



MWRA Advisory Board Summary
of the
MWRA Board of Directors Meeting
Wednesday, October 13, 2010

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on October 13, 2010 at the MWRA Transmission Maintenance Facility in Southborough, Massachusetts. **Present:** Chair Ian Bowles, Joel Barrera and Michael Gove, Gubernatorial Appointees; John Carroll, Andrew Pappastergion and Joseph Foti, Advisory Board Representatives; Vincent Mannering, Kevin Cotter and James Hunt III, City of Boston Representatives; Jack Walsh, City of Quincy Representative; Marie Turner, Town of Winthrop Representative.

REPORT OF THE CHAIR

MWRA Board Chairman Ian Bowles thanked MWRA staff for their hard work in running the Transmission Maintenance Facility, which hosted this meeting.

REPORT OF THE EXECUTIVE DIRECTOR

MWRA Executive Director Fred Laskey reported that solar panels were currently being installed at the Carroll Water Treatment Plant, which upon completion of installation will provide 500 kW of electricity at peak capacity.

Chairman Bowles announced that the MWRA would be receiving an award from Mass Energy. Mr. Laskey said Mass Energy voted the MWRA its outstanding leader in the public sector and a ceremony will occur this month. Chairman Bowles congratulated John Vetere, Director of the Deer Island Treatment Plant, and Kristen Patneaude, Program Manager, Emergency Management, and other leaders on staff for this accomplishment.

Mr. Laskey stated that the MWRA's Annual Audit was completed and there were no findings.

Mr. Laskey noted that there have been press reports of illegal dumping at the Somerville Marginal facility under I93; analysis by the MWRA's laboratory shows that it appears to be septage with some industrial waste. Locks will be changed at the facility and an investigation will be conducted. Fortunately, none of the waste made it into the storm drains.

APPROVALS

CAPITAL FINANCE MANAGEMENT POLICY

The Board voted to adopt the Capital Finance Management Policy.

At the September 15, 2010 meeting, staff presented the draft Capital Finance Management Policy to the Board. As a result of the Board's discussion, staff made minor changes to the document to reflect the Board's feedback. Revisions include a reference to the Authority's ongoing commitment to structure debt service responsibly over time and incorporates the role of the Commonwealth's Finance Advisory Board.

The purpose of the Capital Finance Management Policy is to provide a framework regarding the administration and internal policy for the issuance, management, and reporting on all debt obligations of MWRA. All of MWRA's debt is regulated by the conditions set forth in the Enabling Act and the General Revenue Bond Resolution. In order to

issue new debt, MWRA must receive Board approval and meet certain coverage and outstanding bonds tests. Once the debt has been issued, these documents continue to provide direction on the use and investment of funds, as well as continuing compliance requirements.

MWRA Advisory Board Executive Director Joseph Favaloro stated that he wants to ensure that this policy will not tie the Authority's hands, stating that he is concerned that rating agencies could look at a subsequent vote from this Board and forever determine any deviation is cause for a negative watch or downgrade in light of this policy. As long as flexibility remains with the Board of Directors on a case by case basis; the Advisory Board doesn't want to hear that it is in the MWRA's policy not to restructure.

Director of Administration and Finance Rachel Madden said in reference to the added language, it is unlikely that would happen given that part of the concept of generational equity is not paying for it all today when people will benefit for 40 years. This gives flexibility and speaks to the MWRA's longstanding practice to level debt service over the course of years. It gives the MWRA flexibility to push out debt; however, MWRA does it infrequently.

MEMORANDUM OF UNDERSTANDING WITH BOARD OF STATE EXAMINERS OF PLUMBERS AND GAS

FITTERS

The Board voted to authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Understanding (MOU) with the Board of State Examiners of Plumbers and Gas Fitters, Division of Professional Licensure, Massachusetts Department of Consumer Affairs and Business Regulation, which details the various aspects of MWRA's plumbing projects that will require permitting and inspection, at no cost to the Authority, and for a period that will continue from year to year, unless earlier terminated.

