



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

Meeting Minutes for March 14, 2013

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

Minutes approved April 11, 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)
Jonathan Yeo	Designee, Department of Conservation and Recreation (DCR)
Ann Lowery	Designee, Department of Environmental Protection (MassDEP)
Gerard Kennedy	Designee, Department of Agricultural Resources (DAR)
Mark Tisa	Designee, Department of Fish and Game (DFG)
Raymond Jack	Public Member
John Lebeaux	Public Member
Bob Zimmerman	Public Member

Members Absent

Todd Callaghan	Designee, Massachusetts Office of Coastal Zone Management (CZM)
Thomas Cambareri	Public Member
Paul Matthews	Public Member

Others in Attendance:

Roger A. Hill	Town of Foxborough DPW
Linda Hutchins	DCR
Bruce Hansen	DCR
Michele Drury	DCR
Tim Simmons	DFG, Div. of Fisheries & Wildlife
Jim McGovern	Irrigation Assn. of New England
Jack Buckley	DFG, Div. of Fisheries & Wildlife
Sara Cohen	DCR
Peter Weiskel	U.S. Geological Survey
Erin Graham	DCR
Duane LeVangie	MassDEP
Richard Bradley	Irrigation Assn. of New England
Marilyn McCrory	DCR
Anne Carroll	DCR

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

Agenda Item #1: Executive Director's Report

Baskin invited Hansen to provide the hydrologic conditions report. Hansen reported that rainfall for February 2013 was just above four inches, or 130 percent of normal statewide, with variation in the regions ranging from a low of 74 percent in the western region to 169 percent of normal in the southeast region. Hansen noted the Nor'easter of February 7 to 10, which deposited twenty

inches of snow and was associated with strong winds and coastal erosion. He reported that groundwater levels are generally normal statewide, with the exception of small areas in the Connecticut River and Westfield River valleys, where levels are above normal. Streamflows were generally normal statewide and all reservoirs reporting data are in the normal range for this time of year. Drought indices show no drought in Massachusetts, and the Drought Outlook indicates a low probability for drought through May 2013.

Baskin announced that March 18 through 24 is “Fix-a-Leak” week, sponsored by EPA’s WaterSense program. McCrory announced that WRC staff will be moderating a workshop on water conservation at the annual conference of the Citizen Planner Training Collaborative on March 16. She acknowledged commission member Contreas for suggesting the workshop, which is targeted to planning board and other town board members and staff and is intended to broaden the way these entities think about water conservation and the impact of planning decisions on water use. She also announced a conference on April 11 – “Roads, Runoff and Water Management in Northeastern Massachusetts” – at the Topsfield Fairgrounds; the conference is sponsored by the Ipswich River Watershed Association. Baskin announced that the Environmental Business Council is sponsoring a forum on April 11 on climate change adaptation.

Agenda Item #2: Vote on the Massachusetts Drought Management Plan

Baskin noted that commissioners should have received copies of the final Drought Management Plan showing recent changes. She noted that the commission had discussed the updates to the plan at length at its October 2012 meeting. She called attention to a new appendix, requested by commission member Cambareri, which provides a review of the frequency and occurrence of drought events in Massachusetts at a statewide scale based on an analysis of long-term precipitation data. Baskin highlighted the other changes made to the plan since the October 2012 discussion.

Tisa requested that the commission postpone the vote on the plan for one month to allow him to circulate for comment and approval revised text pertaining to the Department of Fish and Game. He committed to providing revised language by the end of March. Baskin requested a vote on the motion to postpone the vote. Jack requested additional review to consider comments submitted by Jennifer Pederson of the Massachusetts Water Work Association, which included a comment on the reservoir index used to determine drought. Baskin responded that language addressing the concern about consulting surface water suppliers on operational issues that might affect reservoir levels had been inserted as a footnote to Table 3, and that staff will consult with the Massachusetts Water Works Association on its comments and the proposed changes to the plan before the next meeting. Drury requested that any additional comments on the plan be provided by the last week of March, if possible.

V	A motion was made by Tisa with a second by Contreas to postpone the vote on the update of
O	the Drought Management Plan.
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E	The vote to postpone was unanimous of those present.

Agenda Item #3: Update: Interbasin Transfer for Witch Pond, Foxborough, Massachusetts

Drury acknowledged Mr. Roger Hill of the Town of Foxborough and state agency personnel who have worked on the project. Drury noted that the Water Resources Commission approved an interbasin transfer for the Witch Pond wells in 2001. She explained that wastewater transfer out

of basin triggered the Interbasin Transfer Act. She added that once an interbasin transfer (IBT) is approved, the commission usually does not revisit an approval unless a change occurs.

