



## FLOOD ADVISORY COMMITTEE

October 2, 2001

### MEETING SUMMARY

The fifth meeting of the Delaware River Basin Commission Flood Advisory Committee (FAC) was held at the Commission's offices on Tuesday, October 2, 2001 at 10:00 a.m. with Peter Gabrielsen chairing the meeting.

#### **REVIEW OF DRAFT MINUTES FROM THE JULY 10, 2001 MEETING**

Mr. Sauls requested the word "structural" be removed from the 5th paragraph of page 8. There being no other comments or corrections, the Minutes were approved.

#### **APPOINTMENT OF COMMITTEE CHAIR AND VICE CHAIR**

Mr. Gabrielsen stated that the procedure agreed upon was to alternate between federal and state/local representatives. Therefore, as the chair position was held by a federal representative this past year, and Clark Gilman was the vice-chair representing the state/local aspect, it was proposed that Mr. Gilman become the committee chair for the next year. There being no objections, Clark Gilman was appointed as chair of the Flood Advisory Committee (FAC) for the next year.

There being no nominations for the Vice-Chair, Robert Hainly volunteered to fill the vice-chair position as the federal representative. There being no objections, Mr. Hainly was appointed as vice-chair to the Flood Advisory Committee (FAC) for the next year.

#### **FUNDING STATUS FOR THE FLOOD WARNING RECOMMENDATIONS**

Mr. Fromuth informed the committee that it was his understanding that the recommendations from the committees did not recommend additional AHAPS funding for the Delaware Basin.

Mr. Gabrielsen requested this item be carried forward until the committee's next meeting since there isn't a finalized budget for the upcoming year at this time so funding for any new programs has not been settled.

Mr. Hainly asked if the proposal was limited to obtaining federal funding through the federal government. Mr. Fromuth stated no, there are alternative ways. Gaging improvements can be funded through cooperative agreements and mapping can be done through Section 22 funding with the states and Army Corps of Engineers. However, he did not know if there was an interest through private funding and how far that could go.

Mr. Hainly asked if a progress update could be given to the committee at subsequent meetings of the different components of the proposal as he believes there could be assistance available through the various states. Mr. Fromuth agreed as New York State has expressed an interest in funding some of the improvements recommended in the upper basin. He further stated the improvements may need to be broken down by state to see what funding, if any, is available through each state.

#### **DEMONSTRATION OF AHPS PRODUCTS BY THE NATIONAL WEATHER SERVICE**

Tom Baumgardner of NWS gave a presentation on some of the new AHPS products being developed for our service area and may likely come on-line for the Delaware Basin. This would extend the suite of products offered by NWS to include:

- Improved science and technology
- New graphical presentations
- Higher confidence level for water decision makers
- Water, weather and climate coupling
- High resolution and information and partnerships between the federal, state and local levels
- Increased lead time for river flood forecasts (from 3 days to as much as 7 days)
- Finer scale flash flood warnings from county areas to individual streams
- Expanded information content
- Websites

Mr. Baumgardner then discussed with the committee two different types of forecasts, a thirty (30) day forecast and a five (5) day probabilistic forecast.

The thirty (30) day forecast -

- Inflow Forecasts for Reservoirs

Ensemble streamflow prediction takes climate forecasts and historical adjustments through forecast time series to create mean aerial time series of precipitation and temperature along with conditions on soil and snow. This is input to the hydrologic model to produce a trace of how a particular basin has responded in the past over the last 30-40 years. This information combined with the statistical analysis will allow the NWS to provide forecasts and outlooks that are useful for water supply and water management.

Mr. Baumgardner indicated this is done on a weekly basis.

Mr. Sauls asked about the historical simulation being averaged over a 30 day time period. Mr. Baumgardner agreed it was the next 30 days for the period of record.

Mr. Thomas asked if an attempt to correlate the discharges from this method against the discharges used through the 70's and 80's to see if there has been a rise or drop in the discharges. Mr. Baumgardner requested Mr. Thomas to contact their offices for that information.

