

## MixFishSim: Supplementary Figures

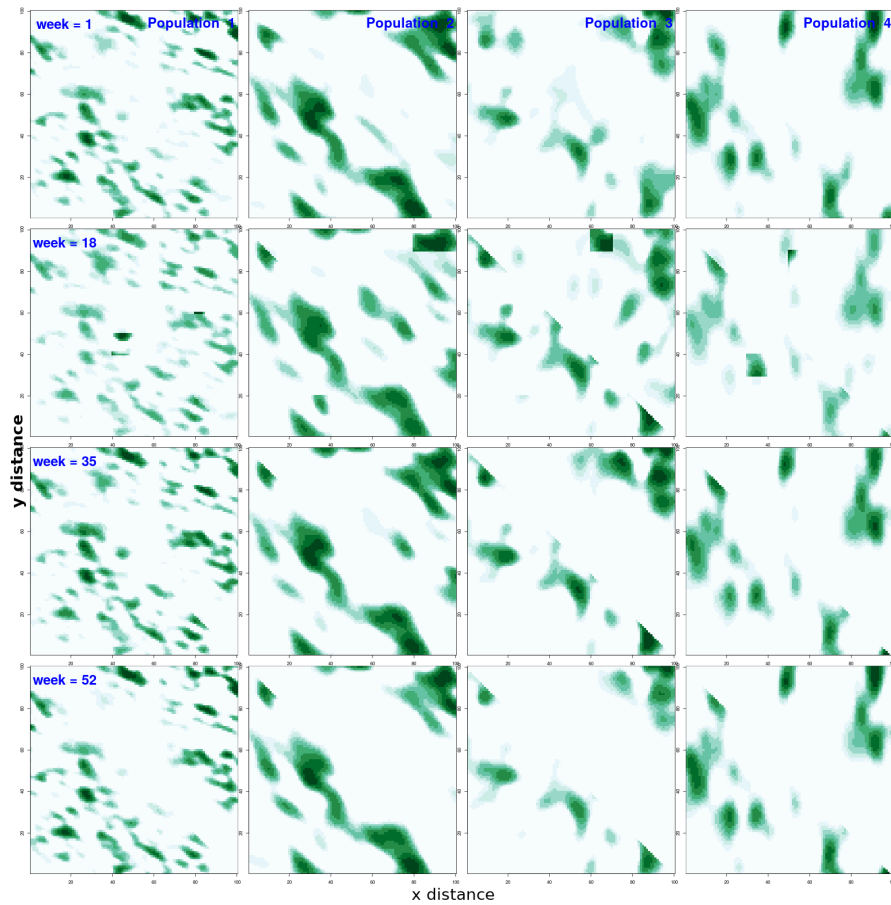


Figure S1: Spatial density (log abundance) for each of the four populations at four time steps. The darker the colour the greater the density of the population. Note that a diagonal anisotropic pattern (mimicking a depth gradient) can be clearly seen in populations 2 and 3. The concentrated spawning areas are also visible in the second row of the panels ( $t=18$ ).

