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Alaska
Regional Office

NMFS Nearshore and Coastal Habitat Work in Alaska

Alaska Coastal Mapping Summit
December 9, 2020

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Habitat Conservation Division

Outline

Updates from 2018-today

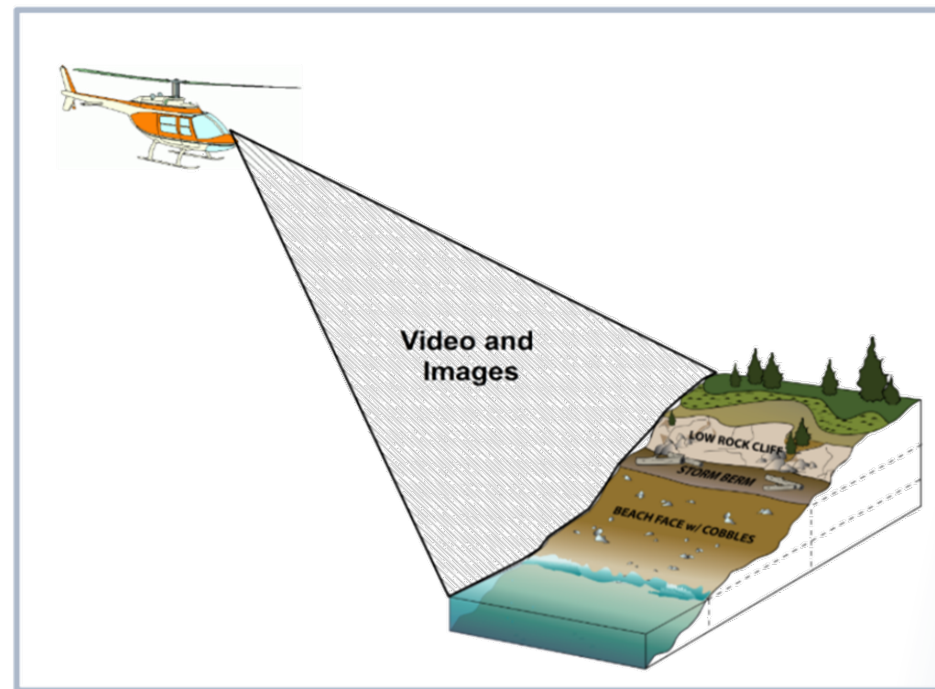
- 1) ShoreZone (SZ)
- 2) Nearshore Fish Atlas
- 3) Essential Fish Habitat (EFH)



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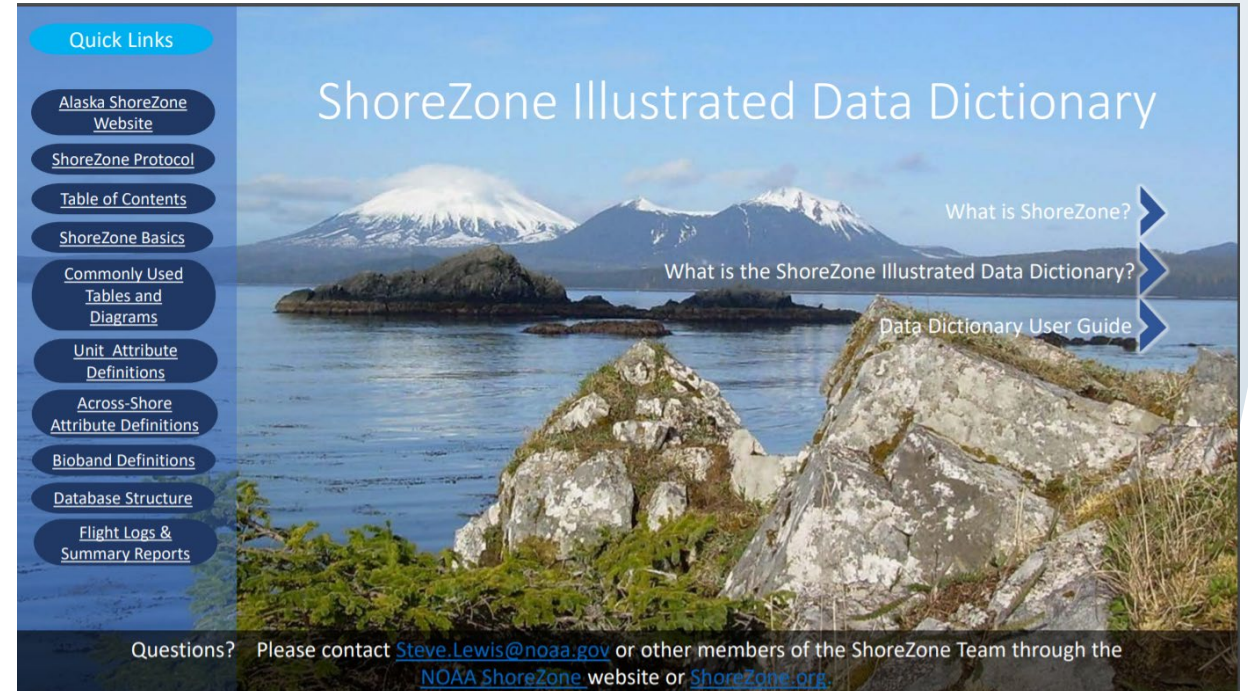
1) ShoreZone imagery and mapping

