



FLOOD ADVISORY COMMITTEE  
December 11, 2002  
MEETING SUMMARY

The Flood Advisory Committee (FAC) meeting chaired by Clark Gilman began at 10:00 a.m. in the Commission office (DRBC) in West Trenton, N.J.

**REVIEW OF DRAFT MINUTES OF SEPTEMBER 18, 2002**

Revisions to the minutes included:

- The word "Association" changed to "Agency" in the 3rd paragraph on page two for the Federal Emergency Management Agency (FEMA)
- The word "affected" changed to "effective" in the 2nd paragraph on page 4 and add the words "and operate at the county level" at the end of the sentence.
- The word "commended" changed to "acknowledged" in the second sentence on page 2.
- The word "long-tem" changed to "long-term" in the 4th paragraph on page 3.
- The last paragraph on page 3 be revised with several modifications to read as follows:

"Mr. Tamm explained that PA has Title 35, which describes authorities and responsibilities for emergency management to counties, boroughs, and townships. Counties are supposed to prepare an emergency operation plan that is fed by the local emergency operation plans. However, in some counties only 18 percent of municipalities are actually writing their plan. According to PEMA's organizational procedures, if the locals do not write their plan it is an unmet need that ultimately falls to the county to become involved. In PA the hazard mitigation planning process is an integral part of the emergency operations plan. Funding available through anti-terrorist funding opportunities may actually be used in preparing some of the hazard vulnerability and risk assessment efforts. He believes one of the major roles the FAC can play is in education by providing knowledge to the communities."

There being no other changes or corrections, the minutes were accepted with the noted changes.

**NOMINATIONS FOR FLOOD ADVISORY COMMITTEE VICE-CHAIR**

Mr. Gilman noted Mr. Hainly will be taking over the role of FAC Chairman at the next meeting so a vice-chair appointment is needed. According to the FAC's by-laws the Chair position should rotate between a federal representative and a local/state representative; therefore, the candidate for the vice-chair should be one from the local/state sector.

Volunteers for the vice-chair position included Alan Tamm and Scott Steigerwald. Voting resulted in Alan Tamm being selected as the next FAC vice-chair.

**COMPREHENSIVE PLAN UPDATE -- Army Corps of Engineers (ACOE) Reconnaissance Study**

Mr. Carmen Zappile and Ms. Christine Bethke of the Philadelphia District were present to provide the Committee with a status report.

The typical 905(b) report is 15-20 pages long listing the existing conditions, the problems, and the proposed remedies. The DRBC report is approximately 140 pages and very detailed. The targeted deadline for presentation to the DRBC is January 1, 2003 with the executive summary report for the ACOE headquarters submitted by February.

Ms. Bethke stated the information will be put into sections. Section 1 will address existing conditions which will deal with flood history, major events that occurred throughout the basin, flood control projects and existing significant dams, and existing issues inventory reports in the basin and the review of the FEMA information such as HAZUS, Disaster Mitigation Act 2000 and existing flood warning systems in the basin, as well as, proposed flood warning systems. Section 2 will address the goals and objectives assigned to the Committee in the Comprehensive Plan in an attempt to identify the issues and offer various opportunities to address them.

Mr. Zappile reviewed the ACOE study process. Basically there are two study phases -- the reconnaissance study and the feasibility study. The reconnaissance study is to determine whether there is a federal interest in the project, identify what is to be done in the feasibility study and how much it will cost, and who will be the non-federal sponsor for the 50/50 feasibility study. The feasibility study will identify the issues in more detail. Once the studies are completed, there will be a comment and review period for all the involved agencies.

Lastly, Ms. Bethke noted Mr. Robert Moore, the ACOE's hydrology engineer, has reviewed the goals and limitation status and will be providing a formalized response.

Mr. Fromuth noted that the following items continue to present themselves and need to be addressed.

- Education regarding where people live with respect to the floodplain and what is available to them.
- Assessments ranging from flood hazards to the specifics of rain gage networks and stream gage networks and looking at the adequacy of flood warning points.
- The need for community mitigation plans under the Disaster Mitigation Act and whether this can be helped by a model mitigation plan for the basin.

Mr. Fromuth asked if the ACOE definition of "existing conditions" is based on information the ACOE has already compiled and not new assessments. Ms. Bethke stated yes.

Dr. Sanchez asked if the ACOE will be performing real assessments prior to determining what the selected projects might be. She was informed that would be considered under the feasibility study as it greatly depends on who the local sponsor will be for the feasibility study.

Dr. Sanchez then asked if other reconnaissance studies that address similar issues would be interwoven with issues the DRBC reconnaissance study may provide. Mr. Zappile stated they would be kept as separate projects as they are handled by different authorities, etc.

Lastly, Dr. Sanchez asked about the status of a reconnaissance study performed in the upper basin some time ago. She was informed it is still in the reconnaissance phase as a sponsor has not been identified to date.

