

Fall & Early Winter Marine Bird Surveys in Prince William Sound

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Background

**1989 Exxon Valdez Oil Spill injured overwintering
marine birds including:**

1 marine bird species group

9 marine bird species

includes 3 species not yet recovered



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Historically tanker escort zone under-surveyed



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Background

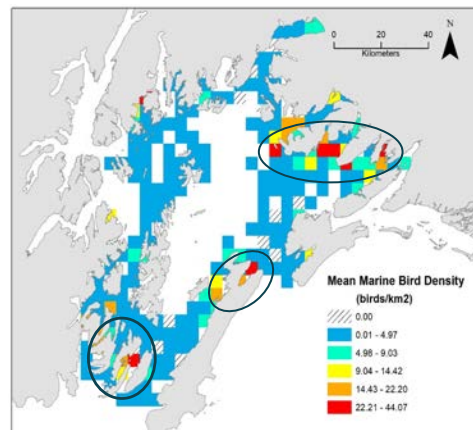
RCAC MARCH (LATE WINTER) BIRD SURVEYS

March 2021-2023

Combination of:
RCAC + EVOS GulfWatch
transects

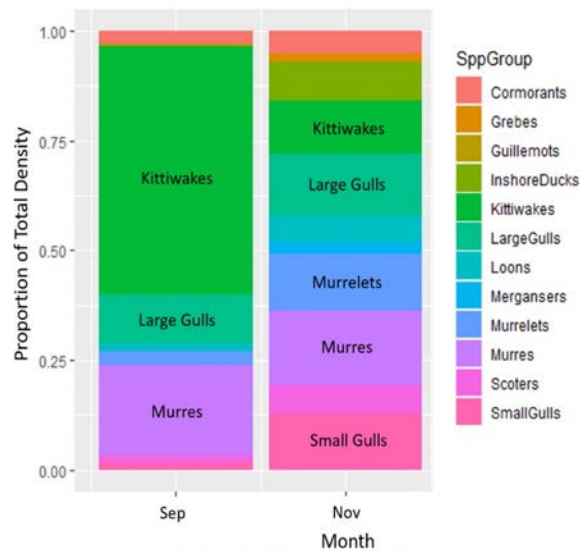
2024 - Hot spot analyses:
combined March 2021-23
data with:

14 March (EVOS) Surveys
2007-2014
2018-2020



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Marine bird distribution during the nonbreeding season cannot be characterized as a single time period

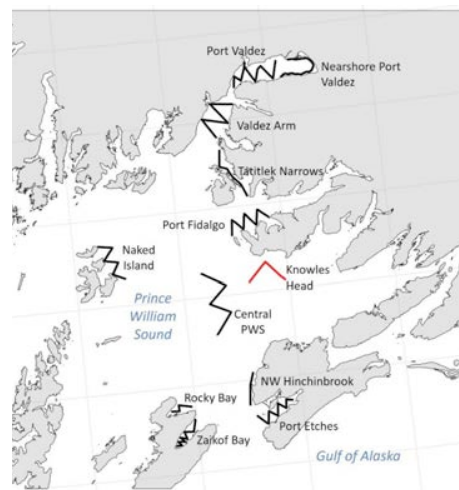


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Objectives

- Conduct marine bird and marine mammal transects in under-surveyed areas in & around PWS tanker escort zone during
 fall (**September**)
 early winter (**November**)
- Provide recommendations for prioritizing oil spill response efforts in and around the tanker escort lane



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Field Methods

- 300-m wide strip along fixed transects
- Record number, species, behavior
- Calculate relative density for each 3-km segment of transect.
- Marine mammals recorded out to 1-km

The photograph shows the interior of the observation platform. A laptop is open on a wooden table, next to a yellow folder and a black water bottle. A black fan is mounted on the wall. The view through the window shows a calm body of water reflecting the snow-capped mountains in the background.

