DELAWARE RIVER BASIN COMMISSION
FLOOD ADVISORY COMMITTEE SUMMARY

May 2, 2007

The February 7, 2007 Flood Advisory Committee (FAC) meeting began at 10:00 AM at the Commission office (DRBC) in West Trenton, NJ. Scott Steigerwald of the Pennsylvania Department of Environmental Protection and vice chair of the FAC, chaired the meeting for Peter Gabrielsen, (chair).

A. Introductions and Review of the Draft Minutes from the February 7th Meeting

George McKillop had a minor change. In the discussion on page 4, second paragraph with reference to vertical datums, the second one should be NAVD 88. The approved summary will soon be posted on the DRBC web site. Tapes of the meeting may be reviewed upon request.

B. Hydrologic Conditions Report

A presentation of the current hydrologic conditions was given by Richard Fromuth, DRBC. He discussed the nor'easter that occured April 15-16, which caused extensive flooding in northern New Jersey. Despite the major flooding that occurred in NJ, the Delaware River main stem kept within bank full. This is attributed to the heavy snowfall the storm brought to the upper part of the basin. This snowfall did not contribute to the flood crests along the main stem and by the time it was measured, was about 31 bg water equivalent of snow.

As of April 21st, precipitation in the basin was above normal during the past month; from 3.3 to 5.0" total. The totals equate to 21-34% of above normal precipitation.

Flash flood guidance from the NWS was presented which is the amount of 12 hour precipitation that would need to occur to cause local flash flooding. As of May 1, different areas of the basin would need from less than 2" to 2.5" over a 12 hour period to result in flash floods.

C. Status of Flood Analysis Model Proposal

Resolution 2006-20 was passed by the DRBC to provide funding for the development of a flood analysis model. The focus of the model would be to evaluate the effect that the reservoir voids have on reducing flood crests and also be able to look at operations of reservoirs just before and during floods to see the effects downstream of releases. A total of $500,000 was committed by the four basin states towards this model development.

Objectives of the modeling:

1. Allow the evaluation of the effects of reservoir voids and release operations on downstream flood crests for different storm events.
2. Provide an analytical tool for the development of flood operating plans for reservoirs.
3. Provide for the ability to examine, modify and improve the model and data sets as new information and technology become available.
4. Provide a means of demonstrating the operations of reservoirs in basin hydrology.

The model has three components:

1. Rainfall/runoff – what happens when the rain hits the land surface.
2. Reservoir operations
3. Flow routing – routing that has to take place between the time the rainfall hits the surface and gets to the reservoir. It also takes place once the water leaves the reservoir and goes downstream.

The three agencies that will be involved with the model development are the USGS who would manage the project and deal with the rainfall/runoff modeling and the integration of the modeling components. The Hydrologic Engineering Center in Davis, CA would be involved with the reservoir modeling, and

will apply a model called ResSim. The National Weather Service would be in an advisory role and would contribute the routing components incorporation with ResSim and with the rainfall/runoff modeling.

The initial reservoirs that would be modeled are: Toronto, Swinging Bridge and Rio from the Mongaup System, Neversink, Pepacton, Cannonsville, Lake Wallenpaupack, F.E. Walter, Beltzville, Blue Marsh, Marsh Creek, Nockamixon Reservoir, Jadwin and Prompton, and Merrill Creek.

The tasks in the project are: database development, maintenance, rainfall/runoff model development, reservoir simulation model development, flow routing, integration of the model components, graphical user interface. The products would be documentation and model development, model assumptions and database, model calibration and verification, users' manual for running the model, and the delivery of the model package.

Action items:
1. Statement of work to be delivered by USGS who is coordinating the project.
2. A resolution is to be passed at the May 10th Commission meeting which will allow DRBC to enter an agreement.
3. Target date to sign the agreement is the end of May.
4. Eighteen month timeframe for the project once the agreement is signed.

D. Interstate Flood Mitigation Task Force; FAC Strategy to Implement Flood Warning Recommendations

In February, there were four public meetings on the Interstate Flood Task Force report. The task force convened again in March to consider the public comments, and currently some revisions are being made to the final report, which is expected to go back out to task force members on Friday.

Handout D-1 is the flood warning section of the task force report. There are fourteen recommendations, and FW-13 is a new recommendation on ice jam and communications plan. Handout D-2 is a recommendation overview that lists all of the recommendations in the report by name and attempts to categorize them by on-going, short-term or long-term, resources needed, and the lead agency(ies). The Flood Advisory Committee, although there would be implementation partners, is committed to coming up with a strategy to prioritize a few of the Flood Warning recommendations in the report and implement them.

