

**MEETING OF
ADVISORY COMMITTEE ON WATER INFORMATION'S (ACWI'S)
SUBCOMMITTEE ON HYDROLOGY (SOH)**

October 14, 2004

**Room 4342, NASSIF Building
Federal Highway Administration Offices
400 Seventh Street SW, Washington, D.C.**

AGENDA

1. Welcome and Introductions
2. Review and Approval of Agenda
3. Approval of Minutes from July 15, 2004 Meeting
4. Action Items from July 15, 2004 Meeting
5. Report on ACWI Meeting
6. Update on Organizational Participation and Representation
7. Hydrologic Frequency Analysis Work Group Update
8. Hydrologic Modeling Work Group Update
9. Satellite Telemetry Work Group Update
10. Announcements and Business Reports from Participants
11. Other Business
12. Next Meeting
13. Adjournment

SUMMARY OF MEETING

PARTICIPATING

Don Woodward, American Forests

Bill Parrish, Association of State Floodplain Managers (ASFM) (bparrish@mbakercorp.com;
410/424-2322)

Will Thomas, PASFM

Martin Becker, Defenders of Property Rights (*by phone hookup*)

Sam Lin, Federal Energy Regulatory Commission (FERC)

Joe Krolak, Federal Highway Administration (FHWA)

Gene Stallings, National Hydrologic Warning Council (NHWC)
Jon Werner, Natural Resources Conservation Services (NRCS)
Tom Deitrich, National Weather Service (NWS) (*by phone hookup*)
Jerry Webb, US Army Corps of Engineers (USACE)
Don Frevert, US Bureau of Reclamation (BOR)
David Wells, US Environmental Protection Agency (EPA)
Mark Weltz, USDA Agricultural Research Services (ARS) (maw@ars.usda.gov; 301/504-6246)
Jim Renthal, USDI BLM
Kay Metcalf, USDC NOAA (Kay.Metcalf@noaa.gov; 301/457-5681)
Steve Blanchard, US Geological Survey (USGS)
Ernest Dreyer, USGS (sedreyer@usgs.gov; 703/648-5365)
Phil Turnipseed, USGS (pturnip@usgs.gov; 703/648-5314)

(Note: A total of 18 participated - 16 in person and two by conference call; email addresses and phone nos. listed above are only for those first time attendees or new addresses for previous attendees)

MEETING HIGHLIGHTS

Don Frevert called the meeting to order at 9:30 a.m.

1. Welcome and Introductions

There were 18 participants representing 14 member organizations and NOAA.

2. Review and Approval of Agenda

The order of original meeting agenda was adjusted and approved as listed above.

3. Approval of Minutes from July 15, 2004 Meeting

The minutes of the July 15, 2004 subcommittee meeting have been posted on the subcommittee's website below. The minutes of the July 15, 2004 meeting were approved.

<http://water.usgs.gov/wicp/acwi/hydrology/minutes/SOH-MeetingMinutesFinal071504.pdf>

4. Action Items from July 15, 2004 Meeting

Action: Don Frevert welcomed aboard the new primary representative Mark Weltz with the ARS. Will Thomas stated that FEMA will not assign a primary representative until its several vacant positions are filled.

Action: Don Woodward redrafted the motion for USGS' maintenance of the existing stream gaging program. Don Frevert forwarded the concurrent statements to Toni Johnson for consideration by ACWI and the resolution was adopted by ACWI with only minor revisions at the September 14-15, 2004 annual meeting.. The proposed precipitation frequency statement has been dropped from further consideration at Geoff Bonnin's request.

Action: Don Frevert presented the subcommittee's annual report to ACWI on September 15.

Action: Jon Werner contacted ARS and the Subcommittee got the primary representative Dr. Mark Weltz aboard.

Action: BOR and FERC have provided some information about how to handle PMP issues to Jerry Webb.

Action: The meeting participants entered the FHWA building by preconfirming their attendance with Joe Krolak.

5. Report on ACWI Meeting

The subcommittee's annual report was presented to ACWI on September 15. It was well received. The stream gaging resolution was adopted by ACWI with only minor revisions.

