Essential Fish Habitat project status report

Reporting date: October 4, 2010

Project number: 2008-02

Title: Productivity habitat utilization and recruitment dynamics of Pacific cod.

PIs: Laurel, B.J., Ryer, C.H., Stoner, A., Knoth, B., Urban, D.

Funding year: 2008

Funding amount: $29,000

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

Planned completion date if incomplete:

Reporting: Yes. See attached electronic copy:

Knoth B, Laurel BJ (2009) Dietary overlap and competitive interactions between juvenile gadids in coastal Alaska. Alaska Marine Science Symposium. Anchorage, AK (poster)

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

1) Age 1 and 2+ juvenile saffron and Pacific cod have a high degree of dietary overlap (driven mainly by the importance of mysids and gammarid amphipods). A high degree of dietary overlap suggests competition for food resources may occur if food supplies become limited. However, the diets of the two gadids varied noticeably outside the importance of mysids and amphipods which suggests these cod species are able to exploit different niches which may reduce competition.

2) Differences in the relative importance of secondary prey items (i.e. fish and decapods-Pacific cod vs isopods-saffron cod) may reflect small scale differences in habitat use by the juvenile gadids within the nursery areas.

3) Inter-cohort cannibalism does not appear to be a factor affecting cod survival in coastal nursery areas around Kodiak. However, the abundance of age 0+ cod in coastal Alaska can fluctuate greatly on a yearly basis and it is possible that cannibalism is a density-dependent phenomena in these regions.

4) Age – 0 juvenile cod were too few in number to bring back to the lab for experimental work. However, although not reported, all sites for the routine seining and baited camera survey were sampled (64 seines, 96 baited camera sets). These data will seed the synthesis paper following FY10 (final year of the intended 3 yr project).