

## General Distribution of Depredation and Takes

- 1.No obvious clustering of takes in space and time.
- 2.Very weak associations with all set, gear and environmental parameters examined to date (only 5-6% of variation explained)
- 3.The distribution of fishing effort (number of hooks) is the most important determinant of the distribution of takes, at least in space. The more you fish, the greater the likelihood of by-catch.
- 4.A small number of vessels had unusual rates of depredation and takes.
- 5.No smoking gun (yet).

## Within-Set Patterns of Depredation & Takes

1. In the deep-set fishery takes are associated with depredation of catch. Most takes were very close to a depredated tuna or billfish.
2. Takes are not associated with depredation of catch in the shallow-set fishery.
3. FKW clearly prefer some fish species (tunas and billfish) over others (sharks).
4. In the deep-set fishery there is some indication of higher depredation rates in the middle of the set, rather than at either end. FKW are not systematically beginning at the start or end of the haul.
5. In the deep-set fishery takes seem to occur more frequently than expected at the mid-point between floats (deeper) than near floats (shallow).
6. There are differences in patterns of depredation between the deep-set and shallow-set fisheries.

## Some Useful Future Work

- 1.Examination of characteristics for vessels with unusual depredation and take rates.
- 2.Analysis of effect of hook type, using 'pure hook-type trips' since 2006.
- 3.Further spatio-temporal analysis examining the observed distribution of effort, catch, depredation and takes.
- 4.Exploration of VMS data to better understand dispersion of effort in time and space in relation to depredation and takes.