1154-92-1008   **Jim Michael Cushing*** (`cushing@math.arizona.edu`), Department of Mathematics, 617 N Santa Rita, University of Arizona, Tucson, AZ 85721. *Darwinian dynamic models of adaptation in changing environments.* Preliminary report.

Under what conditions can a population threatened with extinction due to a temporally degrading environment adapt by Darwinian principles so as to survive? And what life history strategies will evolution choose to accomplish this? I will use Darwinian dynamic versions of some nonautonomous difference equation population models to investigate these questions. Key components in the model equations are fertility versus survival trade-offs and trait dependent nonlinear density effects (including possible Allee effects). (Received September 12, 2019)