MWRA and the Board of State Examiners of Plumbers and Gas Fitters have held extensive negotiations concerning the issuance of permits and the requirement for inspections of plumbing work carried out by MWRA staff. MWRA has held the position that its enabling legislation clearly indicates that the Department of Public Safety shall have exclusive jurisdiction with respect to inspections and permitting. However, the Board of State Examiners of Plumbers and Gas Fitters maintains, and has for several years, that MWRA's plumbing projects are subject to its regulatory jurisdiction. Although neither entity is willing to alter its position, MWRA recognizes the benefits of ensuring that certain plumbing work not related to any of its treatment systems is permitted, performed and inspected in complete accordance with State Plumbing Code. Negotiations have resulted in a compromise of sorts, reflected in the form of this MOU.

Under the MOU the Authority agrees to: 1) comply with the basic principles, general regulations and standards of the State Plumbing Code; 2) apply for plumbing permits for work performed by MWRA plumbers; and 3) allow Plumbing Board inspection of permitted plumbing work.

The benefits to MWRA by entering into the MOU include: 1) no payments/fees for permits or inspections; 2) a licensed journeyman plumber can apply for permits and any number of journeyman plumbers can work under a single permit; 3) MWRA can begin plumbing work while it is awaiting permit approval; and 4) MWRA Plumbers/Pipefitters will not risk the loss of their licenses because of work performed at MWRA facilities.

Current MWRA Plumber/Pipefitter job descriptions do not require the submittal of Plumbing Board permits and the associated required use of the employees' plumbing licenses. Staff has been in discussions with the National Association of Government Employees – Unit 3 regarding the potential change in job duties associated with this MOU. Staff anticipates there will be a need for three new positions (at Deer Island, Chelsea and Western Operations) entitled Plumbing Operations Supervisor (Unit 3, Grade 21) that will have the ability/responsibility to apply for permits. These positions would be filled through internal promotions with no additional Plumber/Pipefitter positions being added. The average annual cost to upgrade three plumbing positions to Grade 21 is approximately \$19,041.

OCTOBER PCR AMENDMENTS – FY11

The Board voted to approve amendments to the Position Control Register reflecting a change in grade for a position located in the Operations Division, Field Operations Department, to reflect an assumption of new responsibilities. The annualized budget impact will be a cost of \$1,427 to the approved FY11 Wages & Salaries budget.

CONTRACT AWARDS

TASK ORDER APPRAISAL SERVICES: G&M VALUATION, REYNOLDS COMPANY, HOPSON-PINO, INC., CONTRACTS 592TA, 593TA, 594TA

The Board voted to approve the recommendation of the Consultant Selection Committee to select G&M Valuation, Reynolds Company, and Hopson-Pino, Inc. to provide task order appraisal consulting services and to authorize the Executive Director, on behalf of the Authority, to execute Contract 592TA with G&M Valuation, Contract 593TA with Reynolds Company, and Contract 594TA with Hopson-Pino, Inc., each in an amount not to exceed \$50,000.00 and for a term of three years, subject to written Notices to Proceed for the second and third years.

Property appraisals are used by MWRA to support Board approved capital construction projects and are funded through these projects. These contracts provide appraisal services on an as-needed basis through the use of task orders, thus simplifying the administration of the contract process, particularly for smaller assignments. The new contracts are needed to replace the existing contracts, which will expire on October 30, 2010.

In the past, MWRA has procured two appraisal contracts. As the task order appraisal firms in the past tended to be smaller firms, with more limited capacity, staff proposed hiring three firms at a contract price of \$50,000 each, instead of two firms at \$75,000 each. This will insure flexibility and reliability in assignments.

These contracts are used on an as-needed basis and costs incurred to perform services will be charged to the specific project under the FY11 CIP or CEB.

CONTRACT AMENDMENTS/CHANGE ORDERS

DENTAL INSURANCE: BLUE CROSS BLUE SHIELD OF MASSACHUSETTS, CONTRACT A525, AMENDMENT 2

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Amendment No. 2 to increase the amount of Contract No. A525 with Blue Cross Blue Shield of Massachusetts, Dental Insurance, in the amount of \$351,000.00 and to extend the term by twelve months to December 31, 2011.

In November 2008, the Board of Directors approved a one-year contract with Blue Cross Blue Shield of Massachusetts for \$355,000 to provide dental insurance to eligible employees. Further options to renew the contract for up to three additional twelve-month periods are subject to Board approval. In November 2009, the Board approved a one-year amendment to extend the contract through December 31, 2010.