6. Update on Organizational Participation and Representation

The Subcommittee welcomed the primary representative, Dr. Mark Weltz aboard. Will Thomas reported that FEMA will identify its primary representative to the SOH in the near future. The Subcommittee now has 17 active member organizations.

7. Hydrologic Frequency Analysis Work Group (HFAWG) Update

Will Thomas reported that the HFAWG had not met since the July 14, 2004 meeting of the SOH. Steve Blanchard reported that USGS had scanned all the Bulletin 17B references that were not copyrighted and these references were located at the following web site http://water.usgs.gov/osw/bulletin17b/bulletin_17B_references.html. Of the 41 Bulletin 17B references, there are 16 scanned references on the USGS web site. Will Thomas indicated that he would contact the journals with copyrighted material (25 references) and obtain permission to scan these articles.

Will Thomas suggested that the HFAWG should consider the task of developing a plan to coordinate post-flood data collection such as after the recent hurricanes in Florida. Will passed around a report prepared by the Office of the Federal Coordinator for Meteorological Services and Supporting Research entitled "National Post-Storm Data Acquisition Plan" dated March 2003. This report is available from the following web site http://www.ofcm.noaa.gov/p33-npsda/p33-npsda_plan.htm. This report is mostly oriented to meteorological and/or coastal events and Will felt that additional guidelines should be developed for collection of riverine data. A motion was passed that the HFAWG undertake this activity as another task. Will agreed to send out information on the scope of this effort to the HFAWG members and start working on a plan to coordinate the post-flood riverine data collection efforts of the various Federal agencies.

Will Thomas also circulated the following two reports:

- (1) "National Post-storm Data Acquisition Plan", NOAA, 2003
- (2) "The Impact of Hurricane Ivan on the Coastal Roads of Florida and Alabama: A Preliminary Report," University of South Alabama, 2004

8. Hydrologic Modeling Work Group Update

Don Frevert reported that the call for papers has been distributed for the joint Federal Interagency Hydrologic Modeling Conference and Federal Interagency Sedimentation Conference. All subcommittee members should have received this call for papers. The conference will be held April 2-6, 2006 at the Silver Legacy Hotel in Reno, NV. Abstracts will be due on April 15, 2005.

9. Satellite Telemetry Work Group Update

Ernest Dreyer, the current chairman of the Satellite Telemetry Interagency Working Group (STIWG), gave a presentation on the STIWG's concerns about the lack of an adequate backup system for the GOES Data Collection System (GOES DCS), which has become a critical system for providing real-time environmental data to many organizations. NOAA/NESDIS, who manages the GOES DCS, has proposed locating a backup system at Suitland, Maryland. The STIWG has reservations about the suitability of this site because of 1) its proximity to the primary system at Wallops Island, Virginia, 2) its operational dependence on the Wallops Island site, and 3) its location in a major metropolitan area with all the risks that entails. The STIWG is seeking assistance from the Subcommittee on Hydrology in resolving these reservations with NOAA/NESDIS. The Subcommittee on Hydrology requested that the STIWG submit a formal proposal addressing each of the above issues for consideration by the Subcommittee. (Mr. Dreyer's PowerPoint presentation is attached as Appendix I. Double Click to open the presentation)

10. Announcements and Business Reports from Attendees

FERC

Sam Lin reported that this past August, the FERC sent staff to attend the "NRCS Hydro" workshop at the NRCS' National Water and Climate Center, Beltsville, MD. The newly developed GIS-based hydrologic modeling demonstrated in the workshop was informative and educational to them. Special thanks are given to NRCS, particularly Mr. Bill Merkel for his courtesy of inviting the FERC staff to attend this beneficial workshop.

Recently, the FERC's Dam Safety Program organized six Technical Resource Groups. One of them is the H&H and Operation Group. These groups are developed and implemented under the guiding principles of the FERC's Dam Safety Program Enhancement Plan. One major principle, for instance, is to maximize the effectiveness and efficiency of our engineers and procedures in the dam safety program to fulfill its established mission.

