2014 Susitna Fisheries Fieldwork

NMFS and USFWS

Recommended Modifications and Improvements

Standardization of field techniques

- Field techniques supporting estimating the relative abundance of fish in the diverse assortment of habitats should be standardized and the efficiency of each gear type estimated.
  - Accomplish by depletion fishing or mark recapture studies.
  - Sampling of each habitat type limited to only a single gear type, or a few selected gear types are used,
  - Gears chosen should be those that most effectively capture fish of all sizes.
  - Estimates of abundance should be offered in a way that is easily interpreted, such as fish per square meter, which would be comparable across areas and habitat types.

Link sampling plan to estimates

- Sampling plan should be reconsidered and tightly linked to the estimates that the sampling is to support.
  - This review is expected to result in these recommendations:
    - increase the number of sampled sites to at least 15 sites per macrohabitat and season of interest.
    - This puts the one-sided 90% confidence interval in mean abundance at zero with a coefficient of variation of 300% (about the average calculated for a number of comparisons).
    - This means that you are 90% sure that the mean abundance is above zero—still a large sampling error, but a minimum standard at least.

Improve PIT antenna arrays

- PIT antenna arrays should be used to detect PIT tags.
- These should be deployed on each side of a large channel in a two-antenna sequence (total of four antenna) or completely crossing a small channel in a two-antenna sequence if possible.
- We recommend complete documentation of migration up or down tributaries and mainstem river habitats.