Testing pot gear modifications to reduce crab bycatch in Bering Sea cod and halibut fisheries

BREP Grant Project Update for NPFMC

February 2022

PRINCIPAL INVESTIGATORS:
Scott Goodman (BSFRF), sgoodman@nrccorp.com
Kyle Antonelis (NRC), kantonelis@nrccorp.com
Jamie Goen (ABSC), jamie@alaskacrabbers.org

BSFRF
Bering Sea Fisheries Research Foundation

NRC
Natural Resources Consultants, Inc.

Alaska Bering Sea Crabbers

Bering Sea Pot Cod Cooperative

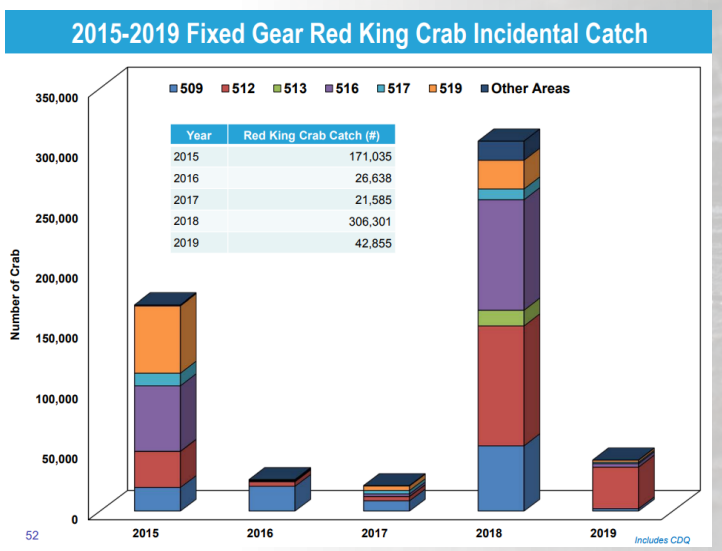
Thanks to our partners and collaborators

"working with fishermen through gear planning, lab trials, and field work during actual fishing is a highlight of this project to get to gear options that help everyone"

Why?

Periodic high crab bycatch in other pot fisheries

- 2018 high crab bycatch event in pot cod fishery triggered fixed gear industry exploring options
- Focused on gear design to keep crab out as the best choice for bycatch reduction while keeping access to fishing grounds



[NMFS BSAI Inseason Management Report, Dec 2019]

Photo credit: Bri Dwyer

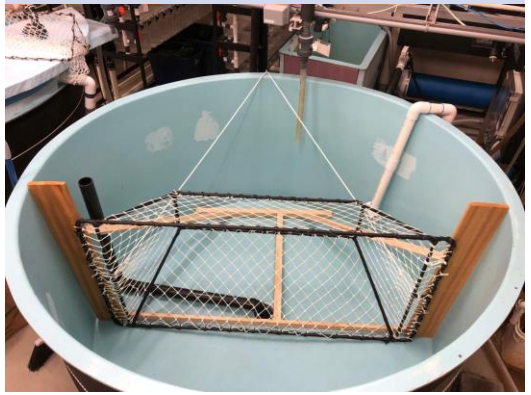
Project Objectives

Host

host an industry gear committee meeting and determine gear modifications to be tested,

Conduct

conduct laboratory experiments to determine bycatch reduction effectiveness of pot modifications,



