

**DELAWARE RIVER BASIN COMMISSION
REGULATED FLOW ADVISORY COMMITTEE
September 19, 2006**

MEETING SUMMARY

The DRBC Regulated Flow Advisory Committee meeting, chaired by William Gast, began at 10:00 a.m. at the West Branch Angler Resort, in Deposit, New York. Mr. Gast introduced committee members and provided some background information about RFAC and the Decree Party Work Group. He explained that a great deal of work has been done by the work group over the past two years, to define goals and objectives and start developing a conceptual reservoir management proposal.

Approval of Minutes from February 23, 2006 Meeting Summary

The minutes were approved with no additions or corrections.

Presentation by NYSDEC of Concept for Long-Term, Multi-Objective Reservoir Management Program

Dr. Muralidhar gave a presentation on the concept for a Long-Term, Multi-Objective Reservoir Management Program. He said the baseline reservoir releases prior to 1976 were really low. The defining documents of the proposed program are the 1954 Decree, NYSDEC Part 671 regulations, DRBC Docket D-77-20 CP, the Stipulation of discontinuance, and the Good Faith Agreement. Operation rule curves were established by DRBC in 1983, and were modified on a temporary basis in 1999 to define watch, warning and drought conditions; these curves trigger reservoir operation under the program. There were six different revisions to the program between 1976 and 2003. The current temporary program, D-77-20 CP (Revision 7) went into effect on May 1, 2004 and will expire on May 31, 2007. This program makes available up to 20,000 cfs-days in a habitat protection bank, from which releases can be made for temperature relief and to maintain flow targets at the tailwaters of the three NYC reservoirs in the Delaware Basin. Dr. Muralidhar said Revision 7 brought improvements and a significant change from pre-1976 conditions, but the quantity of water needed for the habitat protection bank will not be available in the future. Therefore, the Decree Parties want to tailor a sustainable program beyond May 2007.

A member of the audience said that the recent floods caused physical disturbances and had adverse ecological impacts, including a decrease in the number of fingerling trout, but he was encouraged by the results of the Revision 7 program so far. Dr. Muralidhar said the current program is not sustainable, it requires around-the-clock monitoring and it does not address concerns about frequent flooding. In addition, the bank cannot always meet stream temperature objectives. The Decree Parties are currently working on a long-term program assuming that additional storage will become available, and following guidelines that they recently developed (documents are available on the Delaware River Master website). Dr. Muralidhar discussed New York State's draft proposal for a long-term reservoir management program that sets reservoir releases based on individual reservoir storage: when storage is high, large releases will be made and when storage drops, releases will drop. In addition, relatively larger spill-mitigation releases will be made when storage in each reservoir is more than 90% of usable storage. No such releases will be made during the months of April, May and June, when the goal is to refill the reservoirs. Dr. Muralidhar said this is still a concept, not an agreement and it is based on three release seasons: summer, fall and winter/spring. Jack Stauffer asked about extending the snowpack void program to April. Mike Principe said this option has not been ruled out. Fred Nuffer said there are serious negotiations taking place, but the Decree Parties agree they want to put a spill mitigation program in place as part of the next reservoir management program. Mr. Gast said

there is agreement in concept, but not on actual figures yet. The new plan will be a major change from flow targets to a fixed release approach and it could be put into effect soon after the Parties can come to an agreement.

Discussion with Interested Parties of Flood Mitigation

Bob Tudor took over as facilitator of the discussions and gave a brief summary. He said the DRBC wants to reach out to the public through RFAC and solicit feedback. The direction is moving from the interim program to a long-term, multi-objective program that protects water supply, addresses instream flow needs, and reduce flood crests in a balanced way. The goal is to shift away from flow targets to a simpler system of seasonal fixed releases. This system will be more transparent, easier to manage, and will improve all outcomes. Dr. Kolesar asked where will the extra storage come from and what happens if this extra storage is not there. Will the new program be based on what we have available now or on hypothetical future storage? Dr. Principe said two long-term scenarios will be analyzed: existing storage vs. expanded storage. Paul Rush said preliminary analyses take into account future storage created by raising the spillways at Pepacton and Cannonsville reservoirs. He said the City's water demands are going to increase in the future and it is essential to increase storage in order to secure a program for the future. Mr. Tudor said the additional storage would allow more cold water to be released rather than spill.

