

Comments on  
**“Report of the Water Policy Task Force; Draft recommendations, July 2, 2004”**

**Neponset River Watershed Association (NepRWA)**

In July, 2004 NepRWA submitted to EOEa a draft “2004 Boston Harbor Watershed Assessment and Action Plan” (hereinafter referred to as the *Boston Harbor Watershed Plan*). This Plan was written jointly by NepRWA, the Boston Harbor Association, the Urban Harbors Institute, the Fore River Watershed Association, the Weir River Watershed Association and the Back River Watershed Association. (The Mystic and Charles River Watershed Associations submitted their own Plans.) As noted below, NepRWA believes that many of proposals contained in the draft Boston Harbor Watershed Plan should be included in the final recommendations of the Water Policy Task Force Report. *NepRWA makes the following suggestions to the Task Force:*

**Task Force Report Introduction**

On p. 5 of the Report, under “Background”, add to the end of the last sentence: “ecosystems need cool temperatures AND ADEQUATE VOLUME of ground water to survive.” [Recommended new language is capitalized.]

On pp. 5 – 6 of the Report, under “Challenges”, the second sentence should specifically note the wasteful and unnecessary loss of water supply due to I/I. In the last sentence of the fourth paragraph, the Neponset River could be added to the Charles and Housatonic Rivers as having alarming changes in fish population. The draft Boston Harbor Watershed Plan states:

In 2001, NepRWA developed a target fish community list based on historic fisheries data for the Neponset Watershed and on comparisons with undeveloped watersheds with features similar to the Neponset. This list is, in essence, an estimate of the historic fish community on the Neponset River. Comparison of this target fish community with the actual composition of fish species observed by DEP in 1994 and 1999 provides further evidence of the apparent impact of reduced seasonal streamflows on aquatic life in the Neponset River. In short, it shows that the fish community in the Neponset River and its tributary streams has shifted from a population dominated by “river fish” to one dominated by “pond fish” (e.g., sunfish, carp and small mouth bass) which are less sensitive to the higher temperatures and lower DO associated with declining streamflows. This shift in species composition is similar to the shift that has occurred in the Ipswich River, a river that regularly runs dry.

On p. 7 of the Report, under “A New Working Relationship” (**also** applies to **Recommendation # 7**), in addition to municipal agencies and regional water departments, the draft Boston Harbor Watershed Plan cites a strong need for local governments within

490 Chapman Street, Suite One B • Canton, MA 02021  
phone 781-575-0354 • fax 781-575-9971

individual watersheds and subwatersheds to establish cooperative ventures with the state *and nongovernmental organizations* on things like water sharing, water testing, development of educational materials, training of municipal boards, development of model bylaws and BMPs, and even joint purchases of equipment and bidding for services.

## **Task Force Recommendation # 1**

### ***“Define Mitigation Strategies.”***

In addition to the mitigation strategies mentioned in the Task Force’s Draft Recommendations, the following strategies should be added from the draft Boston Harbor Watershed Plan:

- identification and mitigation of illegal connections of private sewage pipes into storm drains and of exfiltration of sewage from leaking public sewers into surface waters;
- implementation of BMPs identified by the MWRA Infiltration & Inflow Task Force;
- mitigation (retrofitting) of inadequate off-site stormwater management systems;
- denial of sewer extension permits and expansions of sewer collection system capacity which would exacerbate SSOs, surcharging, or low streamflows without first dealing with infiltration and inflow, water conservation, etc.;
- requiring on-site sewage systems in preference to extensions or expansions of sewer systems for new development;
- allowing offsite riverine habitat mitigation for new development/ redevelopment along waterways;
- requiring low impact development for new construction and major reconstruction projects.

### ***“Appropriate Mitigation Ratios.”***

The draft Boston Harbor Watershed Plan recommends that DEP require at least 4:1 infiltration/inflow mitigation for new development in stressed basins or wherever surcharging has occurred, and that municipalities (by bylaw) in all cases require at least 4:1 I/I mitigation for new development and significant redevelopment for each additional gallon of water they add to the sewer system. The Plan also calls for mitigation (i.e., retrofitting) of inadequate off-site stormwater management systems at a 2:1 or 3:1 ratio for every cubic yard of runoff proposed for discharge into surface waters.

