

**DELAWARE RIVER BASIN COMMISSION
FLOOD ADVISORY COMMITTEE SUMMARY**

November 17, 2010

The November 17, 2010 Flood Advisory Committee (FAC) meeting began at 10:00 AM at the Commission office (DRBC) in West Trenton, NJ. Tom Suro, U.S. Geological Survey (USGS), chaired the meeting.

A. Introductions and Review of the Draft Minutes from the August 25, 2010 Meeting

The minutes were approved with no corrections or changes. The summary will be posted on the DRBC web site. Tapes of the meeting may be reviewed upon request.

B. Hydrologic Conditions Report and 2010 Lower Basin Drought Warning, Amy Shallcross, DRBC

A presentation of the current hydrologic conditions was given by Amy Shallcross, DRBC. As of November 17th, the year-to-date precipitation for 2010 was 3.1 inches above normal for both the lower basin (Wilmington) and mid-basin (above Trenton) and 4.2 inches above normal in the upper basin (above Montague).

To date, for the month of November, streamflow both at Montague and Trenton gages were below the normal range for that time of year. Streamflow at Montague was 92% of normal as of November 15th and Trenton was 85% of normal. This is in contrast to the month of October, where both Montague and Trenton were over 350% of normal.

As of November 16, 2010, the total storage for the NYC Delaware reservoirs was 221 BG; Cannonsville was at 79.9%, Pepacton at 82.6% and Neversink at 81.9%. The FFMP release level for all three was at L1c levels.

2010 Drought Summary:

New Jersey: NE Drought Watch: August 5; Statewide Drought Watch: September 8; Lifted for all but the Coastal North on October 26; Lifted for all regions: November 9

Pennsylvania: Drought watch and warning: September 16; Lifted on November 10

Delaware River Basin Commission declared a lower basin drought warning on September 24. It was terminated on October 31. DRBC Directed Releases during 2010: Beltzville Reservoir: 7,500 cfs-days; Blue Marsh Reservoir: 6,600 cfs-days.

As of November 15, 2010, the salt line (7-day average river mile location of 250 mg/l chlorides) was at river mile 72 which is eight miles downstream of its normal position at 80 miles. The next one-three month outlooks shows an equal probability of experiencing either higher or lower than normal temperatures and precipitation.

C. Report on Flood Warning Users Forums, Laura Tessieri, DRBC

Three full-day meetings were held in September 2010 for county/local emergency managers. Over 130 county and local officials attended the Forums. Forums were held in Easton, PA on 9/21, Lambertville, NJ on 9/22, Narrowsburg, NY on 9/28.

Agendas highlighted the new flood inundation mapping tool on the main stem and also included presentations about the latest flood warning improvements, current and future NWS forecast products, USGS WaterAlert, how river forecasting works, uncertainty in forecasting, flash flooding tools and Nurture Nature's flood awareness and safety campaign.

Partners for these forums included USGS, USACE, The Nurture Nature Foundation, and NOAA-NWS. Funding for these forums was provided through congressional and NOAA grant support. These forums are one of the projects funded under the Delaware River Enhanced Flood Warning System made possible through a NOAA grant and congressional support.

D. Update on Flood Hardening Gages- Enhanced Flood Warning System, Tom Suro, USGS

Tom Suro, USGS, gave an update on the status of flood hardening. A total of six (6) prioritized stream gages in NY have been or are being raised or relocated above historic flood levels using Delaware River Basin Enhanced Flood Warning funds. This project comes from a recommendation in the Interstate Flood Mitigation Task Force. The funds were made available through a NOAA grant with congressional support.

Gages raised or relocated using these funds includes: Delaware River above Lax nr Barryville, Delaware River at Callicoon, Neversink River at Bridgeville, EBr Delaware River at Margarettville, W. Br Delaware River at Walton and E. Br Delaware River at Harvard. An outreach plaque is planned to be posted at the Margarettville gage.

Action/Discussion Items:

1. There is an ongoing need to establish continuing outreach to local, state, and government representatives on how to obtain flood warning information and the importance of stream gages

E. Rating Curve Development/Extensions- Enhanced Flood Warning System, Bob Hainly and Bob Reiser, USGS

Maintaining full rating curves (the relationship between river flow and river stage) improves the accuracy of river flood forecasts. On November 10, 2010, a conference call was held among DRBC, NWS and USGS to finalize prioritization of gages needing rating curve development/extension work. Prioritization was based on flood warning needs. Ten (10) gages prioritized for extensions will be completed using FY10 Delaware River Basin Enhanced Flood Warning funds. These funds were made available through a NOAA grant with congressional support.

The ten gages prioritized for extensions of the stage/discharge measurements above 125% of record flow are: Delaware River at Tocks Island, NJ; Delaware River at Riegelsville, NJ; Delaware River at Montague, NJ; Schuylkill River at Pottstown, PA; Delaware River at Lambertville, NJ; N Br Rancocas Creek at Pemberton, NJ; Delaware River at Stockton, NJ; Schuylkill River at Berne, PA; Brandywine Creek at Wilmington, DE; and Neshaminy Creek near Penns Park, PA.