Robert Homovich feels the towns and citizens should be part of the discussions. They feel that they have not been part of the process and a lot of the discussion is on the fishery. There have been four declared floods – the April 2005 flood saw the biggest fish kill and then the June 2006 flood saw an even bigger fish kill. Mr. Homovich's number one concern is the protection of life and property. He and others from the Town of Colchester are trying to work with NYSDEC and NYCDEP and feel that raising the reservoir spillway level should be discussed with them.

Jim Eisel agreed with Mr. Homovich and pointed out problems in other towns, with a total of 17 bridges lost, and streams and banks in poor shape. He said keeping a 10% void was the recommendation discussed at the meeting with Congressman Sweeney. They should keep Pepacton at 90% of capacity and keep the snowpack program that is currently in place. Dr. Principe said the snowpack void program might be subsumed by the new comprehensive program. We still have to go through a lengthy process and there will be plenty of time for the towns to weigh in regarding possible expansion of the reservoirs.

David Jones said due to the floods his company (Kittatinny Canoes) was in the red by about \$1 million, and they depend on the river for their livelihood. During the hot spell, the river got really low and then they almost had another flood with the last tropical storm. He said he cannot wait until next spring for something to be done – his business must be in the floodplain and some protection must be provided. Sam Rowe said the Village of Hancock spent about \$7 million to rebuild the infrastructure after the June 2006 flood and they need money, but nobody is helping them. They are not going to go along with any plan without having some input.

Lee Conklin asked if there was still leaking in the tunnels to the City. Dr. Principe said the leak in the Delaware aqueduct varies between 14 mgd and 32 mgd, depending on the aqueduct flow. There is an extensive program to better identify and repair the leak, which is contingent on the Croton filtration system being fixed by 2012. Mr. Nuffer said the purpose of raising the reservoir is not to provide additional water to NYC, but to meet the needs of the river with sufficient water to protect stream habitat. Bob Homovich replied that water lost to the leak could provide for fishery needs if the leak were fixed.

Richard Axtell said they should keep the reservoir levels at 70% of capacity for flood protection. In June, the reservoir level was at 103% of capacity. He asked if they released water from

Cannonsville during the June flood. Mr. Rush said 23 mgd was released, which is only about 40 cfs, or less than 1/10% of what the inflow was. He also mentioned a study done by the National Weather Service in which they analyzed the April 2005 storm and found that having a moderate void in the reservoirs before a flood would have a positive effect downstream. Phil Chase asked if they were using the total storage of the reservoirs or storage at each individual reservoir to determine voids. Someone replied that it was a combination of the two. Mr. Chase asked if power plants were going to be considered. Mr. Rush said the only factors used are the quantity and quality of water. Mr. Chase asked if there was a possibility of decreasing the initial surge by diverting water into the Delaware aqueduct and dumping it someplace like the Hudson River. Mr. Rush said when high flows are going into Rondout and it is spilling, flows are cut to avoid flooding on Rondout Creek; there is a period of time after the storm before diversions to Rondout can resume. Dr. Principe said the Delaware aqueduct is usually maintained at full capacity and excess water could only be released into the Hudson River through Shaft 6. It is one option that could be considered during the planned tunnel repair.

