



Charles River Watershed Association

By Email and Mail

February 25, 2009

Duane LeVangie
Elizabeth McCann
MassDEP
1 Winter Street
Boston, MA 02108

Re: Expiring Water Management Act Permits, Charles River Watershed

Dear Mr. LeVangie and Ms. McCann:

The Charles River Watershed Association (CRWA) submits the following comments in response to the Environmental Monitor notice of the 20-year Water Management Act (WMA) permit expirations and renewals in the Charles River Watershed. We are submitting one set of comments because many of our remarks and concerns are applicable watershed-wide.

The expiring WMA permits were issued for an extraordinary period of time. No other environmental permit to the best of our knowledge is effective for 20 years. While WMA permits are supposed to be reviewed every five years pursuant to 310 CMR 36.33(4), only a handful were in fact reviewed and modified in what should have been the 2004 five-year review, which took place several years late.¹ This means that many of the WMA permits in the Charles Watershed have not been reviewed for the past decade. It also means that many communities that were not using their level 3 permit volumes moved to their level four permit volumes by default.

Today, far more is known about the environmental conditions in the watershed, its hydrologic stress, low streamflows, and the declining health of its fisheries² than was known when the majority of these permits were issued 20 years ago. During this time, scientific understanding of natural flow regimes and the causes of river impairment, including the impacts of withdrawals on streamflow and ecological integrity, have grown by leaps and bounds. MassDEP adopted a safe yield methodology in its WMA regulations at 310 CMR 36.31(2) in the early 1990's, informally abandoned it shortly

¹ If a Town's WMA permit was previously modified to include the 65 RGPCD and 10% UAW performance standards, the new permits should not set future dates for complying with these standards.

² Fisheries' data and sampling by MA Division of Fisheries and Wildlife and CRWA in the mainstem and tributaries show that Charles River fish populations have suffered in terms of species population and diversity. Currently, 98 percent of the fish species found in the Charles are macrohabitat generalists, or warm pond-type fish, compared to river-type fish, or fluvial species, which need flowing water for at least a portion of their life cycle.

thereafter, and did so formally in amendments to the WMA regulations in 2006. CRWA does not believe that MassDEP can lawfully issue permits without first accurately determining the safe yield of the basin and then determining that the withdrawal volumes being considered will not exceed the safe yield. Given the conditions in the watershed, we believe that the current permits exceed the safe yield.

Additionally, these new permits are an opportunity for MassDEP to make the necessary course corrections, and to manage comprehensively “the Commonwealth’s water resources within its river basins in a manner which ensures an appropriate balance among competing water withdrawals and uses, as well as preservation of the water resource itself.” 310 CMR 36.02. Both administrative and court appeals interpreting the WMA and statements by MassDEP in the course of those appeals have made it clear that the “balance” among competing water uses has swung far to the side of water withdrawals, to the detriment of the natural water environment. Scientific studies by the United States Geological Survey (USGS), work by CRWA, gage data, other information, and observed conditions have made it clear that new permit provisions are necessary to achieve a balance among competing uses and to ensure the long-term sustainability of the Charles watershed’s water resources.

Sections 7, 8 and 11 of the WMA require the submission of information by applicant and consideration of a number of factors by MassDEP in issuing permits. In reviewing a permit application, MassDEP must consider the criteria set forth in 310 CMR 36.26. In addition, permits must be conditioned on “at least” the factors set forth at 310 CMR 36.28(1). Full permit applications are required and MassDEP should issue Orders to Complete to all PWS seeking to renew permits.

There is no entitlement to unused permit volumes. Where DCR water use forecasts show that communities will not use previous permit volumes in the next 20 years, the permits should be ratcheted back to reflect this. Otherwise, MassDEP is reinforcing a water management scheme that is not fair and which forecloses comprehensive water allocation and planning, to the detriment of other future users.

The current authorized withdrawals (registered and permitted) in the Charles watershed total 24.27 million gallons per day (mgd) (21.32 mgd public water supply (PWS); 2.95 mgd non-PWS). In the permit renewals, PWS is requesting 9.91 mgd and non-PWS, 2.68 mgd, or a total of 12.59 mgd in permitted volumes. This is only 0.23mgd less than currently permitted. Because several communities withdraw from another watershed in addition to the Charles, the water use forecasts project a total PWS use of 15.26 mgd in 2028,³ based on meeting the 65 residential gallon per capita day (RGPCD) and 10% or less unaccounted for water (UAW) performance standards.

