



THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for January 9, 2014

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

Minutes approved April 10, 2014

Members in Attendance:

Kathleen Baskin	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Marilyn Contreas	Designee, Department of Housing and Community Development (DHCD)
Jonathan Yeo	Designee, Department of Conservation and Recreation (DCR)
Ann Lowery	Designee, Department of Environmental Protection (MassDEP)
Catherine deRonde	Designee, Department of Agricultural Resources (DAR)
Laila Parker	Designee, Department of Fish and Game (DFG)
John Lebeaux	Public Member

Members Absent

Todd Callaghan	Designee, Massachusetts Office of Coastal Zone Management (CZM)
Thomas Cambareri	Public Member
Raymond Jack	Public Member
Paul Matthews	Public Member
Bob Zimmerman	Public Member

Others in Attendance:

Michele Drury	DCR
Edward Capone	NOAA, Northeast River Forecast Center
David Crosby	Sharon Water Dept.
Jen Pederson	Massachusetts Water Works Assn.
Michael Murphy	Massachusetts Clean Energy Center
Sara Cohen	DCR
Bruce Hansen	DCR
Anne Carroll	DCR
Chelsea Marcell	EEA
Erin Graham	DCR
Peter Weiskel	U.S. Geological Survey
Linda Hutchins	DCR
Nancy Hammett	Watertown Stormwater Advisory Committee
Vandana Rao	EEA
Suzanne Robert	MassDEP
Andreae Downs	Wastewater Advisory Committee
Robert S. Rak	Bristol Community College
Becky Weidman	MassDEP
Liza Behrendt	Citizen
Joel Wool	Citizen
Judith Glaubman	Citizen
Nancy Murray	Citizen

Frank Niles	MassDEP
Yvette dePeiza	MassDEP
Becky Smith	Clean Water Action

Baskin called the meeting to order at 1:00 p.m.

Agenda Item #1: Executive Director's Report

Baskin provided an update on completion of the Water Resources Commission's annual report, noting that work on the report is still in progress. She added that the report will be distributed to the commission for review before it is finalized and distributed more widely.

Baskin announced that the commission's annual work plan would be switched from a calendar year plan to a fiscal year work plan. She added that the 2013 work plan will be extended through June 2014.

Baskin provided a progress report on the update of the Interbasin Transfer Act regulations. She reported that the team is working on the options for a consolidated donor basin application. She added that, as the process unfolds, the team will bring substantive revisions to the commission.

Hansen provided an update on the hydrologic conditions for December 2013. Rainfall in December was above normal statewide for the first time in several months, with some variation across the regions. Groundwater levels were normal in the eastern part of the state and below normal in the rest of the state. Streamflows were below normal in the northeast and north-central regions, but generally in the normal range elsewhere. Water supply reservoirs reported percent-full values ranging from above normal to below normal. Hansen noted that the Worcester system reported levels twenty percent below normal for this time of year, and that this is of some concern, given the size of its service area. The Drought Monitor shows the eastern half of the state in moderate drought and the rest of the state abnormally dry. The Standardized Precipitation Index value used for the Massachusetts Drought Management Plan is in the advisory range for the Cape and Islands. The Drought Outlook indicates that drought conditions will likely be removed from Massachusetts in the near term.

Agenda Item #2: Vote on the Minutes of November 2013

Baskin invited motions to approve the meeting minutes for November 14, 2013.

V	A motion was made by Yeo with a second by Lowery to approve the meeting minutes for November 14, 2013. The vote to approve was unanimous of those present (Lebeaux not present for vote).
O	
T	
E	

Agenda Item #3: Presentation: Northeast River Forecast Center Services and Recent Work

Baskin introduced Ed Capone of the Northeast River Forecast Center (NRFC), a service of the National Weather Service. Capone described the organization and staffing of the NRFC and outlined its mission and responsibilities. One of thirteen river forecast centers across the country, the NRFC is based in Taunton, Massachusetts. It calibrates and implements hydrologic forecasts for two hundred points on major rivers in New York and New England. It provides

flood forecasting and flash flood guidance to weather forecast offices, which, in turn, issue watches and warnings.

There were several questions about the role of USGS and the stream gage network in the center's work. Capone acknowledged that the center could not do its work without the USGS gage network. He added that the center needs the associated historic record of streamflows, temperature, and precipitation to calibrate its models and forecasts. He added that at least twenty to forty years of historical record is preferred.