Another seven (7) gages were prioritized, but funding is not assured. The seven include: Lackawaxen River at Rowland, PA, Little Lehigh Creek near Allentown, PA, Lehigh River at Glendon, PA, Tulpehocken Creek at Dam near Reading, PA, Neshaminy Creek at Rushland, PA, Manatawny Creek at Spangsville, PA, and W Br Lackawaxen R. at Aldenville, PA. The cost of extending a rating curve is approximately \$10,000 per gage.

Action/Discussion Items:

1. USGS to formulate scope of work and Joint Funding Agreement to be sent to DRBC.
2. DRBC staff will look into possible sponsors for ongoing maintenance of new rating curves to be developed two gage locations, Lambertville and Stockton.

F. Review accomplishments and Revisit Tasks: Interstate Flood Task Force Flood Warning Recommendations and NWS Flood Warning Improvement Recommendations Report

The Flood Advisory Committee reviewed accomplishments and revisited flood warning recommendations contained in the Interstate Flood Task Force Report and the NWS Flood Warning Improvement Recommendations Report. It was helpful for the entire committee to discuss progress made to date and understand recommendations still to be accomplished.

Accomplishments include: Flood Inundation Maps along the Delaware River, Inventory and Evaluation of Existing Precipitation and Stream Gage Networks, Recommend New Forecast Sites, New Flood Forecast Points at Walton and Goddefroy NY, Flood Harden Gages, Probability Forecasts available on AHPS, Flood Warning Education and Outreach

Ongoing: Inventory and Evaluation of Non-NWS Precipitation Gages, Improved Flash Flood Forecasts, Extension of Rating Curves, Ice Jam Monitoring and Communications Plan, Conversion of all forecast points to full 72 hr time series forecasts, Data Collection Platform (DCP) reporting frequency from 3-4 hrs to 1 hr (Completed in NJ and NY, ongoing in PA), Development of a Site Specific Hydrologic Prediction System (SSHP)

Still to be prioritized/funded: Task Force Recommendation FW-14 Coastal Flooding Impacts;
P1) Install Pluvio precipitation gages at designated locations (less maintenance/ all weather) ~\$7,000/each;
P2) Install two snow pillows in Lackawaxen River Basin;
S2) Install gages at Willowemoc near Livingston Manor, NY and Little Beaver Kill upstream of Livingston Manor, NY;
S3) Reactivate Gage downstream of Rio Reservoir on the Mongaup River;
F4) Produce site-specific forecasts for E Branch Margaretville and Dry Brook at Arkville (need 4-season, snow model);
F5) Improve/Expand flood impact statements on AHPS;
G7) Continue development and advances in distributed hydrologic modeling.

Action/Discussion Items:

1. DRBC staff will solicit annual updates to the Basin precipitation and stream gage inventory.
2. DRBC staff will contact DRJTBC to discuss availability of still shots from their cameras at the bridges to help inform the NWS during times of ice or high flows.
3. DRBC staff and NWS to arrange webinars for remaining inundation maps along the Delaware River.
4. Future flood inundation sites in the Basin need to be identified and prioritized. Criteria for possible sites include having a flood forecast point nearby, as well as, recent H&H studies and high resolution topo data (ie. LiDAR).
5. DRBC staff to create a brochure to update Congress, FAC and Flood Task Force about progress implementing Task Force recommendations and grant tasks.
6. Funding to be sought for remaining seven (7) prioritized gages in need of rating curve extension.
7. Mike Schaffner, NWS, will send manufacturer information on NYC automated snow pillows to Bob Hainly, USGS. This may help inform the possibility of initiating automated snow monitoring in the Lackawaxen River Basin.
8. Mike Schaffner, NWS, evaluating operational performance of finer resolution flash flood forecast model for upper Delaware River Basin. Results to be shared with DRBC and FAC once available.
9. NWS to coordinate with NYCDEP and county emergency management for additional development of flood impact statements for the West Branch Delaware River between Cannonsville Reservoir and the forecast point at Hale Eddy, NY, East Branch Delaware River

between Pepacton Reservoir and the forecast point at Harvard, NY and Neversink River between Neversink Reservoir and the forecast point at Bridgeville, NY.

G. Silver Jacket Team – State Updates, Patti Wnek, NWS and Jason Miller, USACE

Silver Jackets (<http://www.nfrmp.us/state/>) is a state-wide initiative, initiated by the Corps of Engineers, to coordinate federal agency flood mitigation efforts and communicate with the state. It has been in existence since 2006. Each state develops a Silver Jacket Team and the state informs the team on priorities. Silver Jacket teams are in the beginning stages of forming in Pennsylvania, New Jersey and New York.

