1127-92-215 **Jimin Zhang** and **Junping Shi*** (`jxshix@wm.edu`), Department of Mathematics, College of William and Mary, Williamsburg, VA 23187, and **Xiaoyuan Chang**. *A mathematical model of interaction of pelagic algae, benthic algae and nutrients in an oligotrophic shallow aquatic ecosystem.*

A coupled system of ordinary differential equations and partial differential equations is proposed to describe the interaction of pelagic algae, benthic algae and one essential nutrient in an oligotrophic shallow aquatic ecosystem with ample supply of light. The existence, uniqueness and stability of non-negative steady states are shown, and these results characterize some threshold conditions for the regime shift. The influence of environmental parameters on algal biomass density is also considered, which is an important indicator of algal blooms. (Received February 04, 2017)