Delaware River Basin Commission
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Steven J. Tambini, P.E.
Executive Director

Water Management Advisory Committee
MEETING HIGHLIGHTS
Thursday, February 20, 2020
10:00 a.m. – 12:00 p.m.

The DRBC Water Management Advisory Committee (WMAC) was called to order by Preston Luitweiler, Committee Chair. Information pertaining to the WMAC, including member listing and past meeting materials, is available at http://www.nj.gov/drbc/about/advisory/WMAC_index.html.

ADMINISTRATION

- The highlights of the October 22, 2019 meeting were approved and will be posted on the WMAC webpage.
- Membership: Three positions for Watershed Organization, Academia, and Recreation will expire June 30, 2020. These positions are posted on the DRBC website and will remain open until filled. Current members in those positions are welcome to apply for reappointment. Please see the DRBC website (http://www.nj.gov/drbc/about/advisory/committee-openings.html) for more information.
- The WMAC remaining meetings of 2020 are scheduled for June 18 and October 22.

HYDROLOGIC CONDITIONS REPORT

Anthony Preucil, DRBC Water Resource Scientist, provided a report on basin-wide hydrologic conditions. Over the past 90 days, the lower basin has experienced higher than normal amounts of precipitation. However, the upper basin has experienced a deficit in rainfall over the last 90 days. There has been some snow in the upper basin (~2ft), but the rest of the basin is mostly below average. The seasonal snow departure from average is almost 30 inches below average in some areas of the basin. Last September, water releases were made from DRB reservoirs to meet flow objectives for Trenton and Montague. Streamflows have recovered after the dry September and current streamflow at the USGS gages in the basin indicate flows are mostly normal or above normal. The combined New York City reservoir storage is about 90% of usable capacity; lower basin storage in Beltzville is above 100%, Blue Marsh is about 77%, while F.E. Walter is at its winter pool level. Currently, the salt front is at River Mile (RM) 64.3 compared to a normal location at RM 71 for this time of year. To date, groundwater levels in the USGS monitoring wells indicate normal or above normal levels and there are currently no drought conditions in the basin. The 3-month outlook from NOAA show that temperatures have a 40% chance to be above normal, while precipitation is predicted to be normal in the Delaware River Basin region.

Mr. Preucil's presentation can be viewed at https://www.nj.gov/drbc/library/documents/WMAC/022020/HydrologicConditions_preucil_drbc.pdf.
Weekly, monthly and annual hydrologic reports are archived at http://www.nj.gov/drbc/hydrological/reports/.

DRBC UPDATES

Chad Pindar, DRBC Manager of Water Resource Planning, provided an update on DRBC activities, upcoming advisory committee meetings, Commission actions, and other items of interest:

- The F.E. Walter Dam Reevaluation Study Public Meeting was held on January 9 in White Haven, PA. The study is being led by the U.S. Army Corps of Engineers (USACE). The DRBC and the NYC Dept. of Environmental Protection (NYCDEP) are non-federal co-sponsors of this study. The purpose of the study is to determine if modifications to the F.E. Walter Dam structure, infrastructure, or reservoir operations can be implemented to improve water supply, fisheries, recreation, and other objectives without adversely impacting the congressionally authorized purposes of the reservoir, which are flood risk management and recreation. More information can be found on:
  - Army Corps' website: https://www.nap.usace.army.mil/Missions/Civil-Works/Francis-E-Walter-Dam/Reevaluation-Study/
  - DRBC's website: https://www.state.nj.us/drbc/hydrological/reservoirs/FEWalter_reeval-study.html.
- At the September 11 DRBC Public Hearing, DRBC presented 22 dockets and the Draft 2020-2022 Water Resources Program (available at https://www.state.nj.us/drbc/library/documents/WRP_FY20_22_Draft_Jan31.pdf). A copy of the draft resolution to adopt the 2020-2022 Water Resource Program can be found at https://www.state.nj.us/drbc/library/documents/Res_WRP_FY20-22_draft.pdf.
- The next DRBC Business meeting will be on March 11 at 10:30am at the Washington Crossing Historic Park Visitors Center.
- On July 11, 2019, DRBC issued a Request for Qualifications (RFQ) for a study of storage options in the basin. Three firms responded to RFQ in September 2019 and DRBC has invited the three respondents to submit to the Request for Proposals (RFP) on January 28, 2020. Proposals are due on March 27, 2020.
- DRBC's Summer Internship Opportunities are posted at https://www.state.nj.us/drbc/about/staff/internships.html.

