of the conference co-sponsors
  - Twice as many participants as in 2004 – graphical representation
  - Volunteer monitoring community regarded as a partner. Better appreciation for the term metadata – a noticeable change – in recognition of the need to record data
  - Try and use future presentations as a form of communication in the monitoring community not just for purposes of conferences
  
- 2008 Conference (Eric Vowinkel, USGS)
  - Philadelphia, Pennsylvania Convention Center – May 18-22, 2008
  - Eric will be the local host for 2008 conference with co-chairs – Chuck Spooner, Jawed Hameedi, and Eric Vowinkel
  - MOA with WEF to facilitate conference
  - Many interested Federal and State sponsors
  - Contact Eric, Dave, Jeff if you're interested in participating

### **US Environmental Protection Agency Update (Susan Holdsworth, EPA/OW)**

- Overview of EPA's National Surveys
  - Critiques of water monitoring programs – identification of data gaps
    - Data are inadequate for scientifically-valid characterization of water quality conditions regionally or across the US
  - In response to critiques, EPA monitoring initiative
    - Enhance state and tribal monitoring programs by providing new funds to states and tribes
    - Assess the condition of all the nation's waters and changes over time
  - Allocation of monies for monitoring initiative
    - \$9.8 million to states, tribes and interstates in 106 grant for improved monitoring programs.
    - \$8.4 million for states and tribes to participate in statistically-valid surveys of the nation's waters
  - Actions
    - Implement statistically-valid national surveys and report on status and trends in streams, lakes, rivers, coastal waters, and wetlands
    - Seek uses of survey data to support water resource protection and restoration
      - Develop water quality standards and criteria
      - Prioritize stressors and follow up analyses
    - Integrate data and information to build landscape/predictive tools
      - Prioritize monitoring activities among impaired, high quality and vulnerable waters
  - The purpose of the surveys is to report on the condition of waters in the United States – report on core indicators with regional supplements, unbiased estimate

of condition of resource and to provide information on key questions – Ultimately, we want to know if water quality is improving. Are we spending pollution control dollars wisely? To what extent do waters support healthy ecosystems, recreation?

- Key actions for 2007
  - Finalize and distribute QAPP and standard operating procedures (1/07)
  - Procure equipment, field and lab services (winter 07)
  - Training for field crews and auditors (Spring 07)
  - Co-sponsor forum for discussing data analysis and interpretation (spring 07)
  - Support field and laboratory implementation (summer 07)
- Rivers survey planning
  - National planning meeting 1/10-12
  - Focus on input for design, indicators and field methods
  - Forming steering committee

WSA findings – 28% of streams are in good condition compared to least-disturbed reference condition. Across the US 25-30% of streams have high levels of nutrients or excess sedimentation. These streams are twice as likely to have poor biology.

28% good, 42% poor, 25% fair, not assessed 5%

Wetlands survey – reinitiated national wetlands monitoring and assessment work group in 2007. Regional pilot projects – testbeds – Gulf of Mexico coastal wetlands (07 and 08)

Goal of partnership surveys is to report on the condition of the nation's waters with documented confidence, at regional and national scales with the option for state-scale estimates. Promote collaboration across jurisdictional boundaries. Build state and tribal capacity.

EPA is developing a water quality exchange (WQX) for easier data sharing, to support electronic reporting of integrated water quality assessments, and to provide geospatial tools to support program integration – NHDPlus

**Bob Goldstein** receives the OW newsletter and asked if it will be open to general public.

**Susan** responded that the WQX will go live near the end of this month and will be available to everyone.

**Bob Goldstein** inquired about the availability of mercury data.

**Susan** noted that they are still analyzing samples from tissues which will be included in the tissue survey. Not included in lake survey.

**Bob Hirsch** commented that ACWI can help spread word about the WQX.

**Harry Zhang** asked what the survey results will be compared against to determine if there are improvements in ground water quality. **Susan** responded that researchers will compare over time.

