



November 4, 2010

David Cash, Assistant Secretary for Policy
Executive Office for Energy and Environmental Affairs
100 Cambridge Street
Suite 900
Boston, MA 02114

Re: *Sustainable Water Management Initiative: Safe Yield and Stream Flow Criteria*

Dear David:

We are writing to advise you that the methodology for safe yield currently under consideration by EEA and its agencies on the SWMI Steering Committee does not meet the statutory and regulatory requirements in our opinion and should not be adopted. While we appreciate the “discussion only” disclaimer in the October safe yield presentations, the Steering Committee’s approach to safe yield since last spring continues to fail to address the legal requirements and will not protect the “ecological health of rivers,” which, as MassDEP explained in its 2009 Clarification of Safe Yield, is integral to safe yield.

“The concept of safe yield is fundamental to the proper management of a water source, taking into account the natural variability of streamflow, and serves as the principal regulatory basis for determining the scope of the permitted water withdrawals in a water source.¹ MassDEP’s interpretation of safe yield, state policy and a commitment from the Administration all acknowledge that this language in § 2, which sets a limit on the amount of water that may be withdrawn, encompasses environmental protection factors designed to prevent unreasonable damage to the environment and “assumes some reserved amount to ensure the security of the withdrawal volumes and to preserve the resource itself.”²

¹ *Town of Hamilton v. Massachusetts Department of Environmental Protection*, C.A. Nos. 2006-745 and 1080(consolidated), Memorandum of Decision and Order on Cross Motions for Judgment on the Pleadings, July 13, 2007 (Fahey, J.) at p. 4, *aff’d*, No. 2007-P-1980, Memorandum and Order Pursuant to Rule 1:28 (Mass. App. Ct. Aug. 14, 2009); Preface to 2005 revisions to Water Management Act regulations, 310 CMR 36.00.

² Final Decision, *In the Matters of Towns of Wenham, Topsfield and Hamilton*, DEP Dkt. Nos. 2003-068, 079, 065 (March 31, 2006) (emphasis added).

The safe yield proposal presented at the October 12th and 26th SWMI meetings is not consistent with the statutory language or state policy because the proposal does not specify an amount of water that can be withdrawn *continuously* from a water source without causing unreasonable damage to the environment.

Averaging the monthly Q90 flows and then deducting an “environmental protection factor” from that higher averaged monthly flow to derive an annualized “safe yield” number at a basin scale, as currently proposed, leads to allowable allocations that would result in significant environmental damage, as well as jeopardize individual withdrawals, if that amount of water is actually continuously withdrawn. Water suppliers could not *continuously* or reliably withdraw this annualized volume of water in the summer months, and particularly during a drought. Withdrawing this annualized volume of water during a drought (or even in a normal summer) would remove any meaningful protection of aquatic life. This has already been demonstrated in the Ipswich litigation based on water withdrawals of similar magnitude to the safe yield method under consideration.

Since this approach produces a basin-wide safe yield, it does not meet the statutory definitional requirement that the safe yield be calculated in a way that ensures that a source is reliable *at the point of withdrawal*. Unless the withdrawal happens to be at the mouth of a basin, the drought reliability of a basin yield is not relevant to drought reliability of that part of a water source tributary to the withdrawal point.³ A sub-basin approach is the only credible way to preserve the water resource itself and to meet this requirement.⁴

EEA and its agencies have scientific information to use in meeting the statutory requirements by using 50% of the August Q90 to determine the yield of each water source on a sub-basin scale in the calculation of safe yield. This volume is the best representation that the Commonwealth has of the amount of water continuously available for groundwater withdrawals and year-round surface water capture while preserving riverine ecological health. It would be reasonable to account for storage; this could be done best by adding to this figure the firm yield of reservoir systems, less an allowance for flow releases. There should also be a margin of safety built into any safe yield methodology to account for a range of uncertainties, including

³ For example, if there is one safe yield value established for a 130-square miles watershed, yet all the community’s withdrawals are located in an 8-square mile aquifer, that safe yield would be far too high to ensure that the community’s wells won’t fail during a drought, and completely ignores the environmental impacts.

⁴ The definition of a “water source” in § 2, “any natural or artificial *aquifer* or body of surface water, including its watershed *where ground and surface water sources are interconnected in a single hydrological system*,” dictates against using the 27 planning basins. (Emphasis added). An “aquifer including its watershed” is simply not the entire basin in which the aquifer is located. In the case of artificial basins, such as the Boston Harbor Watershed, and the North and South Coastal “Basins,” the rationale for using basin scale is even weaker. It would violate the Water Management Act to establish a single safe yield for what are in fact two or more watersheds.

drought responsiveness and climate change impacts. A 10 percent reduction is reasonable.

Despite the current extreme low flow condition of many rivers and streams, most watersheds and sub-basins in Massachusetts would still not exceed the Steering Committee's proposed safe yield method and indeed, this method would actually result in more water available for allocation than is currently authorized. Rather than apply a flawed method that so overestimates the water that can *safely* be allocated, we would like to work with EEA to identify the key elements of a path forward for those water sources where safe yield is truly exceeded. This should include an analysis of all alternatives to bring the water budget back into balance over the permit period.

Lastly, we would like to underscore the need, as you yourself have expressed, to develop safe yield and stream flow criteria as an integrated package in order to address effectively the range of issues associated with sustainable water management. Therefore, we ask that EEA focus its efforts on creating and testing stream flow criteria and their interplay with safe yield to achieve sustainable management of Massachusetts rivers.

Thank you in advance for your consideration of our comments and recommendations.

Sincerely,

Peter Shelley
Vice President and Director Massachusetts Advocacy Center
Conservation Law Foundation

Susan Beede
Policy Director
Massachusetts Rivers Alliance

Kerry Mackin
Executive Director
Ipswich River Watershed Association

Margaret Van Deusen
Deputy Director and General Counsel
Charles River Watershed Association

cc: SWMI Steering Committee