Mr. Fromuth passed around a Flood Warning Improvements subcommittee sign up sheet for members that are interested in working to implement these recommendations and help outline the steps and resources that would be needed to go forward. Mr. Fromuth said something that should come out the subcommittee discussion is a package for the flood warning recommendations that we would want to give to a governor or someone else that is going to make a funding decision.

Some comments heard by the public during the Task Force public meetings related to deficiencies in the flood warning network. Two examples are the Mongaup System not having any gage and not having telemetry immediately downstream of the New York City reservoirs.

Tom Suru of USGS said they did look at evaluating the network and gages in New York and they have some recommendations of things that they heard from local communities after the last few floods. He noted the comments about downstream of the reservoirs needing telemetry. One of the things they are proposing to do is actually use some National Streamgaging Program money because the Downsville gage and the Stilesville gage are flood forecast points and they are partially federally funded sites. They are going to use some of that money to upgrade them with telemetry. They are working with DEC and New York City and are proposing to only show discharge on the web for those sites when the reservoirs are spilling.

Bob Hainly commented that the USGS is listed as the lead on handout D-2 in FW-1 and FW-2. He suggested listing USGS and Weather Service as dual leads.

Mr. McKillop said some of the recommendations in the report that have the Weather Service listed as the lead agency, are currently being implemented outside of this basin. For instance, FW-6 - developing a site specific plan for flash flooding; is well on its way to being implemented in the Ohio River Basin. The tools are in place, but have not completely flushed out their policy yet. Once implementation is finalized, he believes it can very easily be applied to the Delaware River Basin.

Gary Petrewski said they are about to enter into a contract with the USGS for another gage along the Lackawaxen at Rowland, PA. PPL will pay for and maintain that gage. The intent is to get it in this fall.

Mr. Burd commented on F-11: establish a coordinated flood warning education and outreach program. A year or two ago the National Weather Service started to do some public outreach with emergency managers to explain what products are currently available and how to interpret them. The counties have expressed that they wish they understood more about what it means, how to use it, and how to interpret it. Maybe there is a piece coming out of this committee for a short-term revisiting of that with the National Weather Service. They have great products, they just need to let people know what they are and how to interpret them. Mr. Ahnert said if the DRBC arranges any kind of workshops or outreach meetings where they would like them to present, they are happy to present and talk about AHPS or the RSS feeds or anything else. Mr. Burd said that may be a good opportunity for the DRBC to get out on the issue.

Mr. Ahnert said another good program that the southeast RFC has been pursuing is to put up high water mark signs at various locations throughout the basin. The signs are sponsored by the USGS the river basin commission, and the National Weather Service.

E. Flood Inundation Mapping: How the NWS is interfacing with FEMA Map Modernization efforts and what needs to be done to prioritize the Delaware River Basin for such efforts.
(Thomas Graziano, Ph.D. NOAA/NWS)

Mr. Graziano, the Acting Chief of the Hydrologic Services Division of NOAA's National Weather Service delivered a presentation about partnered efforts to provide flood inundation severity maps. He discussed the background for these efforts, some demonstration projects they have underway, future plans, and how they plan to provide operational access to this information predominantly through the web. One point that was brought up following the presentation is that the FEMA regions should be contacted when implementation in the Delaware River Basin is scheduled because they are aware where map modernization and new LiDAR is being developed.

F. Opportunity for Public and Interested Party Comments

Mr. Garlitz has five properties that have been flooded in the past. He expressed his thanks for the work the USGS, NWS and FAC are doing. In particular, he mentioned that the flood warning system is really helpful to the people who are affected by the floods. The work that the committee is doing has real meaning to people.

G. Real-time review of RSS feed, flood warning via email notification
(Laurie Hogan, NWS)

Ms. Hogan gave a presentation on an update on the availability and use of AHPS RSS feeds. RSS feeds are an e-mail notification system that can transmit information to your cell phone, pda, or browser. RSS stands for "really simple syndication" and it is an easy way to get important information, which is delivered to a feed. She discussed uses for the Weather Service RSS information, in particular for river flood levels, forecasts, and alert stages. You can also get weather and flood warnings, weather and flood watches, hurricane information, and some weather observations.

