DELAWARE RIVER BASIN COMMISSION
REGULATED FLOW ADVISORY COMMITTEE
MEETING SUMMARY
February 16, 2017

The February 16, 2017 Regulated Flow Advisory Committee (RFAC) meeting was held at the Commission offices in West Trenton, New Jersey. Mr. Brenan Tarrier of NYS DEC chaired the meeting. Copies of presentations, statements and meeting materials can be found on the DRBC's RFAC website: http://www.nj.gov/drbc/about/advisory/RFAC_index.html.

Committee Business

A draft summary of the last RFAC meeting, held on April 5, 2016, was considered for approval. Garth Pettinger, representing Trout Unlimited, proposed two corrections to the summary of public comments on fisheries issues. Steve Domber, representing New Jersey, requested a delay in consideration and approval until the next RFAC meeting to allow New Jersey time to propose additional language. The committee agreed to delay approval of the meeting summary.

Brenan Tarrier served as RFAC vice-chair during the 2015-16 period and, according to the RFAC bylaws, automatically became the chair on January 1 for the 2017-18 period. Brenan requested nominations for vice-chair for the 2017-2018 term. Steve Domber of NJDEP was nominated and unanimously elected as vice-chair by committee members.

Hydrologic Conditions and Drought Watch Debrief

Amy Shallcross of DRBC gave a presentation on hydrologic conditions in the basin, with emphasis on the last several months. Persistent dry conditions led the combined storage in the three NYC Delaware basin reservoirs to fall below the drought watch level. As a result, the basin entered drought watch operations on November 23, 2016. Existing rules triggered reduced diversions and releases from reservoirs, and reduced flow objectives on the Delaware River at Montague and Trenton. These conservation measures, along with increased precipitation, helped storage in basin reservoirs to recover. Combined storage in the three NYC Delaware basin reservoirs recovered above the drought level: on January 18 diversions and flow objectives returned to normal levels; on February 4 conservation releases at basin reservoirs returned to normal rates. Although most regions in the basin are still in some category of drought (as classified by the US Drought Monitor), there has been a marked recovery from conditions back in November 2016.

Hydroelectric Facilities and Power Markets

Matthew Ocwieja of Eagle Creek Renewable Energy gave a presentation on electric power markets and the role of hydropower in helping meet electricity demands. A copy of the presentation is posted online on the RFAC website. Both Wallenpaupack and the Mongaup System provide dispatchable hydropower; generation is dispatched by the regional system

operator according to demand on any given day. Matthew described the typical seasonal variation of energy prices and how this relates to hydropower generation in the Delaware basin. The two periods with typically high energy prices (Dec-Feb and Jul-Sep) are the periods in the year that usually have high hydropower generation. In addition, high levels of hydropower are generated when water is abundant (Apr-May). By contrast, October is the time of year usually chosen for annual maintenance work, since reservoir storage is at its lowest levels.

Corps Water Management System (CWMS) Implementation for the Delaware River Basin

Laura Bittner of the U.S. Army Corps of Engineers, Philadelphia District, gave a presentation on the implementation of the Corps Water Management System (CWMS) for the Delaware River Basin. A copy of the presentation is posted online on the RFAC website. CWMS is a suite of computer models that provide watershed modeling to provide decision support to Army Corps water managers on a daily basis. The Army Corps is currently conducting a nationwide project to develop and implement CWMS models for all watersheds with Army Corps-operated reservoirs. Its primary use will be to optimize operations of these reservoirs. However, In the Delaware basin the coverage will extend to the whole basin, providing a tool to estimate streamflows in the mainstem Delaware River and major tributaries. Completion of the Delaware basin CWMS is expected in Summer 2017.