This amendment authorizes the second 12-month period. It will maintain the level of coverage currently offered to eligible employees in the areas of diagnostic, preventive, basic and major restorative services, as well as limited orthodontic coverage. The dollar amount requested is the estimated amount of the MWRA's share of the premium and does not include the employee's share of the premium or the amount reimbursed by those insured under COBRA. The monthly premium costs will not increase as a result of the contract extension.

FURNISH, DESIGN AND INSTALL TWO WIND TURBINE GENERATORS, DEER ISLAND: LUMUS CONSTRUCTION, INC., CONTRACT 6974C, CHANGE ORDER 3

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 3 to increase the amount of Contract No. 6974C with Lumus Construction, Inc., Furnish, Design and Install Two Wind Turbine Generators, Deer Island, in a lump sum amount of \$24,400.00 and to extend the term by 185 calendar days to April 28, 2011.

Lumus Construction continues to perform tasks associated with the contract punchlist, troubleshoot operational issues, and perform warranty work as needed. The contract documents indicated that MWRA would enter into a separate maintenance agreement with either the turbine manufacturer or vendor and execute their standard maintenance agreement, with changes negotiated as necessary; however, because Lumus is the authorized service representative for the turbine manufacturer, RBB Limited, and since Lumus is required to perform any warranty work that may arise, staff recommended that this change order be executed with Lumus to perform necessary scheduled maintenance during the warranty period *only*, which would be for a term of one year after Substantial Completion (April 27, 2010).

The negotiated final cost for a one-year maintenance agreement was \$48,800, which is in line with current industry pricing for similar maintenance agreements. MWRA's wind consultant has also reviewed the price and has determined that it is reasonable. Because staff felt it was important to place the turbines under a maintenance agreement as soon as possible, the Executive Director approved Change Order 2 under delegated authority, in the amount of \$24,400 and increasing the contract term by six months. Change Order 3 is for the remainder of the one-year agreement.

The cumulative value of all change orders to this contract is \$64,794.00, or 1.62% of the original contract amount of \$3,998,500.00, for an adjusted contract amount of \$4,063,294.00. This change order will be funded from the FY11 Current Expense Budget under Deer Island's maintenance account.

EMERGENCY REPAIR OF GRAVITY THICKENER No. 3, DITP: SOEP PAINTING CORP., CONTRACT 6966B, CHANGE ORDER 1

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 1 to increase the amount of Contract No. 6966B with SOEP Painting Corp., Emergency Repair of Gravity Thickener No. 3, in a lump sum amount of \$15,250.49 and to extend the term by three calendar days to September 1, 2010.

Staff has been addressing some recurring problems with the gravity thickeners for the past two years, each with varying degrees of severity. In 2008, structural problems with the domed cover on Thickener 2 required the thickener to be taken offline. The dome on Thickener 2 is being replaced by a newly designed cover at a cost of \$538,940. In February 2010, Thickener 1 required an emergency contract to replace the carbon steel center column and structural steel cage with 316 stainless steel; the cost of that repair was \$270,000. In March 2010, staff noticed similar problems with the center column in Gravity Thickener 3. Although the damage was not as extensive (no replacement of the center column with stainless steel was required) as was found in Gravity Thickener 1, because Gravity Thickeners 1 and 2 were still offline, the situation was deemed critical and an emergency contract was awarded under delegated authority to SOEP Painting Corporation in the amount of \$52,356.

This change order furnishes and installs additional steel cladding to repair Thickener 3 in order to return it to service as quickly as possible to restore redundancy.

Work on this contract is approximately 99% complete. With the addition of this Change Order for \$15,250.49, added to the original contract amount of \$52,356.00, the adjusted contract amount is \$67,615.49. The FY11 Capital Improvement Program includes \$6,595,000.00 for Gravity Thickener Rehabilitation including emergency repair work.

TECHNICAL ASSISTANCE CONSULTING SERVICES: GREEN INTERNATIONAL AFFILIATES, INC., CONTRACT 7243, AMENDMENT 2

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Amendment No. 2 to increase the amount of Contract No. 7243 with Green International Affiliates, Technical Assistance Consulting Services, in the amount of \$775,000.00.

On December 16, 2009, the Board approved the award of Contract 7243, Technical Assistance Consulting Services, to Green International Affiliates, Inc. for a two-year term in an amount not to exceed \$1,500,000. Contract 7243 is one of two agency-wide, as-needed, multi-discipline technical assistance contracts, which are used to assist staff in meeting emergency or unanticipated design needs.