Since many towns are reporting that they are already meeting the RGPCD and UAW standards, they would not be subject to controls on nonessential outdoor water use unless a drought advisory was declared under MassDEP’s most recent guidance. This is far too late since environmental conditions would already be quite dire at the point mandatory restrictions on outdoor watering were required.

³ This figure does not include a 5% buffer on the 2028 forecast, which was included in the DCR revised Water Needs methodology.

We also believe that tying outdoor water use restrictions (calendar or streamflow-triggered) to the previous year's water use and whether the performance standards were met, is unwarranted and unwise. It will foster under-reporting of RGPCD and fails to get at the root problem of excessive lawn watering. A tiered approach based solely on whether a community is meeting 65, 66-72 or some higher RGPCD is completely unworkable given the wide disparity in the accuracy of reporting numbers on RGPCD in towns' Annual Statistical Reports (ASRs), which DEP would be the first to acknowledge.

More importantly, by requiring only an after-the-fact year end reporting, it completely fails to address nonessential summertime use and peak demand in "real-time." There is no effective remedy for a river that was pumped dry during the summer from lawn watering, when a town reports at the end of the year that it failed to meet the 65 RGPCD standard. Also, a town could meet the performance standard in one year, particularly if it was a wet summer, but fail to make in the next. This hit-or-miss approach produces neither a good environmental outcome, nor is it sound public policy. Instead, MassDEP should both set a seasonal cap limit based on a community's summer-winter ratio of water use and restrict nonessential watering based on low flow triggers in the permit.

It should also require offsets for new or increased withdrawals that are effectuated by establishment of a water-banking program, rather than setting a baseline (which most towns will not exceed)⁴ only above which an offset feasibility study is required. DEP should also rethink its approach to offsets, which it is currently using as a deterrent rather than as an affirmative tool for balancing the water budget while allowing for increased withdrawals. At a minimum, an offset feasibility study should be required as soon as a town exceeds its baseline (*i.e.*, the following calendar year) and it should be required to implement the study forthwith.

Communities for which a DCR use forecast was not possible due to inaccurate data or inconsistencies in reporting should only be issued a five-year permit. The permits should contain conditions that will enable DCR to move forward with accurate forecasts. An interim permit should also be revised as soon as an accurate forecast can be done.

Charles watershed towns should not have until the end of 2011 (or possibly the end of 2012) to meet the performance standards. The standards are hardly a surprise to PWSers: they have been discussed since the WMA Policy was issued in 2004, embodied in the state's Water Conservation Standards, and were clarified in the January 2007 WMA guidance. Moreover, the consequences of failing to meet the standards are hardly onerous: communities must develop compliance plans and begin to implement them in the following year. Had the five-year reviews taken place as scheduled, communities withdrawing from the Charles Watershed would already be subject to the 65/10 performance standards. DEP should not use its failure to conduct the required five year reviews as an excuse to postpone compliance for another year.

⁴ For instance, Lincoln's 2003-2005 average withdrawal volume is 0.52 mgd. If used as the offset baseline, Lincoln is unlikely ever to trigger it since DCR's demand forecast shows that if it meets the RGPCD and UAW standards within five years, the Town's use in 2028 will be 0.51 mgd.

In addition, CRWA submits the following preliminary comments on the new permits in response to the Environmental Monitor notice. These comments are not intended to be exhaustive, but rather to flag certain issues for MassDEP.

Milford Water Company (MWC)

MWC's water forecast through 2028 (3.43 mgd in 2028 w/ 5% buffer) is well below its currently authorized withdrawal volume of 5.32 mgd.⁵ Despite this, MWC, a private water company, is requesting that its current permit volume (2.44 mgd) remain the same. Its permitted withdrawals should be reduced to align with DCR's 20-year forecast. MWC's withdrawals occur in the headwaters of the Charles in an area that is extremely sensitive to both water withdrawals and wastewater discharges, and which is severely stressed. Almost the entire area served by MWC is sewered. Additionally, about 40% of the total wastewater sent to the Milford WWTP results from infiltration/inflow. DEP should request MWC's Drought Management Plan in its request for additional information and also require MWC to evaluate releasing water from Echo Lake to augment flows in the upper Charles River. MWC charges a flat rate to its nonresidential customers, and according to its Water Conservation Plan, it does not provide these customers with either assistance or audits.

