**Fishery fleets**

The model has the same number of fishery fleets as the 4-area assessment model, in which fishery fleets are defined according to gear type (longline, troll, purse-seine), area of operation (Region 1-4), and purse-seine set type (associated and unassociated). However, the fishery fleets corresponding to the LL and OBJ fisheries are re-defined by a regression tree algorism. In comparison to the LL and OBJ fleets, other fishery fleets have much smaller catch amounts and much more limited number of composition observations, so they are not re-defined by the regression tree algorism. For each re-defined fishery fleet, we re-compute aggregated catch and aggregated length compositions (raised by catch).

Sample size?

**Survey fleet**

A survey fleet is added to the model to reflect the abundance and associated length compositions at the population level. The survey fleet includes a standardized index of abundance from the simulated catch rate data for longline and standardized length compositions using the simulated catch rate and length composition data for longline. Both standardizations were conducted in VAST. To make the standardization for length compositions faster, the original 5-cm-resolution composition data are grouped to have a new bin size of 10 cm.