Capone explained the limitations of the center's forecasts. Required parameters include a 100-square-mile drainage area, six-hour response time, and information on the time, intensity, and location of rainfall. He described some of the data and tools used by the center, including radar; data from the Community Collaborative Rain, Hail and Snow Network (CoCoRaHS); data from the Massachusetts precipitation network, NOAA's Cooperative Observer program; and a conceptual soil moisture model. He discussed considerations related to climate change impacts. He described some of the steps used to interpret and ground-truth the data.

Yeo asked if flood-stage levels are adjusted after events. Weiskel explained that USGS takes frequent measurements in the field and recalibrates stage-discharge relations. Capone added that weather forecast hydrologists do not make changes after an event. Downs asked if the center provides guidance to wastewater treatment plant operators. Capone responded that the center analyzes flow, but not its origins.

Capone described other initiatives and online tools, one of which is the hydrologic ensemble forecast service, which will provide a spread of confidence intervals for the deterministic river forecasts. He acknowledged the challenge of compounding uncertainties associated with the meteorological and hydrological models used. He also described the center's other capabilities, including inundation mapping, forecasting associated with dam breaks, and storm surge forecasts for major rivers.

Yeo asked if the center has access to the data on hundreds of dams in Massachusetts. Baskin invited Capone to contact her or Hutchins for details. Rak asked how often definitions of the 100- and 50-year floods are reviewed. Weiskel responded that USGS is in the process of reevaluating the 100-year flood (one percent annual exceedance probability) for Massachusetts, and will incorporate the results into the StreamStats program.

Capone described changes that have been observed in climate patterns, including record floods in recent years, snow events, multiple events, circulation patterns of ocean water from the tropics to the poles, and increases in average temperatures and precipitation in the last seventy-five years. He called attention to a new Weather Service initiative, "weather-ready nation," intended address the vulnerability of populations to weather events.

Yeo commented that the state and federal government has not been able to continue appropriate levels of funding for the USGS gage network, which many entities, including the river forecasting center, depend on. Capone offered to help publicize the need for funding and the value of the stream gage network.

Agenda Item #4: Presentation: Developing a Water Innovation Cluster in Massachusetts

Baskin introduced Michael Murphy of the Massachusetts Clean Energy Center. She added that Murphy has led the development of a water innovation cluster for Massachusetts, a high priority of Governor Patrick's.

Murphy provided background on the Clean Energy Center and why the water innovation program was formed. He explained that there is a thriving water industry in Massachusetts, as well as many academic institutions working on water issues. The water innovation initiative is intended to bring these disparate groups together in order encourage the growth of the water industry in Massachusetts, provide research and development support, and enable the industry to capitalize on commercial opportunities around the world. He also described trade missions to Israel and Singapore and partnership agreements that resulted. These agreements will provide the framework for business and academic exchanges and the opportunity for entities to both learn from each other and work together.

Murphy described the organization and funding of the water network and its primary stakeholders, which currently include large and medium-sized companies, start-up companies, and universities. He encouraged professional associations, such as the Massachusetts Water Works Association, and advocacy organizations to become active members.

He added that a formal launch of the "New England Water Innovation Network" will be announced in early 2014. He discussed the main purpose of the organization, which will be to reduce the time to market for innovative technologies. He noted the most important need is a thriving network of test bed sites in Massachusetts. He outlined priorities suggested by board members, including nutrient loading and asset management.

In response to a question from Yeo, Murphy said the water innovation network will have a strong presence at the American Water Works Association's annual conference, which is scheduled to be held in Boston in June 2014.

There were several questions about water infrastructure financing and the role of technology for filling gaps in water infrastructure needs. Murphy encouraged input into the network's evolution, as the network is still in its formative stages.

Meeting adjourned, 3:00 p.m.

Documents or Exhibits Used at Meeting:

1. WRC Meeting Minutes for November 14, 2013
2. Correspondence dated December 18, 2013, from Water Resources Commission to Roger A. Hill, Town of Foxborough, regarding revised monitoring plan for the Witch Pond Wells.
3. Interbasin Transfer Act project status report, December 18, 2013
4. Current Water Conditions in Massachusetts, January 9, 2013
5. Presentation by Ed Capone, Northeast River Forecasting Center
6. Presentation by Michael Murphy, Massachusetts Clean Energy Center

Agendas, minutes, and meeting documents are available of the web site of the Water Resources Commission at <http://www.mass.gov/eea/air-water-climate-change/preserving-water-resources/partners-and-agencies/water-resources-commission/ma-water-resources-commission-meetings.html>.