



Alaska Marine Science and Industry Cooperation

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About NPRB

- NPRB created by Congress in 1997, with a 20-member board
- Funds are derived from the Dinkum Sands settlement (ownership of submerged lands in the Beaufort Sea)
- Annual funding: 20% of the interest from the Environmental Improvement and Restoration Fund **Range: \$6.2m-\$10M/year.**
- Funds are provided through NOAA
- Funds for research related to fisheries or marine ecosystems in the North Pacific, Bering Sea, and Arctic Ocean
- NPRB makes recommendations back to Commerce with input from science and advisory panels

Mission

To develop a comprehensive science program... that provides a better understanding of the North Pacific ecosystems and their fisheries.... conducted through science planning, prioritization of pressing fishery management and ecosystem information needs, coordination and cooperation among research programs, competitive selection of research projects, enhanced information availability, and public involvement.

Board Membership

- Secretary of Commerce,
- Commissioner of Alaska Fish and Game,
- Chairman of North Pacific Fishery Mgmt Council,
- Director of Alaska Sea Life Center, and
- Special Fishing Industry Rep (3-year term)
- Secretary of State
- Secretary of Interior
- Commandant of the Coast Guard
- Director Office of Naval Research
- Chairman of Arctic Research Commission
- Director of Oil Spill Recovery Institute
- AK - Five nominated by Governor of Alaska representing each: fishing interests, Alaska Natives, environmental interests, academia, and oil and gas interests
- WA - Three nominated by Governor of Washington
- OR - One nominated by Governor of Oregon

NPRB's governance and unique representation

Science Panel

- Helps shape NPRB research programs, advises science planning, identifies research priorities, and develops recommendations for research funding based on proposals.

Advisory Board

- community members and representatives to various resource user groups (e.g., commercial fishing, subsistence use, and oil and gas). Provides meaningful stakeholder involvement in science planning, oversight, and review.

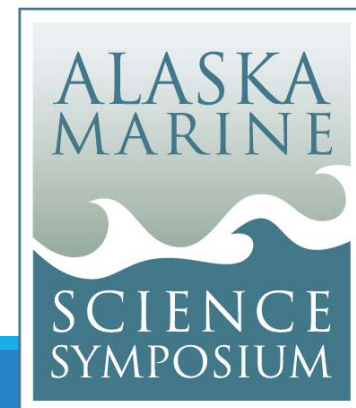


Focus areas

- Funding top research priorities
- Communicating results
- Arctic and Northern Bering Sea IERP
- Incorporating CPK approach to programs
- Partnerships (*industry, science org, Alaska Native Organizations*)
- Alaska Marine Science Symposium – 30 Years



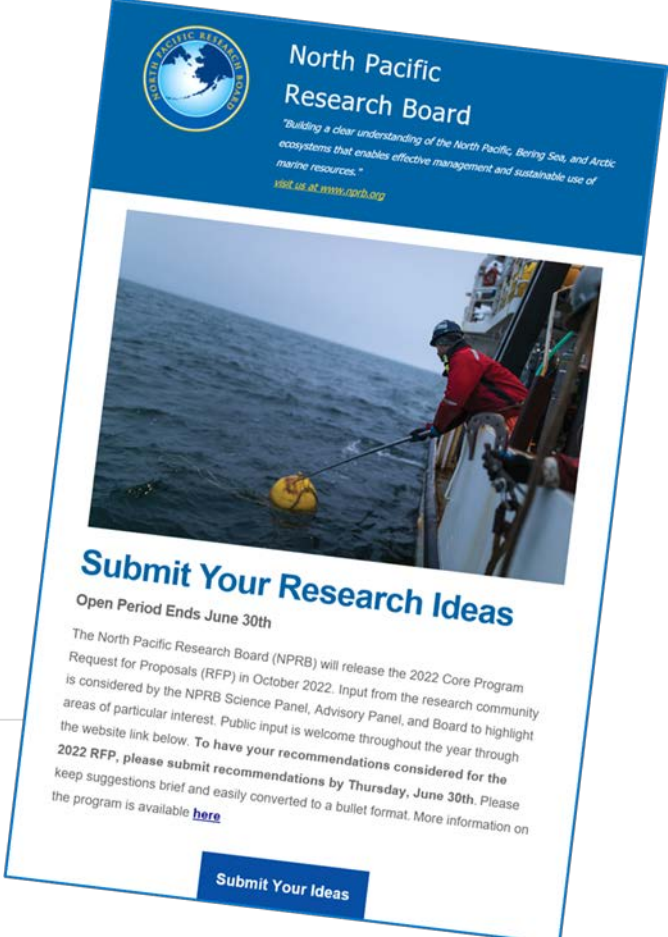
Photo Credit Matthew Baker



NPRB Research Priorities

Research Priorities are determined through:

- Solicitation of priorities from:
 - specific management agencies
 - research community and public through online portal (June-July)
- Input from Board, Science and Advisory Panel members
- Review of NPFMC priorities



North Pacific Research Board

"Building a clear understanding of the North Pacific, Bering Sea, and Arctic ecosystems that enables effective management and sustainable use of marine resources."

nprb.us.af.nmfs.gov



Submit Your Research Ideas

Open Period Ends June 30th

The North Pacific Research Board (NPRB) will release the 2022 Core Program Request for Proposals (RFP) in October 2022. Input from the research community is considered by the NPRB Science Panel, Advisory Panel, and Board to highlight areas of particular interest. Public input is welcome throughout the year through the website link below. **To have your recommendations considered for the 2022 RFP, please submit recommendations by Thursday, June 30th.** Please keep suggestions brief and easily converted to a bullet format. More information on the program is available [here](#)

Submit Your Ideas



Photo Credits Vladimir Burkanov

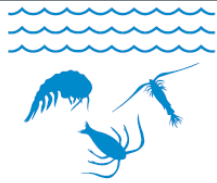
Research Programs

Core Program

Integrated Ecosystem Research Programs

Long-term Monitoring Program

Graduate Student Research Awards



Oceanography and Productivity



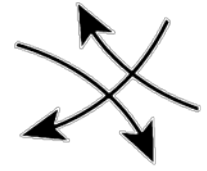
Fishes and Invertebrates



Marine Mammals and Seabirds



Human Dimensions



Interdisciplinary Studies

Research Categories

Oceanography and Productivity: physical, chemical, biological processes

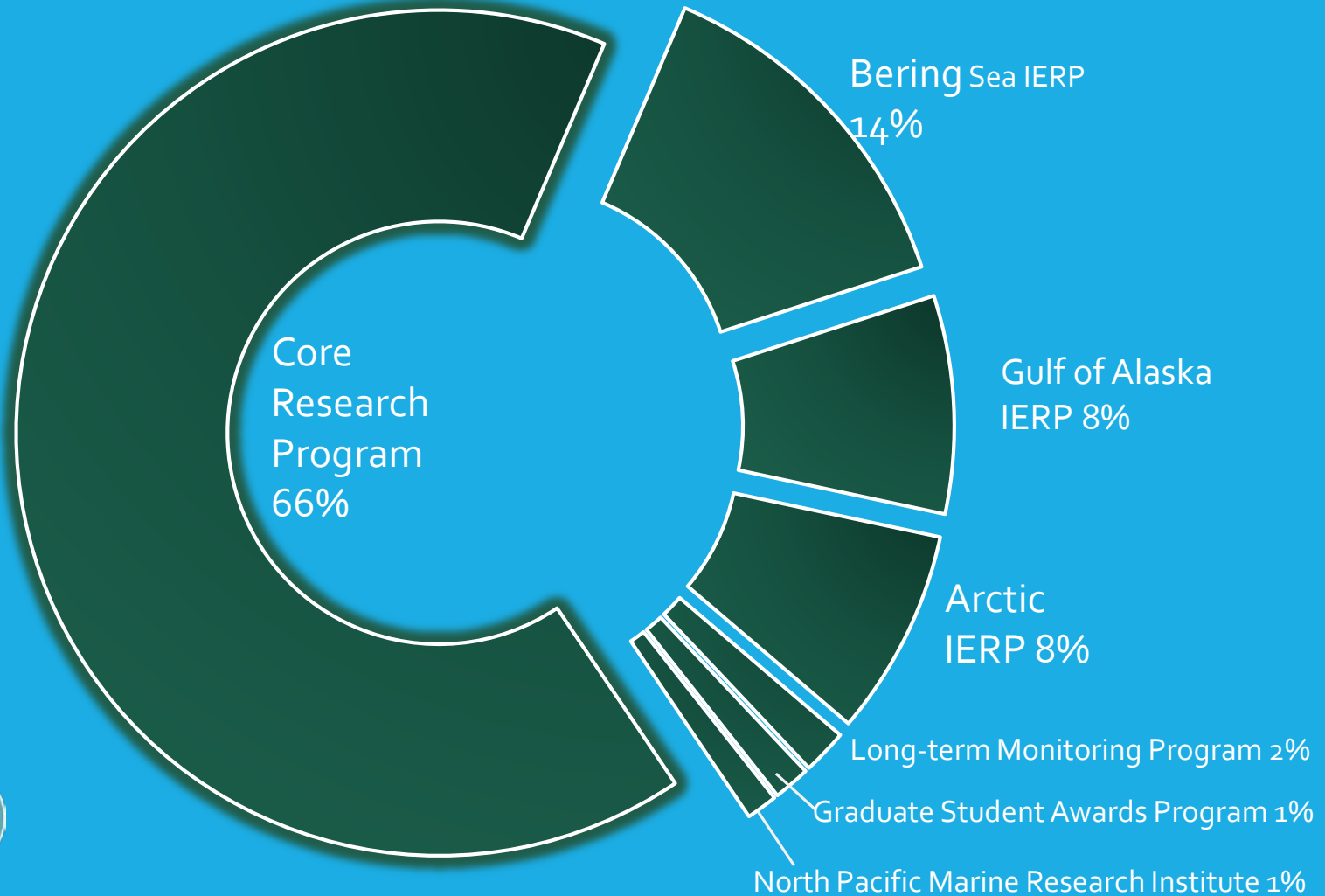
Fishes/Invertebrates: distribution, population dynamics & human impacts