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12 Species Groups






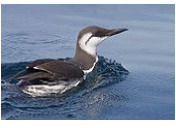



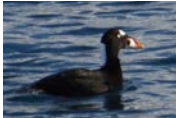


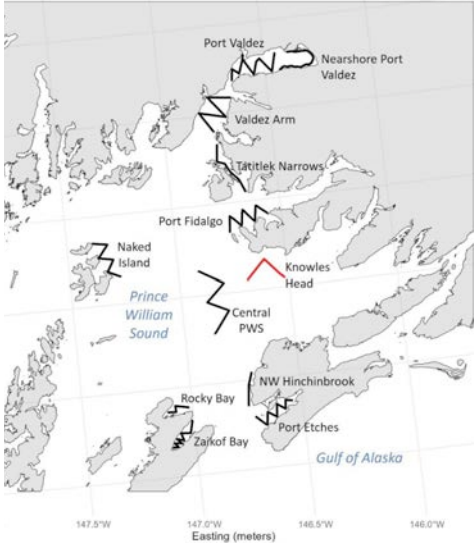
	Loons		Inshore Ducks		Kittiwakes
	Grebes		Mergansers		Murres
	Cormorants		Large Gulls		Murrelets
	Deep Diving Ducks		Small Gulls		Guillemots

Photo credits: V.J. Anderson, D. Keatts, A. Riego & C. McClaren, D. Daniels, R. Knight, A. Schriener, G. Schleicher, A. Berndtson, G. Smith, all about birds.org

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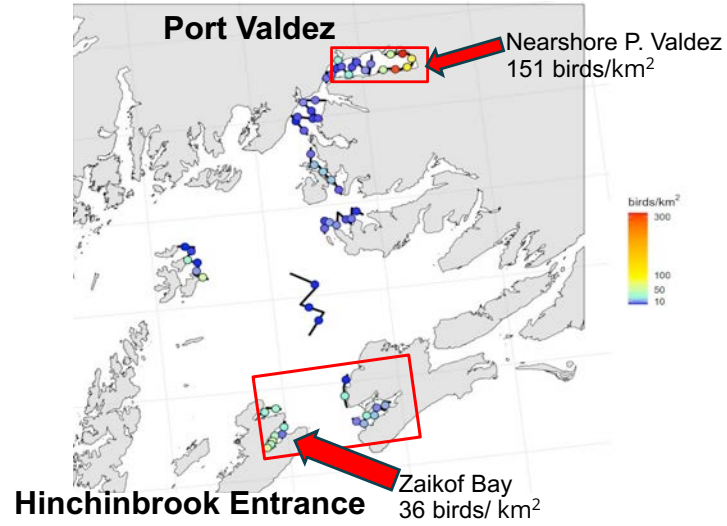
Results

- **September** 210 km
1,551 Birds, 26 species
- **November** 221 km
796 Birds, 28 species



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High density areas - September