During the first eight months of the contract, due to extraordinary and unusual circumstances, task order requests have significantly exceeded the pace that was originally estimated based on historical usage of previous Technical Assistance contracts. In less than a year, staff has executed task orders totaling \$1,485,000 to meet emergencies and significant unforeseen needs. The emergency task orders were necessary to address the May 1, 2010 water main break at Shaft 5 in Weston and the February fuel oil spill at the Cottage Farm CSO Facility. In addition, there were three major task orders that required expedited and significant effort involving the Spot Pond storm water detention facility, the Loring Road Hydroelectric Project and Outfall MWR010 in Brookline.

This increase in funding will be used to address the following: 1) Second leak at Shaft 5A; 2) Outfall MWR010; 3) Transport SCADA Implementation Project; 4) Loring Road Hydroelectric Project; and 5) Spot Pond Task Order Amendment.

The FY11 Capital Improvement Program includes a budget of \$1,500,000 for Contract 7243. The cumulative value of all change orders to this contract is \$1,025,000, added to the original contract amount of \$1,500,000, for an adjusted contract amount of \$2,525,000, or \$1,025,000 over budget; however, the additional expenses related to the Cottage Farm CSO Facility will be funded from the Insurance Claims account and the Shaft 5-related expenses will be charged to MWRA's Insurance Reserve account.

Board Member Jack Walsh asked where the money will come from if this is over budget. Mr. Hornbrook said over budget expenses will be absorbed through the CIP annual and five-year spending cap, except for Shaft 5A costs.

Board Member Michael Gove asked why Amendment 1 for \$250,000 was approved under delegated authority. Kevin O'Brien, Director of Wastewater Engineering, said it was an issue of timing. The project was headed toward exceeding the original budget so the Executive Director exercised delegated authority because staff felt it was important to keep Camp Dresser & McKee working out in Weston rather than remain within the current budget.

HULTMAN AQUEDUCT INTERCONNECTIONS: BARLETTA HEAVY DIVISION, INC., CONTRACT 6975, CHANGE ORDER 8

The Board voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 8 to increase the amount of Contract No. 6975 with Barletta Heavy Division, Inc., Hultman Aqueduct Interconnections, in a lump sum amount of \$357,919.00. Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract No. 6975 in amounts not to exceed the aggregate of \$250,000.00.

On August 26, 2010, a leak was found in the 10-foot diameter MetroWest Tunnel connector at Shaft 5A, which supplies the City Tunnel. Staff has determined that repairing the leak without disruptions in service will require the MetroWest Tunnel to be shut down so that the line can be dewatered and welders can enter the pipe. Before this can be done, the lower end of the Hultman will need to be activated to supply the City Tunnel.

Under Change Order 5, the Board approved the acceleration of work under this contract. Staff determined that the schedule can be further accelerated but would require the use of a total of 1,300 cubic yards of flowable fill to be placed as backfill at valve chamber walls due to load restrictions and to allow the pressure testing to be performed. Flowable fill is like a "liquid concrete" that hardens and rapidly develops excellent load-bearing properties with no compaction necessary. Also, a temporary dechlorination treatment system will be used at Shaft L.

The cumulative total value of all change orders to this contract is \$1,800,071, or 3.7% of the original contract amount of \$47,542,388, for an adjusted contract amount of \$49,342,459, or \$1,500,459 over budget. This amount will be covered within the five-year CIP spending cap. Work on this contract is approximately 37.5% complete.

INFORMATION

DELEGATED AUTHORITY REPORT – SEPTEMBER 2010

Staff presented a listing of actions taken by the Executive Director under delegated authority for the period September 1 through September 30, 2010.

FY11 FINANCIAL UPDATE AND SUMMARY AS OF SEPTEMBER 2010

Ms. Madden reported that total year-to-date expenses are lower than budget by \$7.2 million, or 4.9%, and total revenues are under budget by \$377,000, or 0.3%, for a net variance of \$6.8 million.

The largest variances are the result of favorable variable rate Debt Service of \$5.0 million; lower Direct Expenses of \$1.7 million, mostly for Maintenance, Chemicals and Wages and Salaries. The underspending is partially offset by lower than budgeted Investment Income of \$384,000 and higher than budgeted overtime of \$368,000 for emergencies such as the Shaft 5A leak and hurricane preparation activities.