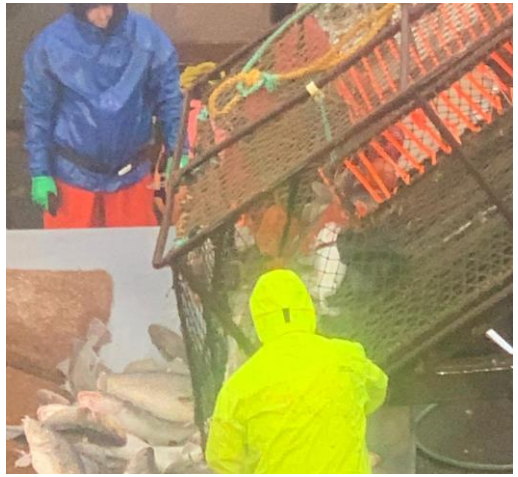
Field

field testing of modifications on fishing grounds, and

Disseminate

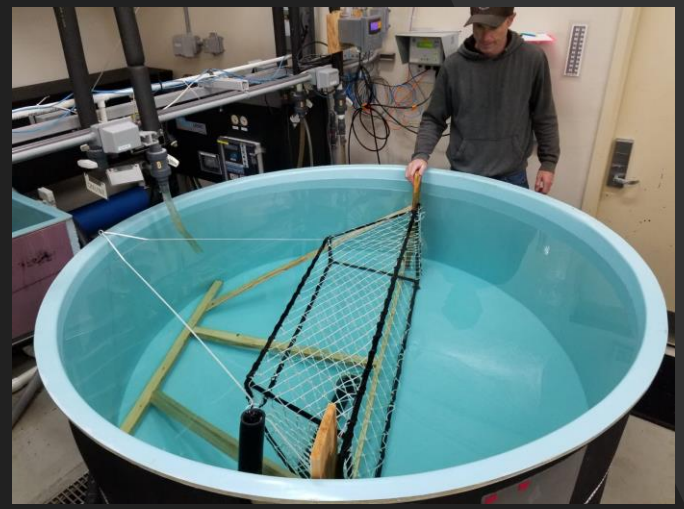
disseminate information.

Photos of Gear In the Fishery

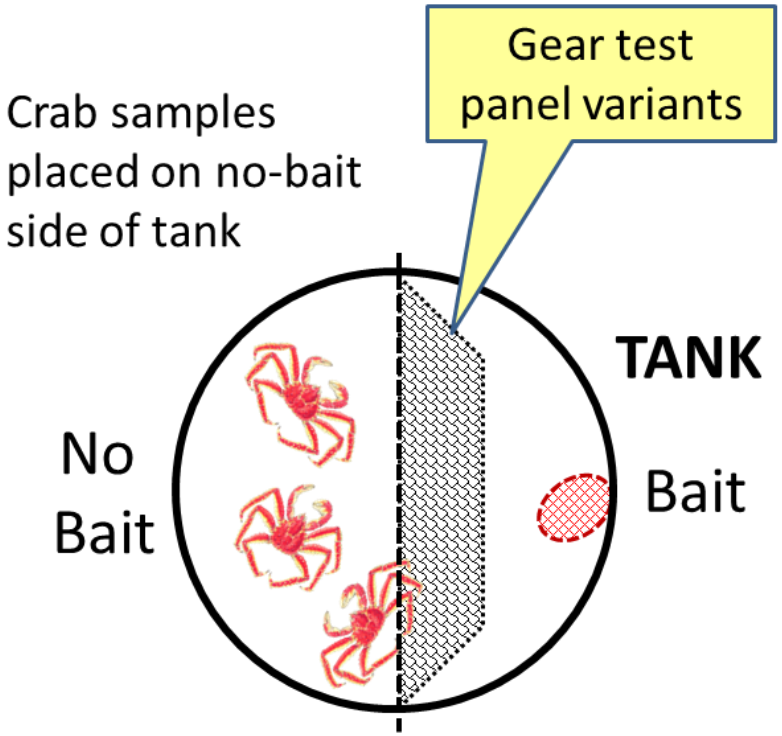


Photos of Test Gear

Methods: Lab & Field Overview



Lab Methods



Basic data recorded:

- pass/no pass through the test panel
- species, size, and sex

Basic controls:

- random draws, # crabs per trial
- bait, soak time, temp

Methods: Lab & Field Overview

Field Methods

Boats chosen – gear placed:

- gear options split among boats
- training/directions for data collection
- recording pot-level fish/crab catches
- fishing activity not prescribed
- distribute test gear among all gear
- record scale of all gear as reference

