1035-92-218 **Suzanne Lenhart*** (`lenhart@math.utk.edu`), University of Tennessee, Math Dept., Knoxville, TN 37996-1300, and **G. Herrera**, **H. R. Joshi** and **M. Neubert**. *Optimal Dynamic Harvest in a Diffusive Renewable Resource.*

We develop a model of a logistically growing, diffusing resource, and characterize the spatiotemporal distribution of harvest effort which maximizes the present value of harvest (yield) over a finite time horizon. We derive the optimality system for this particular model and show that the yield-maximizing solution often includes a no-take reserve that evolves in size. (Received August 20, 2007)