THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for December 13, 2012

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

Minutes approved February 14, 2013

Members in Attendance:

Kathleen Baskin	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Marilyn Contreas	Designee, Department of Housing and Community Development (DHCD)
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Bethany Card	Designee, Department of Environmental Protection (MassDEP)
Gerard Kennedy	Designee, Department of Agricultural Resources (DAR)
Todd Richards	Designee, Department of Fish and Game (DFG)
Todd Callaghan	Designee, Massachusetts Office of Coastal Zone Management (CZM)
Thomas Cambareri	Public Member
Raymond Jack	Public Member
John Lebeaux	Public Member
Paul Matthews	Public Member
Bob Zimmerman	Public Member

Members Absent

None

Others in Attendance:

Duane LeVangie	MassDEP
Bruce Hansen	DCR
Michele Drury	DCR
Linda Hutchins	DCR
Jim McGovern	Irrigation Assn. of New England
Laila Parker	DFG – Div. of Ecological Restoration
David Ferris	MassDEP
Ann Lowery	MassDEP
Erin Graham	DCR
Andreae Downs	MWRA Wastewater Advisory Committee MWRA
Jennifer Pederson	Mass. Water Works Assn.
Cary Parsons	Mass. Water Works Assn.
Vandana Rao	EEA
Rich Bradley	Irrigation Assn. of New England
Marilyn McCrory	DCR

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

Agenda Item #1: Executive Director's Report

Baskin reported that the American Groundwater Trust had organized an informational forum on the extraction of natural gas from shale. The program, offered at the University of Massachusetts Amherst campus today (December 13, 2012), was to focus on policy and jurisdictional issues

rather than science. She added that Dr. Stephen Mabee, the state geologist, has conducted research on shale gas and hydraulic fracturing in Massachusetts and prepared a response to frequently asked questions, which is posted on the website of the Massachusetts Geological Survey (http://www.geo.umass.edu/stategeologist/). Dr. Mabee has concluded that there is not enough shale in Massachusetts to consider extraction feasible in the near future.

Hansen provided an update on the hydrologic conditions for November 2012. He reported that rainfall in November was thirty percent of normal for the month, representing the eighth driest November in one hundred eighteen years of record. Impacts of low rainfall are seen in low flow in small streams, especially in headwaters areas. Precipitation varied across the state, with a probable record low in the Connecticut Valley area. The majority of groundwater levels remain in the normal range. Streamflows were in the normal range on average for the month, with some below-normal levels statewide in daily readings near the end of the month. Reservoirs reported levels a little below normal, with one reservoir approaching a drought trigger. The drought indicators show no drought conditions and predict normal conditions through February 2013.

Baskin pointed out the comment letter submitted on behalf of the Water Resources Commission on the Environmental Notification Form filed by the town of North Reading, which is seeking to obtain all of its drinking water supply from the Massachusetts Water Resources Authority system and to discharge a portion of its wastewater to an unspecified wastewater treatment plant. She noted that the commission will likely review the project in the future.

Agenda Item #2: Vote on the Meeting Minutes of October 2012 and November 2012

Baskin invited motions to approve the meeting minutes for October and November 2012.

VOTE	A motion was made by Cambareri with a second by Kennedy to approve the meeting minutes for October 11, 2012. The vote to approve was unanimous of those present, with three abstentions (Contreas, Richards, Zimmerman).

VOTE	A motion was made by Cambareri with a second by Contreas to approve the meeting minutes for November 8, 2012. The vote to approve was unanimous of those present, with three abstentions (Richards, Lebeaux, Zimmerman).

Agenda Item #3: Update on the Massachusetts Sustainable Water Management Initiative: Final Framework

Baskin noted that there have been three presentations to the commission on the Sustainable Water Management Initiative (SWMI) over the past several years. She added that a major milestone has been achieved, with the release in November of the SWMI framework, which outlines the components of sustainable water management and their application to Water Management Act permitting. She added that, though the framework is finished, much work remains to be done. She acknowledged the contributions of stakeholders and staff over a period of two years.

Baskin described the key components of SWMI, starting with the definition of safe yield. She explained that safe yield is calculated as fifty-five percent of the drought basin yield plus

reservoir storage volumes. She explained how drought basin yield is calculated, starting with a calculation, for each month, of the low flow that is exceeded ninety percent of time (Q90). The twelve Q90s are averaged to produce an annualized Q90. This annualized number is applied to the 27 major river basins defined in other regulatory programs. The safe yield calculation also includes credit in certain basins for the extra storage volume in reservoirs that store more than one year of average inflow.

Callaghan expressed interest in seeing the individual Q90s for each month, and Baskin acknowledged that fifty-five percent of the annualized Q90 is higher than fifty-five percent of the August Q90, but pointed out that the basin drought yield is based on a drought flow similar to the drought of the 1960s, and that an August parameter is applied through the streamflow criteria.