The portion of the draft Boston Harbor Watershed Plan that applies only to the Neponset River Watershed calls for the state and municipalities within the watershed to establish/maintain 4:1 infiltration/inflow mitigation banking for all new development based on both peak and annual flow. It also recommends that the state establish a “Net Gain” policy for all permitting decisions effecting Neponset River Watershed water supply.

***“Healthy seasonal flows necessary to protect ecological integrity” (applies also to Task Force Recommendations # 6 (a) and # VI(a)).***

In addition to the Task Force’s draft recommendations and NepRWA’s suggestions regarding streamflows discussed below, the Task Force should adopt the following draft Boston Harbor Watershed Plan recommendations:

- development by USGS of a ground and surface water model for each watershed to aid in predicting watershed effects of water withdrawals and other major water-related activities requiring a federal, state or local permit;
- development by state government of habitat-based, site-specific and seasonally adjusted stream flow thresholds to replace Aquatic Base Flow targets;
- annual state auditing of water supply statistical reports;
- consideration of cumulative effects on watersheds of each new well proposal, including existing but unutilized withdrawal authorizations;
- working with dam owners regarding coordination of water release practices to ensure minimum daily summer flows, especially in times of drought;
- municipal bylaws establishing irrigation system performance standards;
- elimination of discounts for select water users;
- more frequent water billing.

**Task Force Recommendation # 3(a) regarding lawn and landscape conservation.**

NepRWA believes the Task Force’s recommendations such as development of model bylaws and issuance of a Guide to Lawn and Landscape Conservation are inadequate. We suggest the addition of the following actions from the draft Boston Harbor Watershed Plan:

Recommended Actions for federal, state and local government:

- Authorize the Massachusetts Soil Conservation Service to identify maximum permissible levels of fertilization for each municipality;
- Better education of state licensed pesticide professionals; greater enforcement when warranted;
- Use wetland and waterways regulations and local wetland bylaws to maximize retention of naturally vegetated buffer strips along waterways;
- Amend state wetland regulations or local bylaws to ban impervious surfaces, lawns, trails, or anything else that destroys a natural vegetated buffer directly adjacent to rivers, streams, ponds and vegetated wetlands;
- Abide by the sound land management practices for public lands; restore naturally vegetated buffers strips along banks on public lands;
- Provide state and federal grant funds to restorative work and for ongoing public education programs on landscape management and restoration;
- Create local bylaws forbidding subdivision covenants that require ecologically unsound turf lawn maintenance practices;
- Create municipal zoning bylaws or other incentives which will limit environmentally damaging practices for new development; e.g.,:
  - limiting tree cutting and/or lawn sizes,
  - forbidding construction site preparation prior to zoning board approval,
  - limiting removal of topsoil from properties under development.

**Task Force Recommendation # 3(b) & (c) (as well as # 10 and #14) regarding increased funding for watershed management.**

The Task Force recommends seasonal pricing strategies for water supplies, local enterprise accounts for funding operation and maintenance of water supply and sewer infrastructure, expanded grants for priority watershed lands, and greater use of State Revolving Fund money for watershed protection. In addition to these much needed financing mechanisms, the Boston Harbor Watershed Plan makes a number of recommendations for greater utilization of user fees and other revenue sources, as well as methods to reduce the costs of current activities:

Recommended Actions for state and federal government:

- Sewer maintenance and improvement should be treated as highway construction and maintenance are today, with a dedicated user fee-based funding source. Just as federal fees from the retail sale of gasoline are placed in a Trust Fund to pay for highway maintenance, dedicated water-related user fees should pay for the tremendous backlog of maintenance needed for wastewater infrastructure. For example, user fees could be placed on water-based products such as bottled water, soft drinks, etc.
- ...
- (There should be) (g)reater state expenditure of Open Space Bond funds appropriated by the Legislature.
- ...
- (the state should) coordinate mutual municipal assistance in water emergencies to avoid excessive capital investments for individual towns.
- ...
- It is essential that funding and staffing at environmental agencies be restored to at least to the levels of two years ago. More state and federal technical assistance as well as grant money is needed if municipalities are to fulfill their watershed responsibilities, many of which are mandated by federal and state government.

