



THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for August 9, 2012

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

Minutes approved September 13, 2012

Members in Attendance:

Vandana Rao	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)
Marielle Stone	Designee, Department of Environmental Protection (MassDEP)
Gerard Kennedy	Designee, Department of Agricultural Resources (DAR)
Laila Parker	Designee, Department of Fish and Game (DFG)
Thomas Cambareri	Public Member

Members Absent

Joseph E. Pelczarski	Designee, Massachusetts Office of Coastal Zone Management (CZM)
John Lebeaux	Public Member
Bob Zimmerman	Public Member

Others in Attendance:

Elizabeth McCann	MassDEP
Steve Mecca	EcoWise Systems, Jamestown, RI
Bruce Hansen	DCR
Michele Drury	DCR
Jennifer Pederson	Mass. Water Works Assn.
Sara Cohen	DCR
Erin Graham	DCR
Kristen Hall	Mass. Water Resources Authority
Don Rose	Coler & Colantonio
Paul Lauenstein	Neponset River Watershed Assn. and Water Supply Citizens Advisory Committee
Steve Pearlman	Neponset River Watershed Assn. and Watershed Action Alliance
Marilyn McCrory	DCR
Bethany Card	MassDEP

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

Agenda Item #1: Executive Director's Report

Hansen provided an update on the hydrologic conditions for July 2012. Average rainfall statewide was 78 percent of normal, with some variation across the state ranging from a high of 163 percent of normal on Cape Cod to a low of 57 percent in the western portion of the state. Groundwater levels were normal in the east but below normal in the western two-thirds of the state. Surface water flows were normal in the east and below normal in the central and western parts of the state. Reservoir levels were generally normal, with a few below normal readings.

Hansen reviewed various drought indicators. The Drought Monitor shows the entire state as abnormally dry and the western half of the state in a moderate drought. The six-month values for the Massachusetts Standardized Precipitation Index are below normal for the Central and Connecticut River drought regions, triggering the drought advisory level in the Massachusetts Drought Plan. The seasonal drought outlook shows an ongoing drought in the western two-thirds of the state, with some improvement anticipated.

Hansen also reported on rainfall intensity in the United States. The analysis shows that the Northeast has experienced increasingly intensive storms since 1947. Hansen noted that these findings have implications for planning, streamflow, and highway design. (The report link is contained in [Current Water Conditions in Massachusetts](#), August 9, 2012).

Agenda Item #2: Vote on the Minutes of June 2012

Rao invited a motion to approve the meeting minutes for June 14, 2012.

V	A motion was made by Yeo with a second by Kennedy to approve the meeting minutes for
O	June 14, 2012.
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E	The vote to approve was unanimous of those present.

Agenda Item #3: Vote on Interbasin Transfer Offsets for 105 Research Road, Hingham

Drury acknowledged Don Rose, consultant for Fox Rock Properties, and Steve Mecca of EcoWise, the company that installed the low-flow devices used for the offsets. Drury reviewed the background on the project (*ed. note*: see minutes of the June 2011 meeting of the Water Resources Commission). The Water Resources Commission approved the implementation of offsets provided the proponent submitted documentation of installation. A previous Determination of Insignificance under the Interbasin Transfer Act had been approved by the commission (2002) and allowed transfer of 2,000 gallons per day of wastewater from the Boston Harbor Basin, via the Aquarion water supply system, through Weymouth to the Massachusetts Water Resources Authority (MWRA) wastewater treatment plant. Changes in building use will increase wastewater flow. However, an equivalent offset amount was calculated because the new use by a school will not be year-round.

Drury explained that the offsets were achieved by installing upgrades at properties served by Aquarion and on public sewer in the MWRA service area to ensure that the offsets would reduce water flowing out of basin. She added that the proponent still must remove infiltration and inflow as a condition of joining the MWRA system.

Graham reviewed details on the offsets that were achieved by performing water audits and water-efficiency upgrades at four facilities. She also explained how the wastewater flow was prorated to account for the operation of the school for only 250 days per year. This resulted in a goal of 2,268 gallons per day of water savings to be achieved through the upgrades. She explained how the water savings of the fixture upgrades were calculated and noted that water savings exceeded the goal.

Drury recommended that the commission find that the offsets have been completed, resulting in no increase in the current rate of interbasin transfer and that the sewerage project, therefore, is not subject to the Interbasin Transfer Act.

