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Don G Wilathgamuwa* (don.wilathgamuwa@msubillings.edu), 1500 University Dr, Billings, MT 59101. *A comparison of stochastic differential equation models in population biology.* Preliminary report.

We discuss the existence and uniqueness results in stochastic differential equation models of the form $dX(t) = \mu(t, X(t), X(t-T))dt + \sigma(t, X(t), X(t-T))dB_t$, where B_t is either regular Brownian motion or fractional Brownian motion with Hurst parameter $H > 1/2$. Furthermore, we use analytical and numerical results to compare the models and their persistence times. (Received September 21, 2015)