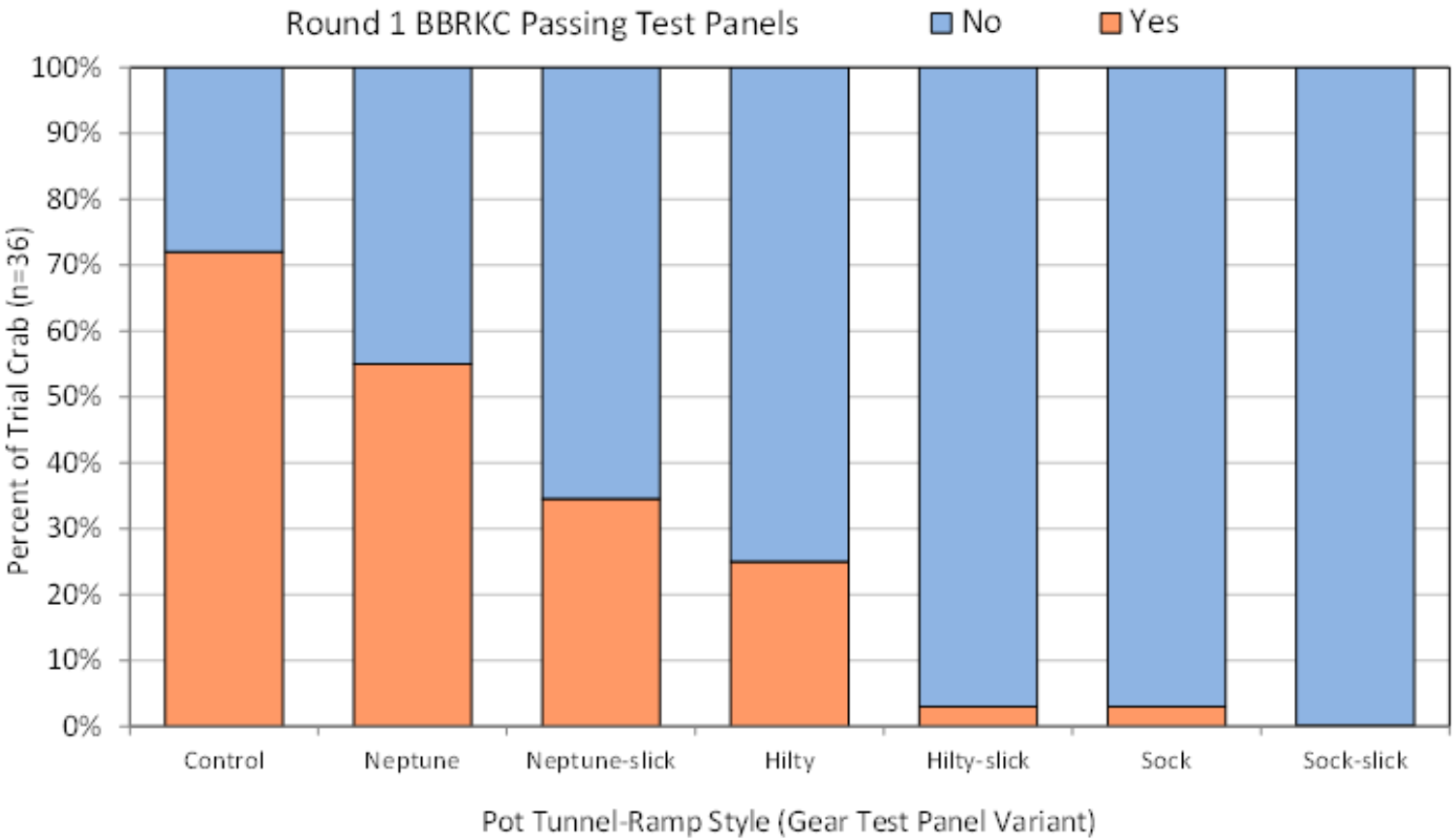
Adjustments to cover opportunities:

- monitor total test crab catches
- adjust gear options if needed
- adjust seasonal coverage if needed

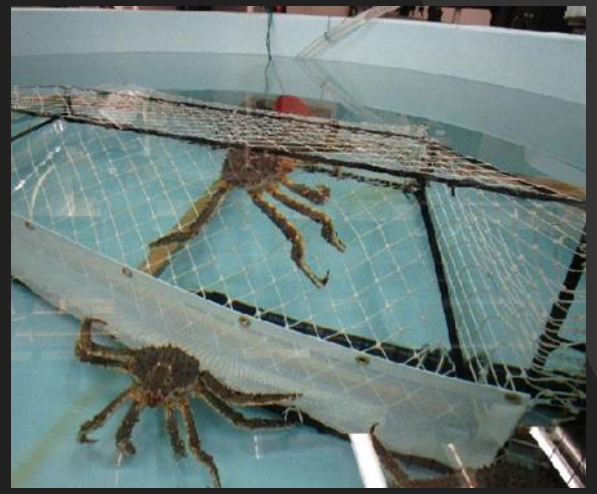
Other field observations:

