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Alice Rojko, Watershed Planner
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By email: Alice.Rojko@massmail.state.ma.us

Re: OAR Comments on *Assabet River Sediment and Dam Removal Feasibility Study*, Draft, September 2009

Dear Ms. Rojko,

Thank you for the opportunity to comment on this final draft of the above referenced study prepared by the Army Corps of Engineers for the Mass. Department of Environmental Protection. We have reviewed the draft and our comments follow.

Our first comment is in regard to the language used in the Draft Study that draws on the conclusions of the Modeling Report completed by CDM in 2008 which is a central element of this study. The CDM Report (*Assabet River Sediment and Dam Removal Modeling Report*, June 2008) provides valuable technical information to be used in guiding policy-makers and other stakeholders in how to ensure that the Assabet River meets its water quality standard, as laid out in the TMDL for the river.

We are concerned, however, that in several cases the Draft Study's interpretation of the CDM Report inaccurately portrays the conclusions of the CDM Modeling Report and goes beyond the terms of the Study. We raised these concerns in our comments to the ACOE in our comment letter on an earlier draft in June 2009, but they have not been addressed.

The Executive Summary (P. ES-2) states: "This finding *appears* to *indicate* that lower winter limits on WWTFs discharge of phosphorus *may* contribute significantly to reducing sediment phosphorus flux and *might* be another control measure …" (emphasis added).

The CDM Report is far less equivocal, stating: "Based on results of this modeling effort, it was concluded that winter limits for the WWTFs, below the current planned limit of 1 mg/L would contribute significantly to the reduction in sediment phosphorus flux." It goes on to state that: "If no other improvements were implemented, further reductions in summer P discharge limits, below 0.1 mg/L, would not contribute significantly to further reduction in sediment phosphorus flux. *This is because the winter instream phosphorus concentration has such a strong effect on the P flux the following summer.*" (CDM Report p. 6-7, emphasis added) The Draft Study's conclusions should reflect the conclusions of the technical report.

OAR also strongly objects to the conclusion in the Draft Study that monitoring of the impact of the planned improvements to the WWTFs should be done "before selecting the appropriate option(s) for making the necessary sediment flux reductions and verifying the model predictions." (ES-2) Further, the Draft Study states that the conclusions of the modeling are limited due to the complexity of sediment-phosphorus flux behavior, and recommends that "additional field study be undertaken should different summer and/or winter effluent permit limits be considered for WWTFs in the future." (P. 10) These are subjective conclusions that relate more to upcoming permitting decisions than to the data in the technical study. It is beyond the purview of the Draft Study to comment on the timing of wastewater treatment plant discharge limits.

We also note that the biomass data referred to on page 7 were collected in 1999 and 2000 for the TMDL (not by OAR), and data from 2005, 2006 and 2007 were collected by OAR. No biomass data were collected from the Powdermill Dam impoundment in recent years due to the drawdown of the impoundment for dam repair; biomass levels are otherwise generally very high in that impoundment.

Lastly, OAR is concerned regarding the recommendation for dam removal. As part of the interim (Phase 1) WWTF permits issued in 2005, the Sediment and Dam Removal Feasibility Study was initiated to explore two possible alternative ways to reduce phosphorus in the Assabet River. The primary source of phosphorus is known to be the four municipal wastewater treatment plants that discharge into the river. In conjunction with the study, OAR convened two River Restoration Workshops to inform the community—and ourselves—about how dam removal could affect river water quality, river ecology, and the watershed as a whole. In these workshops we learned that although dam removal can have a positive impact on river water quality and provide better habitat by allowing free fish passage, among other benefits, it is an extremely complicated process and requires, at minimum, willing dam owners, a supportive river community, and lengthy regulatory review.

Since the initiation of the study, and more recently with the release of the draft findings, a number of items have come to light:

- The CDM Report shows that phosphorus entering the water column during the winter months is being taken up by sediments in the river and then released in warmer months, as noted above. The Report points to lower winter limits as

likely to have a significant effect on lowering phosphorus uptake by biomass in the growing season.

- The Draft Study focused on the removal of a single, privately-owned dam, the Ben Smith Dam in Maynard, whose removal by itself could yield a relatively small improvement in water quality while likely having significant impacts on public safety, wells, and current recreational use.

- Most of the dams on the Assabet are privately owned and the owners have economic interests in several them. The Powdermill Dam in Acton is operated as a hydro-electric facility and the owner of the Ben Smith Dam in Maynard has applied for grants to explore the generation of hydropower there, and has applied for and received a Preliminary Permit from FERC in 2008 to generate hydro-electricity.

- Members of the public who would be directly affected by dam removal expressed strong negative reactions and posed many questions that the study had not been able to answer at the public informational meetings held on the Draft Study.

Given the great uncertainty in the cost estimates of the dam removals and accompanying site restoration, the lack of support of the largest dam owners, and objections by communities affected by some of the larger dams, OAR believes that removing dams, either singly or in combination, is not a viable option for achieving water quality standards for the Assabet River for Phase 2 NPDES permitting. As discussed above, the CDM Report shows that lower winter phosphorus limits, in combination with the planned WWTF upgrades mandated by Phase 1 permits, would offer immediate and achievable water quality improvements. We believe that this approach would benefit the river, the wildlife that lives in and around the river, and the communities that have grown up along it.

We hope these comments will be reflected in the text of the final study. We appreciate the large amount of work that has gone into the study to provide a greater understanding of the pollution problems of the Assabet River and how to solve them. Please don't hesitate to contact us if you would like further clarification.

Yours sincerely,

Alison Field-Juma
Acting Executive Director