- **Over 50 partners** have contributed to this coastal mapping effort since the early 2000's
- **94%** of Alaska's coastline has been imaged
- **98%** of that imaged coastline has been mapped
- **Data available online:**
https://alaskafisheries.noaa.gov/mapping/sz_js/
- **Low-tide, oblique aerial** digital photography and video record of the coastline



New ShoreZone Illustrated Data Dictionary

- An interactive document to help users navigate SZ data
- Image examples provided for mapped shoreline attributes
- Available online:
<https://www.fisheries.noaa.gov/alaska/habitat-conservation/alaska-shorezone>



New ShoreZone Illustrated Data Dictionary



Anthropogenic Coastal Classes



(32) Anthropogenic (Permeable)

Permeable Structures such as: rip-rap, pile-supported structures, wooden crib structures or loose fill, where surface oil from a spill will easily penetrate the structure.

(33) Anthropogenic (Impermeable)

Impermeable Structures such as concrete seawalls and steel sheet pile.

The Anthropogenic shoreline class is assigned where man-made structures make up >50% of the intertidal area.
*Man-made structures or modifications that make up <50% of the intertidal area of a given unit are recorded as along-shore features: **Shore Modifications** ➡



[Return to Coastal Class List](#)

Coastal Classes continued



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New ShoreZone imagery

- Collected in Glacier Bay in 2018
- Complete coverage of imagery in Southeast Alaska



2) Nearshore Fish Atlas

- Distribution, relative abundance, and habitat use of nearshore fishes in Alaska
- Beach seine sampling method
- Data available online:
https://alaskafisheries.noaa.gov/mapping/sz_js/



