Essential Fish Habitat project status report

Reporting date: 10/31/09

Project number: 2008-08

Title: Characterization of Benthic Infauna Community for Modeling Essential Fish Habitat in the Eastern Bering Sea

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Funding year: 2008

Funding amount: $66,500

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

Planned completion date if incomplete:

Benthic sampling and stomach collection were the two requisite field elements in this project. Benthic sampling planned for this project was not completed in 2008 because the designated research vessel, the NOAA ship *Fairweather*, was unable to sail on schedule. Only 3 of 31 planned benthic stations were sampled in the single working sea-day salvaged. Stomach collection was completed in August 2008 as a special project on the annual eastern Bering Sea (EBS) bottom-trawl survey. Missing the benthic samples, the objective of investigating the spatial correspondence among fish diet, infauna community and sediment properties was not achievable.

All research elements of this roject were instead put into a new EFH project that was funded in 2009 (EFH Project No. 6: Characterization of Benthic Infauna Community for Modeling Essential Fish Habitat in the Eastern Bering Sea - Reduced plan, $77,800). This project is therefore considered complete. Funds originally for processing stomach, sediment, and infauna samples in this project were applied to the new project. A separate project status report is submitted for the new project.

Reporting: Have the project results been reported? If yes, where were the results reported?

No.

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

One of three passes on one of six planned acoustic transects and three of 31 planned grab stations were sampled in this project (Fig. 1). We requested the collection of 15 stomachs per fish species (6) per station at 27 of the 31 planned infauna and sediment grab stations (Fig. 1) on the 2008 EBS bottom trawl survey (total stomachs requested=1620). If

possible, the 15 stomachs for each species were to be obtained from three length classes (<20 cm, 20-40 cm, >40 cm) in equal numbers (5 from each class). Collection was not requested at all 31 stations because effort was a concern. Actual numbers obtained were: 229 Alaska plaice (AKP); 260 yellowfin sole (YFS); 286 northern rock sole; 215 flathead sole (FHS); 70 long head dab (LHD); 10 spinyhead sculpin (SHS); (total stomachs collected=1,070). The number of stomachs collected from target groundfish species at each grab station is given in Table 1.

Without a concurrent set of sediment and infauna data to correlate with the stomach data, it was agreed by the EFH program and grantees that the processing of the stomach samples should be postponed indefinitely. Instead, those 2008 funds for processing stomach samples should be applied to the new project in 2009, when concurrent sets of stomach and benthic data would be collected. Likewise, the 3 infauna samples and the chemistry of the 3 sediment samples were not analyzed in order to redirect funds to 2009, when the complete set of 31 grab samples would be collected. However, granulometric analysis of the 3 sediment samples has been completed (Table 1). These would serve as replicates for analyzing the spatial-temporal variability of granulometry in the vicinity of those 3 stations.

Table 1. Classification of sediments collected in July-August 2008 with van Veen grab on the NOAA ship *Fairweather*, and the corresponding numbers and species of stomach samples collected in the same period during the bottom trawl survey on FV *Arcturus* and *Aldebaran*.

Sediment							Stomachs						
station	lat	lon	type	%gravel	%sand	%mud	station	LHD	AKP	NRS	YFS	FHS	SHS
A02	55.00	166.95	SM	0.0	48.8	51.2	A02	0	0	0	0	15	11
X10*	56.44	164.44	MS	0.0	62.5	37.5	E06	0	2	15	10	0	0
F07	56.67	164.00	MS	0.0	59.8	40.2	F07	0	15	15	15	0	0

*~17 km (~9 nmi) NE of E06 in same trawl cell; see Fig. 1
type – SM=sandy mud; MS=muddy sand

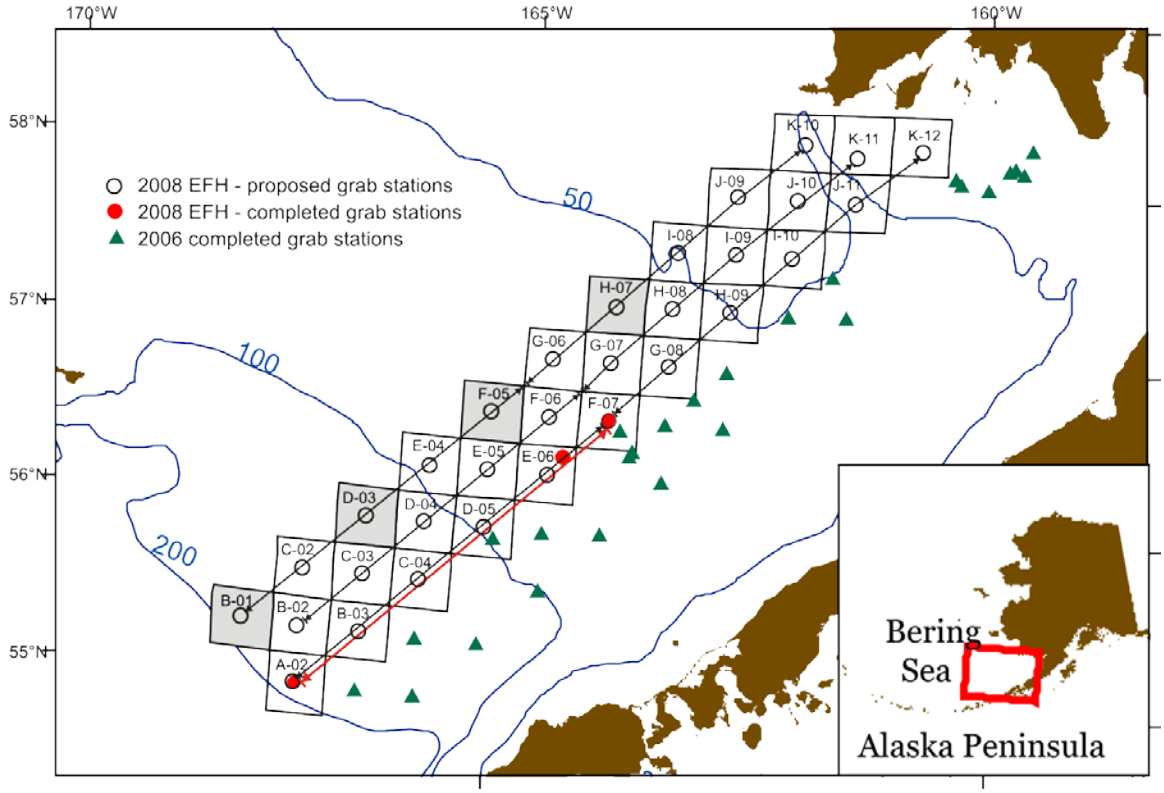

Figure 1. Map of EBS study area proposed in the 2008 EFH project, and the trawl survey grid cells involved. Solid black lines represent acoustic transects proposed in the project; solid red line represents the one actually completed. Stomachs were collected at all trawl stations, except ones in the shaded cells.