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HOUSATONIC RIVER
MODEL VALIDATION
FINAL COMMENTS
EPA FORMAT

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1. In the present model, the processes of sediment erosion, sediment deposition, the finite sorption rate of PCBs by the sediments, and the sediment-water flux due to “diffusion” are described incorrectly and inaccurately. This is exacerbated by a very coarse numerical grid used to define the bathymetry of the river and an unnecessarily fine grid to define the bathymetry/topography of the floodplain. More specific reasons for these comments as well as specific suggestions for improvement of the model are presented in the complete response which is attached. I do not believe that the present model can reasonably account for the relevant processes affecting PCB fate, transport, and bioaccumulation in the Housatonic River to a degree consistent with achieving the goal of the modeling study.
2. A good comparison of the model predictions with data is necessary, **but not sufficient**, to evaluate the capability of the model. The low surficial PCB concentrations in Woods Pond and the large variability in PCB concentrations throughout the river are unexplained by the present model. See discussion in the complete response.
3. Don’t know.
4. The sensitivity of the model to the parameterization of the significant state and process variables has not been adequately characterized. See discussion in the complete response.
5. Because the basic processes are inaccurately described, the uncertainties in model outputs are not correctly acknowledged or described.

6. Because the basic processes are inaccurately described and the correct processes may possibly differ by factors of two to ten from those in the present model, the projections of the present model have large potential errors.

7. The present model is inadequate to achieve the goal of the modeling study to simulate future conditions (1) in the absence of remediation and (2) for use in evaluating the effectiveness of remedial alternatives.