Baskin then described the streamflow criteria. The criteria are based on a 2011 USGS study that showed a relationship between the abundance of fluvial fish and four parameters: two natural and two anthropogenic (impervious cover and groundwater withdrawals). She noted that USGS expressed confidence in the strength of the relationships between the parameters and the fish metric.

In response to questions from Callaghan, Richards clarified that the study focused on the strongest of highly correlated variables. He further clarified that the study focused not on individual species of fish but on fish characterized by the need for flowing water. Baskin clarified that the methodology for calculating streamflow criteria cannot be used in all 27 basins because of lack of data; in coastal and a few other basins, a different methodology is being used.

Baskin explained that biological categories were developed based on the estimated loss of relative abundance of fluvial fish, with Biological Category 1 representing least impacted streams, with a loss of up to five percent fluvial fish, and Biological Category 5 representing severely degraded streams, with a loss of sixty-five percent or more fluvial fish. She explained how groundwater withdrawal levels were calculated to correspond to the biological categories. She noted that analyses were done for groundwater withdrawals and not surface water withdrawals. She discussed maps showing biological categories and groundwater withdrawal levels. In response to questions from Pederson, Baskin explained that the groundwater withdrawal levels map shows where groundwater withdrawals alone, disregarding impervious cover, would drive loss of fluvial fish.

Baskin explained a chart showing categories of groundwater withdrawal levels and how they correspond to the percent alteration of estimated unimpacted streamflow in various seasons. Each category corresponds to an upper level of withdrawal that would allow a basin to maintain its present condition. She also explained the concept of baseline, which represents a reference withdrawal amount against which a request for additional withdrawal is compared. There were several questions about baseline, which is the highest of the applicant's registered volume, its 2005 use plus a five percent buffer, or its average use from 2003 to 2005 plus a five percent buffer. LeVangie added that water use has been declining, and if new projections show less water needs than the baseline, the new projections become the baseline. Parsons asked if adjustments to baseline are being considered to address anomalies in use, such as an unexpected shutdown of wells. LeVangie responded that the five percent buffer helps in accounting for such problems, and DEP may consider adjustments for conservation-related declines in use or other factors.

Baskin explained how the SWMI framework will be applied to Water Management Act permitting, including the tiers for determining minimization and mitigation requirements for increased groundwater withdrawals. The highest tier represents a request that triggers a change in groundwater levels or biological categories, and this will result in additional minimization and mitigation actions. She also explained how requests for surface water withdrawals will be evaluated and actions that may be required for increased withdrawals.

She outlined the components of mitigation, including demand management, wastewater system improvements, habitat improvements, stormwater system and impervious cover actions, and instream flow improvements. She noted that work remains to be done on how mitigation will work.

Card described the SWMI pilot process, in which the SWMI framework is being applied to four public water systems to evaluate how the framework works in practice. A mock consultation exercise and a site-specific study are being piloted in two of these systems. Lessons from the pilots will be incorporated into regulations being drafted by MassDEP. She outlined the next steps in implementing the SWMI framework, including writing regulations to guide the permitting process, with final regulations expected in 2013; implementation of a grant program to assist communities with minimization and mitigation efforts; and research to fill in data gaps.

In response to requests for more details on the pilot communities, Card and LeVangie explained that the Danvers-Middleton system provided an opportunity to analyze the data in the Ipswich River Basin, where water withdrawals have changed since the 2003-to-2005 period. Lebeaux offered feedback from the town of Shrewsbury on the SWMI pilot effort. He noted that the town is pleased to participate in the piloting effort, but is awaiting a response to questions and concerns outlined in a letter to MassDEP. Lebeaux requested clarification on how the results of the pilots will inform the framework, which has already been published in its final form. He also requested that more time be allowed for communities to comment on the report on Phase 2 of the pilot process. Lebeaux offered to submit the town of Shrewsbury's letter to the commission.

Card responded that it was always the agencies' intent to finalize the framework before completion of the pilot studies, with the knowledge that the framework is a summary, while the detail will be in the regulations. She added that the results of the pilots will be incorporated into the regulations. She acknowledged the short time frame for review as well as the invaluable input from the pilot communities. Baskin noted that there will be an opportunity for public comment both during the regulation writing process and when the Water Management Act regulations are presented to the Water Resources Commission for approval. In addition, a lengthy outreach effort in each basin is planned as part of the permitting process.