Recommended Action for municipal government:

- Water and sewer user fees must be raised to adequately reflect the real costs of ... services, especially the costs of deferred sewer maintenance and the environmental costs of surface and ground water shortages.
- To minimize such fee increases, local governments should do much more on the “demand side” to reduce public water and sewer use (... such as encouraging water conservation). In addition, local governments need to demand mitigation of water and sewer problems from developers who wish to avail themselves of these public services.
- ...
- (Municipalities should) (e)stablish, and fund through variable water rates, meaningful water conservation programs, including such activities as:
  - high flow toilet replacement through appliance rebates,
  - provision of rain barrels for roof runoff,
  - outreach and training on drought resistant plants,
  - elimination of discounts for select water users;
- ...
- Municipalities, with assistance from citizen groups, should take advantage of economies of scale by collaborating on things like:
  - water monitoring and testing,
  - public education (e.g., stormwater and water conservation),
  - pilot projects (e.g., development of a “septic utility”),

- joint purchases of equipment and bidding for services (e.g., vacuum trucks, sewer leak detection equipment),
  - training of town boards (e.g., re/ NPDES Stormwater PhaseII),
  - development of model Bylaws,
  - development of model BMPS (e.g., for sewer pipe installation).
- ...
- (Local governments should) (e)stablish a small fee on the water bills of septic users to cover the costs of basic education and enforcement activities...
- ...
- (Municipalities should) (maximize use of available grant funds ...

Recommended Actions for MWRA:

- MWRA should expand the Grant/Loan Program for both infiltration and inflow (I/I) remediation for communities using MWRA sewers. While this has short-term costs to ratepayers, in the long term it will save money by greatly reducing the amount of water that has to be treated at Deer Island as well as by increasing the amount of clean groundwater available for public use. MWRA should require towns to “use or lose” funds from the Program within three to five years, so as not to tie up funds which other communities could use.

**Task Force Recommendation # 4, regarding septic systems**

Among the specific actions identified by the Task Force in the Report were:

Recommend Boards of Health track and regulate septic system maintenance ...: ... seek septic pumping every 3 to 5 years.

We believe the Task Force recommendations should include efforts to develop a “septic maintenance utility” model for the state. Under a Section 319 grant, NepRWA is currently working with the Town of Walpole to evaluate septic utility alternatives, and draft bylaws on the preferred approach for inclusion in the Town Meeting Warrant. The grant states: “At its simplest, such a program might involve aggregating consumers to seek competitive bids for automatic maintenance; at its most complex, it might involve a complete program of professional management including sharing the risk of system failure.”

The draft Boston Harbor Watershed Plan recommends that municipalities enact bylaws requiring pump-outs of septic tanks every two years, and NepRWA believes that the state should examine the possibility of making this mandatory under Title 5 Regulations. The Plan also makes the following recommendations:

Recommended Actions for municipalities and citizen groups:

- Increase citizen awareness of the need to regularly pump out septic tanks;
- Develop a model database to be used by municipalities that links Board of Health data bases regarding individual pump-outs to ‘reminder letters’ when another pump-out is due;
- Enforce more rigorously current septic hauler Title 5 annual licensing requirements to ensure they accurately report to the Board of Health the condition of each septic system they pump;
- Increase local enforcement against owners of septic systems which are known to the Board of Health to be in need of repair or replacement;

- Establish a small fee on the water bills of septic users to cover the costs of basic education and enforcement activities; and
- Create municipal ‘septic utilities’ (or at least pilot projects) to:
  - maximize regular pumping of all septic systems,
  - decrease septic pumping costs,
  - “insure” septic owners for the costs of major repairs and replacement,
  - increase municipal awareness of septic system failures, and/or
  - establish a dedicated revenue source (grants or loans) for septic repair and replacement.

