1038-92-86 **Fabio Augusto Milner*** (`milner@purdue.edu`), Department of Mathematics, Purdue University, 150 North University Street, West Lafayette, IN 47906-2067, and **Kai Yang** (`kyang@math.purdue.edu`), Department of Mathematics, Purdue University, 150 North University Street, West Lafayette, IN 47907-2067. *Two-Sex, Age-Structured, Logistic Population Models.*

We formulate a new model for population dynamics that is both age- and sex-structured and has logistic mortality, combining the classical model of Gurtin and MacCamy and the two-sex Frederickson-Hoopensteadt model. We introduce a new type of birth boundary condition that consists of two integral terms, one modeling births from couples and another one modeling births from single mothers. We establish the well-posedness of the model and do extensive numerical simulations with real-life data from US census and vital statistics for several time periods. The model consists of three first-order partial differential equations of hyperbolic type, one each to model the age density evolution of females and of males, and a third one describing the age density evolution of couples. Births are modeled by integral terms that give boundary conditions at age zero for the densities of females and males. (Received January 30, 2008)