THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for April 11, 2019

100 Cambridge Street, Boston, MA, 1:00 p.m.

Minutes approved September 12, 2019

Members in Attendance:

Vandana Rao, Chair	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Linda Balzotti	Designee, Dept. of Housing and Community Development (DHCD)
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Duane LeVangie	Designee, Department of Environmental Protection (MassDEP)
Michelle Craddock	Designee, Department of Fish and Game (DFG)
Hotze Wijnja	Designee, Department of Agricultural Resources (DAR)
Vincent Ragucci	Public Member
Kenneth Weismantel	Public Member
Thomas Cambareri	Public Member

Members Absent

Todd Callaghan	Designee, MA Office of Coastal Zone Management (CZM)
Marcela Molina	Public Member

Others in Attendance:

Michele Drury	DCR
Jen Pederson	Massachusetts Water Works Association
Katie Ronan	MWRA
Beth Card	Massachusetts Water Resources Authority
Julie Butler	MassDEP
Alison Field-Juma	OARS
Sara Cohen	DCR
Lexi Dewey	Water Supply Citizens Advisory Committee
John Scannell	DCR
Chris Alden	Crescent Ridge Dairy
Matt Mostoller	Acton Water District
Andreae Downs	Wastewater Advisory Committee
Viki Zoltay	DCR
Vanessa Curran	DCR
Marilyn McCrory	DCR
Erin Graham	DCR
Peter Weiskel	USGS
Jennifer Sulla	EEA

Rao called the meeting to order at 1:05 p.m.

Agenda Item #1: Executive Director's Report

- Rao refreshed the Commissioners on a bid document currently out for a Water Conservation Toolkit. This will be an online clearinghouse with many water conservation resources, including content from the MA Water Conservation Standards, in user-friendly format for different audiences. Responses are due May 3rd. She is looking for firms with good marketing credentials in addition to content knowledge.
- Rao drew attention to the published Executive Summary of the state's Hazard Mitigation and Climate Adaptation Plan.
- Rao described a collaboration between her and the EEA climate team and DCR's OWR staff, looking at the extreme ends of the hydrologic cycle and working to understand predictions at these extremes, based on climate change, including identifying potential research projects.

DISCUSSION:
Weismantel suggested as a future agenda item that the Commission evaluate progress on key goals, such as the 10% unaccounted-for-water (UAW) and 65 residential gallons per capita per day (RGPCD) water conservation standards. He would like to see metrics that show progress on these goals. He also would like to evaluate the effectiveness of the UAW audit grants, including opportunities for peer-to-peer learning based on these audits. Rao suggested DEP give an updated presentation on the data it tracks for these metrics and on the grants. LeVangie confirmed he can provide such a presentation. Carroll suggested they also look into a presentation by members of the consulting team that conducted many M36 audits for MA communities. She had seen a presentation in the past that was very informative.

Agenda Item #2: Hydrologic Conditions and Drought Update

Zoltay provided an update on the hydrologic conditions for March 2019.

- Conditions are starting to dry. Precipitation for most of the state was less than 75 percent of average and in the West was less than 50 percent.
- For streamflow, these precipitation deficits are observed in the second half of the month, especially because this is a normally wet time of year. The Streamflow Index is normal, because it is triggered by two consecutive months below normal and it is only the most recent month that shows below normal at this point.
- Groundwater effects have not yet been seen widely. About 5 wells across the state are below normal. All regions remain Normal.
- Reservoirs are still mostly significantly above normal. Forecasts show a slight chance of above normal temperatures and precipitation over the next month and no drought predictions for the next three months.
- KBDI (fire danger index) shows all values in normal condition. However, there was a red flag warning for the whole state in the previous week for fire danger. That reflects very surficial and variable conditions based on wind and temperatures, rather than the KBDI which estimates soil moisture at 8" of depth.
- CMI (crop moisture index) is normal, but this Index is mostly inapplicable at this time of year.
- Snowfall over the season shows some deficits, likely due to warmer temperatures leading to rain instead of snow. The snowpack is mostly gone and will not likely contribute any further to streamflow.

DISCUSSION:

- Weismantel asked whether streamflow deficits in the western part of state were due to lack of snowpack. Zoltay replied that the low streamflows were driven by low precipitation, but noted that these deficits were not able to be mitigated by melting snowpack.
- Pederson noted that longer look-back periods still look good and asked whether the methodology captures when conditions are significantly above normal. Zoltay noted that individual metrics account for above normal conditions, but that designations for purposes of drought monitoring reflect "normal" under high conditions. Pederson requested that the methodology, for more general hydrologic tracking purposes, incorporate overall designations that reflect above normal conditions, as applicable. This request was seconded by Cambareri. Suggestion will be taken up.
- Weismantel raised concerns about the effect of individual management decisions on reservoir levels, which can skew the results of hydrologic monitoring. Zoltay responded that improving the reservoir network is a very high priority, including addressing outliers appropriately and adding water bodies that are less manipulated.