Sampling an eelgrass bed

New Nearshore Fish Atlas Data

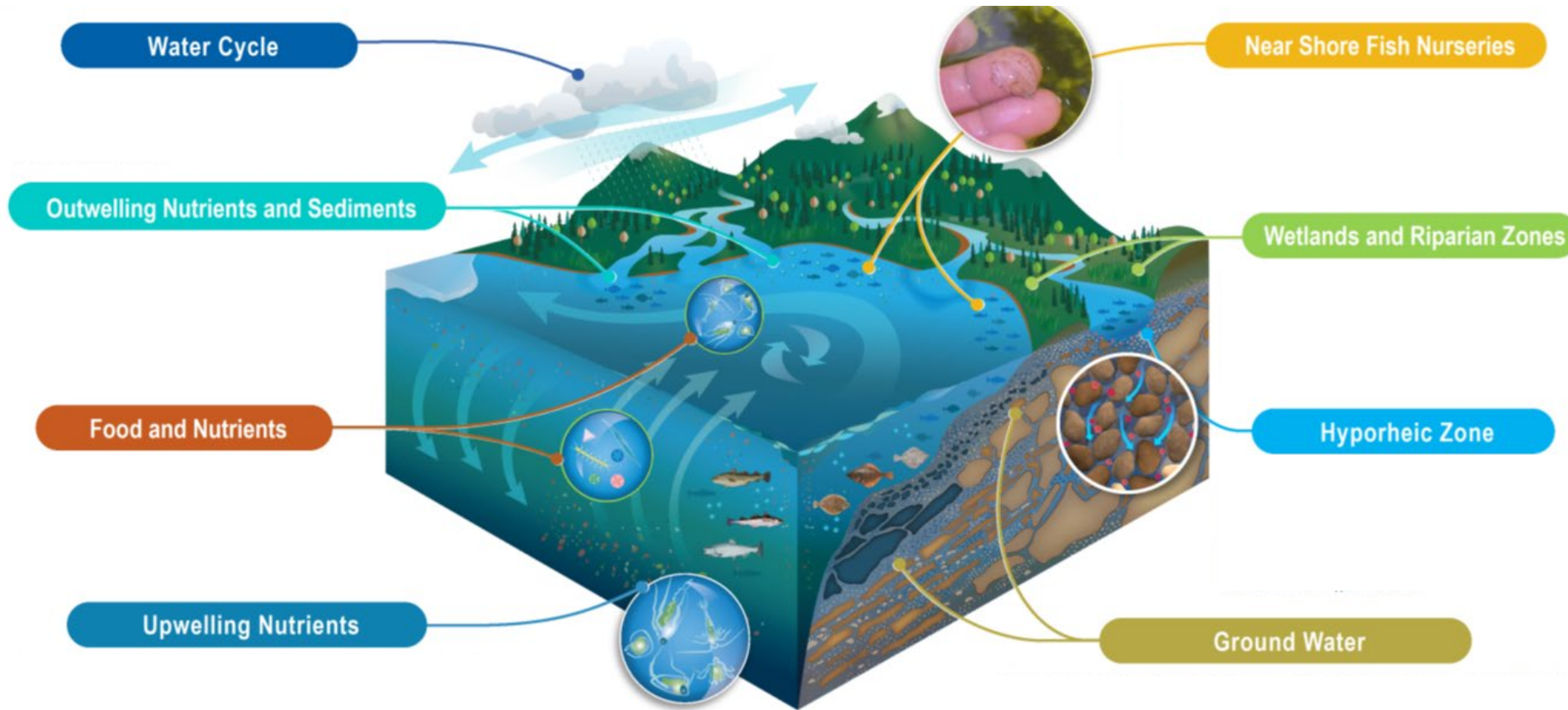
- **New data** online soon
- **25** new fish survey datasets
- **7** organizations contributing
- Additional **3,800** beach seine hauls, **768** nearshore trawls, spanning **1995-2018**



Sampling an eelgrass bed

3) Essential Fish Habitat: An Ecosystem Approach

- EFH is: the physical, biological and chemical characteristics necessary to support fish for feeding, spawning, breeding, and growth to maturity