**Doug McLaughlin** asked how this would be done with Susan responding that there has been a lot of discussion on that. National surveys are providing an overview that is representative of the target resource. Probability survey is giving a broad overview of the resource, whereas, the targeted study is for identifying specific areas.

**Bob Hirsch** expressed interest in the use of cores. How will you date the lower level?

**Susan** responded that they are not planning to date the core. This will be a historical record, but not dated.



## **USGS Cooperative Water Program Update** (Ward Staubitz, USGS)

Bob Hirsch introduced Ward to the ACWI. Ward was most recently the USGS Virginia Water Science Center Director.

Ward gave a brief overview of the Cooperative Water Program (CWP), noting that the program is over 100 years old. The CWP involves the integration of local information to provide regional and national resource assessments. It is a dispersed program largely managed at the state level.

- Supports 4700 streamgages
  - 2500 water quality stations
  - 10,700 ground water levels
  - 2,600 ground water quality
  - 750 hydrologic investigations
- # cooperators
  - 1980 – 746
  - 1990 – 1036
  - 2000 – 1387
  - 2005 – 1407
- Strengths –
  - shared cost and benefits
  - information universally available – accepted as impartial by all parties
  - supports states in addressing federal mandates
  - build and test new tools – technology transfer – real-time water quality monitoring
  - national standards – builds the USGS national database
  - provides basis for national and regional synthesis
  - provides foundation for federal programs
- External reviews
  - 1999 – 32 findings – 57 recommendations --- Final Report Circular 1192
  - 2004 – Interim review – 1999 recommendations – 8 members --- Report is available on-line
- Accomplishments since 1999
  - Establishment of NSIP
  - Improved data collection and dissemination
  - Development of the CWP Web site
  - New cooperators
  - Reports available on-line
- National stakeholder meetings -- DC – 2005 and Austin, TX – 2006
- Ward discussed changes in the USGS streamgaging program over time
  - Loss of gages with long-term records
  - Maintaining the streamgaging network is a long-term challenge

**Bob Goldstein** commented that posting PowerPoint presentations seems to take too long. Bob recommended that USGS reconsider their policy for posting presentations to the Web.

**Bob Hirsch** commented that there is a memo coming out, and the policy will be changing. USGS is trying to adjust its way of doing business for presentation materials.

**Peter Evans** asked if there is a catalog of the interpretive studies that have been done.

**Ward** suggested that Peter look at the [USGS publications web site](#).

**Bob Hirsch** commented that when the USGS publishes a report, it is not put in a different bin based on funding source. It would be difficult to cull a list, thousands... Not sure how this could easily be done. Bob suggested looking at USGS professional papers.

**Peter Evans** -- 750 studies each year, not new each year are they?

**Ward** – some run a minimum of a year with most running 3 years.

**Bob Hirsch** commented that there are roughly 300 new starts and 300 finishes a year

**Ward** – project descriptions may be available soon?

**Bob Hirsch** commented that as of this moment, descriptions are not available. We are trying to convince our new director of the need for this. A move is in motion to make this happen.

**Emery Cleaves** commented that many studies have been published by cooperating agencies.

**Bob Hirsch** remarked that many publications are also published in scientific journals.

**Emery** commented that data collection is not only streamgaging, but other water quality databases. A major use is in providing water supply assessments, at least in the case of the Maryland Geological Survey. Funding of both elements is important.

## Day 2 – January 18, 2007

Welcome and review of Action Items and discussion of renewal process

### ACTIONS from Day 1

1. **O'Malley** ---- ACWI might take on some bottom-up effort. ACWI members are encouraged to contact Ted Heintz to express interest in the process
2. **SOH** --- Satellite Telemetry group. NOAA indicated there would be plenty of opportunity for interaction regarding backup for the critical realtime data. Expressed need for continued dialog regarding these processes.
3. **EPA update** (Holdsworth) – WX Data exchange going public. Asked her to let ACWI know so that we can help get the word out.
4. **NWQMC** – new org chart for work groups – removed 1 sub group and merged activities into other groups. ACWI asked that the council get back with ACWI with a brief description of the work groups. Can do email vote of approval once the descriptions have been sent
5. **Pilot phase of network implementation** - Dan Walker – letter to ACWI asking for continued advice and recommendations as pilot phase of network is implemented. Toni has action to draft letter on behalf of ACWI that we will take the charge and continue in our role.
6. **SOS update** – plan for 2<sup>nd</sup> joint conference in 2010. Motion by Heiskary, 2<sup>nd</sup> by Bloetscher. ACWi unanimously concurred
7. **Announcements** about upcoming meetings, etc.... and will get that typed up and out with action items. Reminder that these meetings are posted on-line at acwi.gov --- we also post to other meetings of interest for other meetings

