Essential Fish Habitat project status report

Reporting date: 8/25/2008

Project number: 2007-07

Title: Temporal dynamics of habitat use in juvenile Pacific cod

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Funding year: 2007

Funding amount: $46,317

Status: Complete

Planned completion date if incomplete:

Reporting: Have the project results been reported? If yes, where were the results reported?
The results of this study have been reported in a manuscript entitled "Temporal and ontogenetic shifts in habitat use by juvenile Pacific cod" submitted to the Journal of Experimental Marine Biology and Ecology.

Results: What is the most important result of the study?
1) Comparisons in seine collections and baited camera surveys in two focal sites in Kodiak (20 permanent stations) showed that recruitment of age-0 Pacific cod in 2006 was approximately one order of magnitude larger than in 2007. The same trend also appears to be mirrored in the other gadid species i.e., walleye pollock and saffron cod. Despite low catches in 2007, the ontogenetic shift in habitat preference (i.e., eelgrass to Laminaria to open habitats) appears to be identical to the patterns observed in 2006.
2) The 2006 year class was prevalent as age-1 juveniles in the 2007 survey, allowing for a detailed examination of their distribution by depth and habitat complexity. Age 1 cod were seldom caught in the seine survey but were routinely surveyed in large numbers using a baited cameras set along various depth gradients.
3) Age-0 cod were most abundant in shallow (<3 m), inshore habitats, while age-1 cod were typically found deeper and they make diel movements inshore and offshore.
4) Laboratory experiments, designed to complement field observations showed that age-0 cod tolerate high light conditions, while larger cod avoid bright light.
5) Age-1 Pacific cod and saffron cod were moderately piscivorous but there was no evidence of predation on smaller conspecifics.
6) Despite the lack of apparent cannibalism, age-0 and age-1 gadids partition the habitat by both depth and by fine-scale temporal shifts in habitat.