Mr. Tamm asked if the 1975 data compiled from a state-wide vulnerability assessment performed for the state of PA is available to the ACOE for review and possible update. Ms. Bethke and Mr. Zappile stated they were unaware of the information but would look into the matter.

Mr. Fromuth noted the Delaware Basin study performed by the ACOE in the early 1980s examined the expected annual damages for every community along the main stem below the Delaware Water Gap.

Mr. Gilman stated a Flood Control Master Plan was done for New Jersey in 1980. But because of various problems with it, it was never circulated.

Mr. Fromuth continued with the meeting and reviewed the handouts provided for today's meeting.

Mr. Gabrielsen asked what the general process is to finalize the Comprehensive Plan. The staff is currently in the process of putting the goals, objectives and recommendations into a report format for the Watershed Advisory Council. It may be awhile longer until there is a final Comprehensive Plan document but there should not be any additional content added.

Mr. Fromuth stated the framework document is to be for the entire basin. The intent is to eventually have steps to achieve the objectives. They should provide responsibilities by various agencies and organizations to contribute to the plan and to flood loss reduction.

Mr. Thomas stated FEMA supports regional planning and is looking for opportunities to support the DRBC in initiatives taking place at the commission level and utilizing the organizational capabilities under the DRBC, especially with the states that are its members, but he does not see this occurring.

Mr. Fromuth asked Mr. Thomas to provide him a description of the product he is looking for. He asked if it would include a detailed plan outlining prioritized property buyouts for the entire Delaware Basin or a general assessment of flood hazard areas. (DRBC Staff Note: Subsequent to the meeting, Mr. Thomas and Mr. Zagone of FEMA, and Mr. Tamm of PEMA discussed development of a potential online flood hazard assessment tool with DRBC staff.)

Mr. Tamm agreed to have PEMA explore funding opportunities with FEMA to see what can be done with the DRBC and other basin commissions in doing hazard mitigation plans and flood control plans that are multi-faceted. Mr. Gabrielsen stated the DRBC has been instrumental in having the USGS and the NWS work together in their short-term flood mitigation operations. Perhaps the flood preparedness area needs to be developed further into the flood mitigation area to obtain more involvement or the overall role of the FAC needs to be presented to deal with immediate response to flood events.

Mr. Gilman noted that the improved flood warning system will cover areas of potential flooding not covered previously. Coordination of this work with the Committee's second goal may produce results that would allow the DRBC to take a role overseeing the policies of the states, local governments, etc.

### **ADVANCED HYDROLOGIC PREDICTION SERVICES (AHPS) UPDATE BY THE NATIONAL WEATHER SERVICE (NWS)**

Mr. Gabrielsen stated during the past year, effort has been given to have the AHPS program become performance based while tying it into efforts for partners such as the Delaware Basin Commission, the Susquehanna Basin Commission, local communities, international groups and other state and local groups. He believes what is trying to be accomplished with AHPS and the flood warning through the FAC are coming together and should work well together.

He presented a general strategy overview of the current AHPS program. He noted that due to a continuing resolution for FY '03 it has caused confusion as how to proceed with programs such as AHPS, which are line items funded by the federal government. It is still the intent to have data pulled together to have AHPS be looked at as leverage for advanced and more accurate hydrologic forecasting and information.

The deployment of AHPS in the Middle Atlantic region was reviewed. A graph showed the level of funding under FY'02, the FY'03 level for national AHPS deployment, and the areas deferred by not receiving the President's budget for AHPS deployment.

Mr. Gabrielsen noted that as resources are received at the MARC to deploy AHPS in various locations, Dr. Carroll is able to leverage and roll AHPS deployment out in areas that are not directly funded in his area. Therefore, while the NWS is not receiving specific funding from forecast points within the Delaware Basin,

enough money is being received to continue the deployment of the basic level of AHPS.

Mr. Gabrielsen reviewed three levels of deployment of AHPS service that the NWS believes fits into various groups such as the DRBC and other cooperators.

- The basic AHPS forecast deployment would be done at every forecast point. It is a recalibration of the forecast point using the most current observed data and the development of long-term probability information. It is done out of the NWS budget base lined throughout all of their forecast areas.
- The full AHPS suite of products, which include the flash flood forecast tool, the short and medium term probabilistic information, and the low-flow and drought products. Full AHPS deployment opportunities must be identified.
- The partnered data implementation, which is the flood forecasting map that is co-dependent on the amount of information available from users and DEM data available to the NWS at a resolution they are able to compute.

He noted the basic AHPS definition is what will be used in Congress to show the level of AHPS deployment throughout the country. The other levels will be used to show what can be done at each of those levels.

Mr. Gabrielsen concluded his presentation by noting that the NWS is working on a standardized world wide website where all the AHPS information will be produced and should be available in the near future. He noted it could possibly be linked through the DRBC website for the Delaware River Basin. It will provide a user with a suite of about five products to select from a pull-down menu including a low flow value, a flood stage, and the observed and the forecast hydrograph for locations where the NWS currently provides a standard hydrograph.