Toni reminded everyone about the need to fill or renew vacancies by October 2007. Generally, this is a 6-month process. Toni announced that ACWI needs a letter from member organizations about whether they want to continue their representation in ACWI. Need to specify if the current member is their choice or name a new representative. Toni also asked that an alternate person be named as well.

There is a new White House liaison. White House has requested that a brief biography (including name, state, and contact information) be sent along with the letter. Letter and resumes will go to Office of White House Liaison at DOI. Make sure there is no potential conflict. Letters will go to the Secretary of Interior and then go out to the organization from the Secretary. Changes in the renewal process should allow for quicker turnaround, but there no guarantees this will be the case. ACWI cannot meet until all letters are signed by the Secretary.

After this meeting, we will start the process.

Toni noted that there are a number of vacancies and has asked for suggestions for new members. Vacancies are for:

- Private sector – industry; have not had an active environmental group;
- Recreation group – American Whitewater perhaps;
- State – association of state wetland managers possibly.

If there are any suggestions from current members, these are welcome. Toni will send a formal email out with this information and a sample letter for the nomination process. The goal is to do this by the end of February. We can send out a list of current contacts.

*Suggestions from current members* -- Nature Conservancy, Environmental Defense Fund, American Rivers, Riverkeepers, Trout Unlimited, Wildlife Federation, National Water Resources Association, business roundtables – suggestion from Steve Ragone. Toni asked Steve to send her the names. Great Lakes Council of Governors...

**Bob Hirsch** commented that the USGS is getting ready to sign a MOU with the Nature Conservancy on rivers. They have a serious science-based approach to these things. Start with Brian Richter.

**Steve Ragone** noted that the international community is interested in certain issues. This group is working hard, and their perception of what indicators are might be different.

**Toni** commented that this is not within our charter at the present time. Previous dialog on this is that the Department of State is creating a FACA to address this. This might be too big a project for ACWI to take on.

**Gregg Good** – vote for wetland community. States are being asked to get into this arena more and more.

**Bob Hirsch** requested that members let Toni know any other suggestions. It is important to keep the group broad.

#### **Ad hoc steering committee on Ground Water Monitoring (SOGW) (Bob Schreiber)**

Bob Schreiber requested the formation of a Subcommittee on Ground Water (SOGW) and thanked Gail Mallard, Chuck Spooner, and Bob Hirsch for their encouragement on working toward a new subcommittee. Bob emphasized the importance of groundwater to sustainability and other ecological reasons.

- Steering Committee (SC) – USGS – Bill Cunningham (federal co-chair), ASCE - Bob Schreiber (non-federal co-chair), AASG - Dave Wunsch, GWPC - Mike Paque, ICWP - Bud Badr/Peter Evans, NGWA - John Jansen, States - Mary Ambrose, USEPA - Ruth Izraeli, Chuck Job, Chuck Spooner, Mike Wireman, WEF - Rob Schweinfurth
- Would like others to consider participating in this new group
- Seeking approval on Terms of Reference (TOR)
- Key points
  - Shortages of GW expected
  - GW important
  - Lack of data
- Bob reviewed ACWI suggestions and recommendations for the SOGW TOR with ACWI
- Main deliverable will be to develop a national framework for GW monitoring.

#### **Questions:**

**David Denig-Chakroff** would like to hear more about the wording of quantity constraints. Implies that the group has given up on quality, i.e., if quality is not there, then won't deal with it. Quality needs to be addressed as well.

