THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for May 10, 2012

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

Minutes amended and approved June 14, 2012

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)
David Terry	Designee, Department of Environmental Protection (MassDEP)
Gerard Kennedy	Designee, Department of Agricultural Resources (DAR)
Todd Richards	Designee, Department of Fish and Game (DFG)

Members Absent

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

Others in Attendance:

Bruce Hansen	DCR
Sara Grady	Mass. Bays Program and North and South Rivers Watershed Assn.
Samantha Woods	North and South Rivers Watershed Assn.
Michele Drury	DCR
Erin Graham	DCR
John Clarkeson	EEA
Jennifer Pederson	Mass. Water Works Assn.
Jay Baker	Mass. Bays Program
Vandana Rao	EEA
Mike Gildesgame	Appalachian Mountain Club
Peter Weiskel	U.S. Geological Survey
Laila Parker	DFG, Div. of Ecological Restoration
Marilyn McCrory	DCR

Baskin 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 April 2012. With statewide precipitation at seventy-nine percent of normal, April was the fourth month in a row where precipitation was below normal. Across the regions, precipitation varied from forty-seven percent of normal on Cape Cod to ninety percent of normal in the central region. The rainfall deficit over the four-month period was six inches. With very little snow melt after a dry winter, streamflow was much below normal in April. Groundwater levels are generally below normal throughout the state. Reservoir levels are normal to a little below normal for this time of year.

Hansen reported on several drought indices. The National Drought Monitor shows that eighty-four percent of Massachusetts is classified as being in a severe or moderate drought. The western region of the state is considered to be abnormally dry. The Standard Precipitation Index for the three-month period shows below-normal conditions. The National Weather Service's Drought Outlook shows that Massachusetts is experiencing an ongoing drought with some improvement likely over the next three months. Hansen also provided a preview of the upcoming hurricane season, reporting that fewer major storms are anticipated.

Baskin provided an update on the last meeting of the Drought Management Task Force, which met May 3, 2012, to review April conditions and respond with the appropriate drought designation. The Task Force evaluated the seven parameters used to determine the severity of a drought and determined that three parameters – streamflow, precipitation, and the Standard Precipitation Index – had triggered the Drought Advisory level for the northeast and southeast regions of the state. The task force advised the Secretary of Energy and Environmental Affairs that more information is needed on reservoir levels. Water Resources Commission staff are collecting these data. If reservoir levels are found to be low, then a Drought Advisory will be recommended for the northeast and southeast regions. Baskin described effects of a drought advisory on the Water Management Act and Wetlands Protection Act programs. In the meantime, Baskin noted, conditions have slightly improved following a storm in late April.

Baskin announced that the New England Water Works Association will sponsor a Sustainability Congress on May 31. This will feature entities throughout New England reporting on their activities related to sustainable water resources.

Baskin paid tribute to David Terry of MassDEP, who will be retiring after a 40-year career in environmental protection. On behalf of the Water Resources Commission, she thanked Terry for his service to the commonwealth, water suppliers, and citizens in protecting water supplies and public health.

Kennedy requested an update on the Sustainable Water Management Initiative (SWMI). Baskin reported that the comment period on the SWMI framework ended April 6, and staff are currently reviewing the hundreds of comments received and are in the process of categorizing comments, assessing the need for additional investigations, preparing responses, and developing an approach to a final SWMI framework. An effort to pilot the framework in four water supply systems is also underway. These systems, in Amherst, Shrewsbury, Danvers-Middleton, and Dedham-Westwood were selected to represent a range of conditions. A major part of this effort will be evaluating offset and mitigation options for communities who seek additional water above their baseline. MassDEP has engaged a consultant team from Comprehensive Environmental and Tighe and Bond to assist in the pilot effort.

Baskin reported that MassDEP expects to begin writing of regulations this year, and both the comments on the framework and results of the pilots will inform the regulations. Kennedy asked where authority on the regulations would reside. Baskin responded that the Water Management Act regulations would be revised, and noted a potential role for the Water Resources Commission. She added that it has yet to be determined whether SWMI products will be published first as policy and guidance and then incorporated into regulation.

Pederson noted that no public members of the Water Resources Commission were present at today's meeting and requested an update on the status of filling vacancies on the commission.

Baskin responded that some interviews had been conducted and recommendations for new appointments to fill vacancies or reappointment of existing commission members were in the process of being approved by EEA and sent to the governor's office.

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

Baskin invited a motion to approve the meeting minutes for April 12, 2012. A motion was made by Contreas and seconded by Yeo. Baskin invited comments on the minutes. Pederson requested an amendment to the discussion of firm yield, indicating that the minutes did not accurately reflect her comments. She read proposed language and confirmed that she had communicated in writing with commission staff about the amendment prior to the May meeting. McCrory confirmed that the audio tape of the meeting supported the amended language.

VOTE	A motion was made by Contreas with a second by Yeo to approve the meeting minutes of April 12, 2012. A motion to amend the April meeting minutes was made by Yeo with a second by Contreas. The vote to amend the minutes was unanimous of those present. The vote to accept the minutes as amended was unanimous of those present.

