

**DELAWARE RIVER BASIN COMMISSION
REGULATED FLOW ADVISORY COMMITTEE
MEETING SUMMARY
December 3, 2015**



The December 3, 2015 Regulated Flow Advisory Committee (RFAC) meeting was held at the Lake Wallenpaupack Environmental Learning Center in Hawley, Pennsylvania. Mr. Hoss Liaghat of PADEP chaired the meeting. All presentations, statements and meeting materials are located on the DRBC's RFAC website: <http://www.nj.gov/drbc/about/advisory/flow/index.html>.

Committee Business

The meeting summary of the last RFAC meeting, held on April 17, 2015, was reviewed and approved as drafted. Hoss Liaghat, RFAC chair, read a statement on the status of decree party negotiations towards the next FFMP agreement; the statement is posted online on the RFAC webpage on the DRBC website. Steve Tambini, DRBC Executive Director, briefly described the different roles of the DRBC and the decree parties (Parties to the 1954 Supreme Court Decree that regulates water diversions out of the Delaware basin and minimum flows at Montague, NJ). He noted that RFAC is a DRBC advisory committee that deals with issues related to operations of the major reservoirs in the basin.

Flexible Flow Management Program

Amy Shallcross of DRBC gave a presentation on the FFMP Implementation Performance during the release year 2014 (June 2014 – May 2015). Amy analyzed hydrologic, climate and reservoir operations data for this period and evaluated performance in terms of the multiple goals of the FFMP. Conclusions include: (a) the Montague and Trenton flow objectives were met within operational constraints; (b) drought was averted through PCN diversion and release table adjustments; (c) conservation releases at the maximum rates allowed in the program were made through summer and fall; (d) temperature goals were met for the tailwaters; and (e) PCN reservoir storage was below the Conditional Seasonal Storage Objective (CSSO) for much of the year.

Cannonsville Incident and Repair Update

Thom Murphy of NYC DEP gave an update on the Cannonsville Incident of July 2015, when NYC contractors, doing exploratory drilling for a hydropower installation at the foot of the dam, noticed a turbid discharge from the rock embankment to the river downstream. Their drilling had reached an underlying aquifer that extends below the dam, releasing ground water under natural pressure, and causing an upward flow of water and sediment. NYC DEP implemented a response plan which included increased releases and diversions to lower reservoir elevation. Onsite corrective actions involved drilling and operating a network of eight upstream relief wells to stop the turbid discharge. Testing and monitoring the repairs continued for several weeks afterwards.

Statements by New York City and New Jersey on negotiations towards the next FFMP

Thom Murphy read a statement on New York City's view of New Jersey's new RiverWare model. Steve Domber read a statement on New Jersey's view of the status of FFMP negotiations.

New DRB/NYC System Model developed by NJDEP

Steve Domber of NJDEP gave a presentation on a newly developed model of reservoir operations and flow management. Steve reviewed NYC's water supply sources and argued for reassessing their safe yield; this information would in turn help update key components of the FFMP. The new model is similar in scope to the DRBC's PST model, except for its geographic scope – New Jersey's model includes the complete NYC water supply system, not just its DRB component. The new model was developed using RiverWare, a software platform that is different from the OASIS platform used in the DRBC's PST model and NYC's OST model. The new model is a tool to design and test management programs that meet multiple objectives.

DWCC Fair Share Requests

Jeff Skelding, Executive Director of Friends of the Upper Delaware River (FUDR) gave a presentation on the Fair Share Requests advanced by the Delaware Watershed Conservation Coalition (DWCC). Jeff noted that 2015 brought a few challenges to the Upper Basin: (a) early spring had dry conditions, low water releases and high water temperatures; (b) multiple requests for temperature-relief releases were denied; (c) the Cannonsville dam incident resulted in billions of gallons of cold water dumped from the reservoir; and (d) two “yo-yo” releases significantly dewatered the river in the fall. Jeff presented the following requests: (1) improved baseline releases from NYC Delaware basin reservoirs; (2) formally adopt a thermal releases program; (3) eliminate yo-yo releases when adjusting for the Montague Target; (4) increased transparency in FFMP development; (5) more visibility from Decree Party Principals; (6) help from DRBC and others with science; and (7) recalculated IERQ.