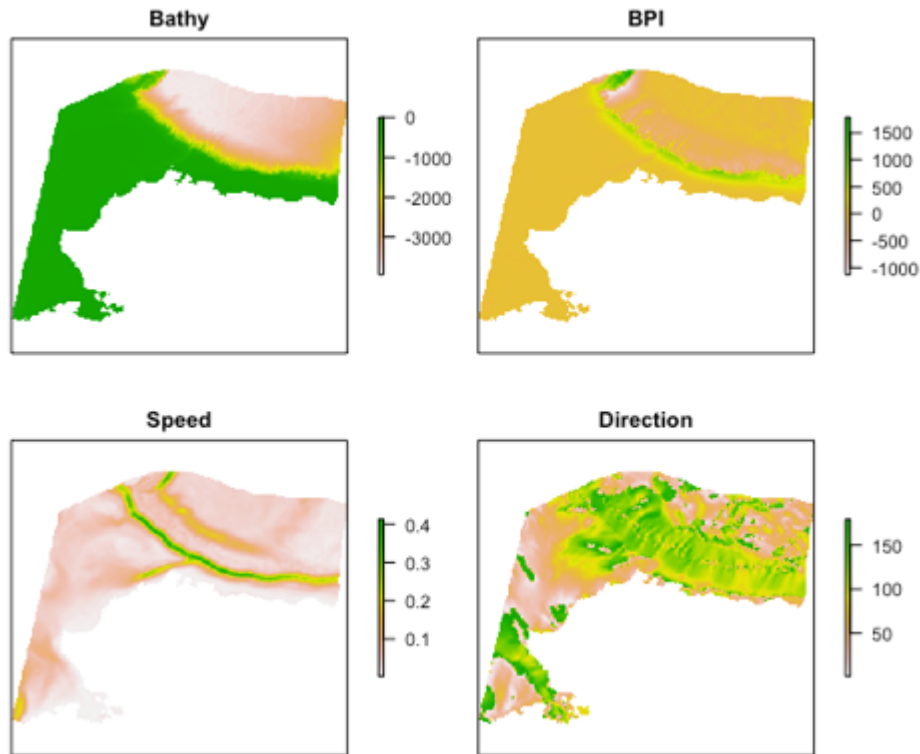


Doug Limpinsel and Paul Irvin, NOAA Fisheries

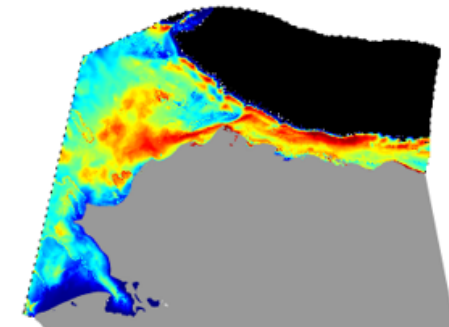


Ongoing EFH Mapping Research

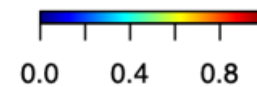
Environmental covariates



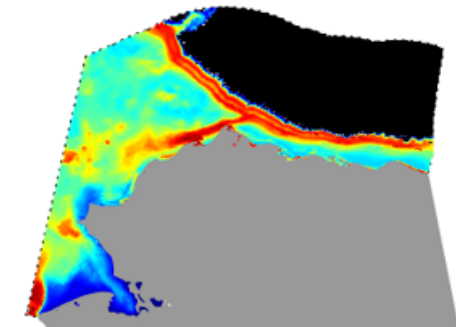
Juvenile Arctic cod



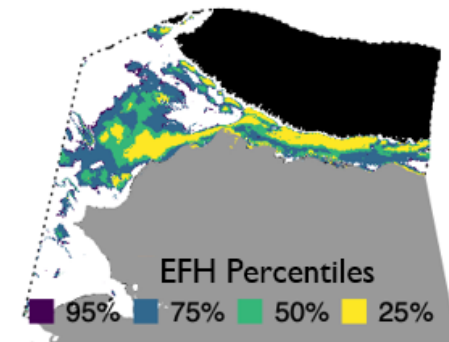
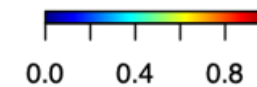
Probability of Suitable Habitat



