

NEPONSET RIVER WATERSHED ASSOCIATION

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August 23, 2006

Mr. Duane LeVangie
Water Management Program Manager
Department of Environmental Protection
One Winter St.
Boston, MA 02108

Re: Comments on Draft WMA Permit Modifications 9P-4-19-266.01 and 9P-25-266.01, issued to the Town of Sharon, MA

Dear Mr. LeVangie:

In your “Order to Complete” sent on January 20, 2005 to the Sharon Water Department, you proposed “to reduce the overall permitted (groundwater withdrawal) volume...to reflect the average water use over the past three years of 1.58 million gallons per day (MGD)...” This would have represented a nearly 11% decrease in Sharon’s previous authorization and provided a strong impetus towards greater water conservation. However in the above-cited Draft Permit Modification to the Town on August 14, 2006, you are authorizing water withdrawals of 1.83 MGD, nearly 3% higher than currently authorized and almost 16% higher than you originally proposed. This new draft modification includes an authorized increase of 30,000 gallons a day from Wells 2, 3 and 4 along Beaver Brook in the Neponset River Watershed compared to previously allowed levels. This represents a 3.2% increase in the total withdrawals and a 7.7% increase in “permitted” levels.

The Neponset River Watershed Association can find nothing in your draft “Findings of Fact” to explain or justify this turnaround. Furthermore, the new draft conditions give the Town an incentive to withdraw more water from the Neponset River Basin and less from the Taunton River Basin. Any withdrawal from the Taunton above 0.55 mgd will require offsets under the draft permit, while no offset is required for the Town to withdraw the full 0.97 mgd authorized for the Neponset. Assuming that Sharon’s water use remains at current levels, the Town will be able to take 0.55 mgd from the Taunton and the maximum 0.97 mgd from the Neponset and provide little or nothing in the way of offsets.

Also, if Sharon chooses to use the “stream flow trigger” for summer water restrictions (instead of the calendar trigger), the restrictions will go into effect only if there is low flow on the Wading River in the Taunton Watershed, regardless of how low the flow is on the East Branch of the Neponset River or on Beaver Brook. As with offsets, this trigger does not apply to the Neponset watershed in Sharon because it is allegedly a “low stress” basin.

Your draft “Finding of Fact in Support of the Draft Permit Decision” for Sharon notes that stress levels are “primarily” determined according the Water Resource Commission’s 2001 Stressed Basins Report but goes on to say:

*Boston, Canton, Dedham, Dover, Foxborough, Medfield, Milton, Norwood, Quincy, Randolph,
Sharon, Stoughton,
Walpole, Westwood*

The Department also conducts reviews of other available research and reports by the USGS, the Department's Watershed Water Quality Assessment Reports and any other pertinent reports available for specific river basins.

In the case of Sharon, however, the Department seems to have ignored a great deal of "available research and reports," including a number done by or for DEP itself, which show that the East Branch of the Neponset River and its tributaries in Sharon are in fact highly stressed. Beaver Brook flows into Massapoag Brook in Sharon and the Massapoag flows into the East Branch of the Neponset River.

1. **DEP's 303(d) list** includes the entire Beaver Brook as well as the East Branch as being in nonattainment of water quality standards for organic enrichment and low DO, both of which are related to low flow conditions. The East Branch is also on the 303(d) list for "flow alteration."
2. The **Boston Harbor Watersheds Water Quality & Hydrologic Investigations, June 30, 2003**, prepared for EOE, DEP and BRP states on page N43 that the macroinvertebrate and fish communities in the Massapoag and Beaver Brook Subwatershed "indicate considerable stress" and that "(s)ubstantial groundwater pumping along Beaver Brook" is an issue. Numerous significant problems with a variety of nutrients were found in samples taken between 1999 and March, 2003 on Massapoag Brook just downstream from its confluence with Beaver Brook, as well as on Beaver Brook at Upland and Maskwonicut Streets in Sharon, both of which are downstream of all 3 Neponset Basin water supply wells.
3. In 2001 – 2002, the **ESS Group** did an in depth assessment of 12 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 assessment concluded:

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.

Regarding Sharon's Beaver Brook (off Moosehill Parkway, downstream of Wells 2 and 3 and just upstream of one Well 4), ESS found that:

flows were relatively small for all dates assessed ... During the first two rounds of sampling (Sept. and Oct., 2001), flows were low to virtually non-existent resulting in poor to no (fish) habitat present ... If there are withdrawals in the groundwater table that could potentially affect stream discharge, these withdrawals could be investigated to see if management strategies could be used to increase discharge during the lower flow periods of the year.

4. The **DEPs 1999 field inventory** of the fish community and aquatic macroinvertebrates in the Neponset Watershed (**Fiorentino, MA DEP, 2000, "Boston Harbor Watershed 1999 Biological Assessment"**) looked at Beaver Brook in Sharon at Mascwonicut St. (downstream of Wells 2 & 3) and concluded:

(T)he presence of potential "low-flow" indicator species, as well as a suppressed fish population despite excellent fish habitat, suggest that occasional periods of reduced baseflow may compromise biological potential in this stream. The presence of highly intolerant forms of fish and invertebrates suggests that factors (e.g., water quantity) other than water quality may most influence biological integrity here...

5. **DEP's Boston Harbor 1999 Water Quality Assessment Report**, published in 2002, found that Beaver Brook (from headwaters to confluence with Massapoag Brook) only partially supported aquatic life. The suspected cause is listed as "(l)ow flow."
6. The "**Use Attainability Study of the East Brach 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."
7. 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.

8. Finally, Paul Lauenstein (who serves on our Board of Directors) in his own comment letter to you on these draft permit modifications provides significant recent information, including photographs, that establish low flow conditions.

NepRWA is disappointed that we were given only a couple of weeks to comment on these permit modifications before your anticipated issuance date of September 5, 2006. We ask that you postpone the issuance until both you and the Town of Sharon have had the opportunity to reply to these and other public comments you received.

Sincerely yours,

Steve Pearlman
Advocacy Director

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