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September Species

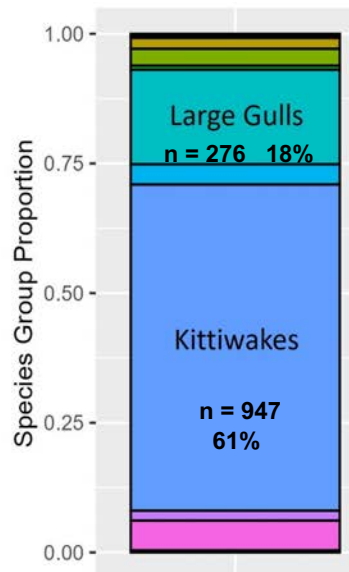
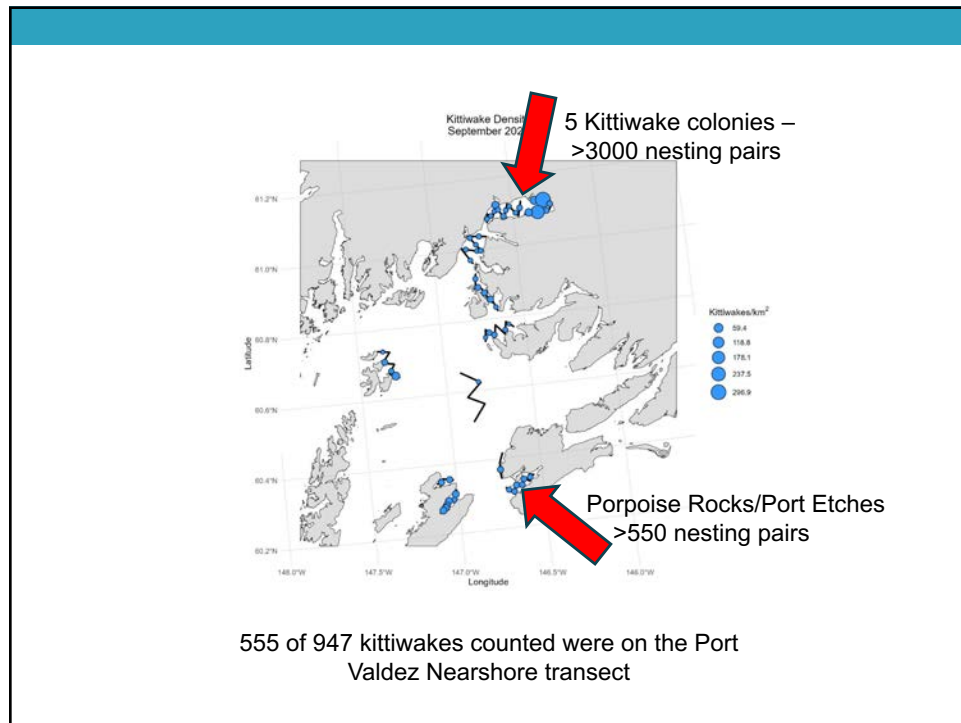
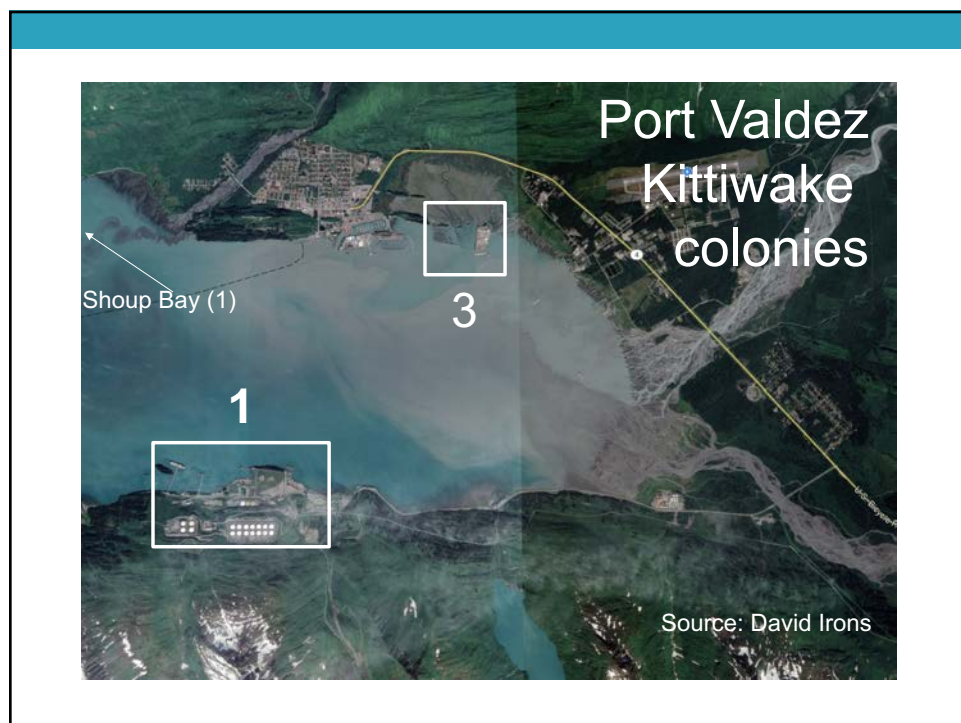