- Flow Forecast

The Probability Chart showing the historical simulation and the conditional simulation was reviewed.

- Probabilistic Forecast

Issued for all locations in the Juniata on the webpage every Friday for 30 days out.

The five (5) day Probabilistic Forecast -

Basin conditions for short term probabilistic quantitative precipitation forecast (PQPF), QPF scenarios based on comparison of historical and observed mean aerial precipitation (MAP) and expected value of plots for certain locations issued daily.

It was noted that currently NWS is using 48 hour QPF in six hour time steps to produce a five day probabilistic forecast.

Dr. Quinodoz asked about the range of values for a specific date. Mr. Baumgardner stated that currently the graphic indicates just the forecasted rainfall, however, NWS would like to add another graphic which would show the distribution of the rainfall so if a higher amount of rainfall occurred than forecasted, the graphic would display the likely response from the river.

Mr. Hainly asked about regulations of stations by dams and how this would reflect in the trace. Mr. Baumgardner explained that information concerning dam shutdowns, increase of discharges etc. can be incorporated into the model allowing that information to be incorporated into the forecast as well.

- Graphic HMD

A depiction of current stream and river conditions and forecasted stream and river levels on a hydrograph of what has been observed. This is also undeveloped at this time.

It was noted this was deterministic.

- Flood Outlook Product -

This product would show whether there is expected significant flooding over the next five days from any of the major river systems. This does not deal with flash flooding but rather river flooding. It also does not locate a particular location on a river but indicates that somewhere in the area significant river flooding is likely.

Mr. Baumgardner emphasized the importance of this product for emergency managers and planners is that it is going out 5 days rather than the current 1-2 days.

Mr. Sauls asked how different is this plot/graphic than one of significant precipitation. He was informed that it shows what different river levels are.

It was noted that the Mid-Atlantic River Center (MARC) is currently doing this operationally and as of November 1st all other river forecast centers throughout the country will be included so as of 4:00 p.m. each day this national product will be generated through the Hydro Meteorological Prediction Center.

Mr. Gabrielsen and Mr. Baumgardner stated this product was developed on a national level based on input received from FEMA during Hurricane Floyd. In order to tailor it to the local users, as local requirements may differ from national requirements, feedback is necessary and requested everyone to review it and forward any comments to Mr. Baumgardner.

- Flood Forecast Mapping -

This is a calibrated to generate either specific deterministic forecasts or probabilistic forecasts.

Concluding his presentation, Mr. Baumgardner spoke of cooperating agencies who assist the NWS in doing their job such as USGS, the Delaware River Master's office, the River Basin Commissions and the state and local governments.

Mr. Gabrielsen noted that one of the issues the NWS is dealing with as they implement this innovation mapping product is how to deliver this service to the user.

Dr. Tortoriello asked if there will be other USACOE dams and reservoirs that will be considered for analysis such as Blue Marsh and Beltzville reservoirs. Mr. Baumgardner stated that is their intent.

## **DISCUSSION OF "STORMREADY" PROGRAM AND CRITERIA BY THE NATIONAL WEATHER SERVICE**

Mr. Joseph Miketta, NWS Warning Coordination Meteorologist, gave a presentation of the NWS StormReady program which is a national program in place to work with all the communities to make them aware and prepare for all types of weather hazards.

He noted the purpose of this program is to focus on improving communications and preparedness in communities. It provides communities with detail and clear guidance to improve their warning and preparedness programs. One issue is to work with emergency managers who don't have access to realtime weather information critical to their operations, determine what is required for improved operations and to seek ways to obtain the necessary materials.

He provided several examples of weather hazards that have occurred in the area. Some depicted situations where there were casualties within unprepared communities; others showed how preparedness saved lives as people knew what to do and how to respond to the warning.

Examples were shown of issued warnings and the information included such as what type of weather hazard is approaching, the validation time of the warning, the basis for the warning and the forecast path of the weather hazard. He indicated there are many ways to issue the warnings such as websites, banners across the bottom of television screens, NOAA weather radio with alarm systems and tone alerts, and automatic dialing systems for designated areas.