Cambareri asked if water-use factors used in the analysis of water use by various fixtures were consistent with the literature. Graham replied that the analysis appeared to be conservative based on information from the Alliance for Water Efficiency and the Residential End Uses of Water study. Lauenstein asked about the residential consumption rate for the town and the time frame for removing infiltration and inflow (I/I). Drury responded that she believed the town's residential consumption rate was around 65 gallons per capita per day, and Rose responded that the MWRA requires I/I removal within a specific time period of the facility's opening.

Rao invited a motion to approve the staff recommendation.

<p>V O T E</p>	<p>A motion was made by Cambareri with a second by Contreas to approve the offsets completed by Fox Rock Properties resulting in no net increase over the present rate of interbasin transfer.</p> <p>The vote to approve was unanimous of those present.</p>
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Agenda Item #4: Discussion: The “Water Efficiency and Conservation State Scorecard”: Report on the Massachusetts Score and Areas for Improvement

Graham provided an overview of *The Water Efficiency and Conservation State Scorecard, an Assessment of Laws and Policies*, which is a 2012 draft report prepared by the Alliance for Water Efficiency (AWE) with assistance from the Environmental Law Institute. The report discusses the results of a 20-question survey to identify and compare state-level water conservation laws and policies. She noted that reviewing the scorecard has been useful in prioritizing areas where Massachusetts can strengthen its conservation efforts and in reviewing the state's Water Conservation Standards for substantive updates.

Graham reported that collectively, the 50 states earned a score of C, while Massachusetts earned a C+. Massachusetts was cited as exemplary for its performance in two areas: for its conservation requirements as part of the water permitting process and for the frequency of permit review. She highlighted areas where Massachusetts could make improvements compared to other states, including enacting more stringent efficiency standards for plumbing fixtures and appliances, requiring drought emergency planning by communities, requiring rate structures that encourage conservation, providing evapotranspiration microclimate information for landscapes, and having mandatory requirements or a prescribed methodology for potable water conservation plans. She noted that an EEA intern is currently reviewing the framework of conservation plans required by other states.

Yeo acknowledged that reviewing the report's findings is a good exercise, but expressed reservations about the report's rating of some of Massachusetts's activities. Drury suggested the report is useful in providing avenues for discussion.

Graham then reviewed areas where Massachusetts received partial credit and discussed how Massachusetts could improve its performance in these areas. These include water loss regulation, authority to approve conservation plans, mandatory implementation of conservation measures, state funding for urban water conservation, and technical assistance for urban water conservation programs.

In response to a comment from Yeo, who pointed out that many water suppliers provide technical assistance to their customers in water conservation, Graham explained that the scoring focused on activities at the state level.

Graham reported on how Massachusetts scored compared to the other New England states, noting that Rhode Island and New Hampshire received higher scores. She concluded by pointing out that the report, despite its limitations, provides a good resource for examining state-level policies and regulations. She cited the Georgia State Water Plan, Georgia Water Conservation Implementation Plan, and California “20X2020 Water Conservation Plan” as examples of good resources (*ed. note*: California’s [20X2020 Water Conservation Plan](#) is a plan to reduce statewide per capita urban water use by twenty percent by the year 2020).

Yeo acknowledged that it is a good exercise to look at what other states are doing but repeated his reservations about the report’s conclusions and rankings of states. Pederson agreed, citing the Water Management Act requirements Massachusetts water suppliers must meet. She noted that the report focuses on laws rather than permit conditions. Graham confirmed that the report focuses on state-level laws and policies; she noted that Massachusetts received partial credit for some of its policies and that not all communities have permits.

Pederson requested clarification on the deficiencies identified in the report in water conservation planning. Graham clarified that some other states scored higher because they provided a prescribed framework or methodology for water conservation plans, and that the Massachusetts requirements apply only during the permitting process rather than statewide. Pederson suggested providing feedback to the survey authors to clarify what Massachusetts is doing. Graham noted that WRC staff had already submitted a comment letter, and Pederson requested a copy.

Rao asked if the report identified any states with separate planning guidance for potable and nonpotable water. Yeo commented that, for states with dry climates, nonpotable water use constitutes a larger portion of water use, and thus requires state-level guidance. In these locations, completely separate water systems for potable and nonpotable water are common. Hansen commented that nonpotable water constitutes the majority of water use, primarily by cranberry growers, in the Plymouth-Carver region of Massachusetts. McCann responded that MassDEP has worked with cranberry growers on improved farming techniques.