Photo credits: alabout birds.org

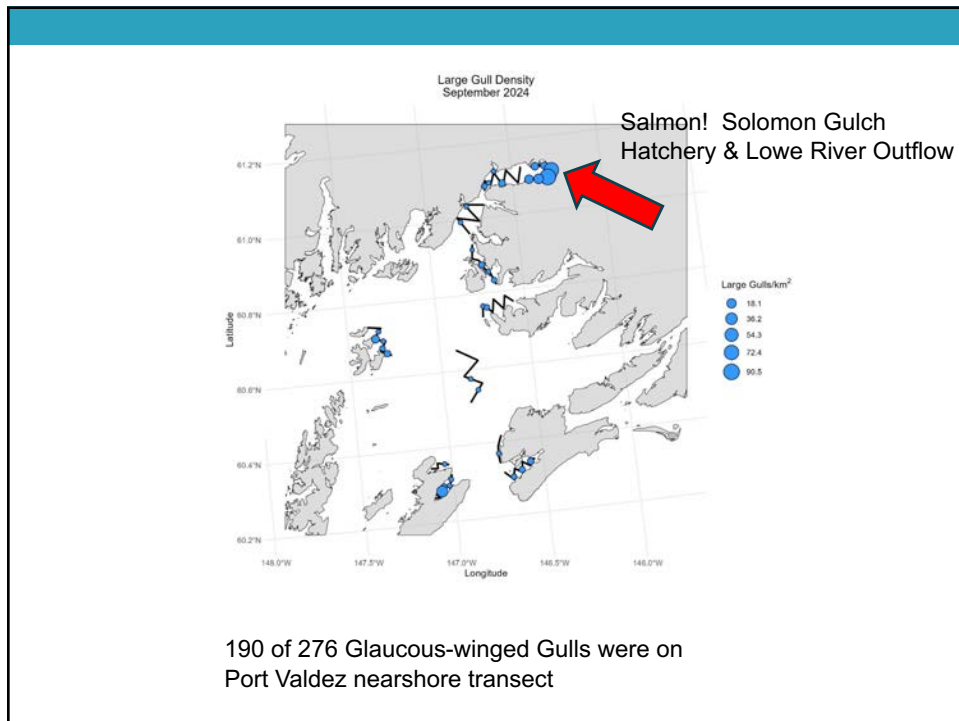
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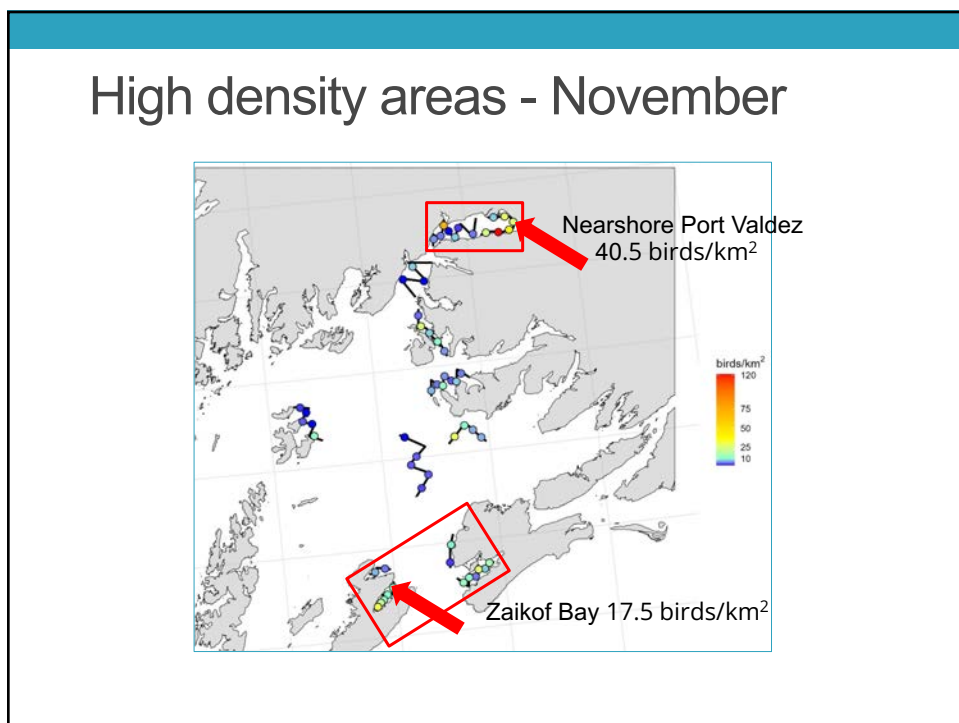
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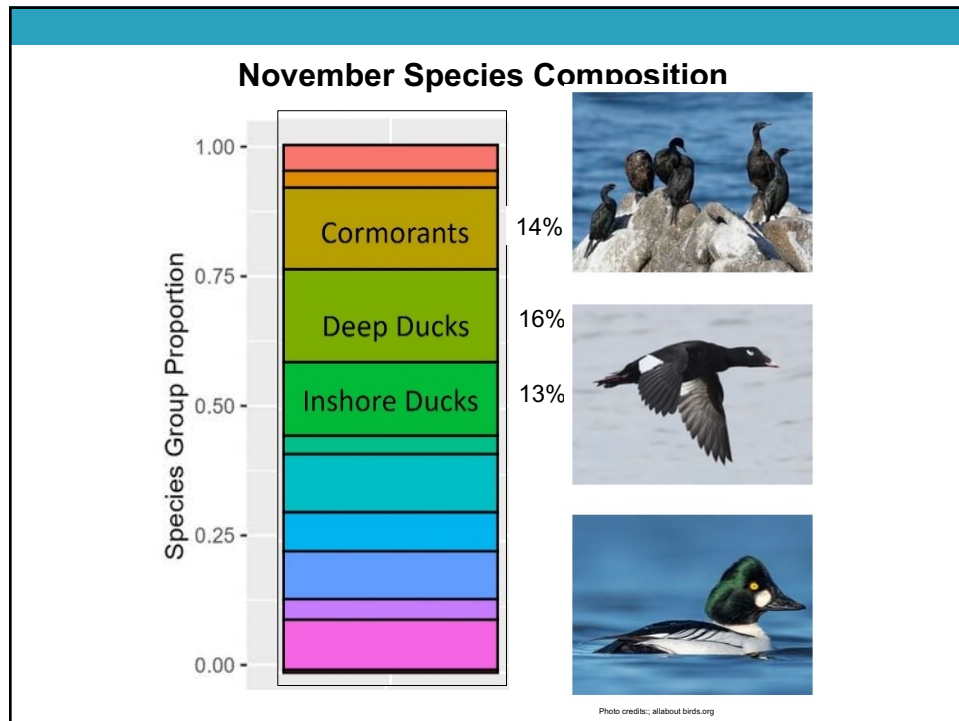
