Goal:

To find the best model for the Kenai River sockeye dip net fishery as best as possible with the data available and make new insights.

Existing Data:

**1. Didson sonar counts at 19 miles upriver:**

From the ADFG website:

*“The Kenai River late-run sockeye salmon sonar project is located approximately 19 miles upstream from the mouth of the Kenai River. The estimated travel time for sockeye salmon to reach this site once they have entered the Kenai River can be quite variable, ranging from approximately 24 hours to 72 hours.*

*Beginning in 2011, ADF&G will be counting escapement at Kenai River mile 19 using DIDSON rather than the old Bendix sonar. Due to the change in sonar technology, the sustainable escapement goal for Kenai River late-run sockeye salmon was changed to 700,000 – 1,200,000 fish counted using DIDSON sonar. To provide for comparison of counts among years, all historical escapement counts in this database have been converted from Bendix to DIDSON-equivalent units. Due to these changes, historical escapement counts are about 1.4 times higher than those previously reported.”*

The data goes back to 1979 and provides a daily tally that differs by length each year but covers the season.

The data was freely available on the public ADFG website.

**2. Harvest survey data averaged by day (personal use):**

Harvest totals, means, and standard error are provided from 7/10 – 7/31 in daily counts from 2006 to 2013. This information only takes into account the permits that are returned back which is around 80%. For 2006 there looks like there are holes in the data but I have included them in the graphic included below. This dataset I asked for from Christine Dunker at ADFG.

**3. Cook Inlet offshore test fishery**

I only have this data available for 2014 right now but if it could be informative with more years. I have asked for previous years data and am waiting to hear back. Even if the counts for sockeye entering Cook Inlet and isn’t completely specific to the Kenai River.

The data was freely available on the public ADFG website.

Analysis:

I feel like the best way to move forward with the data I have available is to

a. Look at the distributions of sonar counts and harvest from previous years.

I’ve made figures for both on the following pages.

b. Look at finding the time lapse between catch at the river mouth where the dip net fishery occurs with the sonar counts 19 miles upriver. I’ll try to do this by looking at staggering the daily counts between the two sets and looking at the correlation.