Stan Woodford of the Town of Deposit asked about getting entities involved in getting the streams cleaned out. Another person asked what can be done about the gravel bars in the river and who is responsible for gravel removal. Mr. Nuffer replied that it is the local government's responsibility, although they cannot afford to do the job on their own; they need extra funding. Kathleen Moore, from Assemblyman Crouch's office said they are working as quickly as they can. She asked about how to handle the changes and who they should call. Mr. Tudor said it is a matter of property rights and riparian law so there are legal issues. Sally Zegers asked how long the dam could have sustained water going over the top before a dam failure. Mr. Rush said a dam study was done in 2003 that found the three NYC dams to be safe up to the worst possible flood, which would be a 25" rain in a 72-hour period or 200,000 cfs coming out of the spillway. After the recent event, they went out and inspected the dams again. Mr. Jones asked if there was a legal obligation by NYC to provide flood control in the 1954 Decree. Mr. Tudor said DRBC has a flood charge, but the Decree Parties must come to a consensus. Jack Stauffer asked if they have taken into account Dr. Kolesar's data that 64% of spills come from Cannonsville – it refills faster and spills earlier. He asked why the proposal would use the same storage percentage at each reservoir. Dr. Muralidhar said the storage curves are the same, but the release rates are higher for Cannonsville. Dr. Kolesar argued that a 90% void is a measure of capacity, not of refill speed. He said if the focus is on raising the dams to create a resource to be used in a balanced way, resolving the current issues is too far off; you first need to look at currently available storage. Dr. Principe said water supply planning is long-term and all issues have to be taken into account.

Teresa Dominijann said she has been through three major floods in 18 months resulting in a lot of property damage. She wanted to know how many times they have to go through this and why do they have to live in fear every time it rains. Mr. Homovich said there is not enough water for all uses during dry periods and he wants to change the law that currently allows other communities along the aqueduct to tap into it – this law encourages new development. Peder Hansen said there is a lot more than just frustration. He said there is a terrorizing aspect every time it rains. He was impressed with the long-term program, but he wants everyone to keep in mind that two of the three recent floods occurred in April and June, when the plan aims to keep the reservoirs at 100% capacity. If these two floods were to happen again, the proposed plan will provide no relief – this needs to be looked at again.

Discussion with Interested Parties of Long-Term Reservoir Management Program

Mr. Tudor directed the discussion towards the fisheries interests. Someone said they are missing the point. Fish do not survive well in shallow water – if something is not done about the gravel, the fish will not survive. He wanted to know who is responsible for restoring waterways. Mr. Tudor said there is no simple answer, because it involves issues of states' rights. He asked if

there has been any sort of comprehensive assessment. Mr. Eisel responded that Senator Clinton wants the Army Corps of Engineers to do a two-year stream restoration study.

Mr. Tudor said they need to get into preventative mode. One idea is to have a less variable environment with cooler water to vary seasonally. Jim Serio said working together cooperatively for fisheries benefits can be a win-win-win situation: there is enough water for water supply, flood protection, and fisheries if properly managed. Stream restoration work takes money. Trout Unlimited is raising money to hire engineers to help towns fix chronic problems and try to make the latest technology available to prevent recurrences. There are solutions to benefit everyone. He believes the new policy should be adaptive, considering both existing conditions and forecasts. He said they should look at water in the reservoir on a daily basis. If inflows are large, why wait to reach the 95% storage level to make large releases? Mr. Tudor said this would be a huge shift in the way reservoirs are managed. Mr. Serio said the National Weather Service study on the April 2005 flood showed that a 10-bg void would be sufficient to keep the peak level down and had the same effect as if there was no spill – a 2 ½ feet reduction in the stream level of the West Branch at Hale Eddy. That would pull the spill back until the rest of the streams go down.

Dr. Kolesar said the Conservation Coalition has a proposal that is similar to that developed by NYSDEC. The tricky next step is for NYSDEC to define the trade offs among the three tailwater streams – where to have larger releases and where to accept an environmental impact. Steve Lorence said the fisheries needs, the flooding issues and the water supply needs are all important. It is a difficult balance, and they will try to do their best. DEC stocks all three streams knowing that there is limited survivalship. The West Branch receives preferential treatment over the other streams because it is a wild trout stream. Larry Miri said they should stop stocking the streams. He said the more water released, the better for the fisheries. Sam Rowe said the Village of Hancock reached out and nobody came forward to help them with stream cleanup, so they did the work themselves. Now the village is being sued by one of the fisherman groups. The perception in Hancock is that it is fish before people. Mr. Chase said there is more wild trout in Neversink, and it does not need a lot of water – the last two years on the Neversink have been the best for trout since 1958. Larry Miri said there is a big area where there is not access to the river, and a big chunk of the Neversink is not populated. Mr. Chase said there should be a three trout limit – if you want wild trout, you cannot kill the trout. Mr. Nuffer said groups like The Nature Conservancy and Trout Unlimited invested money in developing the decision support system tool by USGS in order to do significant studies and analyses. This has to be an adaptive program, and maybe stocking policies will need to be changed. Mr. Homovich said they can do the studies and have an excellent program for the fisheries but it means little without access to the river. The fishermen need to treat people's properties with respect and ask for permission to access the river.