**Bob Schreiber** responded that given the makeup of the committee, quality will be addressed. The steering committee is looking at this as a "walk before you run" philosophy. A lot of work is being done on water quality data collection within ACWI and other groups. We want to collaborate with these groups. We are not going to ignore the resource.

**John Jansen** – 2 schools of thought --- jump in, we know quality is involved. Another school of thought – need to focus on quantity to establish the framework. Define quality based on quantity.

**Steve Ragone** – Make sure quality is covered sufficiently in the TOR. Steve feels the committee is backing away from something that is pragmatically difficult to describe.

**John Jansen** responded that this will be addressed in the Work Plan.

**Steve Ragone** commented that the TOR has to look at the potential for degradation. Don't limit yourself from the beginning. Put market down for entire package.

**David Denig-Chakroff** echoed Steve's remarks. The committee should review the TOR once a year to make sure it is on mark for what is being done. The TOR maybe can recognize that this is an issue that needs to be worked on later down the road, but initially, focus on quantity.

**Bob Hirsch comments** – We have a NWQMC which has an interest in quality, the SOH explicitly deals with streams and quantity... does not overlap into quality. Bob sees the SOGW as the antilog to the SOH. The amount of potable water is important – is a worthy subject in and of itself. Issue of degradation, etc... also worthy, but considers that as in prevue of NWQMC. Do we want overlapping charges to subcommittees or do we sharply distinguish between these?

**Mike Paque** asked ACWI members to look at the TOR. The scope starts to dig deeper - the purpose is clearly, at least initially, on quantity.

**Doug McLaughlin** commented that quality and quantity are covered sufficiently. We have to know something about quality to determine constraints on quantity.

**Don Dycus** commented that the TOR acknowledges the importance of collaboration with the Council. Have the steering committee discussed this?

**Bob Schreiber** responded -- Yes, learn from and adopt some approaches of the network as part of our efforts. Chuck Spooner is on the SC, so the link is in place. The steering committee has talked to Gail Mallard and Chuck Spooner about the potential for ground water pilot studies. We also need to interact with Eric Vowinkel on WQDE.

**Emery Cleaves** commented that there is some information already in existence and this will help. Sharing workload is good idea. Need to have a committee like this that will have legs and be around for some time.

**Bob Hirsch** commented that it would be good to come to some resolution. Minor changes to the TOR to make it less constrained.

- 1<sup>st</sup> order of business would be quantity -- How much FW is there? What is the national endowment? How does today compare to yesterday, 10 years ago, 100 years ago? To Bob's knowledge, there's only one aquifer where these changes are being monitored over time... High Plains Aquifer as mandated by Congress. Answering "How much water is there" and what means for sustainability of lakes, etc...is the purpose of this type of

committee. Action Plan put emphasis on quantifying endowment of GW as 1<sup>st</sup> order of business.

**Emery Cleaves** commented that the TOR are sufficient. It would be good to get the committee moving. All have had time to look at the TOR and the ACWI can revisit TOR based on this discussion.

**Emery Cleaves made a motion to accept the SOGW TOR as they stand.**

**Mike Paque seconded the motion.**

**ACWI unanimously approved the TOR as they stand.**

**Proposed Work Plan** – Bob Schreiber briefly reviewed the work plan with ACWI

- SOGW and 4 work groups – Proposed Subcommittee Structure
  - *Monitoring inventory work group* – look at existing products, even internationally. Have contacts with those working on EU framework. Hirsch question – what is this group? Looking to inventory what is there? Bob S. – looking for ideas on framework that needs to be set up. Interested in what states are doing too, but interested in the design of the framework.
  - *Data standards and data management work group* – work in collaboration with WQDE. It is possible that CUAHSI and ESRI are working on a groundwater data model. Will look at those products and developing standards for data collection and management.
  - *Field practices work group* – field practices will differ greatly from other disciplines. How do you get data from something you unseen? Boring, remote sensing. Use of gravity sensing/surveys.
  - *Monitoring network work group* – take information from the other 3 work groups and put together a “strawman” for the framework. Update this as the process moves along. Coordination with other ACWI groups is key.
- Volunteers and/or guidance are needed.
- Lessons learned
  - Would like to hear about critical 1<sup>st</sup> steps, pitfalls, etc... that others have experienced when starting a subcommittee

#### Questions:

**Emery Cleaves** commented about ITFM days...Mimicking the pattern of the original ITFM documents might save time for the Network group. There is some existing guidance that may be helpful.