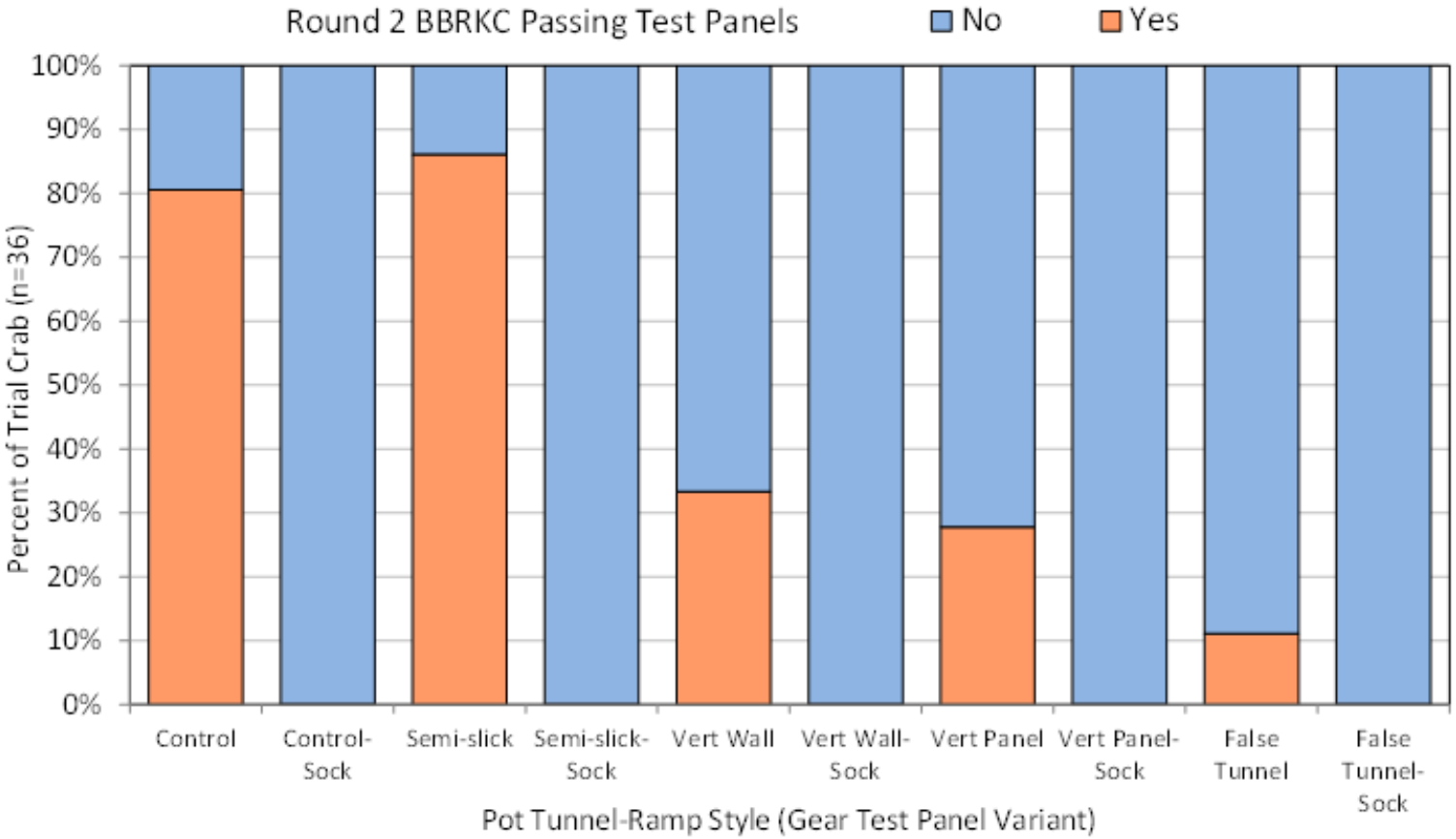
- behavioral monitoring with video
- vessel or gear problems
- typical/atypical fleet activity

