



FLOOD ADVISORY COMMITTEE  
September 18, 2002  
MEETING SUMMARY

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

**REVIEW OF DRAFT MINUTES OF JUNE 5, 2002**

Mr. Fromuth requested the last sentence in the fifth paragraph on page two be revised to state "It could be used for dam projects and bridge modifications as well."

There being no other corrections, additions or modifications, the minutes were accepted.

**FLOOD WARNING RECOMMENDATIONS**

Mr. Gilman stated he presented the annual Committee report to the DRBC Commissioners at their July 17 meeting.

A table showing appropriation request status provided by the Northeast Midwest Institute was reviewed by the Committee. The mid-Atlantic River Basins section (pages 3-4) listed the request by the Northeast Midwest Institute to the House of Representatives for 2.4 million dollars to cover the one-time cost estimate for the flood warning recommendations and the first year's operation and maintenance costs. Possible funding through the House has not been determined as they have not finalized their Bill. No funding for the Delaware River Basin or the Susquehanna River Basin flood warning programs was recommended by the Senate.

The National Weather Service nationwide AHPS program was also discussed. The total requested budget amount is \$8.2 million; the President requesting \$6 million, the Senate suggested \$4.5 million, and the House has yet to disclose any figures.

Mr. Gabrielsen stated although the AHPS deployments throughout the country have been sporadic during the last year, it is the intent of the NWS to standardize their AHPS webpage displays to provide a national presentation of AHPS deployment. He noted the final amount of funding received for the AHPS program from the FY03 budget will determine if some AHPS development and implementation can begin in the upper portions of the Delaware basin. He proposed that the next Committee meeting agenda should include discussion of the NWS' national location plan for FY '03 and possible AHPS work to be done in the mid-Atlantic area during the next fiscal year.

Mr. Gabrielsen commented that as a large amount of the AHPS deployment is in the northeast and Ohio River Basin, the NWS is making strides in the eastern portion of the country, which provides leverage in many states. He acknowledged the Northeast Midwest Institute for their efforts in the AHPS program and encouraged the Committee to continue with them for the Flood Forecast and Warning System program.

Mr. Hainly noted the Northeast Midwest Institute table also indicates the National Streamflow Information Program will be receiving the same funding as last year. At the present level of funding in the House and

Senate Bills, the gages mentioned in the FAC minutes of June 5 as gages to be discontinued due to potential loss of funding will be able to remain operational.

On September 6 Alan Tamm organized a session similar to the March flood warning presentation to eastern Montgomery County officials. The purpose of the September 6 meeting was to familiarize Hatboro officials with available flood warning products and discuss the potential for flood mitigation. Bob Hainly and Joe Miketta made presentations to the group as to products currently available to them via the web. Mr. Tamm led the group on a walking tour through areas damaged by flooding from Tropical Storm Allison. Rick Fromuth provided an overview of DRBC and the flood committee activity related to flood warning and mitigation. Mr. Tamm noted the presentation was coordinated with the PA Planning Association.

## **FLOOD RISK ASSESSMENT AND DISASTER MITIGATION ACT OF 2000 REQUIREMENTS**

A copy of the Federal Register dated February 27, 2002 was presented to the Committee. Mr. Fromuth noted it included the interim final rule for the Disaster Mitigation Act of 2000 (DMA), which sets criteria for flood mitigation plans. Page 8851, Section 201.6 discusses the criteria for local mitigation plans. The rule states that by the end of 2003, all communities within the basin must have a flood mitigation plan in place or lose eligibility for flood hazard mitigation grants. Mr. Mangeri noted that at the recent National Emergency Management Agency (NEMA) conference, NEMA advised that they are now willing to extend the deadline one year. Mr. Zagone, of the Federal Emergency Management Agency (FEMA), cautioned that the deadline has not been extended, but is up for recommendation at this time.

Mr. Mangeri stated that one of the concerns mitigation officers have about this ruling is that no municipality must have a mitigation plan filed by November 2003. The only penalty for a municipality who fails to do a flood mitigation plan is they may not apply for the hazard mitigation grant program; a program that the current proposed presidential budget terminates. However, if the state fails to do a comprehensive hazard mitigation plan by November 1, 2003, then the state or its subdivisions will not be allowed to receive funds other than category A and B of public assistance, which are emergency protective actions only. He further noted FEMA's own current strategic planning acknowledges that it is not a realistic comprehensive strategy to do nationwide mitigation plans by the end of 2003.