Mature Arctic cod

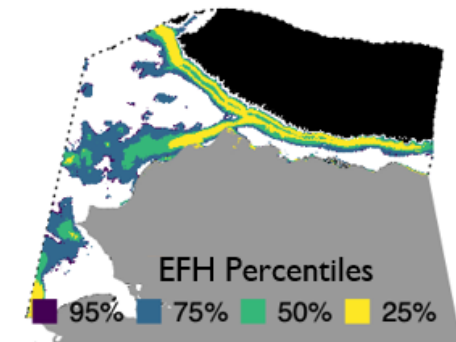


Probability of Suitable Habitat



EFH Percentiles

95% 75% 50% 25%



EFH Percentiles

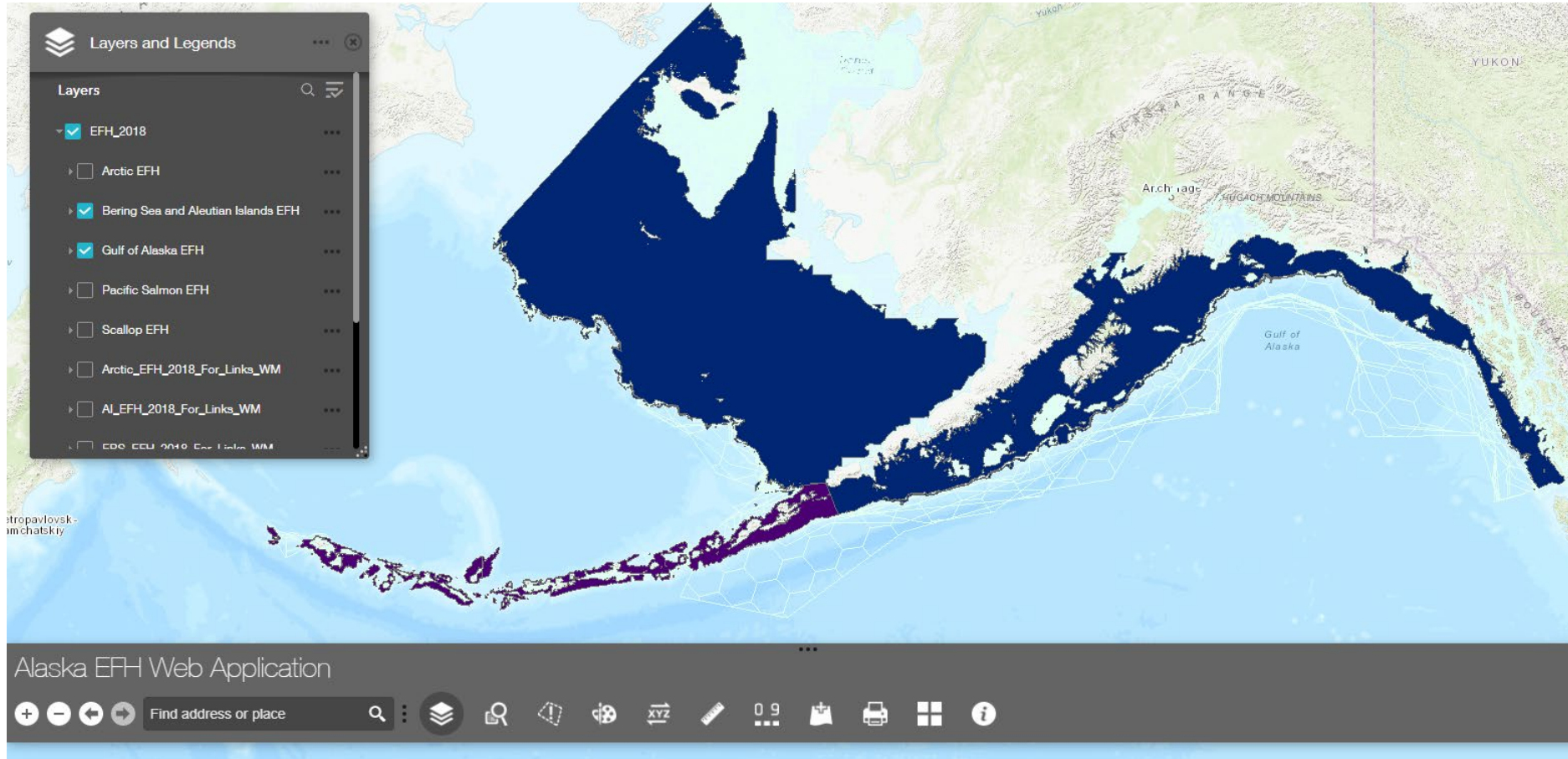
95% 75% 50% 25%

Arctic cod SDM (upper) and EFH (lower) maps
(Marsh et al. *in prep*)