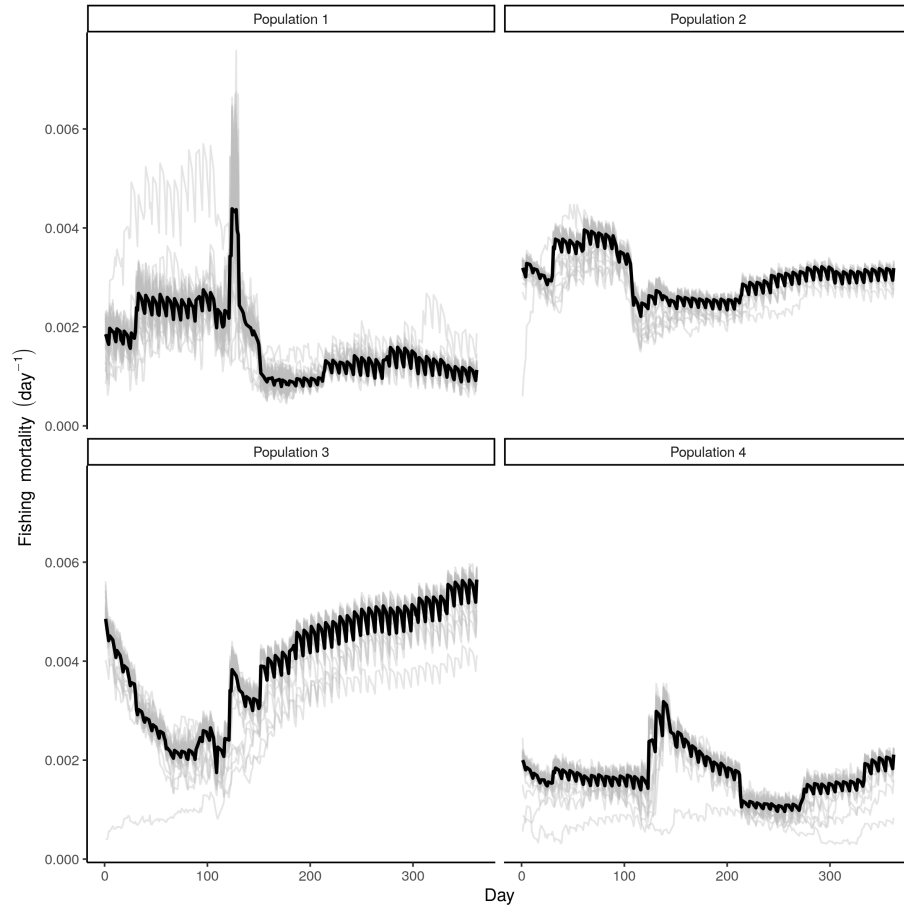


Figure S2: Fishing mortality dynamics - the daily fishing mortalities across the entire spatial domain showing weekly and seasonal patterns in exploitation. Individual years are the light grey lines, the mean of all years the thick black line.

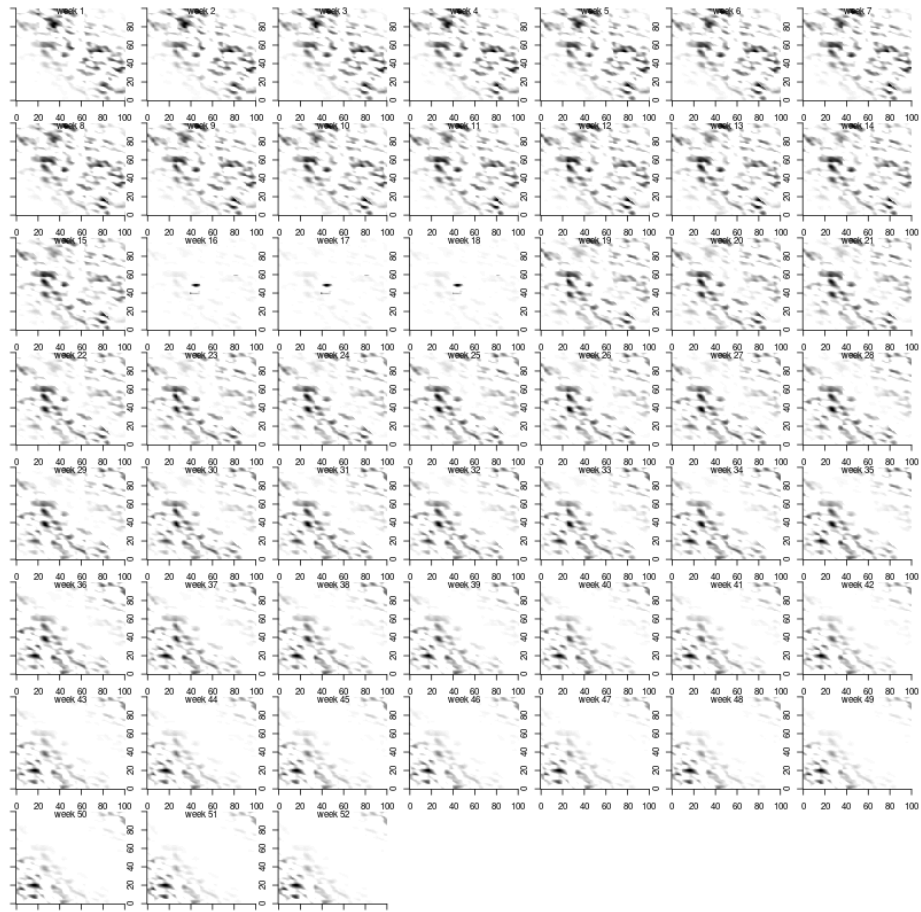


Figure S3: Spatiotemporal habitat suitability - the suitability habitat (for Population 1) for 52 separate weeks.

