Pacific salmon spawn once and are harvested as adults when they return to their natal stream. Therefore, their population dynamics can be described by a stock-recruit relationship. Management reference points can be derived from such stock recruit-relationships, often assumed to be stationary in time. The most common stock-recruit relationship used for Pacific salmon is the Ricker stock-recruit relationship:

Where are the number of spawners in year y, are the number of returning salmon that were born in year y, a is the recruit-per-spawners at low stock size (productivity), and b describes how quickly the recruits-per-spawner changes with . Salmon can can return over multiple years so represents salmon of multiple ages that were born in year y.

The Ricker stock-recruit relationship can be linearized as follows

log(

Using a jacknife estimator provide uncertainty of Smsy