Preliminary Results RKC LAB Round 1

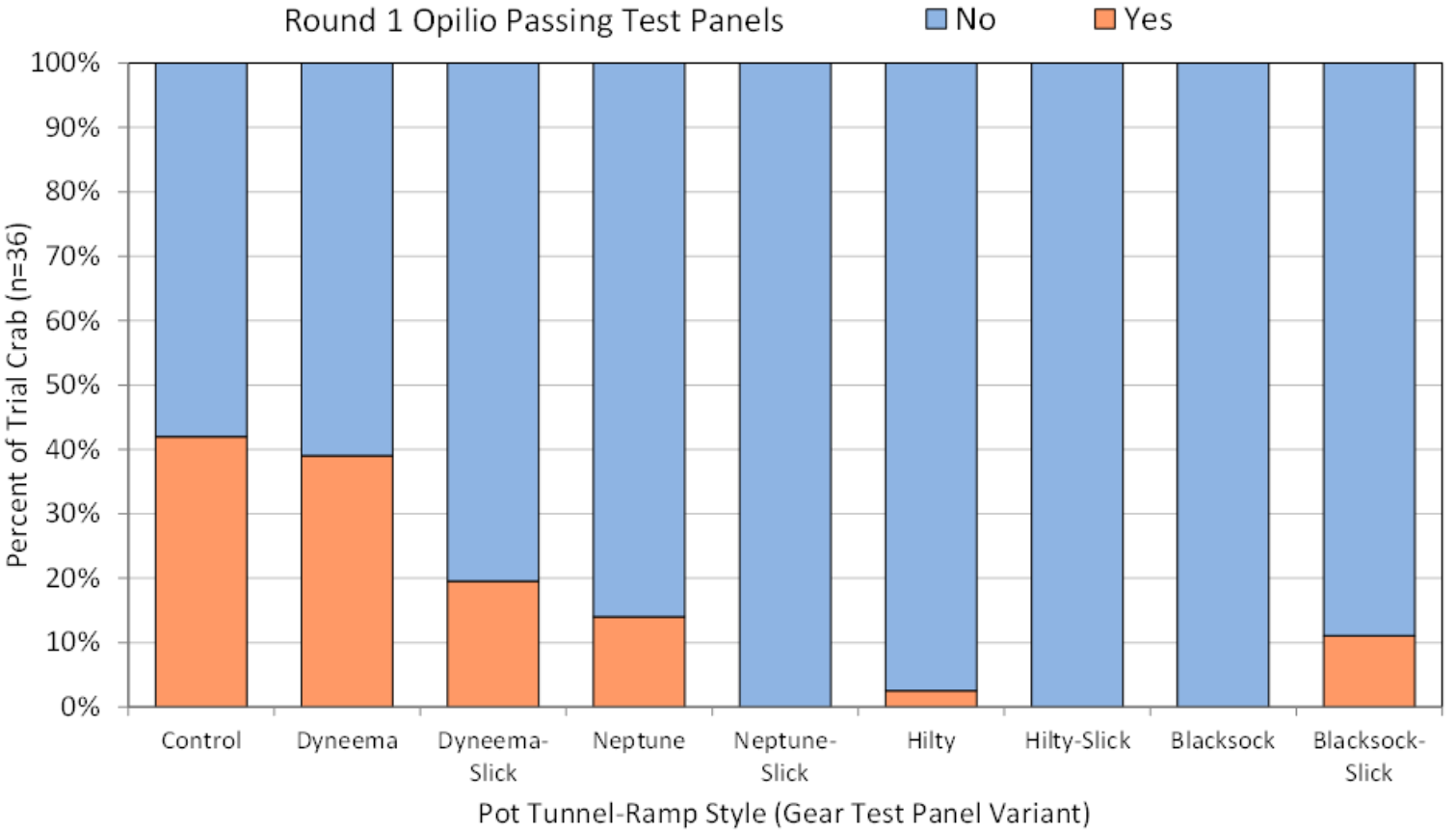


Preliminary Results