It was requested that recommendations for the committee be sent to Bill Cunningham or Bob Schreiber.

**Bob Hirsch** comment on membership, noting that many states have excellent groundwater monitoring groups. Texas, in particular, is well represented and managed. Reach out to WSWC and ICWP. A lot of responsibility lies with states – state geol. Surveys, etc...

**Bob Schreiber** commented that USDA would be good as well... Others include USACE – everglades work; non-feds – AWWA, ASDWA, NACP, WSWC. Bob asked that members think about their potential interest in the committee.

**Chuck Spooner** commented that membership is important. The group has tenacity to bring in a good group of people. Chuck assured Emery that the ITFM heritage has been discussed. Chuck discussed 2 pitfalls –

- Use of term framework is vague. Use the term with care due to heritage.
- Getting an inventory of all that is going on is very difficult -- we have found this to be true with the NMN. The monitoring community needs to learn to make data more discoverable. We need to be better stewards of the data that we collect.

**Gregg Good** requested an electronic suggestions sheet. Toni agreed.

**Bob Hirsch** followed-up on Chuck's comments. A geospatial framework for GW is very difficult to talk about. Bob was happy to hear that CUAHSI and ESRI were mentioned as potential participants. Bob noted that there are some outstanding data sets out there, but are managed differently. Contributions to enhancing accessibility to these data sets will be extremely valuable.

**David Denig-Chakroff** commented that the committee should get as many drinking water agencies as possible, for example, the National Rural Water Association.

### **Subcommittee on Spatial Water Data Update** (Katherine Lins)

Bob Hirsch briefly introduced the committee and Katherine.

#### 2007 SSWD Scope of Work

- Shepherd development and maintenance of key national data sets
  - WBD, NHD, NHD+, NED
- Working with CUAHSI and Water Resource Consortium for Water One-Stop
- Adding content to e-gov geo 1-stop

NLCD 2001 [www.mrlc.gov](http://www.mrlc.gov) – now available

WBD – status and processes

- Katherine Lins and Wendy Blake-Coleman
- Hucs down to 8-digits
- Important to note that this is a collaborative effort by every state
- A seamless national drainage area addressing system is very **close to completion**
- EPA interested in completing this and has contributed \$1M to WBD in FY 2006
  - Will use 12 digit hucs to report water quality to OMB in 1<sup>st</sup> quarter 2008
  - Must complete by 4<sup>th</sup> quarter 2007
- USGS & NRCS have provided resources and staff a technical team – stewardship responsibilities are important
- Other partners -- BLM (\$ for AK, AZ, NV) , BOR (\$ CA), state partners
- National Technical Team – evaluate data and provide recommendations on what needs to get done.
  - Come up with state by state work plans
  - This effort need your support – funding is necessary -- \$400-\$800 K needed for completion by 2008
- States with shortfall of resources – AK, WA, OR, ID, CA, NV, TX, LA
- Contact Katherine or Wendy Blake-Coleman for suggestions or resources

### **Guest Speaker – Jon Duncan, CUAHSI**

Reference <http://www.cuahsi.org/>

CUAHSI Overview: Information and Informatics

- Background
  - Consortium of 120 universities
  - Focus on why earth works the way it does, move beyond traditional problem-solving orientation - advance hydrologic science in the broadest sense of the term
  - The hydrologic cycle is the organizing principle
- Need for CUAHSI
  - Larger-scale, longer-term research to advance science

