

1086-35-673

Robert Carlson* (rcarlson@uccs.edu), Department of Mathematics, 1420 Austin Bluffs Parkway, University of Colorado, Colorado Springs, CO 80933, **Jonathan Sarhad** (jonathan.sarhad@gmail.com), Department of Biology, University of California Riverside, Riverside, CA , and **Kurt Anderson** (kurt.anderson@ucr.edu), Department of Biology, University of California Riverside, Riverside, CA. *Population persistence in river networks.*

Quantum graph methods are used to develop and study river system population models that explicitly incorporate river network geometry. Population persistence is adversely affected by downstream drift and lethal boundaries. By recasting the persistence question as an eigenvalue problem, the dependence on dispersal parameters, network geometry, boundary conditions, and volume measures can be treated. (Received September 13, 2012)