THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for April 16, 2009

Minutes approved May 14, 2009

Members in Attendance:

Kathleen Baskin	Designee, Executive Office of Energy and Environmental Affairs
Marilyn Contreas	Designee, Department of Housing and Community Development
Jonathan Yeo	Designee, Department of Conservation and Recreation
David Terry	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
John Lebeaux	Public Member
David Rich	Public Member
Bob Zimmerman	Public Member

Others in Attendance:

Michele Drury	DCR
Linda Hutchins	DCR
Bruce Hansen	DCR
Sara Cohen	DCR
Erin Graham	DCR
Marilyn McCrory	DCR
Anne Monnelly	DCR
Vandana Rao	EEA
Duane LeVangie	DEP
Tim Purinton	DFG/Riverways
Margaret Kearns	DFG/Riverways
Peter Weiskel	USGS
Eric Hooper	Town of Sharon
Paul Lauenstein	WSCAC/Neponset River Watershed Assn

Agenda Item #1: Executive Director's Report

Baskin announced that the Massachusetts Environmental Trust (MET) will be celebrating its 20th anniversary by hosting a one-day water conference on November 10, 2009, at Holy Cross College in Worcester. Preliminary planning is underway, and Baskin invited suggestions for speakers and session ideas. The conference will also give MET an opportunity to showcase projects and former grant recipients.

Baskin also announced that EEA's Office of Technical Assistance plans to host a conference June 9, 2009, on the hospitality industry with a focus on water conservation. It will take place at the Marriott Courtyard in Marlborough.

Hansen provided an update on the hydrologic conditions for March 2009. He also recapped hydrologic conditions for February.

Agenda Item #2: Vote on the Minutes of June 2008 and February 2009

Baskin invited motions to approve the meeting minutes for June 2008 and February 2009.

VOTE	A motion was made by Contreas with a second by Rich to accept the meeting minutes for June 12, 2008. The vote to approve was unanimous of those present.

VOTE	A motion was made by Yeo with a second by Contreas to accept the meeting minutes for February 12, 2009. The vote to approve was unanimous of those present.

Agenda Item #3: Presentation on Incorporation of WRC-approved and proposed revisions into the Water Needs Forecasting Policy and Methodology

Monnelly outlined the four handouts presenting the proposed changes to the Water Needs Forecasting Policy and Methodology. She reviewed the proposed changes summarized in a memo to the commission (Attachment 2a of the commission's meeting package). She noted that the first three adjustments described in the memo were approved by the commission at the November 2008 meeting and that these have now been incorporated into the text of the policy and methodology document (Attachments 2c and 2d of the commission's meeting package). She reviewed four additional adjustments. These came about as staff worked with the methodology and applied it to different situations.

The first proposed change is to the method of handling water sold. Monnelly explained that in the previous version of the methodology, water sold was categorized as a nonresidential use. While this worked for the previous version of the methodology, WRC staff has concluded that it makes more sense to disaggregate water sold as a separate category of use. Monnelly explained that the use of such water sold is outside the control of the water supplier, and information on whether the water is being used for residential or nonresidential purposes is usually not available. Depending on the information available, staff would provide a summary of water sold over the past three to five years as part of the forecast. If a contract that specifies a maximum volume is in place, staff would provide that information to MassDEP. Baskin clarified that "water sold" refers to water sold from the community for which a forecast is being prepared to another community. Monnelly explained exceptions, such as cases where the community for which a forecast is being prepared serves 100% of another community; in such cases, DCR will prepare a full projection for the community that purchases the water.

The second proposed change is to the number used for base population. Instead of using the most recent year's population, staff proposes to average population over three to five years, providing a better alignment with past water use, which is also averaged over three to five years.

The third proposed change is to the number of forecast scenarios presented. Monnelly noted that the current methodology provides five scenarios showing different time frames for meeting the Water Conservation Standards. Since the methodology was last approved, MassDEP, working with its WMA Advisory Committee, has determined that only two scenarios are needed for WMA permitting purposes: a scenario showing Current Trends, should no changes occur in patterns of water use, and a scenario showing the system achieving the Water Conservation Standards of 65 rgpcd and 10% unaccounted-for water. LeVangie added that MassDEP is applying the 65/10 standards statewide. For water suppliers who are at or below 65 rgpcd and 10% UAW, MassDEP will use the 65/10 scenarios. For water suppliers who are above 65 and 10, MassDEP intends to use the Current Trends scenario for the first five-year block and 65/10 in the last 15 years of the permit.

Zimmerman asked for clarification on what happens to raw water that does not make it to the finished water distribution system. LeVangie responded that the fate of such water depends on the treatment process and provided several examples. He added that the water needs forecasting methodology accounts for these treatment plant losses. He noted that MassDEP bases its permits on raw water, adding that MassDEP is trying to ensure that registrations and permits going forward are based on raw water withdrawals.

Monnelly described the fourth proposed change, which is to base the calculation of unaccounted-for water on finished water, rather than raw water, in order to be consistent with MassDEP's method of calculating UAW. She also noted a number of nonsubstantive changes that involve minor corrections and adjustments that do not change the outcome of the forecasts.

Kearns asked for clarification on the information to be provided about water sold. Monnelly responded that the forecasts will not attempt to project water sold, but will provide whatever information is available about water sales in the past three to five years.