Marine Birds/Mammals: protected species, fishery interactions, food security

Human Dimensions: LTK, interactions of humans, management & environment

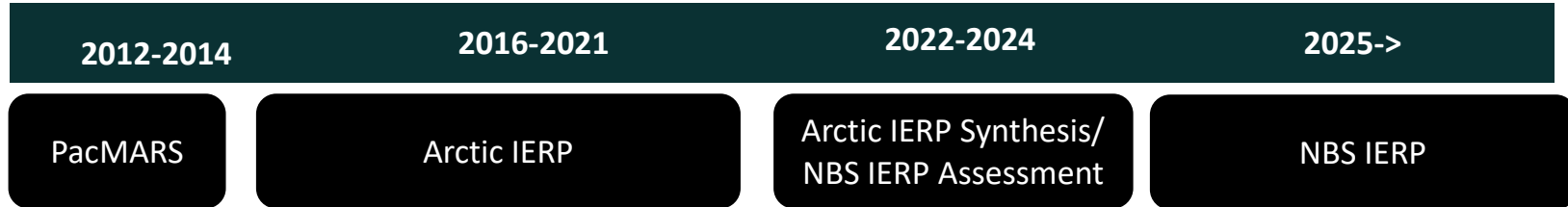
Interdisciplinary: synergistic or causal effects across ecosystems

Research Investments

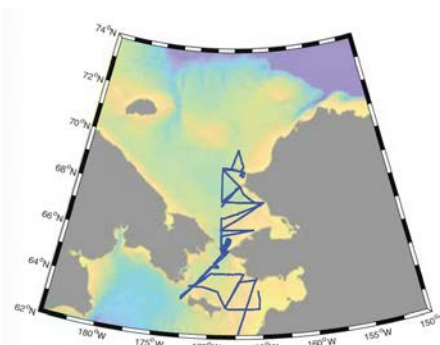


All Programs 2002-2022 – \$150 million

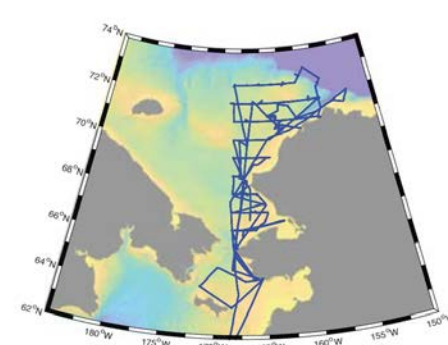
Arctic IERP



- Began in 2016 with funding from NPRB, the North Slope Borough/Shell Baseline Studies Program, BOEM, and ONR-Marine Mammals and Biology Program.
- In-kind support from NOAA, UAF, USFWS, NSF
- Vessel surveys in 2017-2019 in NBS, Chukchi Sea, and Western Beaufort Sea.
- Assessment and analysis of Indigenous observations and experiences
- Generated >50 publications and ~ 100 presentations
- Synthesis projects 2022-2025



Map of vessel *Sikuliaq* operations
in June 2017 & 2018.