Election of RFAC Chair and Vice Chair

Committee members elected Mark Klotz, NYSDEC and Joe Miri, NJDEP as Chair and Vice-Chair, respectively. According to the RFAC bylaws, they will serve two-year terms, at the end of which the Vice-Chair becomes RFAC Chair.

The meeting was adjourned at 12:40 pm.

Next Meeting

The next DRBC Regulated Flow Advisory Committee meeting will be held on Tuesday, March 6, 2007 beginning at 10:00 a.m. at the DRBC offices in West Trenton, New Jersey.

REGULATED FLOW ADVISORY COMMITTEE
September 19, 2006

ATTENDANCE

NAME	AGENCY
AXTELL, Richard	Land Seer Development
BATSCHELET, Matt	West Branch Angler
BERDOFF, Larry	Downsville, NY
CHASE, Phil	Upper Delaware Council (UDC)
CONKLIN, Lee	Delaware River Foudation (DRF)
DOMBER, Steven	New Jersey Department of Environmental Protection (NJDEP)
DOMINIJANN, Antonio & Teresa	Downsville, NY
DOUGLASS, Bill	UDC
EISEL, Jim	Delaware County (NY) Board of Supervisors
FAIGLE, Graydon	Deposit, NY
FROMUTH, Rick	Delaware River Basin Commission (DRBC)
GAST, William	Pennsylvania Department of Environmental Protection (PADEP)
GRAVES, Glenn	Walton Reporter
HANSEN, Peder	Village of Deposit
HOMOVICH, Robert	Town of Colchester
JOYCE, Dawn	Private Landowner
KATES, William	Associated Press
KLOSOWSKI, Rob	New York State Department of Environmental Conservation (NYSDEC)
KLOTZ, Mark	NYSDEC
LORENCE, Steve	NYSDEC
MAYER, Robert	New York City Department of Environmental Protection – Bureau of Water Supply (NYCDEP/BWS)
MCGINNIS, K.	DRF
MIRI, Joseph	NJDEP
MIRI, Larry	Civilian
MOORE, Kathleen	Chief of Staff for Assemblyman Crouch
MURALIDHAR, D.	NYSDEC
MURPHY, Thom	NYCDEP
MUSANTE, Michael	Deposit, NY
NORM, Cathy	Homeowner

NUFFER, Fred	NYSDEC
O'CONNOR, John	Village of Deposit
OTTO, Harry	Delaware Department of Natural Resources and Environmental Control (DNREC)
PEDERSEN, Ed & Maureen	Landowners, NY
PLUMMER, Dan	Friends of the Upper Delaware River (FUDR) & Trout Unlimited (TU) member
PRINCIPE, Michael	NYCDEP/BWS
QUINODOZ, Hernan	DRBC
ROWE, Samuel	Supervisor of Hancock, NY
RUSH, Paul	NYCDEP
SABOL, Milt	TU
SAFAFAR, Senobar	NYCDEP
SAMPSON, Joanne	Office of Congressman John Sweeney
SERIO, Jim	Delaware River Foundation
SMITH, Anthony K.	Village of Deposit
STAUFFER, Jack	DRF
STEVER, Deb	Deposit Courier
TUDOR, Robert	DRBC
WOODFORD, Stan	Supervisor of Deposit, NY
WRIGHT, Sharon	Landlord/Business Owner
ZEGERS, Sally	Hancock Herald