Essential Fish Habitat project status report

Reporting date: 9/06/2012

Project number: 2010-03

Title: Reproductive ecology of the red tree coral (*Primnoa pacifica*)

PIs: Stone, Waller, Mondragon

Funding year: 2010

Funding amount: $48,804

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

Planned completion date if incomplete: This project was initially delayed by 3 months because the EFH funds were not available in time to secure a vessel charter for the initial sampling period scheduled for June 2010. Field cruises were completed in September 2010, December 2010, March 2011, June 2011, September 2011, and January 2012. During the initial field cruise in September 2010 we tagged 38 colonies. For a subset (N = 10) of those colonies we physically removed approximately 1/3 of the colony in manner consistent with and in an effort to simulate damage from contact with fishing gear; the remaining colonies were left in a pristine condition so that we can examine differences between the two groups for the reproductive parameters. During each sampling period we sampled a small section of each of these colonies (except September 2011 when only 50% of the colonies were sampled due to extremely poor visibility). All samples (N = 171) have now been processed and data is being systematically analyzed. Results will be submitted for peer review publication in the next few months.

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

Results have been presented at two venues – The 2011 American Academy of Underwater Sciences Meeting in Portland, Maine (Reproduction of Red Tree Corals in the Southeastern Alaskan Fjords: Implications for Conservation and Population Turnover – Waller RG, Stone RP, Mondragon J, Clark CE) and as an invited Keynote to the 4th International Deep Sea Coral Symposium in Amsterdam, Netherlands (A Deepwater emerged species in the Alaskan Fjords: Reproduction and development of Red Tree Corals. Waller RG, Stone RP, Mondragon J). Results are presently being analyzed and being written up for peer review publication.

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

Results of this study show prolonged continuous reproduction, low fecundities and novel protected development – life history strategies more concurrent with K-strategists. Yet paradoxically, the environment they inhabit, a fjord with two tidewater glaciers, is highly unstable over relatively short time scales (tens of years in this area), potentially making these thickets ephemeral populations. The life history traits observed also make this species particularly susceptible to mechanical damage from fishing gear, which might crop colonies and result in even lower fecundities, affecting natural population turnover.