**Task Force Recommendation # 5, regarding stormwater.**

While NepRWA would applaud any effort to apply the DEP Stormwater Policy to areas outside federal and state wetlands, we believe the Task Force should inquire as to how this could be done consistent with existing legislative and regulatory authority. In addition, we believe that the Task Force’s stormwater recommendations should include the following from the draft Boston Harbor Watershed Plan:

Recommended Actions for state and federal government:

- DEP should develop a regional study of sites that are most in need of stormwater retrofits;
- DEP should develop an improved stormwater guidance (especially on how to handle bacteria, metals and nutrients);
- DEP and EPA should mandate stormwater bylaws with requirements as stringent as those outlined in DEP’s Stormwater Management Guidelines.

Recommended Actions for municipal government:

...

- Retrofitting locations with poor stormwater management systems;
- Increased efforts to educate the public on the need to properly manage stormwater;
- Adoption and enforcement of bylaws requiring owners to clean up after their pets, and posting of “mutt mitts” in public parks.

Recommended Actions for citizen groups and regional alliances:

- Collaborative efforts on creation of public education materials that can be “localized” by or for municipalities to meet their needs;
- Conducting demonstration (pilot) projects regarding optimal stormwater treatment methods;
- Drafting of model bylaws;
- Helping identify and prioritize stormwater retrofit projects;
- Maximizing use of available grant funds;
- Preparing an analysis of the application of stormwater utilities to reduce stormwater management costs; and
- Public outreach on stormwater prevention, maintenance and repair.

**Task Force Recommendations # 5 and # 7, regarding impervious surfaces and low impact development (LID).**

NepRWA would propose expanding the Task Force’s recommendations beyond having MEPA make a “recommendation” to “appropriate” project proponents that they incorporate LID techniques for storm water management and “encouraging” communities to reduce impervious surface in new development and to use LID. The Boston Harbor Watershed Report recommends:

Recommended Actions for municipal government:

- Should pass zoning bylaws allowing (where not currently allowed), encouraging, or requiring “low impact development” (LID) for new construction and major reconstruction projects. Some LID techniques are:
  - use of stormwater retention swales rather than curbs in subdivisions,
  - using Best Management Practices to mimic predevelopment hydrographs,
  - reduction of required road widths in subdivisions,
  - “decentralizing” subdivision stormwater management so that stormwater retention and groundwater recharge occur on individual lots to the maximum feasible extent,
  - “disconnecting” impervious surfaces; i.e., directing roof and driveway runoff to lawns or swales and not to driveways, streets and stormdrains,
  - use of bioretention cells and other Best Management Practices that emphasize plant uptake of pollutants and refiltration in addition to sediment removal and peak runoff,
  - for commercial development, use of numerous swales, buffer strips and bioretention cells scattered throughout the property (especially within parking lots),
  - requiring mitigation of current off-site stormwater problems at a two or three to one ratio for every cubic yard of runoff proposed for discharge to surface waters,
  - requiring stormwater management in areas outside wetlands as stringent that those required under DEP’s Stormwater Guidelines, and
  - establishing dedicated fee-based revenue sources to support stormwater work.

**Task Force Recommendation # 6(a), regarding water supply development.**

The Task recommends employment of “flood skimming”. While NepRWA is not necessarily opposed to flood skimming, we believe that it must be done so as not to adversely affect the natural hydrograph of rivers and streams.

**Task Force Recommendations # 9 & 10, regarding protection of riverine areas**

There are a number of additional recommendations regarding protection and restoration of riverine areas that are contained in the Boston Harbor Watershed Plan:

Recommended Actions for state government:

- Conduct ecological risk assessments of removing dams in the watersheds and/or creating fish passages;
- Assess areas of identified contaminated sediments in each watershed and develop an Action Plan for dealing with them;
- Develop Open Space and Invasive Plant Inventories and Action Plans;
- Conduct regular fish and bug sampling to better assess aquatic ecological health.

Recommended Actions for municipal governments:

- Restore vegetated riverine buffers and remove unnecessary channelization and riprap;
- Maximize use of available grant funds for restoration projects;
- Use wetland and waterways regulations and local wetland bylaws to minimize use of artificial bulkheads and riprap on banks and substitute bioengineered erosion techniques; encourage removal of existing riprap or adding appropriate vegetation to it;
- Require riverine habitat mitigation (offsite, if appropriate) for new development/redevelopment along waterways.