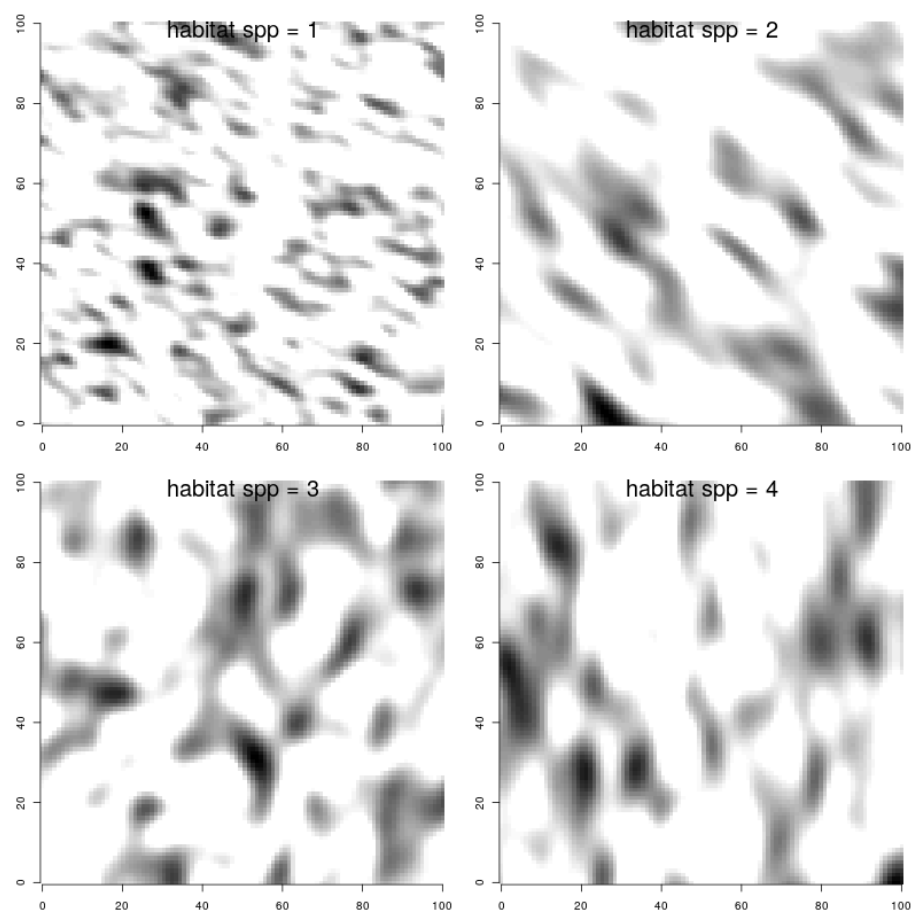


Figure S4: Habitat preference: the distribution of suitable habitat for each population, with the darker colour showing greater suitability.