Mr. Mannering noted that the sustainability of the variable rate is incomprehensible. Is there any talk in the financial community on when the rate will start to move up? Ms. Madden said economists are not going out as long any more. Staff is looking 18 months out.

MWRA INDUSTRIAL WASTE REPORT NUMBER 26: INDUSTRIAL PRE-TREATMENT PROGRAM ANNUAL REPORT TO EPA FOR FY10

Carolyn Fiore, Director of TRAC, reported that MWRA is required by its NPDES Permit and EPA regulations (40 CFR 403.12(i)) to submit an annual report to EPA that describes the activities and accomplishments of MWRA's Industrial Pretreatment Program. Staff will be submitting the FY10 Annual Report (Industrial Waste Report #26) to EPA on or before October 31, 2010, the required submittal deadline.

MWRA's Toxic Reduction and Control (TRAC) section operates the Industrial Pretreatment Program to control the level of toxic substances discharged into the sanitary sewer system from commercial and industrial sources. Through permits, inspections, sampling and enforcement, the program keeps excessive levels of toxics out of the sanitary sewer system to: protect worker health and safety; protect municipal and MWRA infrastructure; prevent interference at the Deer Island and Clinton Wastewater Treatment Plants; prevent the pass-through of pollutants into receiving waters; and enable MWRA to beneficially reuse its residuals for the production of fertilizer.

TRAC's FY10 Current Expense Budget was \$3,597,926, approximately 59% of which was recovered through permit charges and penalty collections, compared to 56% in FY09. On July 15, 2009, the Board approved a 4.5% across-the-board increase in the Incentive and Other Charges in each of Fiscal Years 2010, 2011 and 2012, that staff estimated would result in an additional \$80,000 in revenue in FY10 (and higher amounts in the later years). To date, the total amount collected for FY10 permit charges is approximately \$74,000 higher.

CLINTON WASTEWATER TREATMENT PLANT DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT UPDATE

Chief Operating Officer Michael Hornbrook stated that EPA has issued a draft National Pollutant Discharge Elimination System (NPDES) permit for the Clinton Wastewater Treatment Plant. MWRA has 30 days to comment to preserve its right to appeal.

At the last meeting, staff highlighted that the proposed phosphorus limit is much stricter and would require \$3-4 million in capital investment costs and an additional \$150,000 annually for operating costs. The Authority does not plan to comment on phosphorous levels because it is consistent with other treatment plants in the Nashua River basin; it is not an outrageous number and the schedule is doable but it will require phosphorous removal year round and at higher levels.

The Authority plans to comment on three items: 1) the flow limit of 3.1 MGD – staff believes this number should be higher; 2) co-permittees – staff believes issuing co-permittees is a way to get at communities; 3) the I/I removal provision – aside from the plant, the MWRA owns one interceptor so staff does not believe MWRA has any I/I.

Board member Andrew Pappastergion asked if this permit would make MWRA responsible for I/I in these communities. Mr. Hornbrook said staff believes it would make MWRA responsible. Additionally, staff believes it is a forecast for the Deer Island Treatment Plant's NPDES permit and the potential issues for those communities if they are co-permittees. It implies that EPA can come to the MWRA if they want to go after communities on I/I if the communities don't do what they're asked to do.

Board Member Vincent Mannering asked if there would be liability between communities if they are co-permittees. Mr. Hornbrook said permits have been issued to co-permittees in the past but he did not know if any action had been taken. Mr. Mannering said the MWRA can't possibly accept joint co-permittee language.

FLODESIGN WIND TURBINE CORPORATION DEMONSTRATOR UNIT AT DEER ISLAND TREATMENT PLANT

MWRA staff has been in discussions with FloDesign Wind Turbine Corporation about entering into a license agreement to install, operate, maintain, test and collect data from a 100 kW wind turbine "Demonstrator Unit" on Deer Island and to possibly replace the Demonstrator Unit with a fully functional "Prototype Unit" after approximately two and a half years at no cost to MWRA other than staff resources needed to assist with the project development and general coordination. FloDesign Wind Turbine Corporation will also provide a seven-year maintenance and support agreement for the Prototype Unit at no cost to MWRA.