FFMP Implementation Performance – Release Year 2015

Amy Shallcross of DRBC gave a presentation on the implementation performance of the FFMP agreement over the 2015 release year (June 1, 2015-May 31, 2016). A copy of the presentation is posted online on the RFAC website. Hydrologic conditions were within the normal range during this period. Hence, reservoir operations according to the FFMP were satisfactory in terms of meeting multiple objectives: avoid droughts, maintain flow objectives, provide enhanced conservation releases, maintain desirable in-stream temperatures at tailwater locations, and minimize reservoir spills. Out-of-basin diversion rates by New York City and New Jersey were within the permitted ranges. Conservation release rates were at the maximum permitted rates during most of the year. Temperature goals at tailwater locations were met, except for a 3-day event at Lordville, New York. Combined storage at the three NYC Delaware basin reservoirs was below the Conditional Seasonal Storage Objective (CSSO) for much of the year, minimizing reservoir spills.

Update on Flexible Flow Management Program

Brenan Tarrier gave an update on Decree Party negotiations towards a new Flexible Flow Management Program (FFMP) agreement. Brenan read a statement on behalf of the Decree Party Principals. Steve Domber read a statement describing New Jersey's position in the current Decree Party negotiations. Both statements are posted online on the RFAC website. The New Jersey position paper states that "at this time New Jersey is not able to commit to a one-year extension of the current FFMP, as other options are being more seriously considered if reform is not achievable." The current FFMP agreement expires on May 31, 2017. Stefanie Baxter, representing Delaware, noted that today was the first time that the other Decree Parties heard about this New Jersey position.

Open Public Comment

Professor Peter Kolesar of Columbia University requested time for and was given the opportunity to make a brief presentation on the calculations used in the FFMP to determine reservoir release rates. A copy of the presentation is posted online on the RFAC website. Reservoir release rates from the three NYC Delaware basin reservoirs are periodically revised in the FFMP using forecasts of inflows at these reservoirs. However, streamflow forecasting is both science and art; forecasts are variable and subject to uncertainty. Professor Kolesar argued for an increased understanding and public transparency of the data, algorithms, and processes used to make the FFMP forecasts of reservoir inflows and diversions, as well as an assessment of the accuracy of these forecasts.

A number of comments were made by members of the public, including:

- Complimented NYC DEP because of having made use of the Croton system to supply extra water over the last few months, leading to lesser diversions from the Delaware basin during drought conditions.
- Concerned that the FFMP agreement may not be renewed, especially given the short time left until the current program expires on May 31.
- Concerned about the possibility of not renewing the FFMP agreement, because of the negative consequences to the tailwater fisheries of reduced conservation release rates (rates established by the last permanent reservoir releases program, DRBC Docket D-77-20 CP Rev. 1).

Brenan Tarrier invited members of the public to submit suggestions for possible RFAC discussion topics for the next committee meeting.

REGULATED FLOW ADVISORY COMMITTEE (RFAC)

February 16, 2017

ATTENDANCE LIST

NAME	AFFILIATION
ANDERSON, Kelly	Philadelphia Water Dept.
BAXTER, Stefanie	Univ. Delaware
BITTNER, Laura	USACE
DIFRENNA, Vincent	USGS - Delaware River Master Office
DOMBER, Steven	NJ DEP
GARIGLIANO, Jennifer	NYC DEP
GENDER, Fred	PA Trout Unlimited
HAMILTON, Don (via phone)	NPS
HESSON, Molly	Philadelphia Water Dept.
HOFFMAN, Jeffrey	NJ DEP
KOLESAR, Peter	Columbia Univ.
LIAGHAT, Hoss	PA DEP
LUITWEILER, Preston	WRA DRB
MASON, Robert (via phone)	USGS - Delaware River Master Office
McGUIRE, Meg	Delaware Currents
MIRI, Joe	NJ DEP
MURPHY, Thomas	NYC DEP
NOBLE, Mary Ellen	Delaware Riverkeeper Network
OCWIEJA, Matthew	Eagle Creek Renewable Energy
OLIVIO, Dana	NYC DEP
PETTINGER, Garth	Trout Unlimited
QUINODOZ, Hernan	DRBC
SHALLCROSS, Amy	DRBC
SKELDING, Jeff	Friends of the Upper Delaware River (FUDR)
TAMBINI, Steve	DRBC
TARRIER, Brenan	NYS DEC
THARP, Diane	NorDel Conservancy
URBISH, Madeline	Coalition for the Delaware River Watershed (CDRW)