Mr. Zagone commented if funds are not authorized as HMGP funds there are plans for disaster funds to be available. In the first year or two of implementation, at the Regional Director's discretion, funds will be allowed to be granted for concurrent plan development and HMGP money. Mr. Zagone reiterated that in the rare occasion that HMGP funds are not available, PDM funds will be available, or a mixture of both. He then addressed the comprehensive strategy and stated the expectations that of those communities that will have completed plans are the most flood prone communities. Mr. Fromuth spoke of the FEMA guide (386-2), which details the preparing of hazard mitigation plans. It provides extensive step-by-step examples of what a community must do to prepare such a plan. Required information includes specifics on each building such as building footprints and first floor elevations for special purpose facilities and residential structures of a community. This concept of performing a risk assessment is the standard to be used by FEMA for determining plan acceptability.

An aerial photograph of the Hatboro, Bucks County, PA area showing the 100 year flood boundary and repeat insurance claims before Tropical Storm Allison was reviewed. Mr. Fromuth noted the information shown on the photograph is readily available but would not satisfy the requirements outlined in the FEMA guide.

Mr. Mangeri noted that the FEMA guide was written prior to the issuance of the Federal Register and unfortunately they present very different methodologies, which has caused the program to be created as time goes on. As many jurisdictions have already invested a lot of money, time, resource and commitment to a strategy development, he felt that FEMA should, at least, acknowledge these efforts and allow jurisdictions

with recently developed CRS plans and FMA plans to go beyond November 1, 2003 and considered to have a plan in place for the first cycle.

Mr. Zagone responded that although it may be a peculiar way to proceed, at least, it is being done. The program is being looked at as a long-term project and it is recognized that many of the current plans will not have the full extent of information that the regulation calls for and there may even be variation on acceptability from region-to-region and state-to-state. FEMA is looking at re-visiting state plans on a three-year cycle and local plans on a five-year cycle. He also noted FEMA has created Crosswalk Reference documents as a tool to assist local jurisdictions in developing and submitting mitigation plans under the Disaster Mitigation Act of 2000. Copies of these were made available.

Mr. Mangeri described the beginning of the transition to pre-disaster mitigation when the DMA was revived. Towns voiced their concerns to their legislators, etc., that there were too many conditions tied to disaster money. Subsequent to Hurricane Floyd, FEMA was required to present a better system. The answer received from the DMA and 322 planning was that jurisdictions had to do more than what was previously expected from them.

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 operation 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.

PA also has planning initiatives undertaken by municipalities that have been effective in the past and operate at the county level. Hazard mitigation has been made part of performance criteria for counties to receive PA's emergency management program grants.

PA is working toward county mitigation planning. PEMA requested Bucks and Montgomery counties to develop their hazard mitigation plans. Montgomery County has overlaid the flood insurance rate map with the digital aerial photo to obtain a relative measure of their flood hazards.

Mr. Mangeri stated that NJ had over \$700,000 in project money for Flood Mitigation Assistance (FMA) this year that had to be returned to FEMA because no NJ town wanted it. He believes this is because in order to receive project money, plans need to be done and the jurisdictions do not want to open up their master planning for emergency operations as the mitigation plans should be connected to their land use management. Mr. Tamm agreed noting that PA is also requiring that their hazard mitigation must be attached to the jurisdiction's land use planning.

Many NJ towns are now spending money to deal with issues concerning anti-terrorism, therefore, they do not have money currently available for their matching funds portion of FMA project work. Mr. Tamm stated it needs to be determined if any of the anti-terrorism money passing through FEMA could be used as part of the match for FMA. Mr. Mangeri stated a large problem is that DMA 2000 added the word "natural" in front of "hazard," restricting the scope of eligible work. Prior to this wording change, mitigation officers generally looked at all hazards.

Having \$450,000, NJ is working toward a multi-jurisdictional plan at the county level since the consensus is that the local towns can not do it. Eight tidal counties are proposed to be targeted to participate in a program creating a county mitigation planning initiative utilizing software called "Mitigation 20/20", which is an access

based software to provide the datasets needed by Capitol Hill to justify the validity of the programs. The selected counties would work in conjunction with the proposed contracted project manager, the NJ Sea Grant program, in processing the data.