FloDesign Wind claims that its Mixer Ejector Wind Turbines will deliver three or more times the power extraction for the same size rotor leading to increased durability and lower life costs; have lower production and transportation costs because they will use a combination of lightweight lower-cost materials, modular designs and mass production fabrication methods; are designed to embed the generator in the turbine shroud to eliminate/reduce the gearbox and associated bearings to further reduce first and life costs; and have stators and shrouds that provide static structure shielding; therefore, the rotating blades have the potential to greatly reduce bird and bat strikes.

Deer Island has been identified as an ideal location suitable for the Demonstrator Unit installation due to the favorable wind resources, existing industrial facility, and MWRA staff experience and knowledge with wind turbine technology. The Demonstrator Unit will be installed near the outfall shaft, at a location currently approved by the Federal Aviation Administration (FAA) for a wind turbine installation, and will be connected to a substation on Deer Island near the hydroelectric facility. The Prototype Unit will consist of a 120-foot tower with a 64-foot diameter shroud assembly for a total wind turbine height of 153 feet above ground level. Dimensions of the Prototype Unit are expected to be similar and remain in compliance with FAA's height approval.

Any power generated by the FloDesign Wind turbine will be used to offset MWRA's purchase of retail market power. The current projection for electricity production from the FloDesign turbine is approximately 300,000 kWh/year; however, during the demonstration period, staff anticipates that the production will be significantly less because of intermittent engineering activities that will require taking the turbine offline throughout this period. The estimated value of electricity savings is approximately \$15,000 per year. In the event that MWRA terminates the license agreement with FloDesign Wind, FloDesign Wind will remove all equipment and return the site to its original condition at no cost to MWRA.

Chairman Bowles expressed enthusiasm for this project and thanked MWRA staff for their efforts.

Mr. Vetere thanked FloDesign staff for putting the permit language together. He noted that a regular standard turbine would not be cost-effective at the limitations for the last turbine; FloDesign approached staff with the offer to pay for the design, construction, testing, etc. and staff moved forward.

Board Member James Hunt asked how the Demonstrator Unit project deals with procurement issues. Mr. Vetere said the concept initially was a shared construction with FloDesign and the Deer Island Treatment Plant; that was challenging for procurement law. When FloDesign got federal and state funding, they came to the MWRA and said they would pay for the project. The licensing agreement says that FloDesign is responsible for all costs, from birth to death of that unit.

Board Member John Carroll asked about the costs for other turbines. Mr. Vetere said simple payback would take 12 to 13 years at current rates; MWRA pays 10 cents/kWh. If MWRA were to sell electricity, it could be sold for that

rate or slightly over; however, MWRA does not want to get into the power generation business. If there were no grants, payback would take approximately 14 years.

UPDATE ON INVASIVES AT WACHUSETT RESERVOIR

Mr. Laskey stated that invasive species near the Wachusett Reservoir have become an imminent threat to the water supply.

David Coppes, Director of Western Operations, and John Gregoire, Program Manager of Reservoir Operations, informed the Board that on August 31, 2010, Department of Conservation and Recreation (DCR) biologists confirmed the presence of *Hydrilla verticillata*, a highly invasive plant in the South Meadow Pond complex in Clinton. This location is less than one-half mile from Wachusett Reservoir. In addition to the South Meadow Pond complex, *Hydrilla* has been confirmed in just four other ponds in Massachusetts – two in the southeast part of the state and two on Cape Cod. The Massachusetts DCR Lakes and Ponds Program and local towns are attempting to control *Hydrilla* through herbicide treatment and other efforts at these four other ponds. Control efforts have not yet been employed at the South Meadow Pond complex as it is a very recent discovery and there are now uncertainties as to the availability of state funding through the Lakes and Ponds Program. Mr. Gregoire noted that *Hydrilla* is one of the worst invasive aquatic plants that staff has seen to date; it is aggressive and grows in a variety of water quality conditions.

Like a number of other invasive plants, *Hydrilla* arrived in North America in the aquarium trade. Staff believes an aquarium got dumped into a water body and *Hydrilla* has continued to invade; the worst variety has both male and female organs on the plant so it can propagate itself. It is spread by people through plant fragments attached to boats and trailers and fishing gear, and by wildlife – primarily birds – through plant fragments, but also through defecation of viable seed.

Staff is significantly concerned over the threat of this plant and is in the process of procuring a consultant study to guide future actions. At their September 24th meeting, members of the Water Supply Protection Trust unanimously stated that *Hydrilla* is an imminent threat.

