

Given the evidence that the receiving water is eutrophic, EPA included a limitation based on Highest and Best Practical Treatment, which MassDEP has defined as a monthly average limit of 0.2 mg/l total phosphorus. This limit will result in the Wayland discharge making a very small contribution to the phosphorus concentration in the Sudbury River. Using the calculated dilution factor of 78.1, a discharge of 200 ug/l total phosphorus (0.2 mg/l) would result in an instream concentration of only 2.6 ug/l (200 ug/l / 78.1), assuming zero in the background. If a background concentration of 83 ug/l is assumed (the average upstream concentration, as noted in the fact sheet), the resulting instream concentration downstream of the discharge would be only 84.5 ug/l, as calculated below, an increase of only 1.5 ug/l.

$$Cr = (QdCd + QsCs) / Qr$$

Where,

Cr = instream concentration of pollutant downstream of the discharge

Qd = discharge flow

Cd = concentration of pollutant in discharge

Qs = flow upstream of the discharge

Cs = concentration of pollutant upstream of the discharge

Qr = flow downstream of the discharge

$$\begin{aligned} Cr &= (0.052 \text{ MGD} * 200 \text{ ug/l} + 4.01 \text{ MGD} * 83 \text{ ug/l}) / 4.062 \text{ MGD} \\ &= 84.5 \text{ ug/l} \end{aligned}$$

At a concentration of 0.2 mg/l, the discharge of phosphorus from the facility will not cause an appreciable increase in the instream total phosphorus concentration and will therefore not cause or contribute to exceedances of water quality standards.

We do agree that the background concentrations indicate impairments due to nutrients and would note that the East Marlborough facility, which discharges to a tributary of the Sudbury River upstream of the Wayland facility has not yet attained its effluent limitation of 0.1 mg/l. Once it has attained this limit there should be a reduction in background concentrations. Similarly, upstream communities must implement storm water best management practices (BMPs) as a condition of their storm water NPDES permits, which should also improve background conditions for nutrients.

Comment B3: "The Fact Sheet attempts to justify the proposed TP limits by arguing that because they are more stringent than the existing permit the anti-degradation requirements have been met. It should be obvious that this is not the legal standard for determining limitations on wastewater flows".

Response B3: MassDEP's antidegradation requirements regarding NPDES permits apply chiefly to new or increased discharges. The statement in the fact sheet regarding antidegradation is simply to note that this is not a new or increased discharge, and therefore does not require a detailed antidegradation review.

The total phosphorus limits for the discharge to the Sudbury River were established to achieve the narrative criteria for nutrients found at 314 CMR § 4.05(5)(c), which states that nutrients, "shall not exceed the site specific limits necessary to control accelerated or cultural eutrophication". Given the current impairments in the Sudbury River, more stringent total phosphorus limits were calculated and applied (see Response B2).

Comment B4: "I request that EPA and DEP hold a public hearing to address these issues".

Response B4: This request was denied and the requestor was notified by letter January 16, 2007.

C. Comments Received from Linda L. Segal; Wayland, MA

Comment C1: The Record Does Not Support The Proposed Flow Limit.

"From a review of the information contained in the EPA "Fact Sheet", it appears that the proposed Permit discharge limitations and conditions were determined almost entirely on a "quantitative description of the effluent parameters" contained in Discharge Monitoring Reports for the period January 2002 through November 2004. As shown on Table 1 of the "Fact Sheet", although the then permitted monthly average flow was 52,000 GPD, the actual monthly average flow throughout that period was only 10,344 GPD.

Given that the flow throughout this period was only 20% of the allowed monthly average, it does not seem as though EPA and DEP have a sufficient basis for determining that the proposed new flow and effluent limits will, in fact, be protective of surface water quality standards if and when the treatment plant returns to a full capacity.

There are currently only 27 users connected to the Wastewater Treatment Plant. Those users represent approximately 5 households, some existing businesses, and one municipal use (newly constructed after issuance of the 1998 NPDES Permit).

I mention the new construction only because the State statute that created the Wayland Wastewater Management District Commission (i.e., the Town body that oversees and operates the Wayland Wastewater Treatment Plant), states at Chapter 461 of the 1996 Acts and Resolves of Massachusetts that "the commission shall not provide service to: (2) a new facility's system or for an increase in design flow to an existing facility's system if that new system or increase in design flow could not have been permitted in the absence of this act" That is, Wayland should not be relying on this NPDES Permit and discharges to the Sudbury River to promote new growth. Rather, all of the regulatory agencies involved should be attempting to curtail new or increased discharges to the River.