RKC LAB Round 2



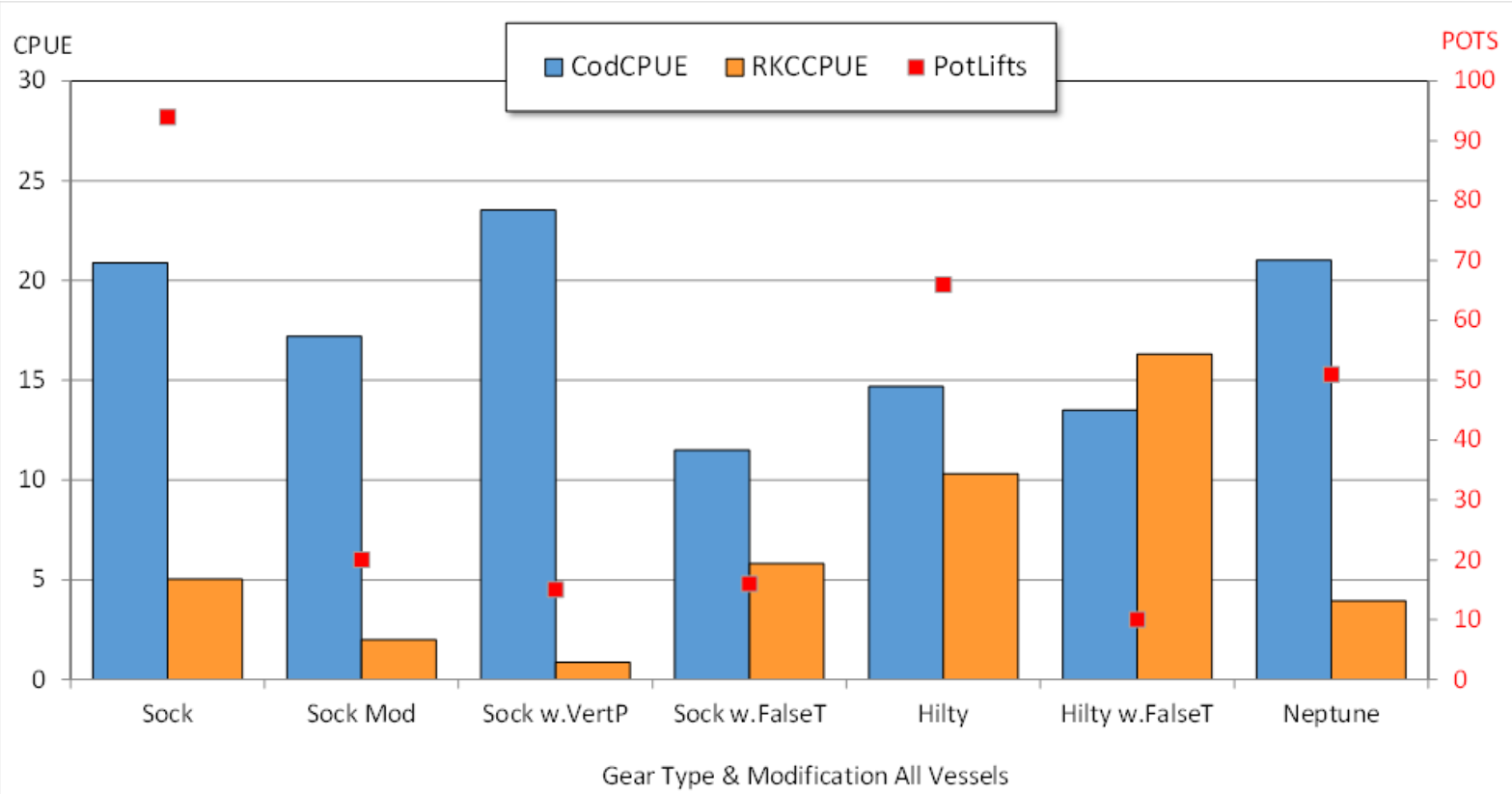


Preliminary Results Opilio LAB Round 1