Medway

Medway's 2006 permit should not be relaxed in any way merely to conform to MassDEP's 2007 Permitting Guidance or recent "guidance to the guidance." Medway is not seeking an increase to its 0.29 permitted volume (total authorized withdrawal of 1.01 mgd); however, CRWA points out that Medway does not expect to use even 0.28 mgd until years 16-20 of the new permit. Medway should submit the documentation to MassDEP on which it bases the figure that 82.7% of the community,⁶ or 11,214 persons, are served by PWS. Additionally, the discrepancy between the service population numbers in the January 2009 DCR forecast should be cleared up: 11,214 base service population, but only 11,008 in 2013. While the cover letter to the permit renewal referred to supporting documentation, the file CRWA reviewed at MassDEP did not contain any such documentation. In an April 16, 2004, letter we explained why it was appropriate to use the Town's registered volume (0.72 mgd) as the baseline for offsets instead of 0.93 mgd, disagreeing with MassDEP's basic approach to offsets.

Bellingham

The DCR's demand forecast for Bellingham in 2028 even with a 5% buffer (1.51 mgd) is ½ of its current total authorized withdrawal volume (3.10 mgd). Yet Bellingham is requesting over 500,000 gallons per day more than the 2028 forecast. In the Charles basin, actual withdrawals are 0.69 mgd less than the 1.36 mgd authorized volume. While we understand the need for flexibility as between its Blackstone and Charles sources, the recent trend is to pump the Charles watershed sources significantly in the summer: in 2007, Charles withdrawals increased three to fourfold in each of the months from June-October as compared to the amount withdrawn from Charles sources in January. These withdrawals in the highly stressed upper watershed occur during the months when flows

⁵ The last time CRWA looked this, MWC's offset baseline under MassDEP's Permitting Policy and Guidance was 3.27 mgd.

⁶ CRWA's analysis shows that about 66% of the Town's population is served by PWS.
190 Park Road, Weston, MA 02493, Telephone (781) 788-0007 Fax (781) 788-0057
Website: www.charlesriver.org Email: charles@crwa.org

are already quite low. According to the Water Conservation Plan submitted by Bellingham, it could do more to reduce its water use. The Town does not have a drought management plan, does not offer rebates or retrofits, and does not offer assistance in reducing use to its industrial, commercial and institutional (ICI) customers.

Franklin

Franklin and Milford are the largest water users in the upper Charles. Franklin has a documented impact on Kingsbury Pond from Well #4. The USGS Upper Charles studies showed at least a 20% impact on Mine Brook summertime flows from pumping alone. About 70% of the Town's wastewater is discharged downstream at the Charles River Pollution Control District (CRPCD) resulting in a net water deficit. Using a simple water budget, Franklin's total public water utility impact is 35-55% of the August median of daily average flows. Franklin is requesting 1.45 mgd, or a reduction of 0.20 mgd from its current permit volume, in addition to its registered volume of 1.99 mgd. This is the same volume as the DCR 2028 projection with a 5% buffer (3.44 mgd).⁷ Franklin has done a good job controlling residential lawn watering by restricting it to one day per week. However, its use in June and July, 2008, was up by 11 million gallons and 6 million gallons from 2007, respectively. In fact, Franklin used more water in each of these months than in the same months in the period 2004-2007. Until August, 2008, precipitation was fairly normal for the summer period. The USGS Upper Charles Groundwater Study, *Evaluation of Strategies for Balancing Water Use and Streamflow Reductions in the Upper Charles River Basin, Eastern Massachusetts* (2003) showed that wells 1, 2, 4, and 7 should be used more in the summer while wells 5, 6, and 10 should be preferentially used in the winter. Because the USGS study did not include a constraint on the impact of well #4 on water levels in Kingsbury Pond, this well should be deleted from the preferred summer use group.