In addition to our headquarters in Washington, D.C., we have five regional offices across the nation. These Technical Resource Groups consolidate our expertise across the office border lines in a more promising manner to ensure safety of the dams under our jurisdiction. One of the group functions, for instance, is a team approach for a particular project. The team is composed of experts from these groups with specializations in various disciplines to focus on the project related issues in a collective way.

Association of State Floodplain Managers (ASFPM)

Will Thomas gave a brief summary of the ASFPM Foundation Forum on "Reducing IFlood Losses: Is the 1% Chance (100-year) Flood Standard Sufficient?". Approximately 80 persons attended from Federal, State and local government agencies, from academia, and from consulting firms. The Forum was held at the National Academies Keck Center in Washington, DC. The larger group divided into three separate work groups and discussed whether the 1% standard was sufficient. At the end of the 1½ day Forum, each work group provided suggestions for improving the use of the 1% flood standard. The general consensus was that the standard should not be changed because there was no superior alternative. There were suggestions about using the 0.2% chance flood in highly developed area or behind levees, using future conditions hydrology, increasing education of the public related to flood hazards, using multiple standards based on the consequences of damages, and increasing research efforts relative to flood frequency. Approximately 45 papers were submitted and distributed prior to the Forum to serve as information and background for the discussions during the Forum. These papers will be an appendix of an approximate 40-page report that summarizes the Forum discussions. The report will be put on CD and distributed to Forum participants and to others. There will another Forum next year on another topic related to floodplain mapping.

FHWA

Joe Krolak reported that FHWA has been closely working with State DOT's to mitigate and fix the damages from the hurricanes that affected the Gulf and Atlantic Coasts. The I-10 bridge (north span) was placed back in service after several weeks of effort. Plans call for a replacement bridge. Congress has designated additional emergency relief funds be made available from the Highway Fund. The new Ohio Basin NOAA-14 web program allowed FHWA and Virginia DOT to determine that flooding in Richmond was in excess of a 1 in 900 event. This event far exceeds any design guidelines used in the transportation community. NOAA-14 allowed State officials the ability to support the design guidelines as good practice.

US Army Corps of Engineers

Jerry Webb reported that USACE is still heavily involved in hurricane response work. Currently over 1200 personnel are involved in the efforts.

USACE is studying the continued use of the Standard Project Flood in planning of flood control projects. The Hydrologic Engineering Center (HEC) has prepared a draft Special Projects Report "White Paper on the Status of the Standard Project Flood." This report summarizes the Corps guidance surrounding the Standard Project Flood and clarifies the use and need for the SPF in Corps studies. The report will eventually be posted on the HEC website. HEC is also in the process of revising ER 1105-

2-101, Risk Based Analysis for Evaluation of Hydrology/Hydraulics, Geotechnical Stability, and Economics in Flood Damage Reduction Studies. The guidance in the revised ER will mirror the recommendations found in the White Paper.

USACE has received input from FERC and USBR concerning the issue of technical support in the performing PMP and other special precipitation studies. USBR has indicated that they are willing to provide limited technical services needed in this area, until the Corps can acquire future contract services.

USACE is continuing to implement the USACE 2012 Strategic Plan. Reorganization of Headquarters has reduced staff and the Corps is establishing Communities of Practice. Jerry Webb is the leader of the Hydrology and Hydraulics Community of Practice, which includes hydraulic design, hydrologic analysis, coastal engineering, water management, water quality and environmental restoration. USACE will utilize expertise throughout the community of practice as needed to meet future mission requirements. A web-based tool "Technical Excellence Network (TEN)" will be used to establish subject matter experts in all areas of the community of practice. The initial implementation of TEN is scheduled to occur before the end of the calendar year.

USGS

Steve Blanchard expressed the USGS's appreciation for the Subcommittee's resolution supporting funding for the streamgaging program that was presented at the September 2004 ACWI meeting.

The USGS has made arrangements with the National Hydrologic Warning Council to conduct a cost-benefit analysis of its streamgaging network. He requested information from the Subcommittee related to any studies they were aware of from other countries where this type of cost/benefit analysis was done for a streamgaging network. In addition, he requested any other information that would help with the analysis, particularly, case histories of where the presence or lack of gages and gage data was an important issue.