The Case for Thermal Relief in the Upper Main Stem of the Delaware River: An Update

Professor Peter Kolesar of Columbia University gave a presentation on a proposal for thermal relief releases from Cannonsville reservoir. Earlier versions of this proposal were presented to RFAC in 2012 and 2013. On average about ten serious thermal stress events occur per summer, and most could be mitigated by pulsed releases of cold water from Cannonsville reservoir. The objective is to mitigate thermal stress in the main stem Delaware River up to Lordville, NY, keeping maximum water temperature in the river below 75° F. Calculations indicate that the water needed for this program would be available, except in very dry years. The recommendation is to implement an experimental thermal stress relief protocol before the summer 2016.

Upper Delaware River Cold Water Fishing and Boating: Economic Impact Study

Dean Frazier, Watershed Affairs Commissioner, Delaware County, NY presented the findings of an economic impact study assessing the benefits of the cold water fishing and boating industry in the Upper Delaware upstream of Callicoon. He noted that recreation and fishing is now a critical source of income for the entire county. River-related tourism is an industry made up mostly of small businesses. The main finding of the economic impact study is that the 20-year contribution of the cold water fishing and boating industry amounts to \$414 million; this could increase by up to 2/3 with a more consistent regime of reservoir releases. Annual benefits exceed \$20 million.

No Flow, No Dough

Theresa Allen, co-chair of the Upper Delaware River Business Coalition (UDRBC) gave a brief presentation on the impacts that releases from the NYC Delaware basin reservoirs have on local

and regional businesses. She cited as examples the Cannonsville incident in July and two “yo-yo” release events that dewatered the river (these occur when directed releases for the Montague flow target are abruptly ended). The recreational economy is now the most important source of commerce in the region, and many area businesses rely on river flows to attract customers. However, tourists do not come if conditions (river flows and temperature) are not adequate. Potential customers can decide to go elsewhere on short notice if conditions rapidly deteriorate.

Open Public Comments

Fifteen members of the public made statements expressing their opinions during the open public comment period. Some commenters provided written copies of their comments, which are kept on file at DRBC. Comments included:

- Many expressed disappointment, frustration and some anger at not having any of the Decree Party principals present at the meeting. Many had taken a day off and come prepared to speak to the principals as decision makers on FFMP matters. There were requests for:
 - Decree Party principals to come to a meeting in person to hear directly from stakeholders;
 - Committee members to relay to principals what they heard today;
 - Increased transparency in FFMP management and negotiations; and
 - Decree Parties consider all available scientific data, including New Jersey’s model.
- Thermal stress events can have devastating effects both on the aquatic ecosystem and the local economy; relief can only come from timely Cannonsville and Pepacton releases. The current FFMP process to deal with thermal stress events is unreliable and produces insufficient responses. Concerned citizens should not have to call their Congressman for help every time there is a thermal stress event.
- Incorporate into next FFMP agreement the thermal relief protocol presented to the RFAC.
- Eliminate “yo-yo” river flows caused by directed releases for the Montague target.
- Provide for improved baseline conservation flows in the next FFMP agreement.
- Base water availability estimates on NYC actual water consumption.
- Releases from Lake Wallenpaupack should not be counted towards the Montague flow target under certain circumstances to help maintain adequate flow and temperature conditions in the main stem Delaware River above the confluence with the Lackawaxen River.
- There should be a targeted flow and temperature river gage at Callicoon to help ensure in-stream habitat protection for the Upper Delaware Scenic and Recreational River.
- NYC should continue to repair the leaks in their aqueduct system so that more water can be used to supplement flows in the Delaware River.
- Montague flows at 1,700 cfs are too low for canoeing; 2,000 cfs is the lowest limit for recreational boating; the Upper Delaware is the river with highest recreational use per-mile in the US.
- The FFMP was designed to be flexible and incorporate improvements as needed. Since 2011 various improvements for fisheries and flood mitigation have been identified but not incorporated. These improvements can be incorporated in the next FFMP, while negotiations continue on unresolved issues.
- Protect the public from flooding by adjusting reservoir levels year-round.
- Advocate for year-round 20-percent storage voids in the NYC Delaware basin reservoirs.
- Management of the NYC reservoirs matters to people and users up and down the river; the value of a healthy Delaware River is \$22 billion per year.
- Request that all decisions regarding flows to the Delaware River consider the impacts to the aquatic ecosystem and the local economy.