Mr. Miketta emphasized the program worked the way it was intended, without any casualties due to sufficient lead time, because of the children of the communities more so than the adults.

An interesting point he made was that the fall line is very important in the mid-Atlantic area and is watched closely as storm after storm, it appears that the fall line is a focusing mechanism for heavy precipitation.

Communities can become StormReady by establishing communication and coordination of a 24 hour warning point. This can be done relatively inexpensively. Approximately \$1,400 would provide a community with a satellite dish and de-modulator for computer access to all of NWS products sent to the satellite. Satellite products can be tailored to a specific area and could be re-broadcast through various channels such as pagers.

Some other criteria for StormReady include:

- Situation awareness
- River gage monitoring and radar access
- Monitor evolving weather
- Disseminate warnings
- Increase community preparedness
- Dispatcher training
- Public safety presentations for public education
- Review hazards of the community Action Plan

Mr. Miketta noted StormReady recognition is valid for two years with re-application for re-certification necessary every two years thereafter. During the certification process it is the intention of NWS to have every school in a StormReady community to have a NOAA weather radio. At the initial certification it is required that the administration office have one, at the first re-certification thirty-three percent (33%) of the individual schools will be required to have one, the second re-certification will require sixty-six percent (66%), and by the third re-certification all schools in the community will be required to have a NOAA weather radio.

StormReady criteria is population based. Communities with populations under 40,000 have less stringent criteria due to possible lack of financial resources. NWS provides for two free StormReady signs, StormReady logo can be used on all stationery. Insurance service organizations grant StormReady communities rating

points which potentially reduce flood insurance costs.

Mr. Miketta reviewed the steps needed (in NJ) to apply. The county, municipality or town applies in writing for application to the StormReady program. The application submitted by the county, municipality or town is processed through the NJ Office of Emergency Management (NJ OEM). Mr. Miketta noted that in PA, counties must apply directly through him as PA Emergency Management Agency (PEMA) is encouraging the counties to apply. Delaware has applied to have the entire state StormReady approved. He did note that he believed the StormReady program works better at the local level.

Mr. Miketta reviewed the range of coverage NOAA currently has and the proposed coverage area once new transmitters are installed and others re-located which will hopefully cover all terrains down to the central part of Delaware, out to mid-Pennsylvania and all of New Jersey.

## **DISCUSSION OF FRAMEWORK DOCUMENT AND TECHNICAL SUPPORT FOR COMPREHENSIVE PLAN**

Mr. Fromuth gave an overview of the status and time frames for all the phases of the plan. He noted the Goals and Objectives document has been broken down by the Watershed Advisory Committee (WAC) with each advisory committee assigned goals and objectives to develop an implementation strategy. There will be a two month public comment period for the document once the WAC reviews it. The goals and objectives can be changed during this entire time period as it is the intent to establish all the goals and objectives first and then create a plan to reach them. Once the implementation strategies are defined, assessment work may be required for some of the goals and/or objectives to be achieved.

Mr. Fromuth then spoke about funding perhaps in the range of \$50,000 which may be available to support the committee in the development of implementation strategies and suggested the Flood Advisory Committee think of how to best use the funds prior to their next meeting as that should be the same time frame the Goals and Objectives are assigned to the various committees. He noted the Commission can take advantage of the GSA list of contractors to develop a work order without going through a detailed bidding process, as well as, asking a consultant to perform certain inventory work that would be essential to proceed.

He reviewed Goal No. 1 and its current four objectives which will be assigned to the FAC advisory committee. He noted there is also an objective in one of the other goal areas which relates to flood regulations and discouraging development in the flood plains but believes Objective 3 of Goal 1 covers the topic, so perhaps the first step of implementation strategies for Objective 3 for the advisory committee should be to look at all items discussed from inconsistencies of flood plain regulations to the lack of combining flood mitigation programs and other opportunities.