Discussion occurred on community flood reduction strategies and efforts. Mr. Mangeri stated towns with aggressive strategies have determined first floor elevations for most of their properties. Entire blocks have also been shot to obtain a standard and used as acceptable methodology. GPS systems have also been utilized.

Mr. Fromuth noted that each of the watersheds in Montgomery County that have had any history of flooding or potential of flooding has been mapped. He introduced Mike Stokes of the Montgomery County Planning Commission staff who has been involved with developing their plan. Mr. Stokes commented that many of the remarks and points mentioned today, as well as, the frustrations expressed by municipalities were also experienced by Montgomery County in their planning process.

Montgomery County has approximately 22,000 acres (7%) within the 100-year floodplains of the county. The area flooded by Tropical Storm Allison is a small portion of Montgomery County that lies within the flood hazard area. Their flood situations range from flash floods, floods in mid-size streams, and river flooding. Montgomery County has 750,000 residents and is a large job center as well. Many of the flood victims were commuters. As there was very little information available regarding the vulnerable areas in the county, other than the 100-year flood maps, the County Commissioners formed a team to do preliminary analysis and prepare a plan showing the significant vulnerable areas and what could be done to provide protection for those areas. The results provided the following information:

- entire county surveyed; twenty-five areas identified as vulnerable;
- the 100-year flood map was overlaid with aerial photography;
- information gathered from local municipalities was used to characterize areas;
- developed various county policies County Commissioners could adopt as part of the County Comprehensive Plan;
- outlined various mitigation alternatives. However, they cannot be analyzed for risk and cost analysis without more detailed information;
- property boundary information was obtained for most municipalities in GIS format; footprint or first floor elevation information was not obtained;
- most property damages result from basement and other types of flooding; and
- the 100-year flood maps do not predict the extent of floods experienced in a number of the flood prone areas.

Mr. Stokes concluded his presentation by stating the plan is still in draft view, but it has provided insight to the number of different areas in the county vulnerable to significant loss. The analysis further indicated there are some great inexpensive opportunities to reduce flood risks.

Mr. Mangeri asked if there are any mandates in PA's land use law requiring identifying hazard vulnerable areas. Mr. Stokes stated in the Comprehensive Plan guidelines, there is environmental sensitive-type language that is very general. Mr. Mangeri asked if a sub-chapter mandating identifying areas of known repetitive hazard would change the emphasis of having to identify them. Mr. Stokes stated he believed it would.

Mr. Mangeri asked if having either the DRBC or FAC recommend model language for incorporating flood hazard boundaries or known repetitive loss areas into municipal land use zoning would be useful to change the emphasis. Mr. Fromuth stated this would fall into the steps of the Comprehensive Plan development. Mr. Mangeri noted that for a site review permit, FEMA (NFIP model ordinance) requires the 100-year flood or known repetitive inundation be taken into account and then develop the plan accordingly like being above the base flood elevation (BFE) for all infrastructure.

Mr. Tamm asked if educational training sessions for floodplain managers would be useful. Mr. Stokes agreed it would be beneficial. Mandated training of floodplain managers was discussed. Mr. Nechamen suggested having the DRBC sponsor such training sessions throughout the basin as he has had experience in such training and has received positive responses from it. Mr. Tamm commented that by educating the elected township officials, they could understand the importance of continuing to educate their floodplain managers as part of their responsibility as township officials. Mr. Nechamen noted NY offers continuing education credits for training. Mr. Gilman stated all NJ code officials are licensed and must take continuing education credits but the state no longer offers the training. Mr. Tamm suggested offering the information from NWS, USGS, DCA, etc. to the officials as to what is available and what they should be doing in the way of training. Mr. Mangeri stated access already exists in FEMA's home study program. Mr. Gabrielsen stated the NWS has experienced that the CD's, teletraining, etc. do not make an impact as much as a training that addresses specific problems a municipality has. Mr. Mangeri stated that NJ has suggested to the Municipal Access Liability Fund, the parent of all joint insurance funds, to require a series of questions to determine if the town has an overview of a realistic crisis management process as part of their initial safety audit, as well as, their annual review.

