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Suzanne Lenhart* (slenhart@utk.edu), University of Tennessee, Department of Mathematics, Knoxville, TN 37996-1320. *Optimal Control of Advection in a Parabolic PDE Model of an Invasive Species in a River.*

Invasive species in rivers may be managed by appropriate adjustment of flow rates. Using a parabolic PDE model representing an invasive population in a river, we investigate optimal control of the water discharge rate to force the invasive population downstream. We illustrate some numerical simulations in which parameters are varied to determine how far upstream the invasive population reaches. (Received July 10, 2020)