THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for May 9, 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, Department of Housing and Community Development (DHCD)
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Doug Fine	Designee, Department of Environmental Protection (MassDEP)
Hotze Wijnja	Designee, Department of Agricultural Resources (DAR)
Michelle Craddock	Designee, Department of Fish and Game (DFG)
Thomas Cambareri	Public Member
Marcela Molina	Public Member
Vincent Ragucci	Public Member
Kenneth Weismantel	Public Member

Members Absent

Todd Callaghan	Designee, Mass. Office of Coastal Zone Management (CZM)

Others in Attendance:

Michele Drury	DCR
Erin Graham	DCR
Peter Weiskel	United States Geological Survey
Richard Verdi	United States Geological Survey
Katie Ronan	Massachusetts Water Resources Authority
Jen Pederson	Massachusetts Water Works Association
Kate Bentsen	DFG/Div. of Ecological Restoration
Vanessa Curran	DCR
Sara Cohen	DCR
Viki Zoltay	DCR
John Scannell	DCR
Duane LeVangie	DEP
Marilyn McCrory	DCR
Gabby Queenan	Mass Rivers Alliance

Rao called the meeting to order at 1:02 PM.

Agenda Item #1: Executive Director's Report

Rao announced there has been a change of leadership at EEA. The Governor announced Kathleen Theoharides as the new Secretary of EEA. Climate is a very big theme and focus of hers. Rao and Commission staff have been engaged on climate change related thinking on the water

side from projections to analysis and evaluating our data to determine what additional studies may be needed.

Ragucci noted that he would like to thank the House of Representatives the Speaker, the Chairman of Ways and Means (Chairmen Pignatelli and Golden) for the additional almost 20 million for EEA's budget, including a good chunk for environmental protection. He asked that we note it and send kudos to the House. Rao acknowledged that our advocates have been busy and were likely behind this good news. Doug Fine mentioned that the PFAS presentation is scheduled for the next WRC meeting.

Agenda Item #2: Hydrologic Conditions

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

- The headline is that conditions are quite wet.
- Precip ranges from 125 to 200% over, which shows up in the other metrics we track
- Streamflow started around normal and ended significantly above average.
- Groundwater levels increased over the month. 2 wells remain just under normal but the rest of the state is either normal, above normal or well above normal including one record high.
- Rao asked if the Pelham well which was just below normal had any unique characteristics. USGS staff responded that they will look at it but it is likely just due to each well having unique characteristics which influence how they respond.
- All reservoirs are full
- Drought outlook is for no drought conditions

Wijnja reported on the status of agriculture based on a weekly crop progress report from USDA

- It is an important time of year but wet fields are providing a challenge
- Cranberry growers have noticed limited root development due to wet soils
- Fruit and berry growers are doing better

Agenda Item #3: Presentation: USGS Cooperative Program

- Verdi started off the presentation talking about the uses of data from the cooperative hydrologic monitoring network including flood forecasting, bridge design, septic system design, landslide forecasting and environmental monitoring.
- The stream gage network has 57 real-time gages with an annual cost of ~$900,000. This is funded by USGS and the Office of Water Resources. There are a total of 120 USGS gages. The other gages are funded by municipalities, tribal nations, and other state agencies such as DCR's Division of Water Supply Protection, DEP's Water Management Program, the DCR Bureau of Engineering and Planning, and the Army Corps of Engineers.
- The Climate Response Network part of the groundwater network is made up of 92 wells with 39 real-time wells and 53 monthly wells measured in person by state staff at a cost of ~$230,000 per year. These wells are supposed to be least influenced by humans.
- Additional wells are encompassed under the Active Water Level Network which includes any well that has been measured within the last 13 months regardless of human influence.
- A well replacement project to replace older steel wells will be completed soon. Significant time was spent trying to move replacement wells to public lands and getting permissions and permits.

- Additional networks include a few precipitation and weather stations, one soil moisture monitoring station and a few tide gages.
- Overall budget for the DCR/OWR part of the program is $1.3 million with $850,000 from DCR/OWR, $290,124 from USGS and $68,900 from the National Streamflow Information Program. The presentation also showed the budget split out by network type.
- Weiskel said that on the "studies" side of the USGS cooperative program, multiple studies are on-going with DCR and DEP. The new website has great information on these studies at https://www.usgs.gov/centers/new-england-water.
- Weiskel said that the new method for estimation of high groundwater (Frimpter method) and the groundwater geodatabase are both due to be published shortly.

Pederson asked how USGS verifies that the near natural sites are still near natural. Verdi answered that for monthly wells it is hard to know if there is human influence at the well; it is easier to spot influences on a real time well. USGS has placed a data logger in the Westford monthly well which was flagged for potential influence by an irrigation well. Issues like this come up either internally or from other data users and USGS and the State work to resolve them as quickly as possible. For example, streamflow can be affected by beaver activity or ice jams. Other larger changes in the environment that might affect the least impacted gages or wells are more difficult to determine without a study.

Agenda Item #4: Presentation: WRC FY20 Work Plan

Carroll reviewed the table summarizing the Draft WRC FY20 Work Plan. Major work areas will be:

- Finishing the 2016-2017 Drought Retrospective and Analysis Report which is just about complete;
- Completing the revised Drought Management Plan (DMP) and working in seven topic areas of implementing the DMP revisions (Several are large projects that will likely take more than a fiscal year. The final revised DMP will be brought back to the WRC soon.);
- Continuing to monitor hydrologic conditions and completing the well replacement project;
- Implementing the Water Conservation Standards including a user-friendly, online Water Conservation Toolkit and Clearinghouse and working with DER to provide guidance on working with water use data for setting conservation rates and effective conservation messaging;
- Working on several interbasin transfer applications and continuing to revise guidance to reflect most recent revision of the Interbasin Transfer Act;
- Technical and policy support for the Water Management Act program including outdoor conservation project and development of regulations on irrigation system interruption devices; and
- The Annual Report to the Secretary of State.