Patti Wnek, NWS, stated that the goal of the PA Silver Jackets is to reduce flood risk. PA top priorities from the State Hazard Mitigation Plan are: Mitigation of severe repetitive loss (SRL) properties and repetitive loss (RL) properties; development of a PA Silver Jackets Interagency Program Guide and Communication and Outreach. The PA Silver Jackets team holds monthly webinars and quarterly face-to-face meetings.

Jason Miller, USACE, emailed an update on NJ and NY teams that was read to the members. NJ has held one meeting and the next face-to-face meeting of the NJ team has yet to be scheduled. NJ top priorities include the Passaic River Basin and inundation mapping.

In NY, prospective team members have met in Albany twice and plan to meet in Spring 2011 to further map the direction of the group.

H. Update on MapMOD Status in New Jersey, John Scordato, NJDEP

John Scordato, NJDEP Flood Plain Management Section, gave an update on the status of FEMA floodplain mapping and ordinance adoptions in the state of New Jersey. Flood insurance studies initially began during the late 1970's/early 1980's and were completed by community. FEMA's MapMOD program began in 2003-2004 and was initiated to digitize floodplain maps on a county-wide basis.

Each state has a NFIP coordinator that assists FEMA with implementation of the NFIP program in that state. The state of New Jersey has been working with FEMA for the past 35 years.

Between 2005 and 2010, 12 counties out of 21 have completed mapping and ordinance adoptions in New Jersey. It is the municipalities' responsibility to adopt the FEMA Flood Insurance Rate Map (FIRM). Camden County was adopted in 2007 and Gloucester County was adopted in 2010. Adoption is likely to occur within the next 12-18 months for Mercer, Warren, Morris and Sussex counties. Future adoption is planned for Burlington, Salem, Cumberland, Atlantic and Cape May Counties.

In addition to digitized maps, the MapMOD program in New Jersey included some updated studies. The updated H&H studies on the Delaware River from Trenton north to Port Jervis are included in the preliminary mapping of Mercer, Warren and Sussex. The updated studies will be added to the Hunterdon County DFIRM (Digital FIRM) via a physical map revision. The FEMA Coastal storm surge study, once finalized, will inform the mapping for the Southern NJ counties in the DRB.

FEMA is developing a new mapping approach termed RiskMAP. These maps would include floodplain mapping, but it is also planned that they can include other risk data such as inundation mapping, depth grids, levee/dam inundation areas or storm surge mapping. RiskMAP is a product that would be completed by watershed (HUC-8 size).

Action/Discussion Items:

1. FEMA DRBC staff to solicit a speaker from FEMA to discuss the RiskMap Floodplain Mapping Strategy at a future FAC meeting. One feature of RiskMap is that future floodplain maps are to be mapped on a watershed basis. (HUC8 level)

2. NY, PA and DE are invited to communicate the status of Floodplain Mapping in the basin at future FAC meetings.

I. Opportunity for Public and Interested Party Comments

Update: South Jersey Levee Inventory and LiDAR Analysis (NRCS, NJDEP, USACE): Outreach to counties/ communities on results of inventory will commence in early 2011.

J. Next Meeting

The next meeting of the Flood Advisory Committee (FAC) is scheduled for Wednesday, February 16, 2010 at 10:00am in the DRBC Goddard Conference Room.

**FLOOD ADVISORY COMMITTEE
ATTENDANCE**

November 17, 2010

NAME	AGENCY
CARLSON, David	Delaware Emergency Management Agency (DE-EMA)
DEANGELO, Jim	Michael Baker Corporation
HAINLY, Bob	United States Geological Service (USGS) - PA
MATTE, Al	National Weather Service (NWS)
MOYLE, John	New Jersey Department of Environmental Protection (NJDEP)
OLIVIO, Dana	New York City Department of Environmental Protection (NYCDEP)
PAREAGO, Vince	National Park Service – Upper Delaware (NPS-UDE)
QUINODOZ, Hernan	Delaware River Basin Commission (DRBC)
REISER, Robert	United States Geological Service (USGS) - NJ
RUPERT, Clarke	Delaware River Basin Commission (DRBC)
SCHAFFNER, Mike	National Weather Service (NWS)
SCORDATO, John	New Jersey Department of Environmental Protection (NJDEP)
SHALLCROSS, Amy	Delaware River Basin Commission (DRBC)
SURO, Thomas	United States Geological Service (USGS) - NY
SZATKOWSKI, Gary	National Weather Service (NWS)
TESSIERI, Laura	Delaware River Basin Commission (DRBC)
TODD, Steven	Pennsylvania Department of Environmental Protection (PADEP)
WESTFALL, Greg	Natural Resources Conservation Service (NRCS)
WINSLADE, Bill	Yardley Borough Manager & Emergency Management Coordinator
WNEK, Patti	National Weather Service (NWS)