REGULATED FLOW ADVISORY COMMITTEE (RFAC)

December 3, 2015

ATTENDANCE LIST

The December 3, 2015 RFAC meeting was well attended: at one point 95 people were in the conference room. However, not everyone in attendance signed their names on the attendance list. The list below only contains the names of those that signed in (69).

NAME	AFFILIATION
ALDRIDGE, Wayne	River of Life Outdoor Adventure, Deposit, NY
ALLEN, Theresa	Upper Del. River Business Coalition (UDRBC)
ANDERSON, Kelly	Philadelphia Water Dept.
AXT, Rick	Trout Unlimited (TU)
BATSCHELET, Matt	UDRBC
BAXTER, Stefanie (online)	DE Geological Survey
BIERLY, Taylor	Taylor Bierly Creative
BITTNER, Laura (online)	USACE
BOSCH, Adam	NYC DEP
BOVE, D	EWC
BOYAR, Andrew	Town of Highland & TU Local Chapter
BROWNE, Lillian	The Reporter
CAUCCI, Al	FUDR
CEBALLOS, Joseph	TGF
COCKE, Bill (online)	Delaware DNREC
COLE, Jeffrey (online)	USGS
COSTOLNICK, Jim	Border Water Outfitters
DECKER, Sam	Int'l. Federation of Fly Fishers
DEMALDERIS, Joe	Cross Current Guide Services
DOMBER, Steven	NJ DEP, NJ Geological Survey
DIFRENNA, Vin	USGS, ODRM
EVANS, Richard	NPS
FRAZIER, DEAN	Delaware County, NY
GALBRAITH, Heather (online)	USGS
GARIGLIANO, Jennifer	NYC DEP

NAME	AFFILIATION
GROSSMANN, Mike	Homeowners – White Twp., NJ
HAMILTON, Don	NPS
HARTLE, Mark	PA FBC
HARTMAN, Lee	Trout Unlimited
HENSON, Fred	NYS DEC
HESSON, Molly	Philadelphia Water Dept.
JACKSY, Heather	Sullivan County, NY
JONES, David	Kittatinny Canoes
KNECHT, Jamie	Wayne County, PA
KOLESAR, Peter	Columbia University
LA ROUCHE, Grant	National Wildlife Federation
LA SORTE, Adrian	P.O. Box 327, Hancock, NY 13783
LAUBACH, Robert	PA TU – R.B. Winter Chapter
LIAGHAT, Hoss	PA DEP
MCGUIRE, Meg	Delaware Currents
MEAD, Robert	TU
MERRILL, Art	Town of Colchester
MIRI, Joe	NJ DEP
MURPHY, Thomas	NYC DEP
O'DELL, Travis	UDC
OLIVIO, Dana	NYC DEP
OLSON, Roger	NY Trout Unlimited
OWENS, Marie	USGS, ODRM
PLUMMER, Dan	Friends of the Upper Delaware River (FUDR)
QUINODOZ, Hernán	DRBC
RAMIE, Laurie	Upper Delaware Council (UDC)
RESTI, Sherri	FUDR
REUSS, James	Delaware River Conservancy (DRC)
ROGERS, Ben	n/a
SAULS, George	USACE
SERIO, Jim	Delaware River Foundation
SHALLCROSS, Amy	DRBC
SHEARD, Ben	West Branch Resort

NAME	AFFILIATION
SKELDING, Jeff	FUDR
TAMBINI, Steve	DRBC
TARRIER, Brenan	NYS DEC
THARP, Diane	NorDel Conservancy
THOMAS, Rich	NJ Trout Unlimited
URBAN, Ron	NY Council Trout Unlimited
URBISH, Madeline	Coalition for the Delaware River Watershed (CDRW)
VAN ROSSUM, Maya	Delaware Riverkeeper
VERNOLD, Jerry	Town of Hancock, NY
WO, Jeromy	NorDel Conservancy
WOOD, Chris	National Trout Unlimited