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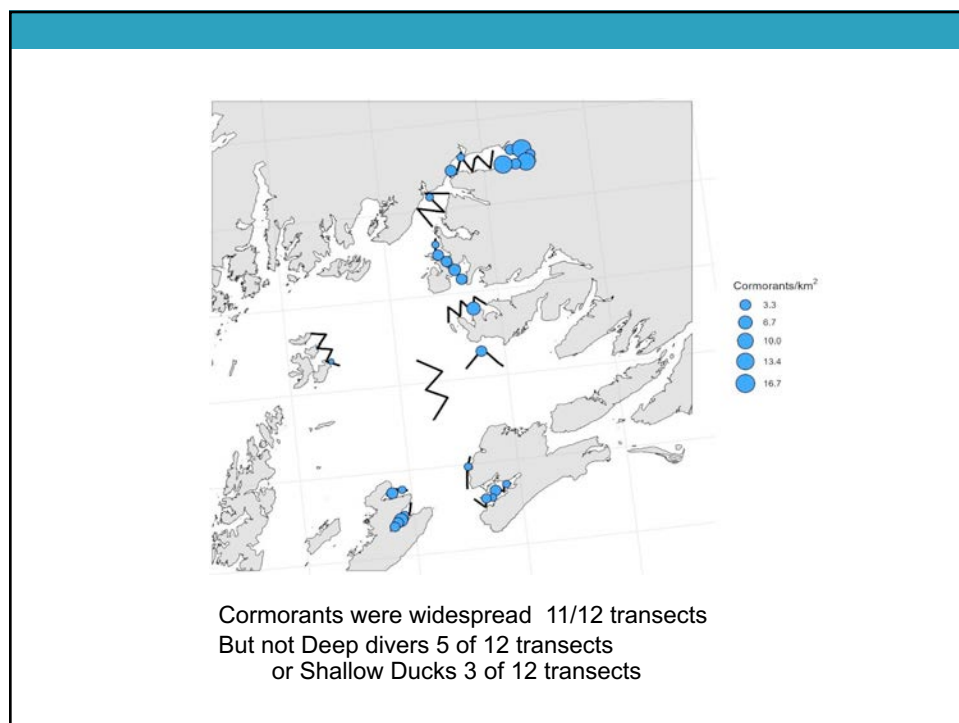
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Results: Marine Mammals (including beyond 300 m)