Agenda Item #3: Discussion and Vote: Update of the Massachusetts Water Conservation Standards, April 2012

Baskin noted that commission staff plan to update the Water Conservation Standards in phases, with the first phase consisting of minor updates and corrections. She added that the intent is to not introduce new policy without more public engagement.

McCrory acknowledged Mike Gildesgame, Vandana Rao, and Anne Carroll, all of whom worked on the previous update of the Water Conservation Standards in 2006. She noted that commission staff had outlined a plan for updating the 2006 standards at the September 2011 commission meeting, and have now completed the first phase of updates. She called attention to the staff memo dated May 10, 2012, which outlined the types of changes made in this first phase, including updates, additions that do not change the substantive content of the standards, and formatting changes intended to make the document easier to use. She added that, though these are minor changes, it is important make them now in order to keep the Water Conservation Standards current while a substantive review of the content is in progress.

She provided examples of each of these types of changes. She called attention to a new section, Resources, at the end of the document, which provides links to organizations that have become established since the Standards were published in 2006. These include EPA's WaterSense program, the Maximum Performance Testing website for plumbing fixtures, and the Alliance for Water Efficiency, all of which provide a wealth of water conservation resources on their websites. McCrory invited questions and comments and requested a vote on the current set of updates.

Pederson offered several comments and suggestions. There was some discussion about statements regarding how often the document would be reviewed and updated. Pederson suggested the wording "update if necessary." Richards suggested confirming that there is no statutory requirement for a particular interval for review. Following additional discussion, it was agreed to amend the language to "review every five years and update as needed."

Pederson suggested adding information on measurement of results or progress since the Water Conservation Standards were adopted in 2006. She also requested that language on water banks

be reexamined, given a recent court case in Saugus. Baskin offered to have MassDEP legal counsel review the language to make sure it is up to date.

Pederson called attention to language related to enforcement of outdoor water-use bylaws, commenting that the courts are not backing up the water suppliers when a customer challenges fines. Baskin asked if Pederson was commenting on a change made in the updated document or on language in the original document. After some discussion, it was agreed that the language regarding enforcement would be reviewed during the substantive review of the document.

Pederson suggested adding a citation to Massachusetts General Laws, Chapter 165, Section 11, regarding water theft, to Chapter 2, Recommendation 5. She added that the Massachusetts Water Works Association had been successful in updating this law. She also commented on a statement added to Chapter 10 that "reducing water use can also reduce energy use and costs for customers." She noted the gap in infrastructure funding highlighted by the final report by the Water Infrastructure Finance Commission and noted that reductions in water use may not necessarily translate into cost savings for the consumer. Terry agreed. Baskin offered to reflect those concerns by indicating that savings resulting from reduced energy and water use provides an opportunity to redirect monies to other needed improvements.

Yeo commented that the state Water Conservation Standards are being used at the municipal level, citing a case in Newton where the standards were referenced in a hearing on rate increases needed to fund leak detection and other system improvements.

Baskin asked for a motion on the amendments to the updated Water Conservation Standards. A motion was made by Yeo to approve the updates, with the amendments discussed during the meeting. Terry seconded the motion. Kennedy asked for clarification on what the amendments were. Baskin read the amendments: (1) to change the requirement that the document would be updated every five years to "as needed"; (2) to add a reference to updated legislation, MGL Chapter 165, Section 11; and (3) to change the language on the energy-water nexus to indicate that reducing energy and water use provides an opportunity to redirect cost savings to other needed improvements.

McCrory requested clarification on the other items of discussion. Pederson said these could be addressed during the substantive review. Graham suggested an additional change to the language on frequency of document review. Baskin clarified that the first amendment should read "review every five years and update as needed."

VOTE	A motion was made by Yeo with a second by Terry to approve the updated Water Conservation Standards with the amendments discussed during the meeting. The vote to approve was unanimous of those present.

Agenda Item #4: Presentation: Balancing Municipal Water Demand and River Flows: a case study with Scituate, Massachusetts

Baskin introduced Samantha Woods of the North and South Rivers Watershed Association (NSRWA) and Sarah Grady of the Massachusetts Bays Program. Woods and Grady provided an overview of a multi-year project with the town of Scituate that estimated environmental needs for water and identified measures that would reduce municipal water demand when releases of water from impoundments would most benefit environmental needs. They also described other benefits of this balancing of municipal demand with environmental needs.

Woods provided background on the water supply system of Scituate, which consists of surface and groundwater sources mostly in the watershed of Herring Brook. NSRWA has been collecting streamflow data since 2003 from gages installed with assistance from the Division of Ecological Restoration upstream and downstream of reservoirs. Management of the surface water system results in a widely varying stream hydrograph, particularly in the summertime.

Woods described the impetus for the project, a combination of the town's interest in restoring an historic herring run, the watershed association's concern about streamflow conditions, and the town's concern about potentially needing to identify new water supply sources to meet municipal demand. A condition that the town would investigate the feasibility of restoration was incorporated into the town's water withdrawal permit.