Mr. Stokes suggested including existing and newly forming watershed groups into the educating equation. Mr. Zagone state FEMA, Region III would support training seminars. Mr. Mangeri offered to consider the approach of having DRBC act as the state's (NJ) agent or partner and working with the counties to develop the mitigation plans using Mitigation 20/20, as the state is buying the entire package of software. He further noted there may be grant money available.

Mr. Gilman advised the Committee that NJ's Division of Watershed Management has a large amount of staff and dedicated funds for water restoration but has no interest in floodplain management or hazard mitigation. Mr. Mangeri stated the Office of Emergency Management has attempted to inform them that acquisition is a restoration approach, but they did not favorably look at any of the proposals.

Mr. Moore asked Mr. Stokes if Montgomery County Planning Commission would consider tabulating the depth of flooding at individual bridges. Mr. Stokes stated they have not done it but would consider it. Mr. Gilman noted potential flood depth stage mapping is one of the proposals on the FAC's warning system proposal.

Mr. Fromuth commented due to the expansive discussion on mitigation planning, he would like to remove the topic concerning applying HAZUS software to risk assessment from today's agenda and re-visit it at another meeting. The committee agreed.

Mr. Moore offered HAZUS training available through the Army Corps to anyone interested in HAZUS. Mr. Mangeri suggested contact be made with individual state Emergency Management offices as many may already be involved with HAZUS activity. He further noted HAZUS is subject to great debate and is being completely retooled to be inline with ArcView 8.2.

## **CORPS OF ENGINEERS RECONNAISSANCE STUDY FOR THE DELAWARE RIVER BASIN**

Mr. Fromuth reviewed three handouts provided to the Committee. The first being a work description discussed at the last FAC meeting, which was provided to the Army Corps of Engineers. It lists the four objectives the FAC was asked to deal with by providing implementation strategies for the Comprehensive Plan and specifies how they are to be addressed. The second item is the initiation letter of the Reconnaissance Study by the Army Corps. The third and last item is DRBC staff's first cut at language for the Comprehensive Plan dealing with the four objectives. This document was provided to the Army Corps and the FAC committee for review. Mr. Fromuth cautioned that this document deals with a perspective of the Delaware River basin and is not necessarily limited to DRBC.

He introduced Michele Price-Fay, Bob Moore and Chris Bethke of the Army Corps who will be involved with the Reconnaissance Study and the overlap it has with the comprehensive planning.

Ms. Price-Fay informed the Committee what the Army Corps has done is to define the Reconnaissance Study with the Comprehensive Plan to narrow it down to two areas that would benefit from more information and the assistance from the Army Corps. The two areas selected were flood damage assessment and riparian corridor assessments.

Mr. Moore stated he has investigated hazards and will be investigating the method FEMA uses to justify their buyouts. From what has been discussed today, the Army Corps and FEMA's methods differ and FEMA will not accept the Army Corps methods.

He assured the Committee that many things can be done with DRBC's issue of flood damage assessment, such as what Montgomery County did with mapping the 100-year floodplain over an aerial photograph and then counting houses, etc.

He suggested that perhaps tabulating flood depths over the banks would even be better. This would require going into the HEC-2 models and tabulating back elevations and cross-sections of reaches between bridges. This may be useful in assessing where there is damaging potential that may not show up on repetitive flood claims.

Mr. Moore stated he needs direction from the FAC on what route the DRBC wants to take. Mr. Gilman noted one problem is that there has not been a major flood on the main stem of the Delaware River since 1955 so potential damage areas need to be examined by using the computed 100-year floods. Mr. Fromuth offered Montgomery County as a good test case.

Mr. Fromuth asked consideration be given as to what can be developed with an assessment methodology, from a basin-wide perspective, that can help counties duplicate what Montgomery County is attempting to do as most localities do not have flood mitigation plans in place.

Mr. Tamm also asked how good is the estimation of the 100-year event at this point and what effects will global warming have.

Mr. Gilman stated the insurance companies use a method that is based upon the annual peak discharge of a stream over a period of time. Mr. Moore stated HEC-1 modeling (24-hour precipitation data) is also a tool but the accuracy of the data is questionable as it currently goes back to 1960. It was noted this information is currently being updated.