Lauenstein commented that California, Texas, and Georgia are states that received high scores on the survey questions, and all are states that require high-efficiency toilets. He inquired about the status of proposed legislation in Massachusetts that would require HETs. Rao responded that the legislation was not adopted in the most recent legislative session. Lauenstein urged support for reviving this legislation and providing testimony in its favor.

Drury noted that the AWE scorecard provided a new perspective on Massachusetts policies and programs today, noting that Massachusetts has been a leader in water conservation in the past. Other states, such as Georgia, faced with a recent water crisis, are mandating new technology and implementing new laws and policies. She pointed out that Massachusetts can learn from what other states are doing and improve its own policies. She added that some approaches other states are taking might not be appropriate for Massachusetts, but they might be adaptable.

Rao agreed, adding that this is a good opportunity for state agencies and the commission to look at what other states are doing and incorporate ideas, as appropriate, into the state’s approach to water conservation.

Agenda Item #5: Discussion: Next Steps on Update of the Water Conservation Standards

Rao noted that the first phase of updating the Massachusetts Water Conservation Standards has recently been completed, and that this consisted of minor, nonsubstantive updates. The second phase will consist of a more detailed review and update of the standards. She introduced McCrory to provide an overview of the direction for the next phase of updates.

McCrory noted that the commission had discussed a two-phase approach to updating the Water Conservation Standards at its September 2011 meeting. At that time, several topic areas were identified as the focus for substantive review. These included system water audits and water losses, lawn and landscape, plumbing fixture and appliance standards, and pricing and revenue structures. She added that staff will also review the other chapters in the Water Conservation Standards – such as agricultural water use, and industrial, commercial, and institutional water use.

McCrory noted that Massachusetts has a good set of guidelines. She outlined general questions that would guide the next phase of review, such as: Do these standards represent best current practice? What practices are being implemented by other states and other jurisdictions? What new standards are being developed by national and international standard- and code-setting bodies? Will these practices work in Massachusetts? What are the barriers and how can we overcome them? Is there another way to organize and present the information so that the document is more useful to readers?

McCrory added that the next phase of updates is a long-term project, but staff hope to make progress on specific topics over the next year. She introduced Graham to discuss the approach to reviewing the standards related to system water audits and water loss control.

Graham noted that commission staff and MassDEP staff have been working together to identify the current practices required in Water Management Act permitting and in the Interbasin Transfer Act process. The review to date has involved examining the concepts of unaccounted-for water and water loss control programs, with a focus on reviewing the new American Water Works Association (AWWA) methodology for water audits and water loss control. The effort will include assessing the experience of other entities that have adopted the AWWA methodology. Graham added that the review will include public involvement, and the intent is to submit recommendations for a group in the fall.

Yeo commented that a change in methodology for unaccounted-for water will be a significant change and will require involvement of a variety of stakeholders. Rao commented that a stakeholder group provided feedback during the 2006 update of the Water Conservation Standards, and she would envision a similar process for this topic as well as several of the other topics.

Lauenstein commented on the advantages offered by radio-read meters in monitoring unaccounted-for water and facilitating timely response to leaks. Pederson commented that it is important to distinguish between unaccounted-for water and leaks, and expressed concern that systems do not receive credit for known leaks. She suggested consulting with the Boston Water and Sewer Commission, which has implemented a process parallel to the AWWA methodology. She also noted that the BWSC has installed an automated metering system that provides daily readings.

In response to a question about the cost of automated metering systems, Hall reported that the city of Chelsea installed a system at a cost of \$1.4 million. Yeo noted that the technology can present challenges associated with a community's topography and the ability of towers to pick up signals. Lauenstein reported that the town of Sharon installed a drive-by metering system, rather than a fixed-network system, serving 18,000 customers for \$1 million.

McCrorry discussed staff review to date on the topic of outdoor water use, which is addressed in Chapters 9, 10, and in several Appendixes of the Water Conservation Standards. She commented that the standards document provides a comprehensive set of guidelines. She summarized the theme of the standards and recommendations, expressed in the policy statement at the beginning of Chapter 9, which states that "water used for maintaining landscapes and lawns should not be used at the expense of public health and safety or the environment." She noted that the existing standards and recommendations for outdoor water use address four general topics: reducing water waste, maximizing efficiency, using alternatives to potable water, and water quality impacts of outdoor water use.

