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**Brian Dennis\*** (brian@uidaho.edu). *Allee effects and resilience in stochastic populations.*

Allee effects, or positive functional relationships between a population's density (or size) and its per unit abundance growth rate, are now considered to be a widespread influence on the growth of ecological populations. Here I analyze how stochasticity and Allee effects combine to impact population persistence. I compare the deterministic and stochastic properties of four models: a logistic model (without Allee effects), and three versions of the original model of Allee effects proposed by Vito Volterra representing a weak Allee effect, a strong Allee effect, and a strong Allee effect with immigration. The diffusion process approach is employed, with the focus on the properties of stationary distributions and of the mean first passage times. I show that stochasticity amplifies the risks arising from Allee effects, mainly by prolonging the amount of time a population spends at low abundance levels. Even weak Allee effects become consequential when the ubiquitous stochastic forces affecting natural populations are accounted for. Although current concepts of ecological resilience are bound up in the properties of deterministic basins of attraction, a complete understanding of alternative stable states in ecological systems must include stochasticity. (Received September 22, 2015)