Agenda Item #3: Vote on the Minutes of February and March 2019

Rao invited separate motions to approve the meeting minutes for February and March 2019.

VOTE	A motion was made by Weismantel with a second by Ragucci to approve the meeting minutes for February 14, 2019. The vote to approve was unanimous by those present.

VOTE	A motion was made by Weismantel with a second by Balzotti to approve the meeting minutes for March 14, 2019. The vote to approve was unanimous by those present, with one abstaining (Ragucci).

Agenda Item #4: Vote on Crescent Ridge Dairy Request for Determination of Insignificance under the Interbasin Transfer Act

Drury acknowledged Chris Alden from Crescent Ridge Dairy, and Beth Card and Katie Ronan from MWRA, which also has an interest in this application. Drury briefly reviewed the background of this request, which was presented in detail during the March 2019 meeting. This is the first application under the new regulations meeting the limits for very small transfers, defined as <=10,000 gpd. Drury characterized it as a "text book case" for why the regulations provide such a pathway. The project represents a single property that will dispose wastewater to the Massachusetts Coastal Basin by agreement with the town of Stoughton through Stoughton's connection to the MWRA wastewater system. The water is supplied by the town of Sharon, which has sources in the Neponset and Taunton River Basins. The connection to Stoughton is limited to 10,000 gpd. Only 6,500 gpd, however, is jurisdictional under this application, as this volume represents the portion of the supply calculated to come from the Neponset Basin. The remaining volume comes from the Taunton River Basin and is already part of an existing Transfer. Staff concludes no adverse environmental impacts are expected. The transfer will only include milk waste, and the dairy will maintain an existing groundwater discharge for human sanitary waste. The transfer is not expected to impact Sharon's water supply.

Staff requests that the Commission find this application to be Insignificant under the Interbasin Transfer Act, as it meets the criteria for applications of transfers of 10,000 gpd or less with no anticipated adverse environmental impacts.

Rao called for the following motion and then led the discussion below, prior to the roll-call vote.

VOTE	A motion was made by Weismantel with a second by Balzotti to accept the WRC Staff Recommendation dated March 14, 2019, and re-presented on April 11, 2019, and find that the proposal by the Crescent Ridge Dairy to transfer wastewater from its facility in the Neponset River basin, to the Massachusetts Coastal basin via the Stoughton sewer system is insignificant under the Interbasin Transfer Act. After the discussion noted below, the motion was approved by a unanimous roll-call vote by those present.

DISCUSSION:
Weismantel stated he was ready to approve this application last month. He would like to see the WRC be able to move these types of requests through faster, with a vote on the same day as the initial presentation, when there are no concerns presented, noting there can be unintended consequences for delays in approvals. Rao acknowledged that in some cases the WRC could consider voting on the same day as the initial presentation, but reminded people that statutory deadlines keep things moving forward on a relatively quick timeframe in all cases.

Drury stated that next steps will be to notice the decision in the Environmental Monitor and the WRC website. WRC Staff will send the final decision letter to Crescent Ridge Dairy and the MWRA. Then the dairy will have to go through an approval process with the MWRA. Cambareri commended Drury and the staff for creating the pathway under the Interbasin Transfer Act regulations for this type of project.

Agenda Item #5: Presentations by USGS on Results of its 5-Year Compilation on Water Use in New England and Massachusetts, and by MassDEP on its Water Use Data and Research Grant

a) Peter Weiskel presented for USGS. Slides are available at https://www.mass.gov/service-details/review-our-meetings.

Key points included:

- Key drivers for the research include a mandate from Congress that water use in the United States be summarized every 5 years and recognition that water use is a key component of the hydrologic water budget.
- MassDEP is a key USGS partner in this work for Massachusetts.
- The analysis is a one-year snapshot every 5 years that summarizes water withdrawn, used, and discharged.
- USGS has tracked these metrics since 1950, every 5 years, categorized by key sectors.
- In the western US, use is dominated by irrigation. In the central, south, and east, thermoelectric power is more dominant.
- Among New England states, CT uses the most water, driven primarily by several large nuclear power plants. MA uses the second largest amount in New England, driven in 2015 by public supply and thermoelectric power.