Recent Commission Meeting materials can be accessed at http://www.nj.gov/drbc/meetings/archive/recent-drbc-mtg.html.
Mr. Pindar's presentation can be viewed at https://www.nj.gov/drbc/library/documents/WMAC/022020/DRBCupdate_pindar.pdf.

ADVISORY COMMITTEE ON CLIMATE CHANGE (AC3)

Kristen Bowman Kavanagh, Deputy Executive Director, introduced DRBC's AC3 to the WMAC. The AC3 was established by Resolution 2019-8 (https://www.nj.gov/drbc/library/documents/Res2019-08_EstablishesACCC.pdf) in December 2019. The purpose of the Committee is to provide scientifically based information and recommendations to DRBC to identify and prioritize:

- Threats and vulnerabilities to water resources;
- Science-based, future climate scenarios for water resources planning; and
- Planning, monitoring, research and regulations to support mitigation, adaptation, and resiliency.

The Committee will also serve as a coordinating body for climate-related basin water resource and watershed studies. The AC3 is currently recruiting 9 reserved members and 9 non-reserved members. Non-reserved members serve for two-year terms. Nominations are due February 28. Committee openings for the AC3 can be found at https://www.nj.gov/drbc/about/advisory/committee-openings.html.
Ms. Kavanagh's presentation can be viewed at https://www.state.nj.us/drbc/library/documents/WMAC/022020/ACCC_kavanagh_drbc.pdf.

GROUNDWATER WITHDRAWALS

Dan Goode, Research Hydrologist with USGS PA Water Science Center, presented on an investigation of groundwater flow and contaminant transport in the vicinity of former Naval bases in Bucks and Montgomery Counties, co-authored with Lisa Senior and in cooperation with the U.S. Navy. In 2014, per- and polyfluoroalkyl substances (PFAS) were detected in wells near the Willow Grove and Warminster naval bases. The purpose of the study was to model groundwater pathways under various scenarios, identify data gaps, and select additional monitoring locations around the bases. The preliminary regional-scale model will be the basis of a more refined model to get a better understanding of the groundwater flow and transport of PFAS in the study area. The study found that:

- Recharge at the bases discharged to wells and streams within a mile or two of the bases.
- Several residential wells near the bases that had elevated PFAS concentrations were generally consistent to modeled flow paths from possible sources at the bases.
- Some locations of observed PFAS contamination were not along modeled flow paths from base sources, indicating unknown sources of PFAS.

The published report is available at https://pubs.er.usgs.gov/publication/ofr20191137. Links to the model and data are also available at the link above. Mr. Goode's presentation can be viewed at https://www.state.nj.us/drbc/library/documents/WMAC/022020/GWmodelingPFAS_goode-senior_usgs.pdf.

Comments from the WMAC:

- Question from Hoss Liaghiat: What statement can we make for evaluating or assessing the effect or adequacy of ground water protection rules/guidelines/permitting?

WATER LOSS – DEVELOPMENT OF AWWA'S 2020 POSITION ON NON-REVENUE WATER KEY PERFORMANCE INDICATORS

George Kunkel, Kunkel Water Efficiency Consulting, presented on the AWWA Water Loss Control Committee's 2020 Committee Report on Non-Revenue Water (NRW) Key Performance Indicators. Although many regulatory agencies use the "unaccounted-for" water (UFW) percentage, the AWWA report found that UFW percentage as an indicator of water loss is flawed because it:

- is mathematically skewed by varying levels of customer consumption;
- does not reveal volumes of real (physical) losses and apparent (customer) losses;
- does not include the costs of loss control activities; and
- rarely succeeds in motivating verifiable water loss reductions.

