Supporting Information

Jones and Lennon 10.1073/pnas.0912765107

SI Text

Equilibrium Model Solutions. Equilibrium densities for active (A^*_{jx}) and dormant (D^*_{jx}) portions of a population (j) in a patch (x) were obtained by setting the differential equations for active (A) and dormant (D) portions of the population equal to zero and solving the system of two equations using Mathematica 7 (Wolfram Research).

$$D^*_{jx} = \frac{K(R_{jx}-1)(m_D(1+m_A-r)+R_{jx}(m_A-m_D-r))}{r(R_{jx}+m_D)^2}$$

$$A^*_{jx} = \frac{K(m_D(r-m_A-1)+R_{jx}(r+m_D-m_A))}{r(R_{jx}+m_D)},$$

where

$$R_{jx} = R_{\max} e^{-\left(\frac{E^*_{L,jx}-E_{L,x}}{tol}\right)^2 (1-W) - \left(\frac{E^*_{R,j}-E_R}{tol}\right)^2 W}.$$

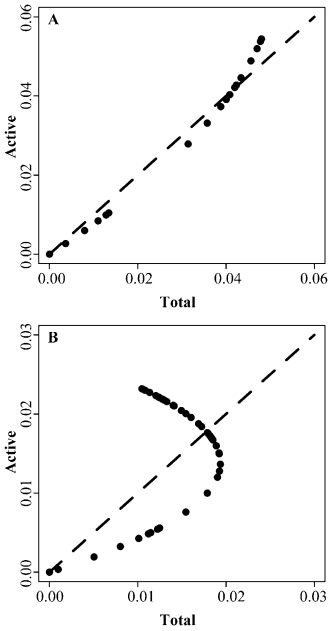

Fig. S1. One-to-one plots of equilibrium relative abundances for all active and total populations in a single model patch. (*A*) Population densities corresponding to the model simulation from Fig. 3B ("*Low Dormancy, Weak Regional Cue*"). Mortality of dormant individuals (m_D) was set to 0.9, and the environmental weighting term (W) was set to 0.05. (*B*) Population densities corresponding to model simulations from Fig. 3A ("*High Dormancy, Strong Regional Cue*"), $m_D = 0.1$ and $W = 0.95$. For visual purposes, we initially seeded each model patch with only 121 species, rather than the 2,601 species used for simulations that are presented in Fig. 3 *A* and *B*.

Table S1. Physical and chemical parameters for survey lakes

Lake	Latitude, °N	Longitude, °W	Total phosphorus, μg·L^{-1}	Total nitrogen, mg·L^{-1}	Dissolved organic carbon, mg·L^{-1}	pH	Water temperature, °C	Chlorophyll *a*, μg·L^{-1}
Wintergreen	42.60	85.39	39	0.94	8.9	7.98	20.7	21.5
Hall	42.61	85.48	26	0.49	5.8	8.15	22.2	8.6
Brandywine	42.35	85.85	20	1.07	23.6	7.89	21.1	15.6
Portage	42.26	85.35	14	1.17	8.6	8.29	20.4	7.2
Sherman	42.35	85.39	12	0.51	4.6	8.43	22.1	5.0
Gravel	42.08	85.87	10	0.49	4.6	8.25	22.3	3.7
Otis	42.61	85.42	8	0.82	16.9	7.78	19.0	2.3
Deep	42.62	85.46	7	0.30	5.0	8.25	21.4	13.5