

Appendix A from K. A. Schmidt et al., “Information-Mediated Allee Effects in Breeding Habitat Selection” (Am. Nat., vol. 186, no. 6, p. E162)

Weak Allee Effects with Density Dependence in Juvenile Survival

We illustrate weak Allee effects produced by our model (see eq. [6] in the main text) without the restriction $\lambda < 1$ for an unformed population. This requires adding a source of negative density dependence to prevent the population from saturating the habitat. In the example below, we use $\lambda = 1.015$ in conjunction with density dependence in juvenile survival ($J_s = 0.42 - 0.3 \times 10^{-3}N$) in the prospecting model (eq. [6]) presented in the main text.

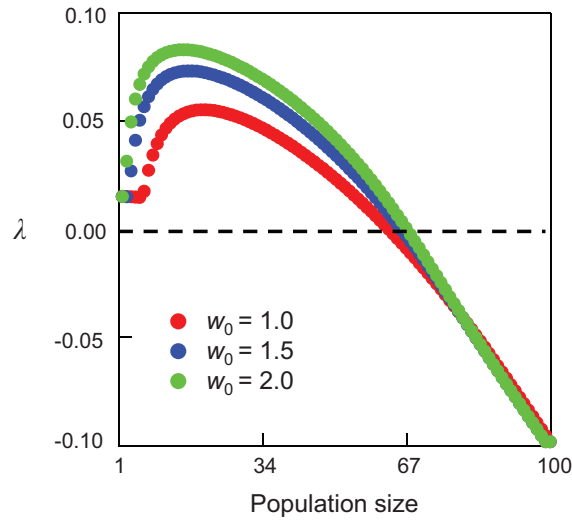


Figure A1: Population growth rate (λ) as a function of population size when juvenile survival is density dependent. Results are shown for three levels of personal information (w_0). Remaining parameter values: $T_G = 0.5$, $T_B = 0.5$, $R_G = 2$, $R_B = 2$, $S_A = 0.70$, $S_I = 0.3$, $X_{\text{obs}} = 50$, $\Phi_G = 0.0025$, $\Phi_B = 0.0025$, $m = 10$, $f_G = 0.5$, $f_B = 0.25$, $Q = 0$. See main text for definition of terms.