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New Alaska EFH Web Mapper



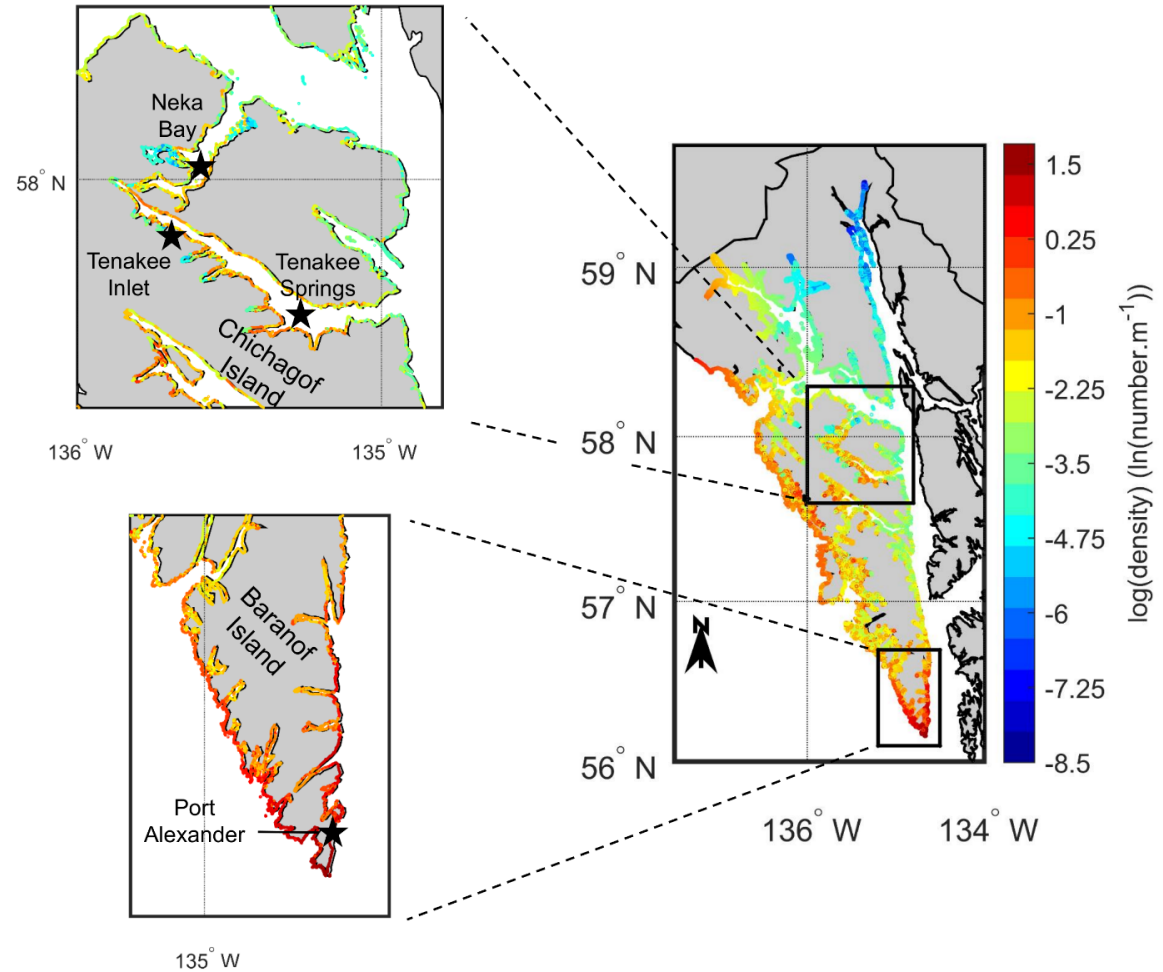
EFH slides content courtesy of Jodi Pirtle



New Nearshore EFH Mapping Research

Analysis combines:

- Species data from the Nearshore Fish Atlas
- Environmental data from ShoreZone
- Results show spatial predictions of habitat-related density in nearshore coastal areas



Grüss et al., *In Review*



Thank you!

For questions and comments,
contact:

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