Baskin sought the consensus of the commission on dealing with small changes to the methodology in the future where such changes do not affect the outcome of the forecast. Zimmerman responded that, as long as a formula does not change, the commission would not need to formally review and approve small, nonsubstantive changes to the methodology. Monnelly added that staff would keep track of such changes and update the commission periodically, if it wished. Baskin explained that the methodology would stay the same, and any minor changes that would not be formally brought before the commission would address only how the methodology is implemented. An example she cited was making minor modifications to the spreadsheet used to perform the calculations.

Baskin requested that the commission review the documents and prepare to vote on the changes at the May meeting.

Agenda Item #4: Presentation on Changes to the Massachusetts Drought Management Plan

Hutchins presented an update on changes to the Massachusetts Drought Management Plan. She explained that the drought management plan was developed in response to a very dry winter, spring, and summer in 1999. A task force concluded that the commonwealth should have a plan that prescribes what defines a drought and what actions will be taken in response to drought conditions. The draft drought management plan was published in 2001 and is part of the state hazard management plan.

The plan defines six regions, which are the same regions used in DCR's monthly hydrologic reports to the commission. Drought maps are issued as needed by the drought management task force; these can be found on DCR's rainfall web page. Hutchins outlined the members of the task force. She described in detail the multitude of the information available on DCR's web page.

Hutchins noted that the Drought Management Plan does not measure a drought by precipitation alone and outlined the factors and indexes that the drought plan uses to evaluate drought conditions and their severity. These factors include river flow, fire danger, agricultural impacts, and impacts to public and private water supplies. The plan outlines five drought levels and their thresholds.

Hutchins described how the indexes and parameters are used to trigger a drought declaration. In response to questions from Baskin, Hutchins confirmed that, in most cases, a majority of indicators must to hit a certain threshold before the level of drought severity is increased.

Hutchins reviewed sources of data, such as the U.S. Drought Monitor, and explained that each index in the matrix of indicators is evaluated separately. She noted that, according to the plan, the streamflow and groundwater-level indicators must be below normal for several continuous months before a drought declaration is triggered.

Hutchins described proposed changes to the 2001 drought management plan, focusing on the Palmer Drought Severity Index and reservoir levels. She noted that the Palmer index may be better suited to other areas of the country, and it did not reflect conditions in Massachusetts in the drought of 2001 to 2002, whereas the Standardized Precipitation Index (SPI) did. Therefore, the task force is recommending replacing the Palmer Index with the SPI. The SPI also identifies emerging droughts sooner than the Palmer Index.

Hutchins explained that DCR is currently developing its own SPI based on DCR's long-term precipitation data base for Massachusetts, which has data starting in 1850. She described how the SPI values would provide thresholds for the Massachusetts drought management plan. Four drought levels, ranging from advisory to emergency, are envisioned. Hutchins has tested and calibrated these thresholds on target droughts from 1957 to 2002. This proposal will be presented to the task force for approval.

Hutchins then described how reservoir levels factor into drought declarations. Currently, staff monitor voluntary reports on percent full by six water supply reservoir systems. Working with MassDEP and the Massachusetts Water Works Association, staff has developed a list of reservoirs in various size classes in each region of the state that should be monitored. Hutchins noted that water suppliers are not mandated to keep records, and the task force has

requested that twenty systems start providing monthly reports, along with any past records that may be available. Data on non-water-supply impoundments will also be used.

Hutchins concluded by outlining the status of revisions to the drought management plan and the process for review and approval of the final plan. The goal is to finalize the plan in the summer of 2009 so that can be included in the state Hazard Mitigation Plan, which must be updated for 2010.

Yeo asked how drought declarations are used. Hutchins responded that the drought plan prescribes actions at certain drought levels, where mandatory actions occur only at the Emergency level. LeVangie added that Water Management Act registrations and permits are linked to the Drought Management Plan, with outside water-use restrictions being triggered at the Drought Advisory level. Pelczarski pointed out that the plan does not address questions related to allocation among competing uses.

Baskin commented that the ultimate objective of the plan is to advise the governor. She noted the need for a policy discussion related to triggers for a drought declaration that are better suited to wetlands protection. In the recent past, the lag time between the point when rivers dried up and a drought declaration was made resulted in degraded conditions and confusion for both Conservation Commissions and project proponents. She commented that policy makers may wish to consider developing a separate set of indicators for purposes of the Wetlands Protection Act, much as regulators concerned with fire danger have developed more responsive indicators. Terry commented that MassDEP intends to look at this issue and discuss how to proceed. LeVangie added that once the Drought Advisory level is hit, the impacts are usually already significant. Zimmerman suggested that if drought indicators even start to point to a serious situation, the drought management task force must be empowered to advise the governor to authorize actions at an early stage, in order to avert a potential crisis, such as occurred in Atlanta in 2007. Hutchins responded that, with current protocols, various people are being notified continuously by the drought management task force.

Weiskel commented that if the state is interested in revisiting which stream gages are used in the monthly hydrologic conditions reports and in making drought determinations, it may wish to consider using only the index gages (the gages at least-altered streams), rather than gages that may or may not be influenced by water use.

Hooper commented that if the goal is to predict a drought sooner, perhaps the task force should take a closer look at the tails in the distribution curves. Tisa asked if staff had conducted a nonparametric test of the data to confirm that it fits a normal distribution. Hutchins responded that she would look into these suggestions and would welcome input.

Meeting adjourned

Attachments distributed:

- Current Water Conditions in Massachusetts, April 16, 2009
- Presentation: Changes to the MA Drought Management Plan – Update