Wrentham

While Wrentham is not requesting an increase from its permitted period four withdrawal volume (0.46 mgd),⁸ its permitted volume should be reduced in the Charles watershed because its current use and demand forecast are substantially below its authorized volume. Its withdrawals from a subbasin in which Franklin and Norfolk also withdraw and the combined summertime impact of these withdrawals is about 46%. Also, Wrentham's 2003-2007 average use was 0.99 mgd while its DCR projected use in 2028 is 1.17 mgd. Additionally, the population increase of 4,245 through 2028 in DCR's demand forecast is much larger than that projected for other towns. MassDEP should consult with DCR and the Town about this and seek additional information. Wrentham also withdraws from the Taunton watershed pursuant to a registration and permit (0.61 mgd combined). The Town averages 75.4 RGPCD and 14.5 UAW; in 2007, UAW was 16% and RGPCD was 76. In permitting, DEP should only use the 65 RGPCD and 10 UAW performance standards (1.23 mgd in 2028 with 5% buffer) rather than projections based on current RGPCD and UAW levels. The Town could do much more with water conservation. According to the Water Conservation Plan, Wrentham does not have a drought

⁷ Unless the difference is explainable by a revised employment projection that increased by 16 from DCR's original September, 2009 projection, we do not understand why the November 2008 projection is almost 200,000 gallons per day more than the September projection.

⁸ Wrentham is requesting this volume in all 20 years of the new permit.

management plan or a conservation program that meets the MA conservation standards. Residential customers are not billed at least quarterly, it does not have an enterprise account, offers no assistance to ICI customers, nor does it offer retrofits or rebates. There is also no private well restriction on outdoor watering.

Natick

Natick is seemingly requesting no change in its current 1.31 mgd permit volume from the Charles. However, the permit renewal form, part D2, gives the town's projection of its withdrawals from the Charles basin as 1.68 mgd through 2028, which adding in its registered volume, exceeds its expiring permit volume. The Town is also registered to withdraw 0.22 mgd and 4.10 mgd from the Charles and Concord basins, respectively, for a total authorized volume of 5.63 mgd. Because Natick's permit was not reviewed in 2004 as it should have been, by default it went onto its level 4 permit volume of 1.31 mgd, instead of being held to its level 3 volume of 1.14 mgd, with conservation conditions imposed. The Town's DCR forecast is 3.92 mgd in 2028-- well below its total authorized withdrawal volume. MassDEP should consult with DCR and the Town about the reasons the service population projection increased by 1,000 between DCR's September and November projections. According to Natick, 87% of its wastewater is exported out of basin to the MWRA system resulting in a large water deficit. Natick increases its July and August withdrawals from the Charles basin. The Town has been reporting finished as opposed to raw water in its ASRs. Lastly, there is considerably more that Natick could do with conservation. According to the Water Conservation Plan, the Town does not have a drought management plan, include water use information in its billing, offer a rebate or retrofit program or ICI assistance, and has no public education plan.

Dover Water Company (DWC)

DWC is currently using only half of its total allocation of 0.28 mgd (0.14 mgd from the Charles and 0.14 mgd from the Neponset). The DCR demand forecast for 2028 even with a 5% buffer is only 0.13 mgd in total, if the 65 RGPCD is met and the UAW stays the same. However, DWC is seeking 0.14 mgd throughout the 20-year period. Residential use is high at 94.8 RGPCD in 2007; however, UAW is quite low at 1.7%. According to its renewal application, DWC is developing a comprehensive plan for achieving the RGPCD performance standard. This plan should be incorporated into the permit. Audits and recommendations to reduce water use by DWC's top residential users should also be permit conditions. Clearly much more can be done to reduce water use and the Town should commit to working with DWC on this. Dover does not have a water use restriction by-law and it is not clear how DWC will comply with the seasonal demand management plan requirements. DWC should clarify its authority to enforce restrictions. Its track record in restricting withdrawals when streamflow falls to 0.21cfs at the Dover gage should be reviewed. DWC's cover letter states that the Charles and Neponset permits will be combined.

