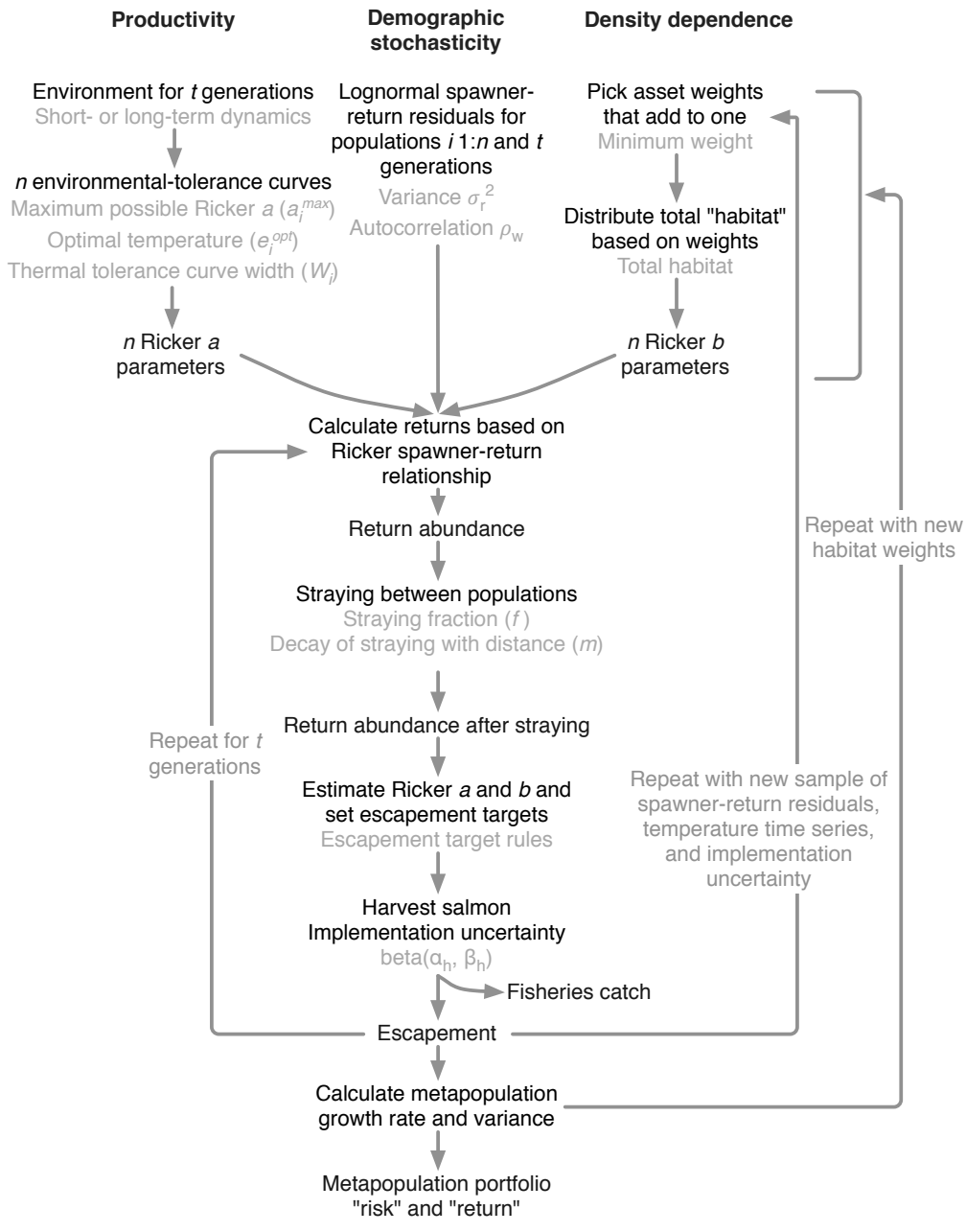
Productivity
Demographic stochasticity
Density dependence
Environment for t generations
Short- or long-term dynamics
Lognormal spawner-return residuals for populations i 1:n and t generations
Variance σr2
Autocorrelation ρw
Pick asset weights that add to one
Minimum weight
n environmental-tolerance curves
Maximum possible Ricker a (ai max)
Optimal temperature (ei opt)
Thermal tolerance curve width (Wi)
Distribute total "habitat" based on weights
Total habitat
n Ricker a parameters
n Ricker b parameters
Calculate returns based on Ricker spawner-return relationship
Return abundance
Straying between populations
Straying fraction (f)
Decay of straying with distance (m)
Return abundance after straying
Repeat for t generations
Estimate Ricker a and b and set escapement targets
Escapement target rules
Repeat with new sample of spawner-return residuals, temperature time series, and implementation uncertainty
Repeat with new habitat weights
Harvest salmon
Implementation uncertainty
beta(αh, βh)
Fisheries catch
Escapement
Calculate metapopulation growth rate and variance
Metapopulation portfolio "risk" and "return"