## **HYDROLOGIC REMOTE SENSING IN THE MIDDLE ATLANTIC REGION**

Dr. Tom Carroll, Director of the National Operations Hydrologic Remote Sensing Center of the NWS presented a brief overview of techniques and procedures to make airborne snow water equivalents, the accuracy of the airborne measurements over ground-based measurements, satellite hydrologic snow cover mapping, snow modeling and their new website that discusses some of the new parameters.

He noted they generate a variety of snow cover water equivalent temperature and soil moisture products and distribute them over their website. The data is generated in their geospatial database analysis system. For all basins that the river forecast centers receive, alpha-numeric products can be provided and a mean aerial snow water equivalent can be calculated over specific basins. The information can be incorporated into snow accumulation models maintained at the river centers.

They also map aerial extent of snow cover with satellite data and generate a variety of satellite derived snow cover maps for the nation on a daily basis, as well as, composite them on a weekly basis to eliminate the effect of clouds. They are also mapped on an RFC (river forecast center) scale and a county warning area scale so the service hydrologists have access to this information.

In an attempt to provide a unified field theory of snow hydrology, ground-based snow observations, airborne snow water equivalents, satellite and numeric weather prediction model data are accumulated and programmed into their snow data assimilation system to derive a grid of snow water equivalent for the U.S. The assimilation system can also quantitatively estimate the sublimation or condensation occurring across the country.

The information can then be distributed to various governmental agencies and to the NWS field offices through their website.

Mr. Nickelsberg also stated that the NWS Binghamton office offers weekly information for multi-media

interpretation.

Mr. Gabrielsen requested Dr. Carroll work with him in putting together a product summary for the Delaware Basin by using information available from the DRBC to look at the snow water equivalent, etc. Dr. Carroll agreed. He further informed the Committee that in the next few weeks, they expect to be able to provide an alpha-numeric summary on a basin-by-basin or an RFC (river forecast center) basis of the aforementioned information.

### **COMPREHENSIVE PLAN UPDATE (cont'd.) -- Additional Comments on Draft Implementation Steps/Planning Direction**

As there was much discussion on this subject earlier in the meeting, Mr. Fromuth re-visited handout "E-1." He reminded the Committee that in March a session was held and the Committee members were invited to participate in reviewing and possibly modifying wording of the objectives of the Comprehensive Plan assigned to the FAC to ensure that the wording was accurate and concise, as well as, what the flood loss reduction of the basin should entail. The revised document was also provided to the Committee several times for review and comment. As a result, the objectives are somewhat a product of this Committee.

He then reviewed handout "E-2," which is an attempt to take the four objectives and add context to them as to what flood loss reduction in the Delaware River Basin ought to be. The first page covers the basics and states that it involves more than just flood warning. Under the objectives are implementation steps, which are the staff's first cut at trying to say how the objectives are to be achieved.

If anyone on the Committee feels that the direction the basin is headed in for flood mitigation or general flood loss reduction is unsatisfactory with the aforementioned objectives and steps, they need to be heard. Also, if anyone has ideas on specific or better ways to coordinate organizationally, they need to speak out.

Mr. Gilman stated the next Watershed Advisory Council Meeting is scheduled for January 14, 2003. He offered to represent the Committee at the meeting if requested.

### **NEXT MEETING**

The next meeting of the Committee was scheduled for Wednesday, March 5, 2003, at 10:00 a.m. in West Trenton, N.J.

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## **FLOOD ADVISORY COMMITTEE DECEMBER 11, 2002**

### **ATTENDANCE**

<b>NAME</b>	<b>AGENCY</b>
BAUMGARDNER, Tom	National Weather Service - MARFC
BENT, Paul	AUS Consultants
BETHKE, Christine	U.S. Army Corps of Engineers
BURD, David K.	Merrill Creek
CARROLL, Tom	National Weather Service - NOHRSC

FROMUTH, Rick	DRBC
GABRIELSEN, Peter	National Weather Service - ERH
GILMAN, Clark	New Jersey Department of Environmental Protection
KANE, John	New York City Department of Environmental Protection
McKILLOP, George	National Weather Service
NAJJAR, Ken	DRBC
NICKELSBURG, Walt	National Weather Service
SANCHEZ, Jessica	DRBC
SCHOPP, Robert	U.S. Geological Survey
SUMMER, Solomon	National Weather Service - AHPS Program
TAMM, Alan	Pennsylvania Emergency Management Agency
THOMAS, Dave	Federal Emergency Management Agency - Region III
TORTORIELLO, Richard	DRBC
ZAGONE, Joseph	Federal Emergency Management Agency, Region III
ZAPPILE, Carmen	U.S. Army Corps of Engineers

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