Weismantel requested to add under the Water Conservation Standards the development of key metrics for tracking progress on the standards. Pederson asked Fine if there will be work on groundwater discharge regulations which she expects would come before the WRC. Fine said DEP is still considering feedback they received and does not envision any changes this year. Fine added that DEP has been working on changes to the Water Quality Standards under the Massachusetts Clean Waters Act. It will likely go out for public comment this summer and the

WRC will need to vote on it. DEP will make a presentation to the WRC before or during the public comment period.

Agenda Item #5: Presentation: Summer Water Conservation Pilot Project: 2018 Results

Craddock introduced and thanked the project team including the public water suppliers and state agencies. As project background, she summarized a previous pilot project conducted in 2016 and 2017 in Wenham and Middleton. First, research in these towns identified barriers to water conservation perceptions that "grass will die if not watered" and that "eliminating lawn watering would not save much water". Benefit perceptions were identified as "helping community reduce water usage", "personal water savings", and "personal financial savings". Based on this, two campaigns were conducted that either provided feedback on water use and second that asked for signed commitment to reduce use. The feedback approach was more effective. These and other lessons learned were incorporated in the DEP project.

DEP was interested in the approach because they agreed to develop outdoor water conservation education campaigns as a result of a Massachusetts Rivers Alliance petition. Hingham (Aquarion), Concord and West Springfield were selected for this DEP pilot project. Selection was based on summer to winter water use ratio, at least quarterly billing and willingness to participate. The project grouped water users into four quartiles based on summer to winter use differences – highest, medium high, medium low, and low. All but the low water users had 100 households for the control group (no campaign) and for the treatment group (campaign). Next, the same survey was conducted as the previous project to determine perceived barriers and benefits to outdoor water conservation. More interest was expressed in protecting the environment; therefore, materials were adjusted to accommodate this benefit. The project had three mailings - one pre-notification and two instances of sending outreach materials. Craddock reviewed example materials that were customized to each community. Cohen added that materials were the same between the two mailings because most communities would not have the ability to update the numbers and this project was intended to be a pilot that is applicable to as many communities as possible. Pederson asked how they customized the material to each household and cautioned that suppliers may not have the capability to do that themselves.

LeVangie stated that DEP is committed to providing tools to the PWSs to help with outdoor water conservation campaigns and this project is part of that. He continued by reviewing the results from the campaign comparing treatment and non-treatment groups. There was a statistically significant decrease of 14 percent from non-treatment to treatment groups. In addition, the higher the water use, the greater percent savings were shown which were statistically significant in most cases. Among the systems West Springfield had the highest percent savings, then Hingham and then Concord. These differences may reflect differences in initial level of water use and the level of existing outdoor water conservation programs. A follow-up survey of households in the campaign and no campaign groups mirrored the water use data in terms of showing water savings if they indicated reduction in landscape watering and matched the attitudes assessed in the barriers and benefits survey prior to the project. The survey showed that the materials were easy to understand and provided some helpful educational information.

Next steps are to continue implementation in the three pilot towns beyond the small group of households in the pilot. Three additional towns will be piloted – Hanover, Westford, and Easton. The focus will be on the medium-high and high users. A toolkit will be developed, and the project

will work with the PWS to go through all the steps themselves including the analysis of water use data. Pederson asked about how people will interpret difference in water use between years if those years have very different precipitation. LeVangie and Cohen answered that these materials are meant to highlight differences between households in the same year and not reference data from other years. Carroll commended DER for being at the cutting edge of methods for water conservation campaigns and the statistical rigor applied. She also commended DEP for picking this up and working with DER to help suppliers. Craddock said that they will be presenting this work at the Water Innovations Conference.

Weismental pointed out the utility of automated systems for tracking use and detecting leaks and asked how that works and who is using it. LeVangie and Pederson provided Boston Water and Sewer as an example and they have automated robo calls to alert customers to leaks. Cost can be a barrier for changing out meters to be automated. Rao pointed out that energy companies are already doing it but perhaps due to economies of scale is not so prevalent in the water sector. Ragguci said he gets emails and texts if his household water use increases significantly along with useful tips for conserving. He said that there will also be notices sent if folks water during rain events. Pederson cautioned that as methods gets more sophisticated, households may have more concerns about privacy and wanting to opt out of smart meters. Ragucci said that Braintree just went through the automation for electricity meters. There was one customer who wanted to opt out. They allowed that but added at $75 fee for having to go out and physically read the meter. Graham said that based on a webinar she watched, PWSs tend to be more conservative with adapting new technologies. Pederson said that MWWA had a class on metering that has been oversubscribed so she believed folks are interested.

Agenda Item #6: Update: Water Needs Forecasting Program

This agenda item was postponed to a future meeting.

Weismantel moved to adjourn the meeting. Ragucci seconded. The vote to approve was unanimous of those present.

Meeting adjourned at 2:56pm

Documents or Exhibits Used at Meeting: ATTACHMENTS:

1. FY20 Work Plan
2. Water Conservation Pilot Campaign Fact Sheet
3. WRC Decision: Crescent Ridge Dairy Request for Determination of Insignificance
4. Interbasin Transfer Act project status report: 25 April 2019

Compiled by: AC, VZ
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.*