- Support larger research teams
- What is CUAHSI doing?
  - Hydrologic information systems
  - Much support from NSF – academically geared
  - CUAHSI HIS is geographically dispersed.
- Duncan discussed progress to date
  - WATERS Testbeds serve as beta-testers for software
  - 1<sup>st</sup> community-wide distribution in 12-15 months
  - Moving toward 4-D data cube – x, y, z, t
  - Continental scale in scope, multi-scale and multi-resolution
- Goal is create a digital continent – integrate monitoring and research data into a single body of information for the country
  - Digital observatories may be watersheds, aquifers, river reaches, or any region that is part of the continent. The digital continent will enable identification of similar areas and some data about that spot.
- Incentives must exist for people and agencies to **want** to contribute (and they do!)
- Hydrologic observation, geospatial data, weather and climate data, remote sensing data comprise the digital watershed
- Other work
  - integration of weather data
  - Hydrogeology
  - Geologic framework
  - Incorporation of human dimension

### **Questions:**

**Bob Goldstein** commented that he sees a lot of duplication with the presentation we heard before. Bob asked Jon if what CUAHSI is doing different than what USGS and EPA are doing.

**Jon Duncan** responded that yes, it is. The focus is on getting data in and back out with the purpose of being able to download data. His impression is that USGS is working on the nuts and bolts – putting pieces together.

**Bob Goldstein** questioned why we are better off with a database containing every piece of information in the world rather than just a smaller data set. How does this gain efficiency?

**Jon Duncan** argued this is much more efficient as it is science-based and driven. Now, users are required to convert all different types of data for input into different systems. This requires hours of work and mass effort. The goal is to have a point and click operation.

**Bob Hirsch** commented that this is not an attempt to replicate USGS or EPA databases; it's making all data available via a single portal. Data still reside with the owner of the data who is responsible for its quality. In the last decade, with role of internet to get data, users can get data from a lot of places, but not necessarily in a user-friendly format. CUAHSI is striving to have an immediately useable data format. The USGS would like to take advantage so we don't have to do some of those things. It will be useful to find a certain kind of data for a certain thing... USGS does not have good tools for discovering the data. Take advantage of standard organization and data discovery tools.

**Chuck Spooner** thanked Jon for his presentation. CUAHSI is funded by NSF which has many programs such as this – ie. CLEANER. Share some of the same people. What is the relationship?

**Jon Duncan** —CLEANER syncs up with WATERS Testbeds. HIS is the link to Federal data providers.

**Chuck Spooner** requested an explanation of “testbed.”

**Jon** responded that this is an NSF term – could be pilot, short-term project.

**Bob Hirsch** commented that this suggests that if plans come to fruition, collectively, some subset of the nation's universities will become major long-term data providers of water data. Becomes an issue of maintenance – tenure of grad students, etc....

**Jon** – This activity is going to rely on Federal. CUAHSI is not in the business of data collection and don't necessarily want to be.

**Chuck Spooner** commented that ACWI has heard presentations before... Chuck mentioned investment of \$200 M before 2011. This is big bucks. Don't let it slip past you.

**Gail Mallard** asked if there are metadata requirements, QA that are needed to get to HIS and are they an impediment to getting to state and academic project data.

**Jon** responded that the focus has been federal data. Have not done much with state data. No QA/QC status requirements yet for academic data, but is written into the data model, however. Speculates that a user-beware thought process regarding academic data will be followed.

**Katherine Lins** – Trying to be careful about duplicating efforts. USGS and EPA share info on QW data. Katherine invited CUAHSI to participate in dialog developing a standard schema on sharing information and duplication.

**Emery Cleaves** commented that he can see the value of this to the academic community. It would be nice to have commitment or concern that when this percolates to state level --- didn't see mention in structure for consideration of a liaison group that is trying to anticipate/promote applications of the data.

**Jon** responded that Doug James is committed to societal benefit and is aware of this need. The HIS core development renewal team is trying to get Federal data done. Hoping this is a long-term initiative. Going to rely on testbeds and then a users group to determine how well this is working.

**Bob Goldstein** commented that he shares Emery's concerns. As an organization that deals with real issues in real places...interest is not in getting data from existing databases. Major limitation is that the data that agencies can use is just not available. Bob is concerned that databases that exist are not being maintained and are being dropped. From a pragmatic view, this is not going to make our world any better.