Lincoln

Lincoln has pending permit application to withdraw 0.28 million gallons a day (mgd) from two sources in the Charles Basin in addition to the 0.35 mgd registered in the Charles basin. Lincoln has converted the Farrar Pond well in the Concord basin to an emergency source only; its use requires prior written approval of DEP. Any increase in

the permitted volume in the Charles Basin should be conditioned upon retirement of the registered volume (0.28 mgd) in the Concord Basin. And because this is an emergency source, the registered volume in the Concord should not be used to determine Lincoln's baseline volume for offsets. Much of the water withdrawn in the Charles Basin is lost to the Charles Basin: while the Town is entirely on septic, about 40% of those systems are located in the Concord and Shawsheen River basins. Lincoln also has a high summer-to-winter water use ratio with the average maximum-to-minimum month value for 2001-2006 of 2.2. Its base RGPCD is 78.7 and base UAW is also high at 14.5%. MassDEP's delay in issuing a permit (CRWA commented on a draft of the permit in 2005) should not result in the Town receiving an extra calendar year to comply with the performance standards, or to prepare a compliance plan. A firm yield for Flint Pond has not been established.

Norfolk

Norfolk is requesting an additional 0.07 mgd through 2028 for a total permitted volume of 0.55 mgd. In addition to its local sources, the Town also purchases water. Currently, the Town is authorized to withdraw 0.65 mgd (0.17 registered and 0.48 permitted). Under the DCR forecast, in 2028, if meeting the UAW and RGPCD performance standards, the Town will use 0.63 mgd even with the 5% buffer included. The Town's consultant used 65 RGPCD and 15% UAW as its base assumptions and added 700 in population in determining that 0.72 mgd would be needed in 2028. Norfolk did not report its RGPCD in its 2007 ASR. While 60% of the Town is, according to the Town, on PWS, the DCR forecast is based on 70% of the town on PWS. The basis for this should be provided to DEP. There was a large jump in water use from 2006 to 2007 (166.529 MG to 211.745 MG). Water use remained very high in November and December 2007, when normally volumes would be expected to fall. If the 2004 five year review had been conducted, it is likely that the Town would have been held to its level three permit volume of 0.40 mgd. In the Water Conservation plan, the Town reports that its UAW is 39.5%! DEP should review the Town's written conservation plan which it stated would be developed by 2009. The Town could do much more with water conservation, which could help to offset its UAW. It does not bill residential customers at least quarterly, does not offer rebates, retrofits, or ICI assistance, and it does not have a seasonal demand management plan.

Medfield

Medfield will be given an interim allocation because its data is not sufficiently accurate to allow DCR to do a water use forecast. Medfield's data and reporting problems are long-standing and well-known to MassDEP. In order not to reward Medfield for this, the interim allocation should be based on its average use with meeting the RGPCD and UAW standards factored in. A five-year permit only should be issued, after which time a full forecast can be prepared and a new permit issued. Medfield did not report its UAW or RGPCD for 2007. However, the Town has had consistently high residential water use and its UAW is above 20%.⁹ Medfield does not have a drought management plan or conservation plan that meets the MA Conservation Standards. It restricts watering to odd-even day only and is based on well drawdown. Medfield received a significant increase in its water allotment through the transfer of the State Hospital water, which is far more than the redevelopment is anticipated to use near term. Yet Medfield is seeking

⁹ 70 leaks were detected in Medfield's last leak detection survey.

an increase to 0.71 mgd in its permit renewal from its existing permitted volume of .47 mgd. In addition, it holds registrations to withdraw 0.11 from the Charles and 0.92 mgd from the Neponset basin for a total authorized volume of 1.50 mgd. Because Medfield is one of the highest residential water users in the watershed, its offset baseline, based on its three-year average use, is inflated.