The report suggests that regulatory agencies move away from percentages and focus on the volume, value, and validity of water audit data. The NRW Performance Indicators Task Force's evaluation of several indicators recommends that they be: technically rigorous, easily understood, and/or suitable for water utilities and regulatory agencies. The Task Force no longer supports NRW Key Performance Indicators that are percentages but supports the use of the Loss Cost Rate (expressed in $/service connection/year) and Normalized Water Losses (expressed as volume/service connection/day). Consequently, the AWWA Free Water Audit Software version 6.0, targeted for release in mid-2020, will not include percentage indicators but will include an improved data grading capability.

The report can be accessed at https://www.awwa.org/Portals/0/AWWA/ETS/Resources/WLCCAssessmentReport2019.pdf?ver=2019-11-20-094731-123.
Mr. Kunkel's presentation can be viewed at https://www.state.nj.us/drbc/library/documents/WMAC/022020/AWWA_NRW_kunkel.pdf.

- Comments from the WMAC:
  - George Kunkel suggested that DRBC check the Water Code for "unaccounted-for-water"

The meeting was adjourned at 12:15 pm by Chair Preston Luitweiler.

WMAC Meeting Attendance – February 20, 2020			
SECTOR	**WMAC MEMBER/ ALTERNATE**	**REPRESENTING**	**ATTENDANCE**
Delaware	Steven Smailer Bill Cocke (A) Allison Diggins	DE DNREC	- - -
New Jersey	Andy MacDonald Jeff Hoffman	NJ DEP NJDEP-NJGS	In-person -
New York	Erik Schmitt (A)	NY DEC	-
Pennsylvania	Hoss Liaghiat Dave Gordner (A) Mike Hill	PADEP	GoToMeeting - -
US Army Corps of Engineers	Laura Bittner	Phila. District	In-person
US Env. Protection Agency	Katie Lynch	Drinking Water Protection	GoToMeeting
US Geological Survey	Dan Goode	Water Science Center	In-person
	Curtis Scheffler (A)		In-Person
City of New York	Dana Olivio	NYC DEP	GoToMeeting
City of Philadelphia	Kelly Anderson Hesson, Molly (A)	Phila. Water Dept.	GoToMeeting -
County Water Agency	Jan Bowers	Chester Co. WR Authority	GoToMeeting
Water Resource Association	Preston Luitweiler (C)	WRA of the DRB	In-person
Industry	Jim Mershon	Merrill Creek Owners Group	-
Water Utility	John Thaeder (V) Virginia Eisenbrey (A)	Artesian Water	(Kathy Thaeder) GoToMeeting
Agriculture	Sandra Howland	NJ Dept. of Agriculture	-
Civic	Jill Greene	PA League of Women Voters	-
Environmental Organization	Mary Ellen Noble	Delaware Riverkeeper Network	In-person
Watershed Organization	Laurie Ramie (temp)	Upper Delaware Council	-
Academia	Jerry Kauffman Andrew Homsey (A) Martha Narvaez	University of Delaware	- - -
Recreation	Ann Pilcher	Pocono Mts. Visitors Bureau	GoToMeeting
Fisheries	Sheila Eyler	US F&W Service	-
(A) indicates Alternate (C) indicates Chairperson (V) indicates Vice Chairperson			
DRBC STAFF	Byun, SeungAh	WMAC Liaison	
	Kavanagh, Kristen B.	Deputy Executive Director	
	Kwityn, Evan	Water Resource Planning	
	MacGillivray, Ron	Water Quality Assessment	
	Pindar, Chad	Water Resource Planning	
	Pruecil, Anthony	Water Resource Operations	
	Shallcross, Amy	Water Resource Operations	
	Thompson, Michael	Water Resource Planning	
	Yagecic, John	Water Quality Assessment	
GUESTS	Brandon Carreno	NJ DEP	
	George Kunkel	Kunkel Water Efficiency Consulting	
	Meg Mcguire	Delaware Currents	
	Ken Najjar's TCNJ Environmental Engineering Class		

Approved: June 18, 2020.