Hutchins called attention to the 2001 decision by the Water Resources Commission on the Witch Pond wells interbasin transfer. She provided background on the project, noting that the commission approved an interbasin transfer of 1.44 mgd from the Ten Mile River to the Taunton River basins for two new public water supply wells in the Witch Pond Swamp. She reviewed conditions of the approval, including baseline monitoring in the wetland, operational monitoring of water levels, shutoff thresholds associated with groundwater depth, and wetland monitoring to assess any changes in conditions in the swamp over time. She noted that Foxborough has been pumping the wells since 2010, though at a lower rate than permitted.

She summarized environmental concerns that led to the conditions attached to the IBT approval. Site concerns include an unusual wetlands environment, the presence of rare and endangered species dependent on the rare habitat (Atlantic White Cedar swamp), and complex hydrology. Hutchins explained that the Interbasin Transfer Act requires the commission to consider impacts to wetlands and dependent flora and fauna.

Hutchins reviewed the timeline for approval of the interbasin transfer and resulting monitoring plans and reports. Operation of the wells began in December 2009, and well-shutoff thresholds were triggered in summer 2010. Foxborough shut down the wells voluntarily in the summers of 2011 and 2012. She noted that state agencies expressed concerns in 2011 about the impacts of pumping on the wetlands and has continued correspondence and meetings with the town on these concerns.

She reviewed the site's hydrology, noting that data indicate that there is an underflow across the basin divide from Lake Mirimichi. She also discussed claims on water rights by other towns, noting that all these issues were considered in the IBT decision. She explained that approval was based on a conceptual model that postulated the presence of a sandy silt layer at the base of the peat layer that isolates the wetland from the effects of pumping the underlying aquifer. She added that concerns about the effects of pumping on the deep peat layer resulted in several conditions requiring monitoring.

She outlined details of the conditions placed on the IBT approval, as reiterated in the Water Management Act permit. She discussed concerns related to maintaining sufficient water in the underlying peat layer so that it retains its characteristics and function. She explained the topography and hydrology of an Atlantic White Cedar swamp. She added that hydrology is used as a surrogate for wetlands alteration in the IBT decision, because impacts on the plant community would not be seen until the damage has become irreversible.

She explained that the decision anticipated the potential for adjustment of threshold levels for shutoff and/or well usage based on monitoring results. She discussed in detail a schematic diagram showing the impacts of pumping on the peat, which indicate a higher hydraulic conductivity and response to pumping in certain sections of peat.

Tisa requested confirmation that the silty layer has been found to be less effective than expected in isolating the peat. Hutchins confirmed that a more muted response in the peat was expected. In response to a question from LeVangie, she added that the conceptual model was based on observations during short-term pumping tests. She added that the town was encouraged to also

evaluate potential impacts on wetlands using longer-term pumping tests before developing the well site, but chose not to do so.

Hutchins discussed a graph showing monitoring data from before and after pumping began. She explained that the response of the shallow and deep peat near Witch Pond mirrors the response of the aquifer to pumping, indicating that the expected hydraulic isolation of the peat is not present. The data also indicate a long-term decline of water levels in all the geologic layers at this location. She also described the details of the wetlands monitoring and key results, which seem to show rapid shifts in vegetation to species more tolerant of dryer conditions.

She summarized observations that have led to the need to revisit the IBT decision and outlined the commission's role, which may involve amending the decision to provide additional protection for the Atlantic White Cedar swamp and considering changes requested by Foxborough to the 2007 monitoring plan and reporting requirements.

Tisa requested clarification on the changes requested by the town of Foxborough and on the initial response of technical staff. Hutchins responded that the town has not yet submitted written requests to change the monitoring or reporting. In addition, the town has stated disagreement with the findings of the state agencies. Tisa observed that the findings are based on data provided by the town and asked for staff's recommendation at this point. Hutchins suggested an additional water level threshold in the deep peat layer to reduce impacts of pumping. Baskin noted that any proposed modifications would be presented to the commission. She invited Mr. Hill to make a statement.

Hill provided background on the Foxborough water system, and described many problems he and his staff have been trying to address since Hill's tenure began in 2011. He noted the poor condition of much of the water infrastructure, the absence of water treatment for iron and manganese removal in most of the system, problems with brown water caused by iron and manganese which have recently improved with the addition of a different sequestering agent, and the need for a hydraulic model of the distribution system. He outlined improvements to the system that are planned or in progress, including construction of a new treatment facility, which will go into operation in 2013, installation of the system's first SCADA system, and development of a hydraulic model.

Hill described some problems he has found with the data, including differences, based on a survey, in the elevations of monitoring wells. He described reasons for moving ambient monitoring well DP-4 to a more suitable location. He also described the apparent connection between Lake Mirimichi and the Witch Pond swamp. He acknowledged that the town's experts disagree with the conclusions of state agency staff, and expressed a preference for working together toward a mutually acceptable agreement.