The USGS is expecting about a one percent reduction in its funding for streamgages in FY05. This reduction along with tight state and local budgets will result in the loss of gages in FY05. In order to make sure congress is aware of these reductions, the USGS has sent notifications to each of the affected congressional districts to inform them of the discontinued gages. Blanchard also distributed of the USGS Office of Surface Water web page (<http://water.usgs.gov/osw/>) and pointed out the section heading "Important News". He particularly pointed out the news of "Federal & State Budget Constraints to Reduce Number of Streamgages" which stated no new data will be collected at a number of streamgages in Florida, Kentucky, Mississippi, and New Hampshire.

Bill Parrish commented on Blanchard's report about the USGS' cost-benefit analyses of its streamgaging network. His idea, and also Thomas's was to pass this request on to the Association of State Floodplain Managers (ASFPM), who might be able to provide Blanchard and National Hydrologic Warning Council with the information they were seeking. The ASFPM has 6,500 national and chapter members representing local, state and federal government agencies, citizen groups, private consulting firms, academia, the insurance industry, and lenders, some of whom may be able to provide

some case histories that would help the USGS. The ASFPM publishes a newsletter "News and Views" each month and would probably welcome the opportunity to help the USGS with this study.

National Hydrologic Warning Council

Gene Stallings reported that the National Hydrologic Warning Council (NHWC) has made a proposal to the US Geological Survey (USGS) to undertake the required evaluation of the benefits of the USGS network. This will require significant effort, perhaps over several years. As a first step, NHWC proposes the following actions, with completion expected in approximately 6 months. These steps are to identify and define uses and users of data from the USGS network, to clarify the uses and users in terms of operational purposes, predictive purposes, monitoring trends and research, development and education. The NHWC will also identify and document an economic evaluation procedure for operational use of data for forecasting for flood emergency response, predictive use for engineering design of drainage and flood defense facilities, and predictive use for land use management decision making. David Ford Consulting Engineers, Inc. and Easpe, Inc. will have the lead. Any SOH member with knowledge of a case history or a technical paper showing benefits associated with the USGS network should contact Gene Stallings at easpe@aol.com.

NRCS

Jon Werner reported that NRCS has now opened three new Technology Support Centers for business. They are located in Portland, OR, Greensboro, NC and Ft. Worth, TX. Each has a core team of typical resource specialists to serve one third of the states for technical support. New National level teams have been developed to carry on the work of coordination with researchers such as Agricultural Research Service (ARS) and to develop the necessary technology for delivery by NRCS folks at the county level. These teams include Air Quality / Atmospheric Change, Animal Waste Utilization, Grazing Lands, Wetlands, Soil Quality, Wildlife, Bio-energy, Water Quality-Quantity, Social Science. Our NRCS scientific expertise in Hydrology and Hydraulic Engineering will remain centered in the NWCC Hydrology team at Beltsville, MD, NWCC at Portland, OR, National Water Quality/Quantity Technology Development team at Portland, OR, the National Engineering Design and Soil Mechanics, at Ft Work TX, and the National Water Management Center at Little Rock, AR.

A recent meeting of the Western States Water Council featured the 17 western states involved each discussing their water needs for the next 5 decades, their anticipated shortages in all states except MT and WY and in the approaches to overcome shortages of water expected. These remedies included conservation improvement, reuse, desalination, conversion of agricultural to urban and a number of states looking seriously at new storage.

US Environmental Protection Agency (EPA)

David Wells reported that EPA has released a new version of BASINS, its watershed modeling software. BASINS allows the user to assess water quality at selected stream sites or throughout an entire watershed. This tool integrates environmental data, analytical tools, and modeling programs to support development of cost-effective approaches to watershed management and environmental protection, including TMDLs. A significant improvement is the new Web data extraction tool which provides dynamic downloading of GIS data and databases from a variety of other sources. Other

significant enhancements in version 3.1 include updated data holdings, a new tool to archive and restore BASINS projects, a tool to update the BASINS software interactively, and several additional modeling capabilities such as AGWA, PLOAD-BEHI, AQUATOX and PEST.