Needham

Needham's data is not sufficient and reporting inconsistencies and errors prevent DCR from performing a 20-year forecast. A 20-year permit should not be issued absent an accurate forecast; instead, the Town should be issued a 5- year permit only. Because a five-year review of Needham's permit was not conducted in 2004. MassDEP should be examining its level 3 and earlier permit volumes for sufficiency; the Town's level 4 volume should not be MassDEP's starting point. Needham is authorized to withdraw 4.04 mgd (2.63 reg. and 1.41 permitted) from the Charles watershed. Recognizing that its withdrawals are well below its authorized withdrawal limit, it is requesting a permit decrease, to 0.62 mgd. Needham withdrew an average of 2.2 mgd from the Charles River watershed in the period 2000-2006 with an additional 1.1 mgd on average annually provided by the MWRA. Because upwards of 90% of the Town's wastewater is exported to the MWRA system, there is a water budget deficit. It is worth noting that the previous DCR projection (1996-2010) attached to the Town's renewal application, was quite inaccurate: it projected a withdrawal volume of 4.01 mgd in years 6-10 of the original permit. Needham reported 78 RGPCD in 2007. Its interim permitted volume should be based on meeting the 65 RGPCD standard within 2 years. Needham's water use rises dramatically in the summer: in January 2007, the Town used 75 million gallons as compared to 150 million gallons in July, 2007, with most of this summer increase going to lawn irrigation. Needham's wells are located in close proximity to the Charles and its tributaries. The subbasin withdrawal impact as a percentage of natural flow ranges from about 31% in the winter to 204% in the summer. There is a discrepancy between the town census and the population served by PWS.

Millis

Millis's data is not sufficiently accurate to enable DCR to make a water forecast. The Town's UAW is over 15% and there are, according to DCR, suspected errors in metering and billing. Millis is seeking a slight increase over its existing permitted volume of 0.36 mgd to 0.39 mgd; its registered volume is 0.63 mgd. Under Part D2 of its renewal application, the Town projects that it will use only 0.11 mgd of its existing permitted volume in 2010-2011; however, two year later in 2014, this projection jumps to 0.33 mgd, or triple the volume in 2010-2011. Yet from 2016 to 2029, Millis projects that its water use will increase by only 0.05 mgd from the volume projected for 2014. DEP should analyze this carefully and authorize only the minimum amount of water in Millis's permit that it is likely to use in the next five years, factoring in the 65 RGCPD and 10 UAW performance standards. Its 2001-2006 annual average use was 0.75 mgd. However, a review of the Town's 2003, 2004-05 reported total annual withdrawal volumes in section D1 of the renewal application are all over the place: 305.20 MG (2003); 178.56 MG (2004); and 292.56 MG (2005). The Town's 2002 Water Conservation Plan states that "a Plan of Action" was developed which addresses the reduction in this [high UAW] percentage and further promotes water conservation over the next five years." DEP should follow up on the steps that have been implemented

pursuant to this proposed plan and require additional necessary measures. We note that odd-even watering restrictions can actually increase water use.

Holliston

Holliston's data is also insufficiently accurate and contains significant variations preventing DCR from performing a 20-year forecast. The Town's renewal request was not timely submitted to DEP and does not contain a requested permit amount, although the notice in the Environmental Monitor states that the renewal amount is the same as Holliston's expiring permit. It is requesting the same permit volume as its existing permit of 0.27 mgd in addition to its registered volume of 1.14 mgd, or a total of 1.41 mgd. In 2007, according to DCR, the Town reported 51 RGPCD and 17% UAW; in 2006, it reported 66.7 RGPCD and 18.5% UAW. There was a significant jump in the Town's water use in 2007, even with the 34.02 MG it supplied to Milford factored in. Clearly, there are reporting and/or metering problems, since the Town reported its annual use as 203.80 MG in 2004 and in 2005, this jumped to 377.01 MG. The Town should be required to fill out a new Water Conservation Plan. There is no basis on which DEP can issue a 20-year permit to Millis. DEP should authorize only the minimum amount of water in Holliston's permit that it is likely to use in the next five years, factoring in the 65 RGCPD and 10 UAW performance standards following its submission of a new withdrawal application.

Wellesley College

The College's wastewater is sewered to the MWRA system; however, it reports that 50% of the water withdrawn is used for irrigation and the power plant. In fact, withdrawals come close to tripling in summer-September. The College is seeking a decrease of 0.06 mgd, or 0.35 mgd, from its expiring permit volume of 0.41 mgd. It is not clear from our review whether the Lake Waban surface water withdrawal is permitted; a substantial portion of this is used for irrigation. The Waban intake should be metered. The College should provide DEP with information about how it operates its sprinkler system. A drought management plan (and especially for its golf course and turf) tied to streamflow levels and water conservation program should be developed by the College. We recommend that the College review the Mount Auburn Cemetery's drought management plan.

