UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EXPOSURE RESEARCH LABORATORY
ECOSYSTEMS RESEARCH DIVISION
960 COLLEGE STATION ROAD • ATHENS, GA 30605-2700

OFFICE OF
RESEARCH AND DEVELOPMENT
706/355-8303, fax 706/355-8302
Hayter.Earl@epa.gov

To: Carl Cerco, Sung-Chan Kim
From: Earl Hayter
Subject: Comments on April 2006 Meeting
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1. The bed model needs to represent depth-varying bulk density and critical shear stress for resuspension profiles for the two cohesive size classes.
2. To represent the cohesiveness of the two cohesive size classes, use the same critical shear stress for resuspension for both classes.
3. The resuspension rate of the two cohesive size classes should be determined using the results from the Sedflume tests performed in one of the tributaries.
4. Use formulas by van Rijn to determine critical shear stress for resuspension and settling velocities of the two non-cohesive size classes.
5. Use Larry's settling velocity data to specify the settling velocities for the silt and clay size fractions.
6. You might already do this, but the bulk density of the bed should be calculated as a function of the fraction of the four sediment size classes in the bed.
7. As a final step in calibration, you could vary the value of the critical shear stress for deposition of the cohesive size fractions if the comparison of measured and predicted suspended sediment concentrations is not satisfactory.
8. A grain shear stress formulation should be used to calculate the grain (i.e., skin friction) shear stress as a function of the total bed shear stress. The grain shear stress should be used in the equation to predict the resuspension rate.