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Virginia B Pasour* (virginia.b.pasour.civ@mail.mil) and **Laura A Miller**
(lam9@unc.edu). *Impact of Macrophytes on Plankton Movement.*

Small-scale interactions between water and vegetation can have a significant, complex effect on water flow. Using a two-dimensional hydrodynamic model, we represent macrophytes as a simple, flexible and deforming porous layer, varying the bending stiffnesses and porosities of the plants, as well as background flow speeds and type of flow. We also give preliminary three-dimensional results. Studying velocities, shear stress, and mixing, we show that small-scale physical biological interactions can have major and important implications for plankton patchiness, movement, and ultimate destiny. (Received September 23, 2014)