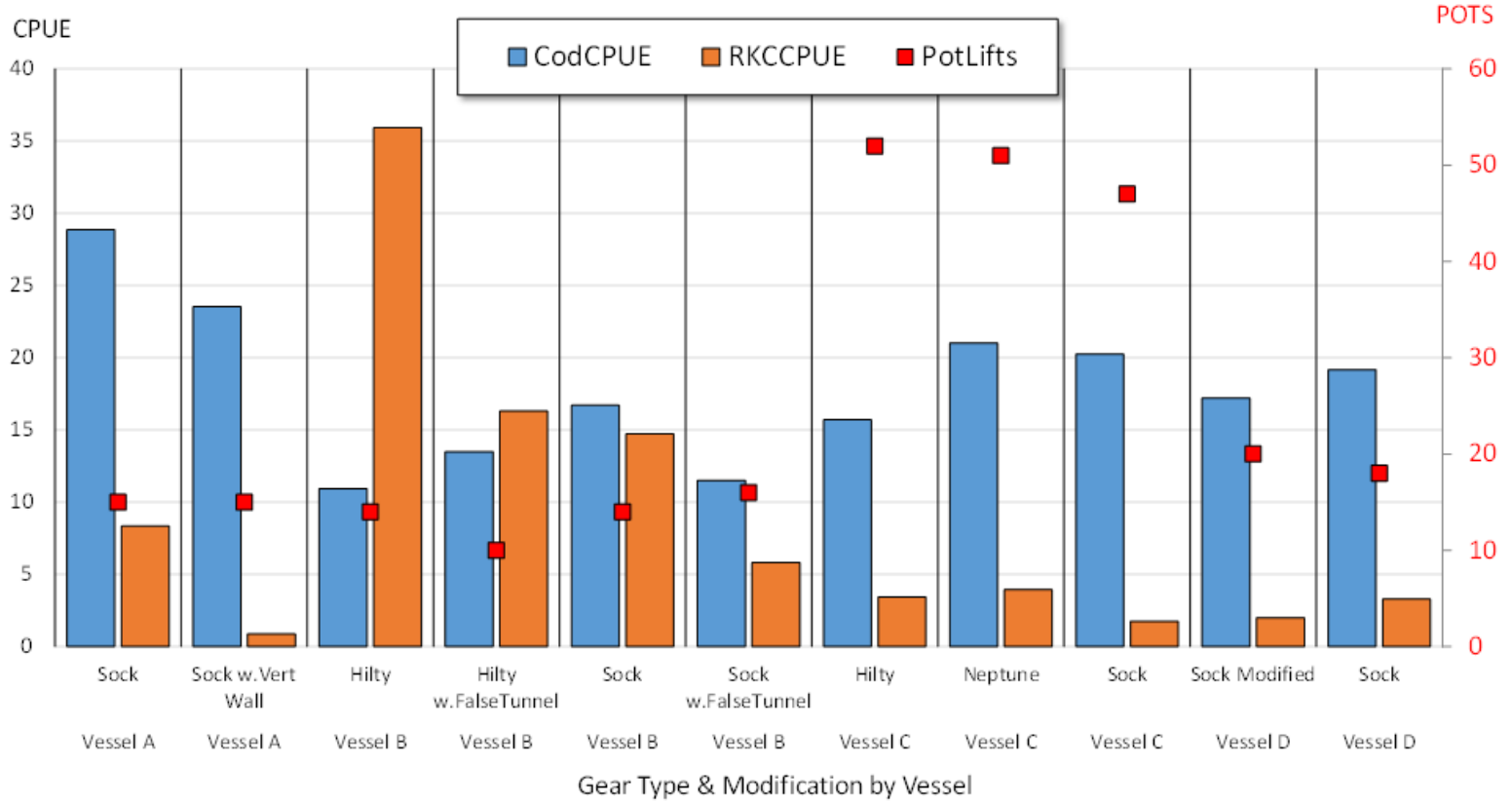
Preliminary Results
RKC Field 2
SEP 2021
Pot Cod Fishery