Mr. Kane asked if the models took into account existing snow pack at the time of an event. Mr. Schopp stated it is not as common of a problem in NJ as in NY, but if it is in the gage record, then it is included. Mr. Moore noted the HEC-1 model has a snowmelt element that specifies snowpack, elevations, and temperatures, which is formulated to calculate runoff.

Ms. Price-Fay concluded the discussion by stating much of the work is already being done, but it needs to be coordinated together. She will continue to meet with Mr. Fromuth to proceed with this project. Mr. Gilman stated the Army Corps was selected as being a partner on the FAC's implementation strategy on flood risks as they have studied flooding in the Delaware Basin and have collected data for more than 40 years. Mr. Moore stated the Corps has a copy of every flood insurance study that was done in the basin to determine what the depth of water was at any given bridge. Although the Corps has a lot of information, they still must decide the end state. (For example, even with the hazard mitigation plan, what is FEMA's end state?) Mr. Tamm stated FEMA is relying on communities to implement and seek funding. They want communities to become charged and interested in making their community a safer and more sustainable place to live.

After a summary of the issue by Mr. Nechaman, the Committee concluded that this entire issue is not a study problem but a data access problem. There is much data is available through many sources, but it is not accessible. The Committee agreed that it will not be too successful in attempting to obtain first-floor elevations of properties on a wide-scale basis so they will focus on what floods and work on obtaining ground elevation, flood depth information, and flood frequency information which will give the Committee a basis to provide encouragement to the municipalities and counties to go to the next step and complete their mitigation plans.

Mr. Mangeri noted that part of the strategic plan discussion previously was to develop risk reduction strategies. And in order to do that, one must determine a flood of substantial merit.

Mr. Tamm asked how will the DRBC accomplish putting what the FAC presents into practice for the basin. Mr. Fromuth informed him the DRBC is a vehicle to bring organizations together. The implementation steps listed in the Comprehensive Plan should focus on how the organizations in the basin should move towards satisfying the objectives of the Comprehensive Plan. He noted some steps may be to prepare technical guidance for risk assessment or development of community hazard mitigation plans. Mr. Mangeri stated DRBC's role is to assess the hazard not to debate the vulnerability. Mr. Gilman added as part of the strategies, the Committee may suggest where municipalities can go to further develop their own mitigation plan as there are relatively few sources of funding and few things that can be done to reduce their risks.

Mr. Fromuth urged the Committee to review the third handout, D-3, dealing with the language for the four objectives in the Comprehensive Plan assigned to the FAC and provide him with any additional or changed language so he can compile the information and provide it to the Army Corps.

#### **NEXT MEETING**

The next Committee meeting date was scheduled for Wednesday, December 11, 2002, at 10:00 at the Commission offices.

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### **FLOOD ADVISORY COMMITTEE SEPTEMBER 18, 2002**

#### **ATTENDANCE**

<b>NAME</b>	<b>AGENCY</b>
BENT, Paul J.	AUS Consultants
BETHKE, Christine	U.S. Army Corps of Engineers
BURD, Dave	Merrill Creek Reservoir
FEIKER, Jay	Absaroka Corp.
FROMUTH, Rick	DRBC
GABRIELSEN, Peter	National Weather Service - ERH
GILMAN, Clark D.	New Jersey Department of Environmental Protection - Flood Plain Management
HAINLY, Bob	U.S. Geological Survey - Pa.

KANE, John F.	New York City Department of Environmental Protection
TAMM, Alan	Pennsylvania Emergency Management Agency
LEAR, Kathy	New Jersey Office of Emergency Management
MANGERI, Anthony	New Jersey State Police Office of Emergency Management
MOORE, Robert	U.S. Army Corps of Engineers
NICKELSBURG, Walt	National Weather Service
PRICE-FAY, Michelle	U.S. Army Corps of Engineers
QUINODOZ, Hernan	DRBC
REUBER, Michael	National Park Service
SCHOPP, Bob	U.S. Geological Survey - N.J.
STEIGERWALD, Scott A.	Pennsylvania Department of Environmental Protection
STOKES, Michael	Montgomery County Planning Commission
TORTORIELLO, Richard	DRBC
ZAGONE, Joseph	Federal Emergency Management Agency, Region III

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