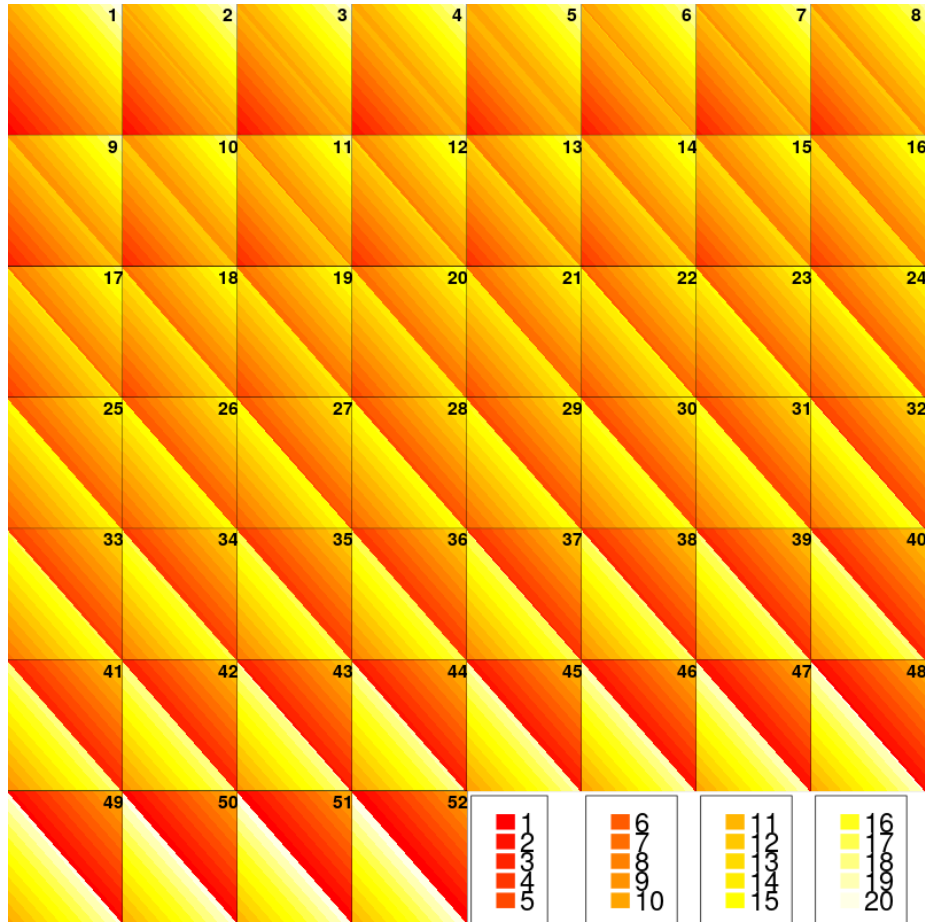


Figure S5: Spatiotemporal temperature gradient: The temperature gradient for each time step (weeks, shown in top right corner of each panel.)

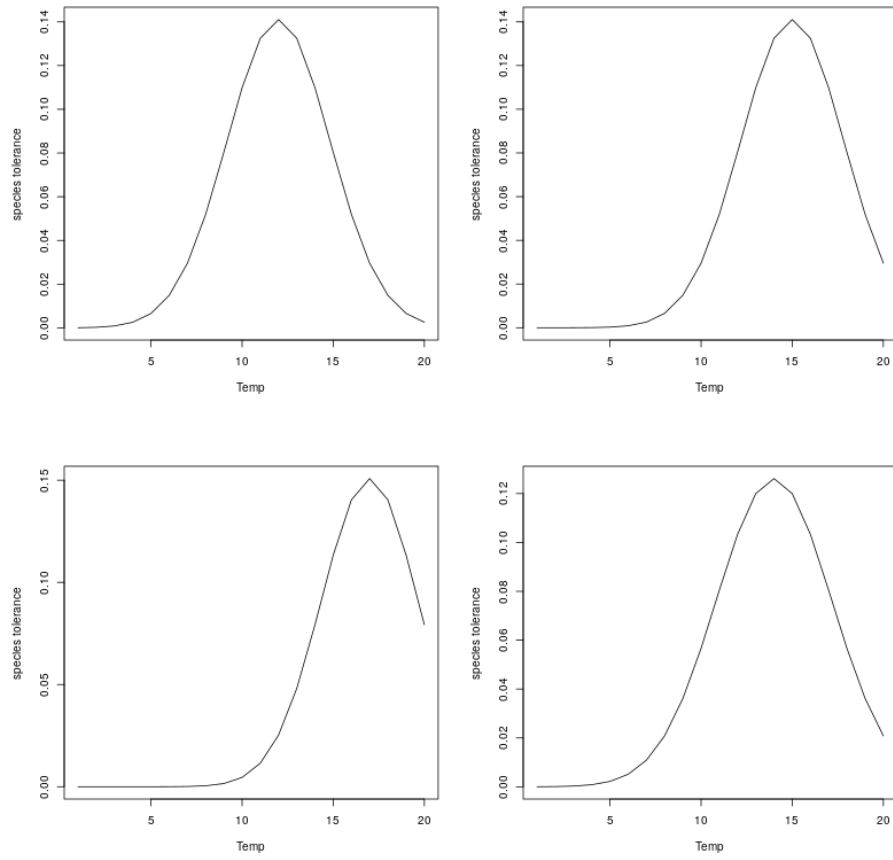


Figure S6: Species thermal tolerances: The tolerance of each population to different temperatures (x-axis) shown as a probability density function.