Species	Sept	Nov
Dall's Porpoise	0	6
Harbor Seal	7	9
Steller Sea Lion	24	73
Sea Otter	222	140
River Otter	0	2
Humpback Whale	0	2

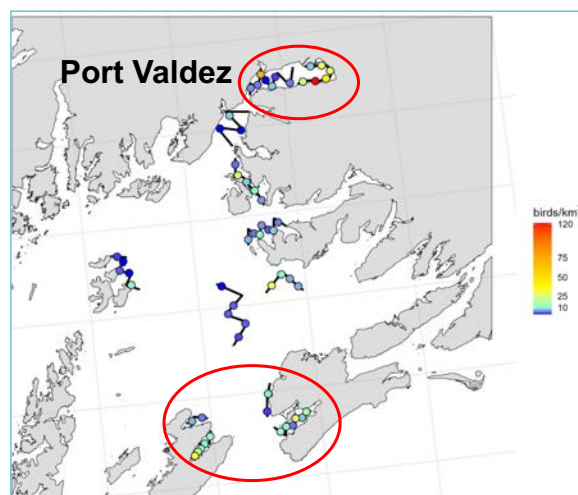
No Killer Whales or Harbor Porpoises
Observed on/near Transects



Photo credits: M. Baird, A. Morkil.

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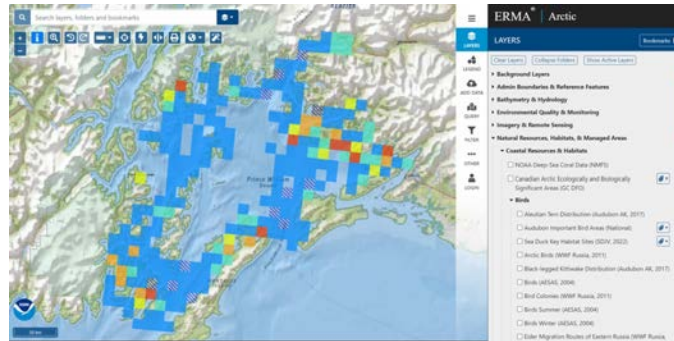
Recommendations – Priority Areas



Hinchinbrook Entrance

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Environmental Response Management Application (ERMA)



Surveys: March 2021-2023

Sept & Nov 2024

Hot spot maps: March 2007-2023

<https://erma.noaa.gov/arctic#layers>

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Conclusions

Birds observed on all transects both months

September – dominated by Black-legged Kittiwake

November – no “dominant” species – arrival of wintering waterfowl



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Conclusions

Priority areas for Protection based on Year 1:

Port Valdez

Fall: abundance of black-legged kittiwake & glaucous-winged gulls due to proximity to colonies & fish hatchery
Early Winter: deep and shallow ducks (extensive mudflats)