Map of vessel *Ocean Starr* operations
in August-September 2017 & 2019.

Significant Findings

- Warmer waters and swifter northward currents changed fish communities in the Chukchi Sea
- Pink salmon are becoming more common in warming waters
- Seabirds species moved and unusual bird die-offs in 2017-2019
- Coastal residents experiencing reduced food security
- Subarctic marine mammals stayed in Arctic through fall and early winter





Longterm Monitoring Program

- time-series research to depict the current state of marine ecosystems and to predict future ecosystem states
- indices of ecosystem conditions
- real-time and archived data.

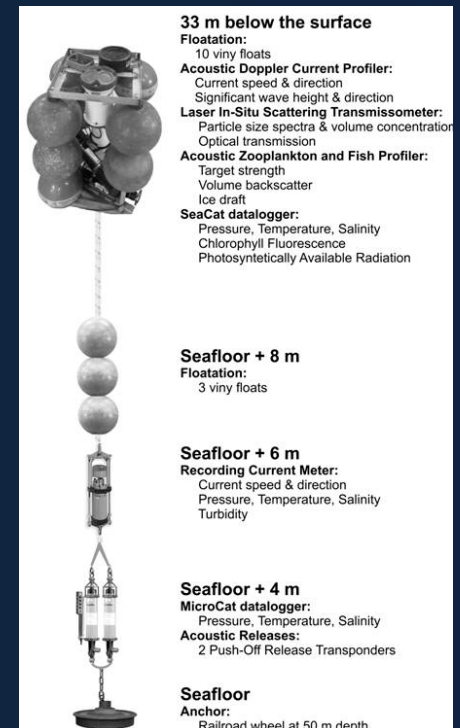
Continuous Plankton Recorder Survey

Towed behind commercial ships to survey the quantity, community composition, and variability of plankton.



Chukchi Ecosystem Mooring Array

Year-round autonomous collection of physical and biogeochemical data





Chukchi Ecosystem Mooring



33 m below the surface

Floatation:

10 viny floats

Acoustic Doppler Current Profiler:

Current speed & direction
Significant wave height & direction

Laser In-Situ Scattering Transmissometer:

Particle size spectra & volume concentration
Optical transmission

Acoustic Zooplankton and Fish Profiler:

Target strength
Volume backscatter
Ice draft

SeaCat datalogger:

Pressure, Temperature, Salinity
Chlorophyll Fluorescence
Photosynthetically Available Radiation

Year-round autonomous collection of physical and biogeochemical data

Enable analyses of wind, wave, and ice effects on regional oceanography, nutrient cycles, particulate flux, carbon transfer, Arctic cod and euphausiids dynamics

Seafloor + 8 m

Floatation:

3 viny floats

Seafloor + 6 m

Recording Current Meter:

Current speed & direction
Pressure, Temperature, Salinity
Turbidity

Intended to enable biogeochemical model validation and improve understanding of carbon and shelf-basin exchange.

Seafloor + 4 m

MicroCat datalogger:

Pressure, Temperature, Salinity

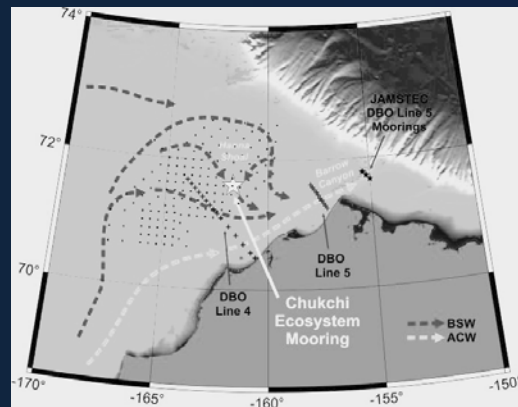
Acoustic Releases:

2 Push-Off Release Transponders

Seafloor

Anchor:

Railroad wheel at 50 m depth



Opportunities: continued partnerships and research

Explore opportunities

1. North Slope community members and organizations to engage in dialogue to share ideas about research questions, trends in distribution of subsistence species and prey base, priority research and subsistence activities, and share research results.
2. Interest in the next IERP focused on the Northern Bering Sea
3. Observations of zooplankton (important prey spp) for changes in reproduction under a changing climate