**Jon** responded that this is new money that NSF has found to support the activity. This is a net win for ACWI membership because it is already funded. It is difficult to ask for more data without quantitative assessment. The academic community is shifting its perspective – need to do assessments with more rigor to be successful in saying we need more data. Bulk of scientific community wants more data.

**Doug McLaughlin** – maybe more directed to finding out more about STORET. How much state data goes into EPA? If it is, can argue state data is available

**Joe Wilson** -- Majority of data in STORET is state data. Trying to expand tribe data, but majority is state data.

**Bob Hirsch** commented that a sizeable investment is being made to foster what is much the mission of ACWI – enhancing the availability of data sources. This is too good an opportunity to pass up. From the USGS perspective, Bob would like to see a closer partnership between ACWI and CUAHSI – they are where the money is/



## **Methods and Data Comparability Board Update** (Eric Vowinkel)

Eric gave a brief overview of the MB.

2006 highlights

- New EPA co-chair
- Revamped Web page
- May conference – booth and session
- 2 meetings
- NMN chapter 4
- NEMI
- WQDE publication
- Bioassessment comparability guidance

Eric shared the Web Page.

Future directions

- Concentrate on what we do well – NEMI, WQDE, NMN support, NWQMC/WIS support
- New topics
  - Event monitoring
- Contingent on funding

2007 activities –

- 3 face-to-face meetings
- monthly full board conference calls
- bi-monthly workgroup calls
- web page up-to-date
- 1 across the board newsletter
- assist with council/NMN comparability issues
- assist with 2008 conference
- recruitment

## **Sustainable Water Resources Roundtable Update** (Tim Smith, Bob Goldstein, Rick Swanson)

Opening remarks were made by Bob Hirsch. The SWRR is a vigorous group with contacts in high political places.

Activities

- Development of principles, criteria, and indicators to support decision-making
- Identify opportunities for collaboration

2006 outreach

- WEFTEC '06 track on sustainable water resources management
- AWRA July Water Resources Impact Issue
- SWRR Fact Sheet & Indicator list
- WEFTEC'05 track papers on Web site
- Continued SWRR meetings, briefings for NAE & renewable Nat. Res. Foundation
- USFS named SWRR Management Liaison
- Metro. Wash. COG joined as active member

2007

- WEFTEC'07 track on sustainable water resources mgmt – 20 papers, San Diego, CA

- World Water Congress, ASCE, Tampa, FL
- WE&T II on h2o sustainability
- SWRR meetings to involve agencies

#### Future Work

- Continue to revise and refine indicators for tracking the sustainability of water resources
  - Including indicators scalable to national, state, and local
- Assist agencies
- Increase representation
  - State and regional programs
  - Industry
- Expand relationships with scientific community
- Consult with other programs on water-related indicators, including
  - National Research Council's Key National

#### Upcoming Roundtable Workshop – Goldstein

- Metropolitan Council of Governments
- 1/25-26, 2007
- themes
  - research needs
  - energy/water interdependencies
  - SWRR indicators
  - USEPA perspectives
  - Water sustainability in the Washington region
- Subcommittee has open membership

**Toni Johnson** commented that ESA has been supporting SWRR. They have helped facilitate and finance some of the functions of the SWRR

#### **Additional Announcements**

**Chuck Spooner** commented that EPA has an advanced monitoring initiative – competition for funding. A project is being done with Barcode of Life Consortium, Smithsonian, Maryland Department of Natural Resources to look at macroinvertebrates -- get their genetic makeup. This is a 2-year project which will be good for the monitoring community once complete.

#### **Review**

Action from Toni -- ACWI, Board, and Council will get stats on Web hits... will get them on-line and send out in email.

Roundtables – as you get notes, actions, etc... please send them to Toni in email. There will be a section in the minutes on-line and will share in email the suggestions from those groups.

Toni thanked the members for their participation.

#### **Meeting Adjourned**