Woods said that NSRWA was able to bring resources to the table to assist the town in meeting its goals and the conditions in its permit. The Nature Conservancy selected Scituate as a case study for a grant-funded study to perform modeling. Many stakeholders cooperated in agreeing on the restoration goals, which were to replicate, as closely as possible, natural flow conditions. As a result of these discussions, environmental flow goals were established for different bioperiods. The goals were to restore flows that would allow the return of migrating species and provide a wetted habitat for other organisms.

She described the data made available to the Nature Conservancy to incorporate into a Water Evaluation and Planning (WEAP) model. An important feature of this tool was scenario testing. Results of the model indicated that difficulties in meeting both environmental and water supply goals are limited to certain times of the year. These results provided the essential elements for developing an operational plan that defined parameters for streamflow releases. Model results also indicated that project objectives could be met through increased demand management, improvements in the water-use efficiency of the fish ladders, structural improvements at the dams to reduce manual interventions, and finding additional sources (including demand management).

Woods described demand management measures, including implementing a lawn watering restriction program targeting automatic irrigation systems and purchase of radio-read meters for neighborhoods with high water use, which allowed the town to more quickly identify problem areas.

Grady discussed the results of a water-use analysis using billing and climatological data. The analysis showed disproportionate use of water by a small segment of the community. The highest water users also had a proportionally greater increase in water use during the summer. Grady also discussed an analysis of pumping data from before and after the implementation of both lawn watering restrictions and a leak detection program. Peaks in pumping generally followed peaks in temperature and drops in precipitation; the analysis showed that the pumping peak was lower following the implementation of the demand management measures.

Grady described other municipal benefits from these measures, including reduction in the need to pump surface water sources, resulting in fewer complaints from customers and savings in treatment chemicals; the ability to run the system at lower pressure, resulting in fewer main breaks; the avoided cost of identifying new water supply sources; and labor savings from reduced demand on the treatment plant. Cost savings were offset, however, by lower billings. Rao asked if the town needed to change its rate structure. Grady responded that the water

department was able to maintain sufficient revenues to meet its operational needs despite the drop in billing revenue in 2011.

Grady described the operational plan for each bioperiod that allows the water department to maintain flows above a targeted streamflow requirement (in cubic feet per second) and a corresponding staff gage measurement (in feet). Woods described an added benefit of the demand management program following Hurricane Irene, which left the town without power supply and limited ability to pump from groundwater sources. Sufficient water remained in the reservoir to meet the town's potable water needs without creating a strain on the power supply.

Woods outlined the next steps in the program, including adaptive streamflow releases, a continuation of data collection and monitoring efforts, improvements to water conservation efforts, working with the town to seek sustainable additional sources of water, and seeking funding and resources to upgrade system infrastructure. She reported that in 2012, following implementation of the adaptive streamflow release program, fish were observed using the fish ladder for the first time on record.

There was some discussion of the restrictions on automatic irrigation systems. Woods commented that a problem with smart controllers is that these systems call for water during the driest periods and it is important that timers be set to comply with the one-day per week watering restrictions. She noted that irrigation contractors participated in discussions of the demand management measures.

She acknowledged the strong cooperation of the town's water department as key to the success of the project. She also acknowledged technical and financial support from the Massachusetts Bays Program, the Massachusetts Division of Ecological Restoration, and the Nature Conservancy. Baskin asked for an estimate of the costs to implement the program. She added that the Scituate program provides a good example of the results that can be achieved through a close working relationship between a community and environmental advocates. Baskin also acknowledged the technical skills and resources that NSRWA brought to the project.

In response to a question from Baker about the types of accounts that represented the top five water users, Grady responded that once some obvious multifamily and business accounts were excluded, many of the highest water users were located in newer developments where automatic irrigation systems had been installed. Woods added that education of homeowners on how to use these systems responsibly is key. In response to a question from Pederson about enforcement, Woods and Grady responded that the water department provided enforcement, and there was some reporting of noncompliance by residents. Woods added that many residents expressed support, in survey responses, for watering restrictions that apply to everybody, not just those with automatic irrigation systems.

Woods also commented that the requirements in the town's Water Management Act permit were helpful to the town and the water department in explaining to residents why the demand management measures were needed.

Meeting adjourned, 3:00 p.m.

Documents or Exhibits Used at Meeting:

- WRC Meeting Minutes for April 12, 2012
- Memorandum from WRC Staff to Water Resources Commission, dated May 10, 2012: Update of the Water Conservation Standards, April 2012
- Water Conservation Standards, April 2012 update
- Water Conservation Standards, April 2012 update (redline version)
- Interbasin Transfer Act project status report, 25 April 2012
- Current Water Conditions in Massachusetts, May 10, 2012
- Slide presentation: Balancing ecological and municipal water demand in a southeastern Massachusetts coastal stream. Available at the website of the Water Resources Commission