- In MA, most of the population is on public supply rather than self-supply (private wells) and most of the withdrawn volume is by public suppliers.
- In MA, most industrial users obtain water from public suppliers, whereas in CT and ME, much of the industry is self-supplied.
- In New England, most withdrawals for thermoelectric power are saline.
- For the agricultural sector, MA strongly dominates New England, driven by cranberries, which have the highest rate of water use among crops. However, not all of that use is consumptive; flooding for cranberry harvesting is mostly non-consumptive. Blueberries are also a high irrigation crop, making ME the second largest agricultural water user in New England.
- Golf courses are also a large player in New England irrigation, dominated by MA and CT.
- All the data underlying the report are available online. Methods for summarizing water use volumes vary by sector. Volumes in most sectors (other than public supply) are obtained from estimates, not pumping records.
- Weiskel highlighted key water use trends in MA over time:
  - Population has increased by around 1 million (about 17%) from 1985 to 2015.
  - Public water supplier (PWS) withdrawals have gone down by about 16% over this period.
  - Total supply per capita has gone down by 28%.
  - Industrial self-supplied use has decreased by 82%.
  - Thermoelectric power self-supplied use has decreased by 94%.
  - Crop irrigation (self-supplied) has increased by 39%; this may reflect an increase in small farming in MA.
- Key research needs include:
  - Better handle on water use by seasonal communities
  - Distinguishing groundwater from surface water use for irrigation purposes
  - Better estimates of use below the Water Management Act (WMA) threshold
  - Better data for non-residential public water supply use, especially growing new industries that are on public supply
  - Better data on site-specific and sector specific use; i.e. less reliance on estimates

DISCUSSION:
Cohen noted – with respect to MA water-use trends since 1985 – that 1985 was a year some of the water use metrics spiked up, so it may be that the declining trends look stronger than they would if an earlier year were used as the starting point.

b) Julie Butler presented for MassDEP on its Water Use Data and Research grant project. Slides are available at https://www.mass.gov/service-details/review-our-meetings.

Key points included:
- This project is part of USGS's Water Use Data and Research Program (WUDR), in which USGS is partnering with states to improve water use data tracking and sharing through grants to develop and then implement data management improvement plans.
- For MA, this effort is led by MassDEP's Water Management Act (WMA) program.
- MassDEP's project plan was developed over 2015-16, implementation began in Sept. 2017, and the anticipated completion date is Sept. 2019.
- There are 8 project objectives, with the first and last, as described below, being dominant as far as level of effort.

- Objective #1 was to transfer the collection of non-PWS (public water supplier) water use data from paper forms to electronic data collection methods. To this end, MassDEP has developed electronic report forms and a database for this purpose. This allows, among other benefits, collection of data by month (vs. annually) and by source (vs. total system). Butler noted that PWS data have been reported electronically since 2009.
- Objective #2 was to collect information on Non-PWS uses outside what is on the Annual Statistical Report (ASR), through a one-time survey (golf course and agricultural irrigated acreage; crop types; aquifer types and well depths; source location and ID verification).
- Objective #3 was to update withdrawal points in a GIS data layer.
- Objective #4 was to develop aquifer designations for all sources (e. g. bedrock, spring, sand and gravel).
- Objectives #5 and #6 were to improve quality control and data validation rules and alignment with USGS water use classifications.
- Objective #7 was to facilitate data sharing with USGS.
- Objective #8, the other dominant objective, was an estimation of private well use, using GIS and non-GIS data sources. This involved building an analysis model in GIS to combine all data sources to derive estimates of domestic supply use, private irrigation well use, and non-regulated golf course irrigation. Time-permitting, MassDEP would like to derive estimates for other non-regulated well use, such as agricultural operations and ski-resort use.

Discussion

Rao recalled how much work it took to get the ASR data into an electronic database and expressed appreciation for the effort and the value of this work. This could really improve USGS estimates every 5 years. Weiskel agreed and stated that these estimates are useful to USGS for many types of modeling, even beyond the Water Use Compilation project. LeVangie highlighted the particular importance of these estimates for the Sustainable Yield Estimator.

Pederson expressed concern that the estimate of use for private irrigation wells in the model is based on problematic assumptions and may not be accurate. She also asked if the updated source location data will be integrated with the Sustainable Water Management Initiative (SWMI) maps and used to recalculate subbasin analyses. LeVangie replied that MassDEP was currently working to make sure all sources are on the map, but the analyses that were a snapshot in time for the SWMI calculations are not currently planned to be updated from this process.

Meeting adjourned, 3:01 p.m.

Documents or Exhibits Used at Meeting:

1. WRC Meeting Minutes:
    a. February 2019
    b. March 2019
2. 3/14/19 Staff Recommendation: Crescent Ridge Dairy Request for Determination of Insignificance under the Interbasin Transfer Act
3. Interbasin Transfer Act project status report: 27 March 2019

Compiled by: SIC

Agendas, minutes, and other documents are available on the web site of the Water Resources Commission at https://www.mass.gov/water-resources-commission-meetings. *All other meeting documents are available by request to WRC staff at 251 Causeway Street, 8th floor, Boston, MA 02114.*