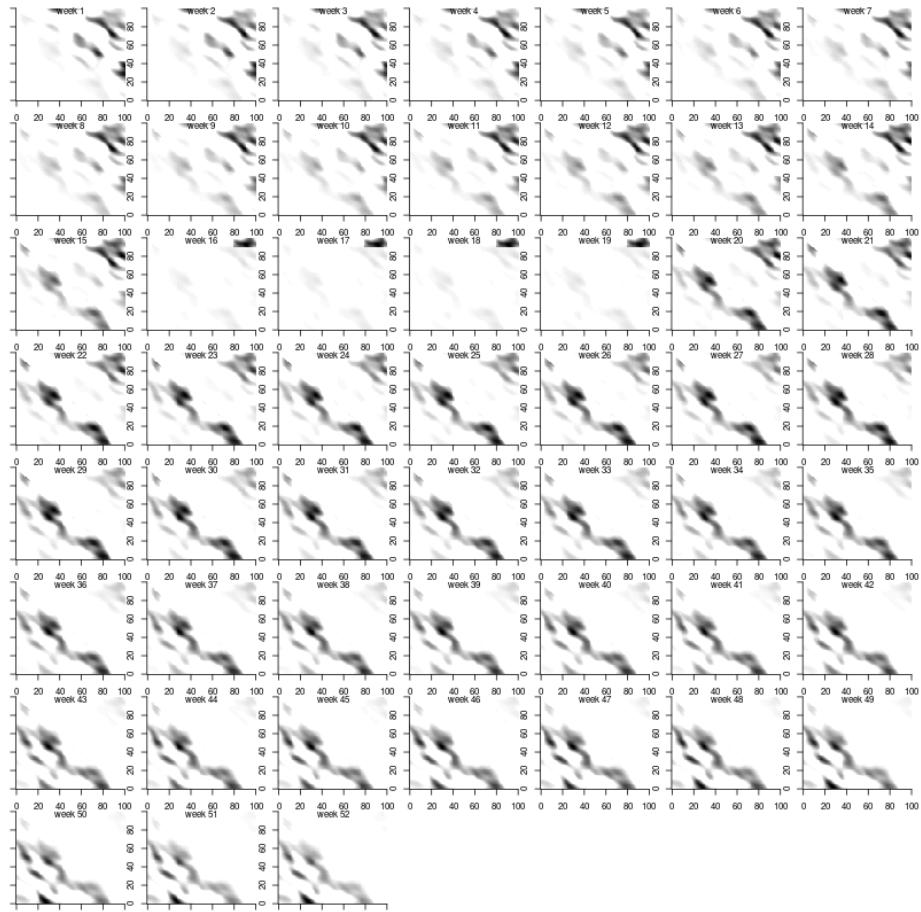


Figure S7: Spatiotemporal habitat suitability - the suitability habitat (for Population 2) for 52 separate weeks.