Hinchinbrook Entrance

Fall: kittiwake colony
Early Winter: offers protected waters from Gulf of Alaska

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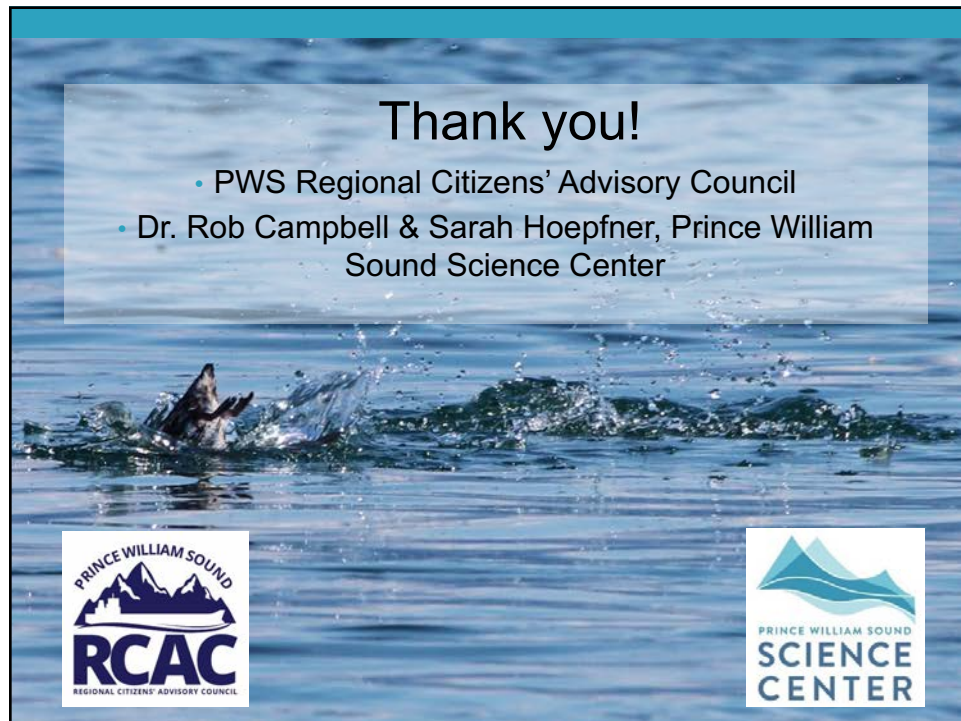
Final thoughts

- Continued surveys in Sept & Nov 2025-2027
- Hot spot analyses 2027
- Our data are important for planning and refining oil spill response efforts around the tanker lane
 - ERMA
 - Future ESI update (Environmental Sensitivity Index)

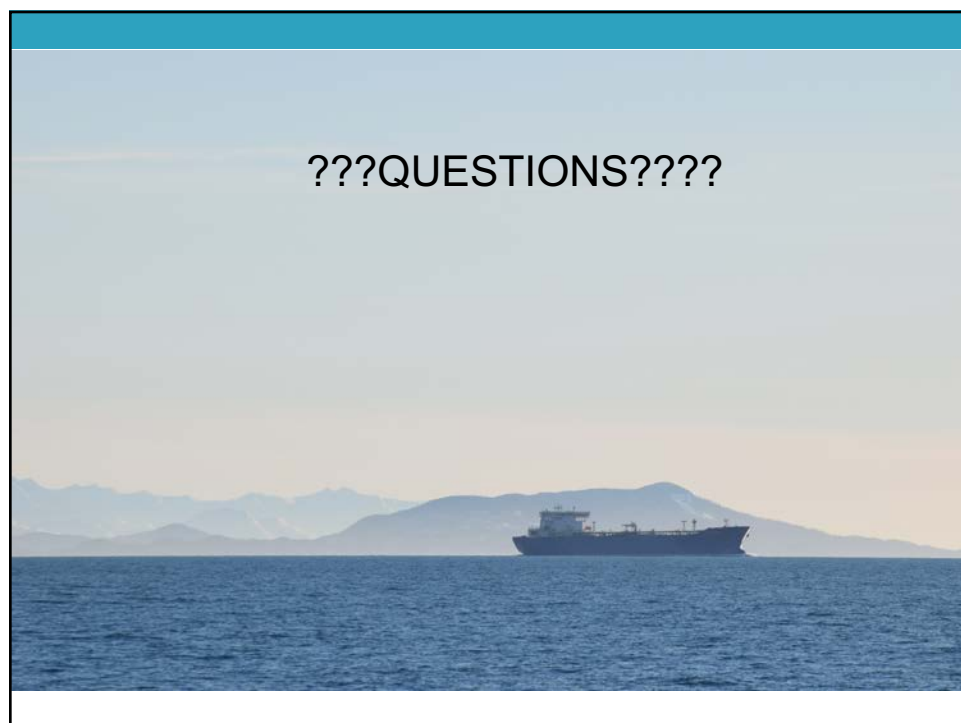


Photo Credit: D. Janka

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