**Task Force Recommendation VI (a) & (c) (also applies to Recommendations # 1, # 6(a) and # 9) regarding measuring stress and use of fish and environmental indicators.**

There is a need for the Task Force to clearly conjoin the issue of “stress” (Recommendations # 1, # 6(a), and VI(a)) with the use of fish populations “as an indicator of environmental conditions” (Recommendation # 9 and # VI(c)). The Task Force only relates fish populations specifically to targeting and prioritizing restoration efforts. Their use as an indicator of environmental conditions should be specifically linked to measuring watershed stress level, as well.

NepRWA supports Task Force’s Recommendation # VI(a) for new data gathering and assessment efforts in order to expand the current stress/flow framework of the Water Resources Commission. Until this new framework is developed, however, stress level assessments should not be limited to stream gauge data where other stress indicators are evident from on-the-ground assessments of actual conditions. There are a plethora of such indicators, for example, in the Neponset River Watershed (see Appendix 1 of this comment letter for excerpts from the Boston Harbor Watershed Plan regarding the Neponset).

**Task Force Recommendation VI (b) Infiltration/Inflow.**

In order to prevent water loss from infiltration of groundwater into *privately owned* sewer pipes (e.g., those running from a house to the street), the Boston Harbor Action Plan calls for the state to fund a study of mandatory I/I remediation on private property at time of sale.

## APPENDIX I

### *Excerpt from 2004 Boston Harbor Watershed Assessment and Action Plan regarding Neponset River Watershed stress indicators not used in MWRC stress level assessment:*

Hydrologic Stress Level. The Massachusetts Water Resources Commission \*(MWRC) has recently classified the state's waterways by their degree of hydrologic stress. This classification has been made on the basis of analyzing streamflow gauge data. The Neponset mainstem upstream from the USGS Norwood Gauge (essentially from Hawes Brook and upstream) is rated by the MWRC as being "moderately stressed." The East Branch of the Neponset and its tributaries upstream of the USGS Canton Gauge are listed as "low stress". The bulk of the mainstem Neponset which is located downstream of these gauges is listed as unassessed because the period of record at the USGS Lower Mills Gauge is too short to draw conclusions.

The WRC classification is based on a simple analysis of historic stream gauge data and classifies streams as "low stress" if their flow level is *higher* than that of 75% of the streams in the state, as "high stress" if their flow level is *lower* than 75% of the streams in the state, and as "moderately stressed" if they fall in between. While the WRC classification system is an invaluable screening tool, it is not a substitute for on-the-ground assessments of actual conditions and biota. The DEP has recently announced a new set of performance standards for water suppliers regulated under the Water Management Act, which imposes increasingly stringent water conservation measures on water suppliers drawing from stressed watersheds.

*Other assessments conducted in the Neponset Watershed suggest that not only the upper mainstem, but the entire Neponset Watershed should be classified as "highly stressed".*

*The DEPs 1999 field inventory of the fish community and aquatic macroinvertebrates in the Neponset Watershed (Fiorentino, 2000, "Boston Harbor Watershed 1999 Biological Assessment") indicated that "habitat constraints related to reduced baseflow" in the Mill Brook tributary to Mine Brook "appear to compromise biological integrity." The study noted other impaired benthic communities on a number of other streams that could be indicative of low flows. For example, an over abundance of benthic organisms that are "known to survive dry conditions or periods of reduced baseflow" were found at Pequit Brook (recent NepRWA monitoring confirms low flow conditions). And an overabundance of "fine particulate organic matter" (FPOM) in streams downstream of eutrophic impoundments were found on Massapoag Brook, Beaver Meadow Brook, East Branch, and Steep Hill Brook (all of which suffer from low flow, according to recent NepRWA monitoring). Fine particulates seldom settle in streams with adequate flows. Rather, they are often the result of shallow, slow flowing water.*