She summarized the approaches used by some other states and jurisdictions on the topics of reducing water waste and maximizing efficiency in outdoor water use. She reported that the state of Georgia has adopted a statewide regulation that defines a statewide schedule for outdoor water use during both non-drought periods and periods when drought conditions are in effect, while the California government code requires all cities and counties to adopt the state's Model Water Efficient Landscape Ordinance, which addresses both water waste and efficiency practices.

She noted that recommendation #6 in Chapter 9 of the Massachusetts Water Conservation Standards specifically addresses the efficiency of automatic irrigation systems. She reported on approaches being implemented in other states, such as California, whose Model Water Efficient Landscape Ordinance includes provisions for a maximum amount of water to be applied through such systems, irrigation schedules, routine repairs and adjustments, and minimizing overspray and runoff. She added that California has also adopted a Green Building Standards Code (CalGreen), which requires weather-based or soil-moisture-sensing controllers in irrigation systems for new construction or renovation. She added that not all of these approaches may be applicable to Massachusetts, but they provide a menu of approaches to improving efficiency in outdoor water use.

Rao asked what mechanism other states are using to implement these approaches, whether it be a statewide regulation or law. Yeo added that the investigation should include models and best practices currently being implemented in Massachusetts communities, as well as in other states. Drury added that staff envision convening a work group for this topic consisting of municipal officials, the irrigation industry, water suppliers, and others.

McCrorry reported that other organizations and national standard-setting bodies have also developed or are working on standards and best management practices related to outdoor water use. These include EPA's Water Sense program, which now has a WaterSense label for irrigation controller products that meet its standards for performance and efficiency, as well as a draft New Homes Specification. She also noted that the American Society of Agricultural and Biological Engineers is developing a new standard on methods of testing weather-based or soil-moisture-based irrigation control devices.

McCrorry outlined who would be involved in the next phases of the update of the Water Conservation Standards. Initially, in-house agency staff will collect and review information.

Work groups bringing together the needed expertise would then be convened to consider recommendations. McCrory invited recommendations on areas of expertise and individuals who may contribute to these work groups. She also asked commission members to review the Water Conservation Standards document with an eye to the next steps in a substantive update.

She outlined a rough timeline for the next phase of updates, with research generally being done through the fall, work groups assembled on specific topics in the winter, a public comment period and recommendations outlined in the spring. She added that, though Massachusetts has a good set of water conservation standards, the AWE state scorecard indicates areas where Massachusetts can improve its effectiveness in water conservation.

Drury invited commission members to also consider, while reviewing the Water Conservation Standards, whether there are policies that the commission should update or put into place.

Pederson commented that the Massachusetts Water Works Association would like to participate in work groups, and that it is important that the update effort include a public process. She added that some of the approaches cited would involve regulatory or statutory changes. Drury responded that public comment on the entire body of the standards would be solicited through notices in the Environmental Monitor and the commission's website, as well as at commission meetings.

Lauenstein urged a focus on water pricing, noting that the critical needs for infrastructure upgrades and water-use efficiency would both be served by creative water pricing. Graham pointed out that revenue recovery is an important focus of the AWWA methodology for assessing water losses.

Meeting adjourned, 2:15 p.m.

Documents or Exhibits Used at Meeting:

- WRC Meeting Minutes for June 14, 2012
- WRC Meeting Minutes for May 10, 2012 (as amended)
- Staff Recommendation on proposed offset credits resulting in no net increase in interbasin transfer: 105 Research Road, Hingham
- Alliance for Water Efficiency and Environmental Law Institute, *The Water Efficiency and Conservation State Scorecard: An Assessment of Laws and Policies* (April 2012 Draft). Available at <http://www.allianceforwaterefficiency.org/draft-scorecard.aspx>
- Public Notice from Massachusetts Water Resources Commission: Receipt of a Request for Determination of Insignificance under the Interbasin Transfer Act, MGL Chapter 21 Sections 8b-8d, from the town of Groton
- Interbasin Transfer Act project status report, July 25, 2012
- [Current Water Conditions in Massachusetts](#), August 9, 2012
- Massachusetts *Water Conservation Standards*, June 2012
- California Department of Water Resources. February 2010. *20X2020 Water Conservation Plan*. Available at http://www.swrcb.ca.gov/water_issues/hot_topics/20x2020/docs/20x2020plan.pdf
- University of Georgia, College of Agricultural & Environmental Sciences. January 2011. *The 2010 Georgia Water Stewardship Act. Circular 995*. Available at http://www.caes.uga.edu/applications/publications/files/pdf/C%20995_2.PDF