1014-92-346 **John G Alford*** (`jalford@math.tulane.edu`), Tulane University, Department of Mathematics, 6823 St. Charles Ave., New Orleans, LA 70118, and **Robert Matlock**, Tulane University, Department of Ecology & Evolutionary Biology, 6823 St. Charles Ave, New Orleans, LA 70118. *Eradication of the Screwworm Fly By Sterile Insect Release Method.* Preliminary report.

The screwworm fly is a parasite that causes myiasis (larval infestations in tissues) in wounded mammals, which was eradicated from Mexico and Central America by the sterile insect release method. A permanent sterile barrier zone is now maintained in Panama to prevent renewed invasion into eradicated territory. We have modeled control of the screwworm fly with a system of reaction-diffusion equations. Our results suggest that the barrier zone could be shortened substantially, reducing costs without risk of screwworm reinvasion. (Received September 12, 2005)