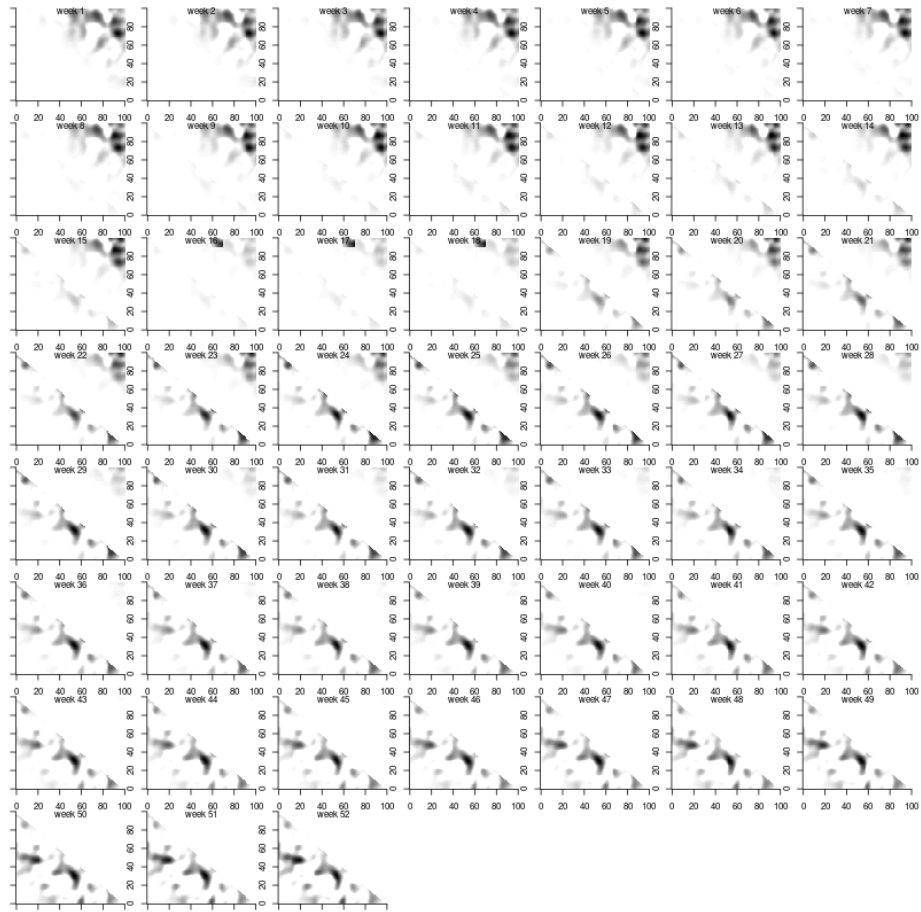


Figure S8: Spatiotemporal habitat suitability - the suitability habitat (for Population 3) for 52 separate weeks



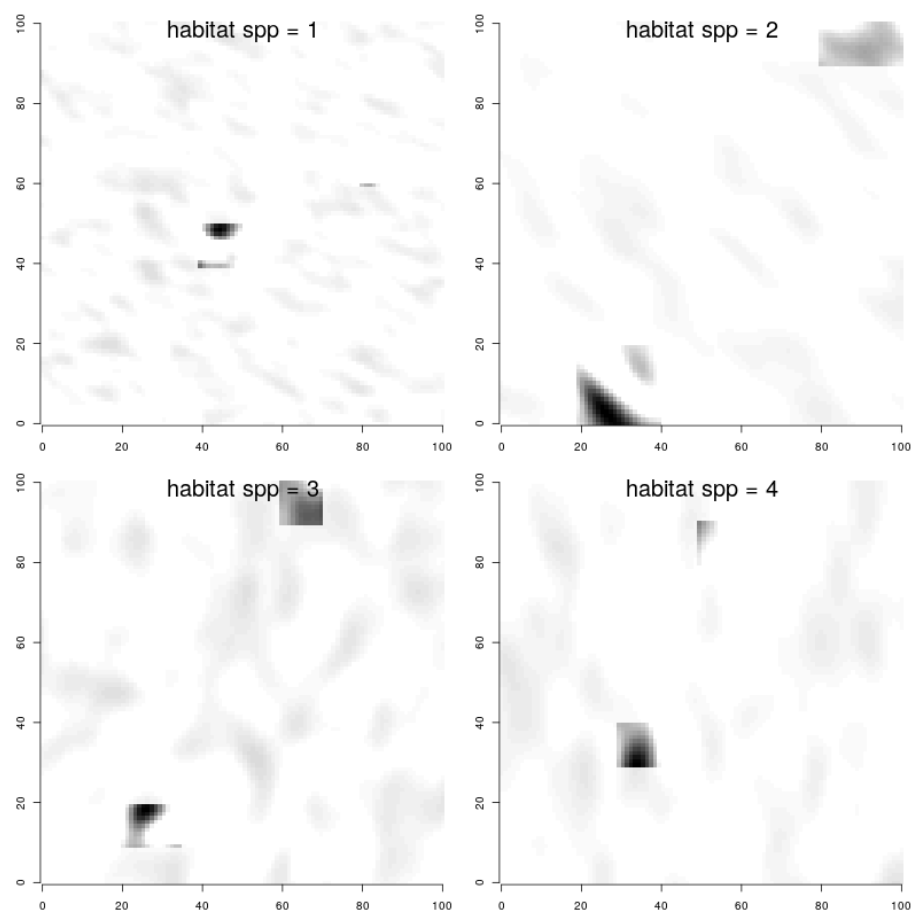


Figure S9: Spawning habitat preference: the habitat suitability during spawning periods for each population.