Mr. Burd asked about lag time from the AHPS forecast. Mr. Ahnert responded that currently it is a very quick turnaround from when the weather office updates their forecasts. The problem now is that there is still some lag in the web page updates from the AHPS pages, but that is an AHPS server issue. The Weather Service headquarters is vigorously working on it to get new hardware to web farms to be able to

update the AHPS pages faster. The Weather Service is fully aware of some delays in information with the last floods and they plan to have updated the web farms by the end of the fiscal year.

Mr. Burd said this information is out to the general public and that is a wonderful thing. But, the people who are on the ground trying to make decisions on evacuation, you are dealing into a funnel. He asked if any consideration been given to providing password protected access for emergency managers so that they can get into it without conflicting with the general public. Mr. Ahnert said they are hoping to solve the problem globally by improving the web farms. The idea has been discussed to have a separate network for emergency managers, but the primary push has been to solve the problem globally.

H. Status Report on Delaware River Mapping Coordination – Hydrology
(John Moyle, NJDEP & Bob Schopp, USGS)

John Moyle of NJDEP revealed that New Jersey leveraged the federal map modernization funds with state funds. Standard map modernization serves only to digitize the maps, not update them. Because NJDEP entered into the project as a Cooperating Technical Partner (CTP) with FEMA this has expanded the map modernization process to include an update of the hydrology and hydraulics of the main stem Delaware. Over the last year, a working group has formed including the Corps, USGS-NJ, USGS-NY, FEMA Region II and III, DRBC and some of the consultants involved with the map modernization work. At their last meeting, they reached concurrence on new hydrology (discharges for various flood frequencies) for the main stem Delaware.

Mr. Schopp said FEMA, Region II asked the New Jersey office of the USGS to update the flood frequencies for the five gages in the New Jersey portion of the river, and he presented slides to discuss the final results.

I. Status Report on the Flood Mitigation Plan for the Non-Tidal NJ Section of the Delaware River
(Laura Tessieri, DRBC)

Ms. Tessieri postponed this discussion for the next meeting.

J. Next Meeting

The next meeting was scheduled for Wednesday, August 8, 2007 at 10:00 am. This has since been rescheduled to Wednesday, August 22, 2007.

Additional Items

Mr. McKillop announced that Mike Schaffner was taking over for John Chiaramonte in the Binghamton office.

Mike Reuber announced that he will be retiring from the National Park Service as of June 1, 2007 and that Dave Forney will be filling his spot in the Flood Advisory Committee.

Joe Zagone requested an update on DRBC funding issues.

FLOOD ADVISORY COMMITTEE
ATTENDANCE

May 2, 2007

NAME	AGENCY
AHNERT, Peter	National Weather Service (NWS)
BOWEN, Sarah	Baker Engineering
BURD, Dave	Lambertville Office of Emergency Management (OEM)
COLVIN, Mary	Federal Emergency Management Agency (FEMA)
DOUGLASS, Bill	Upper Delaware Council
DUNN, Kim	Dewberry
FORNEY, Dave	National Park Service – Upper Delaware Scenic and Recreational River (NPS – UPDE)
FROMUTH, Rick	Delaware River Basin Commission (DRBC)
GARLITS, Skip	Stakeholder
GRAZIANO, Tom	National Oceanic and Atmospheric Administration (NOAA)/NWS
HAINLY, Bob	United States Geological Survey (USGS)- Pa.
HOGAN, Laurie	NWS – Eastern Region Headquarters (ERH)
JESPERSON, Eric	Pennsylvania Mapping and Geographic Information Consortium
MAGILL, W. Scott	Delaware Canal Advisory Board
MCKILLOP, George	NWS – ERH
MILLER, Jason	United States Army Corps of Engineers
MOYLE, John	New Jersey Department of Environmental Protection
NECHAMEN, Bill	New York State Department of Environmental Conservation
O'HARA, Kate	DRBC
PETREWSKI, Gary	PPL
QUINODOZ, Hernan	DRBC
REUBER, Michael	NPS – UPDE
RIMAWI, Hani	Medina Consultants
RODGERS, Ted	NWS – Middle Atlantic River Forecast Center
RUPERT, Clarke	DRBC
SCHAFFNER, Michael	NOAA/NWS-Binghamton
SCHOPP, Bob	USGS
STEIGERWALD, Scott	Pennsylvania Department of Environmental Protection

SURO, Thomas	USGS – NY
TESSIERI, Laura	DRBC
WILLIAMS, David	Pennsylvania Emergency Management Agency – Eastern Area
YAGECIC, John	DRBC
ZAGONE, Joseph N.	Department of Homeland Security – FEMA Reg. III