



Protecting our water, our land, our communities

April 6, 2012

Ms. Kathleen Baskin, P.E.
Director of Water Policy and Planning
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, 9th floor
Boston, MA 02114

Dear Ms. Baskin,

The Nashua River Watershed Association (NRWA) submits the following comments on the Sustainable Water Management Initiative (SWMI) draft framework, dated 2/3/12. NRWA has signed on to a more detailed letter (SWMI Rivers Alliance comment letter, April 6, 2012) regarding the SWMI draft framework. These comments speak specifically to how the draft framework would affect water withdrawals in the Nashua River basin.

NRWA recognizes and appreciates the vast amount of time and effort expended on the SWMI process by state staff and others. We feel the scientific study performed by the U.S. Geological Survey and the Department of Fish and Game was a huge step forward in understanding the science of sustainable streamflow in the Commonwealth, and should be commended (and NRWA is in agreement with Rivers Alliance's comments regarding streamflow). However, we feel there are real problems with the Executive Office of Energy and Environmental Affairs (EEA) "Safe Yield," the legal backstop above which no further water withdrawals are allowed.

Safe Yield and the Nashua River

Geographic Disconnect

There is a disconnect between EEA's large "Safe Yield" number calculated for the entire Nashua River (255.MGD) and the protection needed at the municipal and subwatershed level, both for community water supply needs and for the ecological protection of streams and rivers. Sensitive Coldwater Fishery Resources (CFR) are already drying up (see photos below) in subwatersheds of the Nashua River during the summer months seemingly due to their proximity to public water supplies. The Nashua River is classified as a medium-stressed basin, and EEA's Safe Yield determination for the watershed, at 255.6 MGD is 1.75 times the 2008 reported use of 146.4 MGD. EEA's Safe Yield provides less protection than what is currently provided for the rivers and streams of the Nashua River watershed.

The EEA Safe Yield number also does not take into consideration that most streams in the Nashua River watershed would be vulnerable to being pumped dry at the time of highest water demand during the low-flow summer months. EEA's Safe Yield numbers, derived from an

annual average rather than on seasonally-derived values, mean that if the rivers and streams in the Nashua River watershed were withdrawn evenly throughout the year, they would be overdrawn in summer when the flows fall below Safe Yield numbers. NRWA understands that streamflow criteria would be applied to withdrawals with conditions; this does not absolve EEA from deriving Safe Yield numbers that are protective of rivers and streams in all seasons, consistent with recent research provided by USGS and the Division of Fish and Wildlife on the relationship between flow and fish abundance. The Safe Yield numbers are also inconsistent with MassDEP's Statement of Clarification of Safe Yield, dated November 3, 2009, which states: "Safe Yield interpretation includes environmental protection factors, including ecological health of river systems, as well as hydrologic factors."

NRWA believes the implementation framework of the aforementioned stream flow criteria to be insufficiently protective. Permit baselines arbitrarily award increases in withdrawals of 5% to 8% over outdated withdrawal levels (2003-2005)¹ that are generally higher than more recent withdrawal levels, with no consideration of environmental conditions. The allocation tiers allow additional withdrawals with "mitigation commensurate with impacts" that would not require any net restoration. Triggers for non-essential water usage would not take effect until flow has declined to 7-day annual low flow, and even then limited lawn irrigation would still be allowed.

Reservoir Storage Credit

The EEA Safe Yield number for the Nashua River watershed seems to erroneously assume reservoir storage credits actually can be used to the benefit of geographically distinct headwater streams. Indeed, the description of the SWMI Reservoir Storage Volume calculations in Safe Yield rationalizes that "During a drought, surplus water in storage could be used by other water suppliers experiencing shortfalls, if infrastructure allows."² The feasibility of most water suppliers in the Nashua River watershed actually receiving water from the MWRA Wachusett Reservoir system is highly unlikely-among other factors, existing infrastructure does not allow it. Reservoir storage credit does nothing to alleviate water shortages in any place but towns immediately adjacent to the Wachusett Reservoir, if at all.

Additionally, the statutorily-required release of water from the Wachusett Reservoir, at 12 MG/Week (1.8 MGD) is 1.6% of the drought year inflow (DYI) calculated for the Wachusett. For several years, NRWA has been advocating for a larger minimum release and a more naturalized flow regime for the South Nashua River below the Wachusett dam. Although flow has increased sporadically due to large volumes of water moved from the Quabbin to the Wachusett (for water quality reasons), in our opinion, the MWRA is highly unlikely to release anything but the required releases to the South Nashua during a drought. The Reservoir Storage Credit volumes therefore add nothing to the possibility that streams will be protected at the local level, and increase the likelihood that overallocation will harm water supplies for communities and aquatic life.

¹ The EEA "baseline" is the average use from 2003-05, or the 2005 use, or the registered volume, whichever is higher.

² SWMI Framework Appendix A: Reservoir Storage Volume in Safe Yield, General Approach, pg. 1.

Additional comments regarding Safe Yield

- 1) Please recheck the calculations for the "base" safe yield (before the reservoir credit), as they appear to be erroneous;

- 2) If there is enough water for such a large reservoir credit, then there should be ample water available to support much larger minimum flow releases from the Wachusett Reservoir. The reservoir credit for the MWRA system is 348.5 MGD, and system use is approximately 200 MGD; there should be plenty of water for releases.

Thank you for allowing NRWA to comment on this important process.

Sincerely,



Elizabeth Ainsley Campbell
Executive Director



Martha S. Morgan
Water Programs Director



Gulf Brook approximately ¼ mile upstream from municipal wells.



Approximately 300 feet from municipal wells.



Closeup of Gulf Brook adjacent to municipal wells.