Mr. Gabrielsen asked if Objective 4 of Goal 1 could be expanded to include "loss of life" in reduction of flood damage. Mr. Fromuth agreed it should be included and reiterated that anyone's comments should be submitted.

Mr. Baumgardner requested the wording "complete" be changed to "accomplish" in Objective 1 of Goal 1.

Mr. Fromuth stated some specifics of what the implementation strategies for the objectives are supposed to include are action steps, implementing entities, the dates by which actions will be completed and funding mechanisms and methods for measuring success.

Mr. Fromuth then reviewed his list of items needed to accurately assess the current situation in an attempt to move forward. It included:

- Inventory of historic flood losses and repeat damage
- Inventory of floodplain structures and transportation as available

- Inventory of floodplain acquisitions in basin
- Updated inventory of existing structural flood control measures
- Inventory of basin flood mitigation programs that provide opportunities for local flood loss reduction activities
- Inventory of successful flood mitigation outreach programs

Mr. Fromuth noted Chris Roberts, DRBC public information officer, has suggested the Commission support a workshop held in the basin within the next three months dealing with flood loss reduction. Mr. Gabrielsen stated the NWS has a schedule set for spring flood potential outlooks they issue which could be offered for the outreach programs. Mr. Thomas suggested offering several type specific workshops since there is a broad scope of audiences attempting to be reached. He offered to work in conjunction with DRBC and to supply manpower for different meetings. Mr. Gilman stated NJ DEP also offers programs in retrofitting, coastal construction, etc. He also agreed that the audiences for each program is different and a series of workshops would probably be best.

Mr. Thomas commented FEMA is getting their information out through channels such as Lowe's, Rickels and Home Depot by incorporating FEMA's techniques and distributing materials into their seminars and workshops they hold for the average person or contractor. He noted there is a meeting being conducted by Congressman Greenwood in Washington, D.C. with selected federal and state agencies on October 3rd to devise an eight community stormwater management plan which will then go to the public in November.

Mr. Fromuth commented that the PA section of AWRA held a stormwater conference recently at which time Act 167 program was presented. Although there is money available to do stormwater planning it affects only new development so existing problems are not covered by the money. Mr. Thomas noted that CDBG money through HUD can be used for the same purpose to retrofit existing neighborhoods if local governments prioritize stormwater planning but historically it has been used for other purposes.

Mr. Tamm noted that both Bucks and Montgomery counties have committed to preparing a hazard mitigation plan through their Hazard Mitigation Committee which will be meeting later in the month. He offered to take the FAC's offer to assist them to the meeting if that is the consensus of the committee.

Mr. Thomas noted that one of the items that will provide a superstructure for all this planning to be built on is the 322 Plan requirement that came out of the Disaster Mitigation Act of 2000. He noted this requires local and state plans before any projects are allowed at the federal level. He also mentioned the Hazard Mitigation Grant Program, the Flood Mitigation Assistance Program and the CRS plan would fall under the 322 Plan requirement which should form a basic performance among all the plans by identifying the problems, the options for solving the problems and the sources of funding to do the actual implementation.

Kathy Lear spoke about the availability of New Jersey's FMA Planning and Project Grants for municipalities. An attempt is being made to make the accessibility for project grants easier by allowing communities with an approved CRS plan to approve for FMA Project Grants.

Concluding the discussion, Mr. Fromuth requested guidance from the committee as to the extent that the FAC should become involved with the planning process of the Bucks-Montgomery County matter. It was noted that since the money was coming from the Commission that perhaps it should be spent on comprehensive flood loss basin-wide as opposed to focusing on developing one specific flood mitigation plan for Bucks and Montgomery counties and using it as a template.

Mr. Gabrielsen informed the committee that the awareness guide of tropical floodings and inland cyclones and damage due to inland flooding from tropical storms as mentioned by Mr. Summer at the last meeting has been completed and available in pamphlet form, video and on the NWS website.

## NEXT MEETING

The next committee meeting was tentatively scheduled for **Tuesday, January 8, 2002** at the DRBC offices in West Trenton, N.J. starting at 10:00 a.m.

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