The Automated Geospatial Watershed Assessment (AGWA) tool features the USDA-ARS models KINEROS and SWAT. The Kinematic Runoff and Erosion Model (KINEROS) is an event oriented, physically based model that may be used to determine the effects of various artificial features such as urban developments, small detention reservoirs, or lined channels on flood hydrographs and sediment yield. Rosgen's Bank Erosion Hazard Index has been incorporated in the pollutant loading model as PLOAD-BEHI; this model is useful for simplified analyses of sediment issues. AQUATOX receives and automatically formats output from HPSF or SWAT in order to integrate watershed analysis with the likely effects on the aquatic biota in receiving waters and the new parameter Estimation (PEST) tool in WinHSPF automates the model calibration process and allows users to quantify the uncertainty associated with specific model predictions. For more information or to download BASINS 3.1, see www.epa.gov/waterscience/basins.

American Forests

Don Woodward reported that the American Forests is about to release "City Green Computer Program" to evaluate environmental impact, hydrology, water quality, etc.

USDI BLM

Jim Renthall reported below:

1. Events relating to the hydrologic studies in the Upper San Pedro Basin, Arizona
 - a. USGS work continuing with BLM, USGS and Upper San Pedro Partnership funding on groundwater flow model, and surface water –groundwater interactions. Objective of this work is to manage surface and ground water in the Upper Basin to keep the San Pedro River flowing through the BLM-managed San Pedro Riparian National Conservation Area, to assure that the city of Sierra Vista, the surrounding communities, and Fort Huachuca have sufficient water supply.
 - b. Related work is the installation of four new stream gauges by USGS
 - c. Congress has directed DOI to present an annual report showing progress toward achieving a sustainable groundwater aquifer by 2011. The draft of the first report is out for review (the 321 Report). Many partners including USGS, ARS and BLM and the City of Sierra Vista have contributed to the report. Congressional interest in this progress is based on concern for the viability of the strategically important fort, and the effective investment of a specific \$1 million appropriation each year to resolve the water use conflicts in the Upper Basin.
2. BLM will begin working this year on an aquatic assessment tool to serve as an equivalent to the riparian proper functioning conditional assessment. Good upland health assessments and riparian assessments have been developed, but the variety of aquatic and hydrologic assessments that are available have yet not been used to develop a practical, meaningful aquatic

or broad watershed assessment. Developing this tool will also support a current the Government Accountability Office (GAO) audit of BLM monitoring expenditures and practices.

ARS

Mark Wertz reported that ARS is actively engaged in work on the Upper San Pedro basin through the Walnut Gulch Experiment Station. There are also international boundary water issues on the San Pedro as US users are impacted by mining operations near Cannanea. ARS' overall hydrology and watershed budget is due for a 5% reduction in FY 2005 based on the congressional version. They will be asking for a 10% increase to deal with drought issues, however. The next USDA watershed workshop will be held in Park City, Utah. ARS also remains active in the interagency "MOU Group" and in the risk, uncertainty and model prediction subgroups. They have a lead role in the Conservation Effects Assessment Projects (CEAP) work to quantify the impacts of conservation on water quality. A draft report is due to congress in 2006.

Bureau of Reclamation

Don Frevert reported that the Bureau of Reclamation's Research Director position is being advertised. BOR has been involved in the hurricane relief effort in Florida.

Defenders of Property Rights

Martin Becker had no new developments to report.

National Weather Service

Tom Deitrich reported that NWS will hold its National Hydrology Meeting in New Orleans December 6-10.

11. Other Business

None.

12. Next Meeting

The SOH next meeting was scheduled for 9:30 am, Thursday, January 27 the Federal Highway Administration Offices – 400 Seventh Street, SW in Washington DC.

Action: Any member who would like to suggest an afternoon presentation or tour should contact Don Frevert as soon as possible.

Action: Please forward your notes primarily the work group and/or announcement and business reports to Sam Lin (with a cc to Don Frevert) by the COB of 10/22/04.

13. Adjournment

The meeting was adjourned at 12:30 p.m. EDT.

GOES Data Collection System Backup

Presentation to the
Hydrology Subcommittee
of the
Advisory Committee on Water Information
by Ernest Dreyer, Chairperson
of the
Satellite Telemetry Interagency Working Group
(STIWG)