



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION
100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for February 14, 2008

Minutes approved October 16, 2008

Members in Attendance:

Kathleen Baskin	Designee, Executive Office of Energy and Environmental Affairs
Anne Monnelly	Designee, Department of Conservation and Recreation
Duane LeVangie	Designee, Department of Environmental Protection
Gerard Kennedy	Designee, Department of Agricultural Resources
Mark Tisa	Designee, Department of Fish and Game
Joseph E. Pelczarski	Designee, Massachusetts Office of Coastal Zone Management
Thomas Cambareri	Public Member
Scott Horsley	Public Member
John Lebeaux	Public Member
David Rich	Public Member
Bob Zimmerman	Public Member

Others in Attendance:

Michele Drury	DCR	Joanna Carey	Mass. Riverways Program
Linda Hutchins	DCR	Paul Lauenstein	WSCAC/Neponset River Watershed Assn.
Bruce Hansen	DCR	Aaron Weieneth	Metcalf & Eddy
Sara Cohen	DCR	Ruth Alfasso	Dept. of Public Health
Erin Graham	DCR	Aisling Eglington	EOEEA/MEPA
Marilyn McCrory	DCR	Jennifer Pederson	Massachusetts Water Works Assn.
Margaret Callanan	EOEEA	Eric Hooper	Town of Sharon
John Clarkeson	EOEEA	Pam Heidell	MWRA
Christian Jacqz	EOEEA	Daniel Nvule	MWRA
Karen Pelto	EOEEA	Sam Mygatt	Epsilon Associates
Eric Hove	EOEEA	John Murphy	HMA, Easton
William Hinkley	EOEEA	Mike Gildesgame	Appalachian Mountain Club
Peter Weiskel	USGS	Neal Price	Horsley Witten
John Felix	MassDEP	Paul Kirshen	Tufts University

Agenda Item #1: Presentation: Effects of Climate Change on Water Resources

Kirshen provided a presentation on the effects of climate change on water resources. He presented data from the Intergovernmental Panel on Climate Change and other sources that indicate that carbon dioxide in the atmosphere is at its highest levels in ten thousand years. He showed what various climate models predict based on scenarios where greenhouse gas emissions continue at their current pace and where greenhouse gas (GHG) emissions are lower. The models

indicate increasing temperatures, sea level rise, and species extinctions with all scenarios. He then discussed the effects of climate change on water resources, stating that water will be the delivery mechanism for many of the impacts of climate change. He described changes in rainfall amounts, runoff amounts, the incidence of drought, streamflows, and the timing of streamflows with different GHG emissions scenarios. He also reported on results of the CLIMB (Climate's Long-Term Impacts on Metro Boston) project, (a collaborative project of Tufts University, Boston University, and the Metropolitan Area Planning Council, funded by the USEPA), which looked at the impacts of climate change on infrastructure and concluded that local water supplies are likely to be less reliable.

He discussed sea level rise, stating that there has been a six-inch rise globally in the last one hundred years. He also discussed the recurrence intervals of coastal flooding associated with different emission scenarios and pointed out that current floodplain regulations and maps may have to be revised. Hansen commented that he understood the land surface in New England is still rebounding, and the current 100-year flood is predicted to occur every two years by the year 2100.

Kirshen concluded that, even at the lowest emission scenarios, there will be significant climate-induced changes, but that the pace of those changes could be slower with reduced GHG emissions. In discussing adaptation to climate change, he noted that water supply, wastewater, and stormwater are interconnected, and work in one sector will have impacts in other sectors. He said that traditional infrastructure design standards must be reexamined, adding that infrastructure should be designed with flexibility to accommodate climate-change-induced impacts caused by a range of emission scenarios. He also said it is important to communicate risks to the public.

During the question period, Lauenstein called attention to the Blue Hills weather observatory, which has 100 years of records on climate, and he also advocated for funding for the USGS streamflow gages.

Baskin noted that the Secretary of Energy and Environmental Affairs has asked the WRC Executive Director to lead a task force to look at the issue of climate change adaptation and to recommend potential research projects that should be undertaken.