Hill continued to describe system improvements the town is making, including pipe replacements and design of a third water filtration plant, which will be available in three years. When this plant comes online, he indicated that the town can stop using the wells at Witch Pond during the summer. He added that the town has not violated a threshold in the three years it has operated the wells at Witch Pond and intends to continue operating the wells sensibly, with respect for the thresholds.

Tisa requested clarification on how the ongoing system improvements will affect operation of the Witch Pond wells. Hill explained that the new treatment plant that will be online by October

2013 will reduce the amount of time when water withdrawals from the Witch Pond wells are needed. He explained other improvements needed elsewhere in the system, but noted that all improvements involve cost and will require some time to implement. LeVangie asked how the town will meet its water demands if the threshold for shutting off the wells at Witch Pond is triggered. Hill responded that wells with higher levels of iron and manganese are pumped.

Other questions and discussion addressed the effectiveness of a sequestration agent requested by the town and the effect of road salt on the Atlantic White Cedars. Hill noted that water use has decreased in the last two years, and the town is currently pumping twelve percent of the permitted capacity of the Witch Pond wells. He explained that the data used to establish shutdown conditions should be verified for accuracy.

Tisa commented that the commission has a history of working through issues with project proponents. He acknowledged the town's desire for additional time to address various issues, but pointed out that allowing impacts to continue can irreversibly damage a sensitive ecosystem and he did not want such a situation to go on for a long time. Hill explained that the town needs to continue to operate the Witch Pond wells until the new water treatment plant comes on line in October 2013, while continuing to respect the established shutoff thresholds. He described some of the errors the town believes are in the data being used.

Tisa commented that a serious question has been raised about an underlying assumption behind Foxborough's IBT application, namely, that a silty layer isolates the peat layer from the effects of pumping. He added that if this assumption is incorrect, the IBT would not have been approved in 2001. He expressed concern that modifications may be needed before the summer of 2013 to protect the swamp. Zimmerman agreed with Tisa and expressed concern about dueling experts. Jack noted that the town is complying with conditions of its permit, and explained that state agency staff typically will evaluate data presented by a proponent and determine if environmental needs are satisfied.

Baskin commented that all the information available must be assessed before any conclusions are reached, and she outlined next steps, including review of the data, discussions among agency staff, and meetings with the town and its consultants.

Zimmerman acknowledged the town's efforts in recent years to upgrade its infrastructure, but added that it is not acceptable to continue to degrade a unique habitat to make up for decades of negligence. He added that the project was allowed to proceed in 2001 based on an assumption that is now in question. Tisa clarified that he is not questioning the town's commitment to abiding by the conditions in its permit, but if monitoring indicates changes in the ecosystem, then the conditions may need to be modified as expressed in the IBT Decision. Hill responded that the town is committed to abiding by the IBT conditions and agreed that the town does not want to degrade the habitat, but he would like to confirm the data before shutting down wells.

In response to questions from commission members, Hill stated that average withdrawals from the Witch Pond wells have been about 0.22 mgd; the town has calendar-based restrictions on outdoor water use (hand-held watering two days per week in the evenings); water rates are steeply inclining; unaccounted-for water is above ten percent; and the town is in the process of replacing old meters with electronic-read meters. He added that he is willing to add more monitoring wells or do more frequent monitoring, if needed, but would like to confirm the need.

Lowery described the complexities of the system and suggest operational mechanisms may be possible to mitigate the effects of withdrawals. Hill acknowledge this, but noted that four wells are currently being rehabilitated, which limits operational flexibility.

Hill reiterated his desire for a full review of the data and expressed hope that there will be a consensus among the experts following site visits. Zimmerman said he would be skeptical if new experts suggest there are no impacts on the wetlands. There was discussion about the pros and cons of bringing in an independent expert to review the findings of the agencies and the town. Jack expressed caution about relying on an independent review process.

Baskin acknowledged that the interpretation of data can be contentious. Tisa requested an update by agency technical staff at the April meeting, following the meetings and site visit in March. He enumerated the expertise available among agency staff. He expressed concern about waiting two months for a formal report. Baskin responded that staff will provide an update on the results of the March meetings and site visit at the commission's next meeting on April 11.

Meeting adjourned, 2:45 p.m.

Documents or Exhibits Used at Meeting:

- *Massachusetts Drought Management Plan*, March 2013, and pages with proposed changes highlighted
- Interbasin Transfer Act project status report, February 27, 2013
- Current Water Conditions in Massachusetts, March 14, 2013
- Water Resources Commission Decision, September 13, 2001. Town of Foxborough Witch Pond Wells Interbasin Transfer Application.
- Presentation slides: Foxborough Witch Pond Wells IBT Update, March 14, 2013.