Staff has met several times with DCR's Division of Water Supply Protection (DWSP) and the Lakes and Ponds Program staff and have identified the following four highest priorities: 1) Prepare a rapid response plan in the event this plant gains a foothold in Wachusett Reservoir (MWRA will be the lead agency in this effort.); 2) Evaluate several unknowns such as ownership, property boundaries and permitting issues in the South Meadow Pond complex relative to any permission required for control efforts (DCR-DWSP will be the lead agency in this effort); 3) Evaluate control strategies for the South Meadow Pond complex for feasibility of direct control methods such as herbicide application, mechanical harvesting and benthic barriers to smother the plant. Evaluate preventive and passive control measures, such as shoreline restrictions and signage (DCR-DWSP will be the lead agency in this effort); 4) Perform actual controls (DCR-DWSP will be the lead agency in this effort).

Board Member Joel Barrera noted that boats are not allowed on the Wachusett Reservoir. Mr. Gregoire said it only takes a fragment of the plant, which could be on a fishing hook or on a bird. The seed will survive in the dung of a bird and can be transferred that way. Mr. Coppes said this plant can live in all kinds of water quality and can survive in both shallow and deeper waters. Mr. Laskey noted that *Hydrilla* could choke up one-third of the Wachusett if it got in.

Mr. Barrera asked if herbicide treatments could be done. Mr. Gregoire said the MWRA does not use herbicides as a policy. Jonathan Yeo, Director of the Division of Water Supply Protection for DCR, said the goal is to keep it out of the reservoir and the watershed.

Mr. Mannering asked if DCR has adequate funds to do this. Mr. Yeo said staff is asking for an increase to cover additional costs for this treatment in the range of \$45,000 to \$50,000 per year. Mr. Laskey said it is important to note that this would authorize spending outside of the watershed. Mr. Mannering asked who is paying for it. Mr. Laskey said the DWSP pays for it through the MWRA.

In 2008, the Asian Longhorn Beetle (ALB) was found in Worcester. It had become well established in several areas there where it prefers hardwood trees such as maples and elms, which are abundant in this region. The City of Worcester, the Commonwealth of Massachusetts and the U.S. Department of Agriculture teamed up to address the infestation. The outcome was the removal of approximately 25,000 trees and the establishment of a "regulated area" where intensive monitoring and control efforts are employed. This area expands in a radius of 1.5 miles from infested host trees.

In 2009, the ALB was discovered in West Boylston at the southwestern corner of the reservoir. In July 2010, it was discovered at the southern end of the reservoir where Route 140 passes the South Bay. After each of these discoveries, the 1.5 mile regulated area was expanded accordingly. In early September 2010, a more northern infestation site was located in Boylston. This has now effectively moved the regulated area north to cover some two-thirds of the Wachusett Reservoir. Presently, the degree of infestation in the Wachusett watershed does not appear severe, but monitoring continues. Mr. Gregoire noted that staff has mapped out the trees that might be affected.

Generally, the approach has been to identify the infested host trees and remove them, leaving the surrounding trees intact. Removal includes chipping the trees on-site to under a one-inch-size chip to ensure elimination of the beetle and larvae. In addition, there is also a federally-approved insecticide called Imidacloprid, a systemic insecticide that is applied directly to the tree and is ingested by the beetle as it feeds on the wood. To date, very limited direct tree application of this insecticide has occurred in the Wachusett watershed.

MWRA funds aquatic invasive plants control in the CEB under Western Operations/Reservoir Operations Invasives Control Services. To date, since 2002, MWRA has expended more than \$600,000 in the aquatic invasive plants control efforts. MWRA's FY11 CEB includes \$175,000, which is adequate for both remaining planned efforts for milfoil and the new Wachusett Reservoir Rapid Response Plan.

MWRA pays for invasives work that DCR-DWSP performs under the watershed operation budget. Much of this is terrestrial invasives (plants) and some zebra mussel studies and the Quabbin boat decontamination and inspection program. DCR will likely need an increase in future operating budgets to properly address the South Meadow Pond *Hydrilla* problem long-term. This could be upwards of \$25,000 to \$50,000 per year.

This summary does not include every item discussed by the Board, nor the full extent of the discussions. Please contact Mary Ann McClellan at the Advisory Board office with questions, comments or requests for more information.