Agenda Item #2: Hydrologic Conditions Report and Update on Precipitation Normals in Massachusetts

Hansen provided an update on the hydrologic conditions for January 2008.

Graham reviewed analyses she had done, at the request of the Water Resources Commission, on whether the Office of Water Resources should, in response to climate change, adjust annual precipitation values that are used in monthly precipitation composite reports, which show normal and actual rainfall and deviation from normals. (Reports are available at <http://www.mass.gov/dcr/waterSupply/rainfall/index.htm>). Graham reviewed the data that currently go into the monthly precipitation composite reports. She explained that staff currently uses the entire period of record, which may vary in different regions of the state, as well as monthly totals for precipitation stations across the state. She explained that she examined

different ways of analyzing the data, including analyzing whether different time periods affect precipitation averages. Her analysis indicated that, for all regions except Cape Cod and the Islands, the annual precipitation averages that use more recent data are higher than averages that use data from a longer period of record. She also suggested some additional analyses that could be done such as looking at two-month, three-month, six-month, and 12-month scenarios and suggested looking at how the monthly composite precipitation data are used, such as for drought declarations and whether using 30-year normals would change either the tripping thresholds in the precipitation drought indices or the returning-to-normal status.

Horsley commented that the results show that there are a number of moving targets, in terms of precipitation averages, that should be incorporated into regulatory programs. He suggested a top-to-bottom look at the numbers to see what the impacts are. Baskin replied that the secretary plans to release a “climate change road map,” which will be a compilation of ideas on how to deal with climate change, including ideas about both mitigation and adaptation. She described this document as a brainstorming exercise, not a policy document. She invited input from stakeholders.

Cambareri commented that the Cape Cod Commission is working on a regional policy plan. One aspect of the plan considers requiring additional distance to separate stormwater systems from groundwater in coastal zones. Lauenstein observed that annual averages can be misleading since much precipitation comes in sudden, large events, and that these can be separated by increasingly long dry periods. He urged a look at variability and timing of precipitation events. Graham and Hutchins responded that the precipitation database has some limitations, in that it compiles monthly, not daily averages.

Baskin thanked Graham for her analysis and memo, and invited commissioners to offer their thoughts on how the analysis could be incorporated into new policy.

Agenda Item #3: Vote: Technical Modification of the Interbasin Transfer Act Approval for Aquaria Regional Desalinization Project

Baskin provided an update on discussions that had taken place on this project since the January presentation to the Water Resources Commission by the proponent’s consultant. She noted a meeting with staff from various state agencies to discuss the operational monitoring plan and address questions that had been raised on aquatic impacts of the proposed change to the fisheries exclusion system. Baskin distributed a letter to the proponent, prepared by WRC staff, identifying areas where monitoring could be changed to address the proposed Filtrex fisheries exclusion system. She also called attention to a document outlining conditions for modification. She explained that the item before the commission is a vote on whether to approve the use of the Filtrex system at the Aquaria facility as a fisheries exclusion system. She explained that the proposed conditions would amend the 2003 Interbasin Transfer Act approval, subject to the development of an operational monitoring plan to be approved by the commission. She added that the issues related to the monitoring plan would be addressed at the next commission meeting.

Drury added that the state agencies have identified the items that should be included in a revised monitoring plan to ensure that the system will work as it is proposed to work. Tisa added that the

monitoring plan must have sufficient scientific rigor to evaluate the effectiveness of the Filtrex system in preventing impingement of important fish species, especially river herring, which are experiencing a decline across their entire range. He added that any losses are unacceptable.

V O T E	<p>A motion was made by Zimmerman with a second by Rich to accept the conditions for modification of the August 2003 Aquaria Interbasin Transfer Act approval, subject to approval of an updated operational monitoring plan for the Filtrex filtration system.</p> <p>The vote to approve was unanimous of those present.</p>
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Mygatt expressed appreciation for the hard work of agency staff and pledged to provide a first-rate operational monitoring plan.