Across all boats, gear variants



Preliminary Results
RKC Field 2
SEP 2021
Pot Cod Fishery

By vessel and gear variant

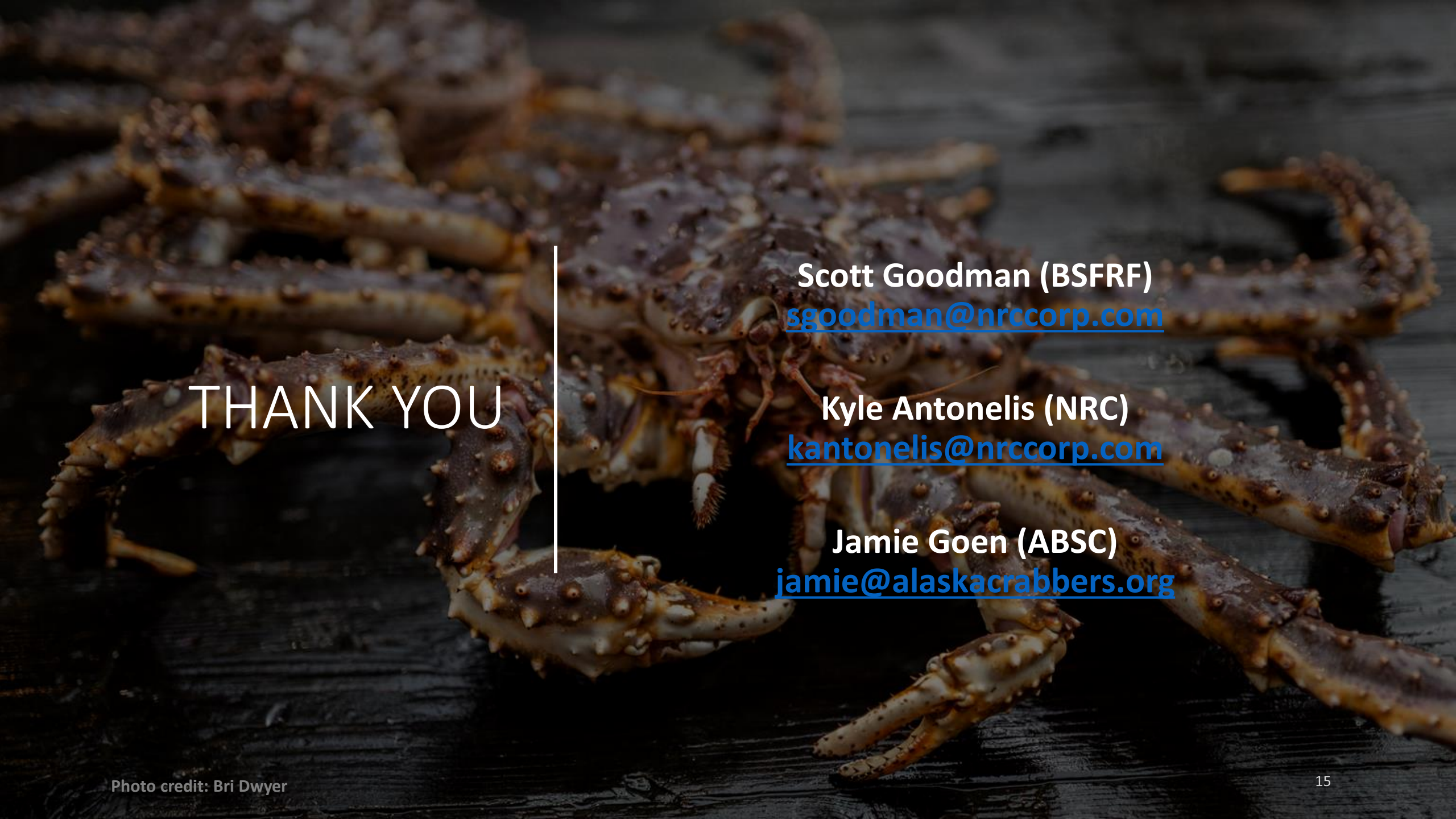


Next Steps

BREP LAB & FIELD WORK		Target Species	
		COD	HALIBUT
Bycatch Species	RKC	Lab 1 NOV 2019 Lab 3 NOV 2020 Field 1 JAN 2021 Field 2 SEP 2021 Field 5 SEP 2022	Not part of this BREP Project
	OPILIO	Not part of this BREP Project	Lab 2 MAR 2020 Lab 4 MAR 2022 Field 3 SEP 2021 Field 4 MAR-SEP '22

Notes: upcoming project work in red

Lab 1	RKC delivered to Kodiak from the fishery
Lab 2	Opilio delivered to Kodiak from the fishery - COVID altered
Lab 3	RKC delivered to Kodiak from the fishery
Lab 4	Opilio delivered to Kodiak from the fishery
Field 1	2 boats, Bering Sea grounds, very few crab
Field 2	4 boats, Bristol Bay, high crab encounters, field 5 planned
Field 3	1 boat, Bering Sea halibut, no crab encounters
Field 4	scheduled for halibut (# boats TBD)
Field 5	scheduled for 4 boats, Bristol Bay



THANK YOU

Scott Goodman (BSFRF)
sgoodman@nrccorp.com

Kyle Antonelis (NRC)
kantonelis@nrccorp.com

Jamie Goen (ABSC)
jamie@alaskacrabbers.org

Photo credit: Bri Dwyer