Essential Fish Habitat project status report

Reporting date: 10/2/12

Project number: 2011-06

Title: Coastal fishes of Alaska: A synthesis of over a decade of nearshore marine surveys

PIs: Johnson, Thedinga, Lindeberg

Funding year: FY11

Funding amount: $39K

Status: ☒ Complete ☐ Incomplete, on schedule ☐ Incomplete, behind schedule

Planned completion date if incomplete:

Reporting: Have the project results been reported? If yes, state where the results were reported and attach an electronic copy of the report.

Yes…NOAA Tech. Memo. (will be published later this month)

Results: What is the most important result of the study?

Our major findings include:

1. Nearshore marine waters support an abundant and diverse array of fishes; we captured an estimated 718,345 fish representing at least 121 species from 29 families.
2. Four commercially important species (walleye pollock, *Theragra chalcogramma*; Pacific herring, *Clupea pallasii*; pink salmon, *Oncorhynchus gorbuscha*; and chum salmon, *O. keta*) accounted for 55% of our total overall catch.
3. Species distribution patterns varied greatly among regions; only two species (pink salmon and threespine stickleback, *Gasterosteus aculeatus*) were caught in all nine regions.
4. Abundance and species richness varied by region; mean catch-per-unit-effort (CPUE) ranged from 124 fish in Southcentral Alaska to 1,202 fish in the Aleutian Islands, and species richness ranged from 17 species in Bristol Bay to 67 species in Southeast – Northern Inside.
5. Species assemblages differed among habitat types in most regions, and mean CPUE and species richness were usually greatest in eelgrass or kelp.
6. Species composition by habitat type was unique in some regions (e.g., sand, Bristol Bay), largely the result of the presence of a few species (e.g., rainbow smelt) that were absent in other regions.
7. Most fishes captured were juveniles, highlighting the importance of the nearshore to critical early life-history stages of managed and ecologically important species.
8. Forage species (e.g., Pacific herring and Pacific sand lance, *Ammodytes hexapterus*) may be the most susceptible fishes to shoreline disturbance because of their use of nearshore habitats for feeding and shelter as juveniles and for spawning as adults.
9. The high abundance and diversity of fishes in eelgrass and kelp warrant special protection of these habitats in the event of an oil spill or other shoreline disturbance, especially if these habitats are known spawning areas (e.g., Pacific herring).
10. Our nearshore dataset is extremely important to managers responsible for oil spill response, natural resource damage assessment, essential fish habitat identification, and long-term monitoring.