In 2001, *NepRWA* developed a *target fish community* list based on historic fisheries data for the Neponset Watershed and on comparisons with undeveloped watersheds with features similar to the Neponset. This list is, in essence, an estimate

of the historic fish community on the Neponset River. Comparison of this target fish community with the actual composition of fish species observed by DEP in 1994 and 1999 provides further evidence of the apparent impact of reduced seasonal streamflows on aquatic life in the Neponset River. In short, it shows that the fish community in the Neponset River and its tributary streams has shifted from a population dominated by “river fish” to one dominated by “pond fish” (e.g., sunfish, carp and small mouth bass) which are less sensitive to the higher temperatures and lower DO associated with declining streamflows. This shift in species composition is similar to the shift that has occurred in the Ipswich River, a river that regularly runs dry.

Low flows are also having a demonstrable impact on anadromous fish runs in the lower Neponset River (below Milton Lower Falls). A report by the Massachusetts Department of Fish & Game (then the Dept. of Fisheries, Wildlife and Environmental Law Enforcement) concluded that anadromous rainbow smelt are harmed by low flows during the latter part of their spawning period (mid-to-late May). Egg mortality increases as rocks in shallow areas become exposed. Blueback herring are also expected to be impacted by inadequate flows now that their populations are being restored to the river. (Chase, Pelto & Ide, 1997. “Final Report on Neponset River Volunteer Flow Monitoring at Lower Mills, Milton”)

*The “Use Attainability Study of the East Branch Neponset River” was prepared by the US Army Corps of Engineers (USACOE) in 1997 response to extremely high (87.8 degrees Fahrenheit) water temperatures documented in the East Branch in 1994. This temperature exceeded the upper temperature limit for warm water fisheries by several degrees. The USACOE study concluded that, “the basic problem causing high water temperatures in the watershed is low flows through large open areas during warm weather.”*

In 1997 DEP retained *Camp, Dresser and McKee (CDM)* to demonstrate the application of new watershed modeling toolkit on the Neponset Watershed (CDM, 1997. “Neponset River Watershed Modeling Project, Prototype Application Report”.) As part of that effort, CDM developed a simple *water budget model* for the Neponset that identified several tributaries where substantial streamflow impacts are expected due to projected water withdrawals. Based on the model, CDM projects that by 2010 water withdrawals will increase from 1991 – 1995 levels in the following streams:

<b>River/Stream</b>	<b>Estimated Percentage Increase in water withdrawals by 2010</b>
Central Neponset River (Canton)	28%
Mill Brook (Dover)	99%
Purgatory Brook (Dedham & Westwood)	25%
Beaver Brook (Sharon)	22%
Neponset Reservoir (Foxborough)	69%
School Meadow Brook (Walpole)	24%

In 2001 – 2002, the *ESS Group* did an in depth *assessment* of 16 locations along the East Branch mainstem of the Neponset River and some of its tributaries. The assessment examined the adequacy of flow levels for protection and long-term maintenance of key aquatic life forms, including fish (*“Trio of Experts Instream Habitat Assessment, East Branch Neponset Watershed”*, 12/12/03). The tributaries included Beaver Brook, Beaver Meadow Brook, Massapoag Brook, Pequit Brook, and Steephill Brook. The assessment concluded:

The flows documented were found to be below the summer aquatic base flows policy target levels set by the U.S. Fish & Wildlife Service flow policy and the more generous site-specific U.S. Geological Survey Streamstats Program computed values for the majority of stream segments assessed.... During the period with highest observed flows (June) all of the 12 stream segments assessed were found to be below the USFW ABF (aquatic base flow) value recommended for spring flow, suggesting that more flow may be beneficial during the spring spawning season. The lack of high flows during the spring may also explain why large amounts of sediment accumulation were documented at many of the stream sites.... The macroinvertebrate communities within most of the stream segments assessed would benefit from increased flow, particularly during the summer low flow period, in order to reduce temperature peaks, improve dissolved oxygen, and to dilute pollutants...The fish community of many of the assessed segments does not fully meet the NepRWA targeted fish community (native stream species). Although the reasons for this vary from stream segment to stream segment, it can generally be stated that flow was a significant factor in the poorer quality habitat available.