The portfolio effect and Pacific salmon

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Collaborators: Louis Botsford and D. Patrick Kilduff
High diversity dampens aggregate variability in the portfolio effect

(Schindler et al. 2010)
Weakened portfolio effect in a collapsed salmon population complex

Stephanie Marie Carlson and William Hallowell Satterthwaite

How much of a reduction in aggregate variability is possible?

What are the mechanisms?
Diversity has statistical and realistic limits to aggregate variability reduction

Found by parsing aggregate variability over sliding (time) windows:

**Observed variability** = “minimum possible” variability + covariances

**Significance:**

1) Can quantify statistical contributions (subpopulation means, variances, correlations)

2) Can identify spatial, temporal origins