Ames Safety Envelope Company

Ames currently has a total authorized withdrawal volume of 0.28 mgd (0.14 mgd registered and 0.14 expiring permit) from the Charles River watershed, according to the notice in the Environmental Monitor, although Ames reports a total authorized volume of 0.36 in its permit renewal application. The permit renewal application was not timely filed. Ames should be required to conduct a water audit of its water use/processes.

Golf Courses and Cemeteries

The permit renewal applications for golf courses and the Mount Auburn Cemetery cover a wide range of days of use, ranging from 210 to 270 days. A high number for usage days lowers the average seasonal use (in mgd) so not all the systems are being treated equitably. Since these are all in the same climate zone, a single usage period for irrigation might be more appropriate.

None of the renewal applications included a drought management plan and the water conservation plans were very brief. CRWA suggests that these systems be required to develop a comprehensive drought management plan with trigger levels and response and also beef up their existing Water Conservation Plans, except for Mount Auburn Cemetery which already has an excellent combined plan. We suggest that watering the golf course rough should not be a normal irrigation practice under any circumstances, except for a narrow border along the fairway.

Glen Ellen Country Club

Glen Ellen Country Club currently has a 0.16 mgd permit for 210 days and is requesting no change in the permit application. The usage has ranged from 0.03-0.08 mgd in recent years. No drought management plan was presented and the water conservation plan is sparse. The permit volume should be lowered to reflect current usage.

Maplegate Country Club

Maplegate Country Club currently has a 0.15 mgd permit for 240 days and has no volume requested in the permit application. The usage has ranged from 0.04-0.11 mgd in recent years. No drought management plan was presented and the water conservation plan is sparse. The application was only partially completed so it was impossible to review properly. It needs to be re-submitted and reviewed again. The permit volume should be lowered to reflect current usage.

Braeburn Country Club

Braeburn Country Club currently has a 0.08 mgd permit for 210 days and is requesting 0.1 mgd in the permit application. The usage has ranged from 0.05-0.11 mgd in recent years. No drought management plan was presented and the water conservation plan is adequate. Since much of the increased usage in recent years comes from expanded sprinkler coverage, and irrigating part of the rough, the permit should be held at its existing level, and the golf course should find other ways to reduce water usage.

Woodland Country Club

The DEP file that we reviewed did not have a renewal form in it so we cannot comment on this system.

Mount Auburn Cemetery

Mount Auburn Cemetery (MAC) currently has a 0.25 mgd permit for 270 days and is requesting no change in the permitted volume, but would like to modify the Drought Management Plan triggers from 3-days-in/7-days-out to 5-days-in/5-days-out schedule. The usage has ranged from 0.025-0.03 mgd in recent years. MAC has a water drought management and water conservation plan, though these were not included as part of the application. MAC has an excellent drought management and water conservation plan.

Power Plants

Northeast Energy Associates

Northeast Energy Associates currently has a 0.66 mgd permit for 365 days and is requesting no change in its permit volume. The usage has ranged from 0.13-0.64 mgd in recent years, with the lower numbers more recently. No drought management plan or water conservation plan was presented but its plan of action emphasizes that the plant

used minimal water because it is air- not water-cooled. The permit volume should be lowered to reflect current usage.

Mirant Kendall

Mirant Kendall currently has a consumptive use permit for 0.72 mgd average use and 0.8 mgd for peak use over 365 days and is requesting an increase to 0.80 mgd for average use in the permit application. Consumptive use from the Charles River has historically been zero (currently uses Cambridge water supply) but will commence withdrawals in 2012. No drought management plan or water conservation plan was presented but its most recent proposal to use air-cooling will minimize total water usage and return lower heated water to the river. The application does not outline a plan to minimize adverse environmental impacts from impingement and entrainment at the intake structures.

Please do not hesitate to call me if you have any questions at 781-788-0007 ext. 234.

Sincerely,



Margaret Van Deusen
Deputy Director and General Counsel

cc: Lucy Edmondson
Glenn Haas
Barbara Kickham
Leslie O'Shea
Anne Monnelly