Agenda Item #4: Executive Director’s Report

Baskin announced an EPA grant opportunity to study the consequences of global climate change for water quality.

Baskin also noted that there had been 40 appeals of the Water Management Act registrations, and that MassDEP is considering defining a “time-out” period to see if some of the issues can be addressed by advancing some of the documents that support the registration requirements and reduce some of the uncertainties surrounding the registrations.

Agenda Item #5: Vote on the Minutes of August 2007

Baskin invited motions to approve the meeting minutes for August 2007.

V O T E	<p>A motion was made by Tisa with a second by Zimmerman to approve the meeting minutes for August 2007.</p> <p>The vote to approve was unanimous of those present, with one abstention.</p>
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Agenda Item #6: Status Report: Water Needs Forecasting

Monnelly provided an update on the schedule for upcoming water needs forecasts. She said that WRC staff, with assistance from MassDEP staff, has begun the process of gathering data on public water suppliers in the Hudson River Basin, the first basin with Water Management Act permits due to expire (in August 2008). She said the public will be notified, through a notice in the *Environmental Monitor*, that WRC staff has begun the process of gathering data for water needs forecasts in this basin. She noted that a meeting in the basin has been scheduled for March 19, and staff expects to send draft projections to the water suppliers before this meeting. She added that staff will update the commission again on the Hudson projections at the April meeting and present final projections at the May or June meetings. She also said staff will begin work on forecasts for the Charles and Blackstone basins in late April or early May.

Baskin reiterated the ways outlined in the Water Needs Forecasting Policy and Methodology in which an individual can request review by the Water Resources Commission of a forecast for an individual water supplier.

LeVangie added that this is the first time MassDEP has renewed permits, and MassDEP is still working on the policy decisions to be used in the permit renewal process. In response to a question from Zimmerman, LeVangie said that DCR will develop the demand projections using the WRC-approved methodology. DCR will provide a range of numbers showing water needs under five timeframes for meeting the water conservation standards, and MassDEP will select the appropriate timeframe.

Pederson requested clarification about when the public would have an opportunity to comment on the Hudson Basin projections. Drury responded that there is usually not a formal public comment process on the projections themselves, but public comment can be provided during MassDEP's Water Management Act permitting process. For the water suppliers in the Hudson Basin, DCR will develop first cut projections and then work on refining the projections with those water suppliers who decide to apply for a permit, so that DCR is aware of any factors that might affect the forecast. Baskin clarified that the Water Resources Commission is not scheduled to vote on the Hudson projections, but a report will be provided to the commission so that the commission and the public can be made aware of the process. LeVangie added that there will be a public comment process on the Hudson permits sometime after the May 31 deadline for applying for permit renewals. Baskin added that, though there is no formal comment period on the DCR projections, DCR invites public input through a notice in the *Environmental Monitor*.

Lebeaux asked how many of the registrations had been appealed. LeVangie responded that approximately 40 appeals had been filed out of 472 registrations, of which approximately 250 were registrations for public water suppliers. Horsley asked how the appeals process works. LeVangie responded that the public water supplier files an appeal with MassDEP's Division of Administrative Law Appeals (DALA). An administrative magistrate is assigned. Both sides submit written testimony. Zimmerman observed that virtually all the appeals revolve around the issue of whether the state has the authority to condition the registrations and suggested the appeals be consolidated in Superior Court. LeVangie acknowledged that the appeals take a lot of staff time to address.

Meeting adjourned

Attachments distributed:

- Current Water Conditions in Massachusetts, February 14, 2008.
- Water Resources Commission, February 14, 2008. Update on Precipitation Normals in Massachusetts.
- Water Resources Commission Findings: Compliance with the Environmental Criteria of the Interbasin Transfer Act, Aquaria Regional Desalinization Project, August 14, 2003; and Conditions for Modification of the August 2003 Aquaria Interbasin Act Approval.
- Letter dated February 12, 2008, to Samuel G. Mygatt, Epsilon Associates, from Kathleen Baskin, Water Resources Commission.