Contreas asked if the pilot effort involved collecting data on costs to communities of implementing the SWMI framework. Baskin responded that MassDEP's consultant on the pilots is currently estimating these costs. Jack urged MassDEP to allow enough time, despite impending permit renewal deadlines, to carefully consider the costs and benefits of SWMI implementation. He commented on the need for financial incentives to remove infiltration and inflow from wastewater systems. He emphasized the need to understand the benefits of financial investments communities will be required to make. He urged consideration of the percentages of mitigation credit communities will receive to ensure that the highest environmental benefit occurs. He expressed concern that some mitigation efforts will be costly, and the costs will be borne largely by the communities. He urged incentives be provided in the regulations for mitigation.

Parsons asked why the average rather than the median of monthly Q90 flows was used in the calculation of safe yield. Hutchins explained that characterizing the calculation as an average may be an oversimplification and explained that the monthly number is a daily weighted Q90. Baskin added that approximately three dozen scenarios for calculating safe yield were considered in the technical subcommittee. She also noted that the report on the pilot studies will guide MassDEP, but additional comments from the communities will also be important in decisions about how to implement the SWMI framework.

Pederson, speaking on behalf of the Massachusetts Water Works Association, expressed disappointment in the response to comments, adding that the responses to the science questions were general and broad. She added that MWWA feels there are specific scientific questions that should be answered before the framework is implemented. She noted some additional analyses suggested by Dr. Andrew J. Paul to test the assumptions of the model and asked if those analyses had been completed. Richards replied that the analyses were suggested to address some of the issues raised in the MWWA consultant report and that those that could be completed within the time frame were done. Card offered to provide the information gathered by staff.

Pederson also asked if fisheries data points could be restored to the interactive map. Richards responded that the specific fisheries data points were removed because the individual fish dots were used for the USGS study and represent a different type of data set that cannot be easily compared to the dataset used in the SWMI interactive map. Pederson commented that, though the tools are described as statewide screening tools, the analyses are being applied to specific sources in permitting, and it is important for communities to have access to the actual fish data that was collected versus what was used in the model. She added that though communities have the option of rebutting the model through a site-specific study, such a study will be an expensive undertaking.

Jack asked why the redundant wells policy is limited to registered systems. LeVangie explained that the intent of the policy is to remove disincentives for registered users, who may want to avoid permitting conditions associated with increased withdrawals, to build redundant wells. He added that systems with permits can also add redundant wells, and would not be subject to conditions that are not already in their permits.

Lebeaux asked if the offset credits will be awarded only for conservation actions going forward. Card responded that MassDEP anticipates crediting water supply systems for conservation efforts they have put in place in roughly the past five years. LeVangie added that conservation efforts implemented since 2005 may help a system keep withdrawals below its baseline. Bradley asked if the demand management mitigation measures included rebates for WaterSense-approved products. Baskin invited suggestions on the specifics of the mitigation program.

Agenda Item #4: Presentation: MassDEP Regulatory Reform Proposals for Wastewater-related Regulations

Baskin introduced Ann Lowery and David Ferris of MassDEP, who provided summaries of five regulatory reform projects addressing wastewater regulations. Lowery noted that MassDEP has drafted regulatory changes, and she described the internal review process. She briefly reviewed the reasons for the regulatory reform effort (*Ed. note*: see WRC minutes, November 8, 2012).

Lowery described proposed changes to regulations at 314 CMR 2.00, which describe procedural requirements for issuing permits under the Massachusetts Clean Waters Act. These regulations

cover surface water discharge, groundwater discharge, reuse, and sewer connection and extension permits. She explained that the changes will conform the state's public notice procedures to federal procedures, which now use a web-based system to provide public notice and opportunity for public comment. Notification will appear on MassDEP's website, and applicants will be required to publish notifications of draft permits in the *Environmental Monitor*.

Ferris described proposed changes to Title 5 regulations at 310 CMR 15.000. One change will streamline permit issuance by eliminating a duplicative review and approval process by MassDEP for certain types of systems, leaving permitting with local boards of health. A second change will allow MassDEP to contract with a third party to review and approve innovative on-site wastewater treatment technologies. Ferris outlined a number of other changes, including reductions in design flows for elderly housing units, and providing some flexibility to allow industrial wastes that have the same characteristics as sanitary sewage to be discharged to a Title 5 system.

Ferris described proposed changes to sewer extension and permitting regulations at 314 CMR 7.00 and 12.00 and 257 CMR 2.00. One change would eliminate a duplicative approval of sewer connection permits by MassDEP, leaving permitting with local authorities. Other changes involve new requirements for municipal wastewater collection and treatment systems, including requirements for an infiltration and inflow (I/I) identification and elimination program and an evaluation of system capacity. In addition, industrial pretreatment regulations will be moved into operation and maintenance (O&M) regulations.

Callaghan requested clarification on requirements for tracking of sewer connection permits and on the I/I requirements. Ferris explained that sewer connection tracking requirements will be transferred to O&M regulations and clarified that I/I removal will be required where capacity is an issue and where excessive sanitary sewer overflows occur. Parsons asked about the process for appealing Title 5 decisions made by local authorities. Ferris explained that MassDEP is currently not the appeal agency, and no changes to the appeals process are being proposed.

