Arbeider et al. Model 1:

Where:

Calculating BMs

Where represents the Lambert W function (see Scheuerell, 2016))

Solve for Sgen:

Logistic Model

Where p refers to the chosen probability associate with:

1. The proportion of CUs above their respective benchmark (binomial response)
2. The probability of all CUs being above their respective benchmark (Bernoulli response)

Scheuerell, M. D. (2016). An explicit solution for calculating optimum spawning stock size from Ricker’s stock recruitment model. PeerJ, 4, e1623. https://doi.org/10.7717/peerj.1623