Environmental Studies Program: Ongoing Study

Study Area(s): Alaska

Administered By: Headquarters

Title: Expanded Guide to Some Common Fouling Invertebrates of Alaska with focus on known and potential marine invasive species of Kachemak Bay National Estuarine Research Reserve (NSL #NT-17-x10)

BOEM Information Need(s) to be Addressed: This study will provide additional information on marine invasive species in Kachemak Bay National Estuarine Research Reserve (KBNERR) located on the Kenai Peninsula in Alaska. BOEM's current 2012-2017 Oil and Gas Program and the 2017-2022 Proposed Oil and Gas Program both include a Lease Sale in the Cook Inlet Planning Area. The final product of this study (i.e. the updated guide) will improve the ability to easily identify marine invasive species on oil industry equipment (i.e. jack up rigs) and aid in the early detection and rapid response of marine invasions in Cook Inlet.

Total BOEM Cost: $12,040 **Period of Performance:** FY 2017–2018

Conducting Organization(s): N/A

Principal Investigator(s): N/A

BOEM Contact(s): Megan Davidson, Megan.Davidson@boem.gov

Description:

Background: A very important tool for invasive species work is the ability to identify which organisms are native, cryptic, invasive or potentially invasive. Because marine species are found underwater and not seen very often, it is harder to recognize a species as something that doesn't belong. Having an easy to use guide that is available to the public, agencies and industry is essential to the detection of invasive species. The existing guide was started in 2010 when the Harmful Species program at KBNERR started to look for marine invasive species and began to collect and preserve local tunicates in South Central Alaska. The guide expanded under a partnership with the Smithsonian Environmental Research Center (SERC) as they were also interested in developing a guide to help the public tell the difference between native and non-native species on the Alaskan coast. This guide was added to the SERC and KBNERR website in 2012 knowing it was incomplete, but also knowing it was the best available guide for Alaska. At that time 22 species were covered and the guide became available online at: http://platewatch.nisbase.org/page/fieldguide. Six species additional species have been added to the guide since then but with new sampling and voucher work, it can be expanded by 25% and made it even more useful to the public.

Objectives:

- Collect additional samples of species and preserve voucher specimens for future reference.
- Conduct literature review for information on species identification.
- Create updated guide for use by stakeholders in the field.
- Conduct outreach to share updated guide with stakeholders.

Methods: Additional sample collection and preservation (i.e. vouchers) will be completed to expand the existing guide. The new species pages will include pen and ink drawings where indicated to show morphology; species description, range, size, status, color, habitat, tidal height, salinity, temperature and similar species will be listed for each species. Vouchers collected during the creation of the guide update will be cataloged and stored at KBNERR and duplicate vouchers, when possible, will be available for loan from the collection. This guide can be used by anyone working with marine invasive species in the Gulf of Alaska and Bering Sea to identify native and invasive fouling invertebrates. The newly expanded guide will include 36 species and will be outreached to a growing list of stakeholders for use in research, fisheries, mariculture, and to examine oil industry equipment (i.e. jack up rigs) and docks that are slated for relocation or replacement.

Current Status: A proposal has been received in response to the sole source Notice of Funding Availability. A requisition has been approved in FBMS and a Cooperative Agreement is currently being drafted.

Final Report Due: (Pending final award) February, 2018

Publications Completed: N/A

Affiliated WWW Sites: N/A

Revised Date: June 23, 2017