Zimmerman asked how MassDEP will address growth implications of permitting sewer extensions and eliminating state review of Title 5 permitting. He added that the availability of centralized wastewater treatment systems encourages growth, and this has serious implications for how the state will grow. Ferris explained how MassDEP reviews sewer extensions and connections, and explained that the proposed changes will shift MassDEP's focus from permitting to capacity issues. He added that MassDEP will still have the ability to conduct enforcement actions. Jack noted that when wastewater treatment plants reach eighty percent of their capacity, regulations require systems to determine how they will accommodate growth. Zimmerman responded that optimistic growth projections in the past have left municipalities with excess treatment capacity, and this provides an incentive to allow development in order to relieve the debt burden of a larger-than needed treatment facility.

Pederson expressed concern that the proposed regulatory changes will place more regulatory burden on municipalities. Ferris responded that MassDEP will continue to provide technical assistance to municipalities. He added that an I/I program will now be codified as a requirement and will be required, in addition, by permits under the National Pollutant Discharge Elimination System.

Cambareri noted that public water suppliers currently must be notified about applications for groundwater discharge permits and expressed concern that public notification only through the *Environmental Monitor* may not be sufficient. Lowery responded that the regulations will continue to contain provisions for direct notice of interested parties of a draft permit proceeding, and Ferris clarified that the groundwater regulations will continue to require an applicant to notify a water supplier if a groundwater discharge is proposed within the Zone II of a groundwater supply.

Lowery described proposed changes to regulations at 310 CMR 32.00, related to land application of sludge and septage. She explained that the changes create a presumptive approval process for renewal of approvals of Type 1 materials and also increases the maximum term for approvals from two to five years. She also described proposed changes to the Surface Water Quality Standards at 314 CMR 4.00. These changes would used less stringent numerical limits for copper and zinc in twelve locations and resulted from site-specific scientific studies. Ferris addressed questions from Zimmerman and Callaghan on why the national standards were not applicable to these specific locations and noted that the changes had been approved by the U.S. Environmental Protection Agency.

Lowery thanked the commission for the opportunity to describe the regulatory reform proposals and noted that there will be a formal public comment period, and the full regulations will be presented to the commission for a formal vote before they are promulgated.

Agenda Items #5 and #6: Update on WRC Work Plan, CY2012 Accomplishments and Discussion of Proposed WRC Work Plan, CY2013

Baskin introduced Anne Carroll and Michele Drury of DCR to report on progress the commission's 2012 work plan and to discuss the proposed work plan for 2013. Carroll summarized accomplishments in 2012, focusing on six major areas, with the largest effort being work on the Sustainable Water Management Initiative. She also highlighted completion of housekeeping edits to the Water Conservation Standards and final edits to the Drought Management Plan.

Carroll highlighted key elements of the draft 2013 work plan, including a more substantive review of specific topics in the Water Conservation Standards; technical support to the SWMI process; water needs forecasting; Interbasin Transfer Act reviews, as needed, and potential revisions to the Interbasin Transfer Act regulations. Carroll invited comments and noted that approval of the 2013 work plan will be requested at the commission's next meeting. Baskin requested that comments be sent before the next meeting, if possible.

Meeting adjourned, 3:15 p.m.

Documents or Exhibits Used at Meeting:

- WRC Meeting Minutes:
  - October 11, 2012
  - November 8, 2012
- Massachusetts Executive Office of Energy and Environmental Affairs. November 28, 2012. Massachusetts Sustainable Water Management Initiative: Framework Summary. (summary, appendices, and related documents available at http://www.mass.gov/eea/air-water-climate-change/preserving-water-resources/sustainable-water-management/framework/sustainable-water-management-framework-summary.html)
- Memorandum dated December 13, 2012, from Staff to Water Resources Commission: 2012 Work Plan Accomplishments
- Memorandum dated December 13, 2011, from Staff to Water Resources Commission: Proposed 2013 Work Plan – Draft for WRC discussion
- Correspondence dated November 21, 2012, from Water Resources Commission to Massachusetts Environmental Policy Act Office regarding Environmental Notification Form submitted by town of North Reading for New Water and Wastewater Solutions
- Interbasin Transfer Act project status report, November 30, 2012
- 2013 Meeting Schedule, Water Resources Commission
- Link to website of the Office of the Massachusetts State Geologist: http://www.geo.umass.edu/stategeologist/
- Current Water Conditions in Massachusetts, December 13, 2012.
- Presentation slides: Sustainable Water Management Initiative: The Framework
- MassDEP: BRP Wastewater Regulatory Reform Proposals, December 13, 2012.