

Winter Marine Bird Surveys in Prince William Sound

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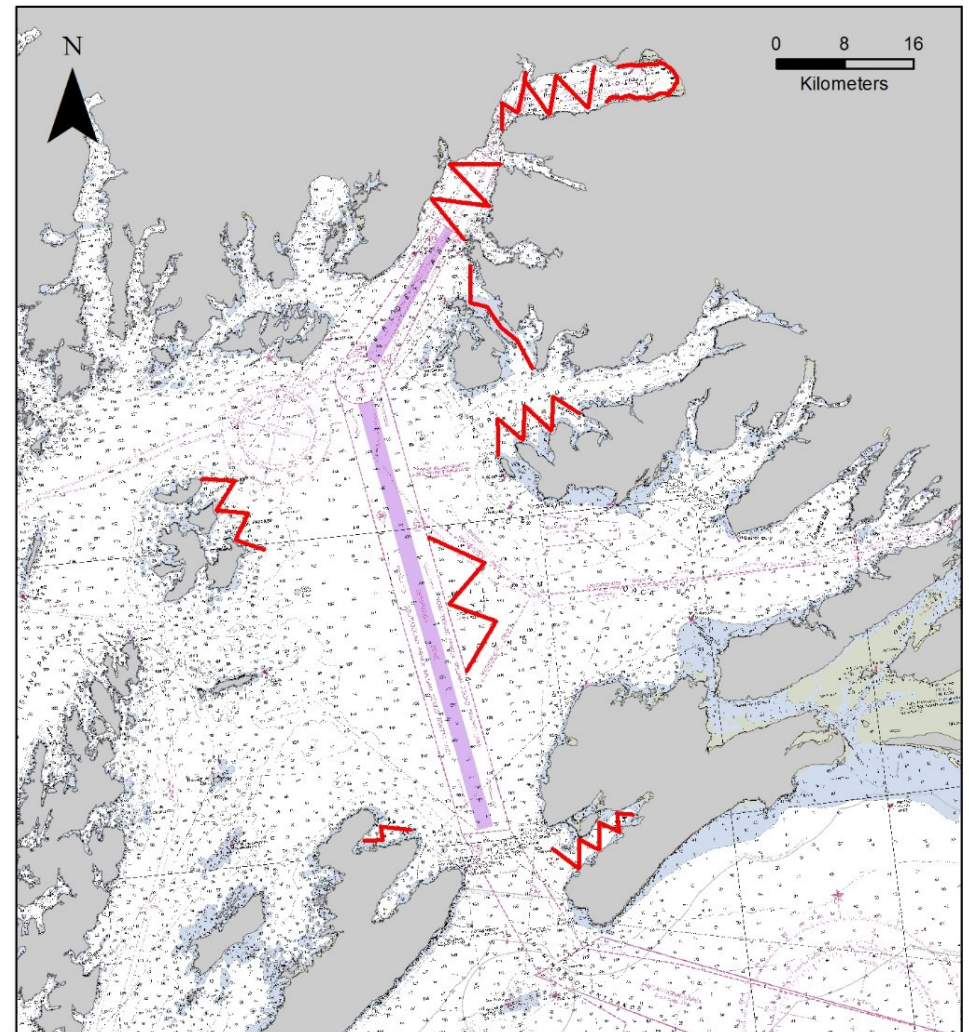
Background

- In Alaska most marine bird surveys occur in summer.
- Winter is important for avian survival at northern latitudes and Prince William Sound is a winter refuge from Gulf of Alaska.
- EVOSTC GulfWatch Alaska fall/winter surveys in PWS since 2007.



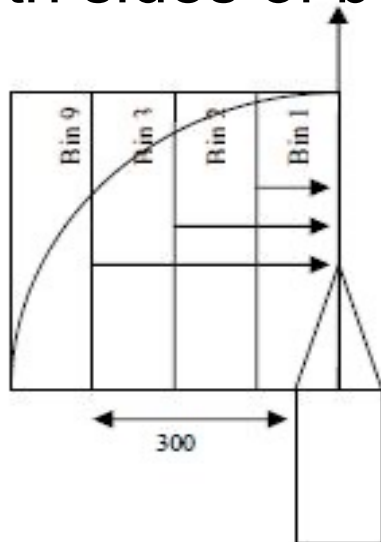
Objectives

- Conduct at-sea marine bird and marine mammal surveys in under-surveyed areas in and around tanker escort zone in PWS
- Provide recommendations for prioritizing oil spill response efforts in and around the tanker escort lane



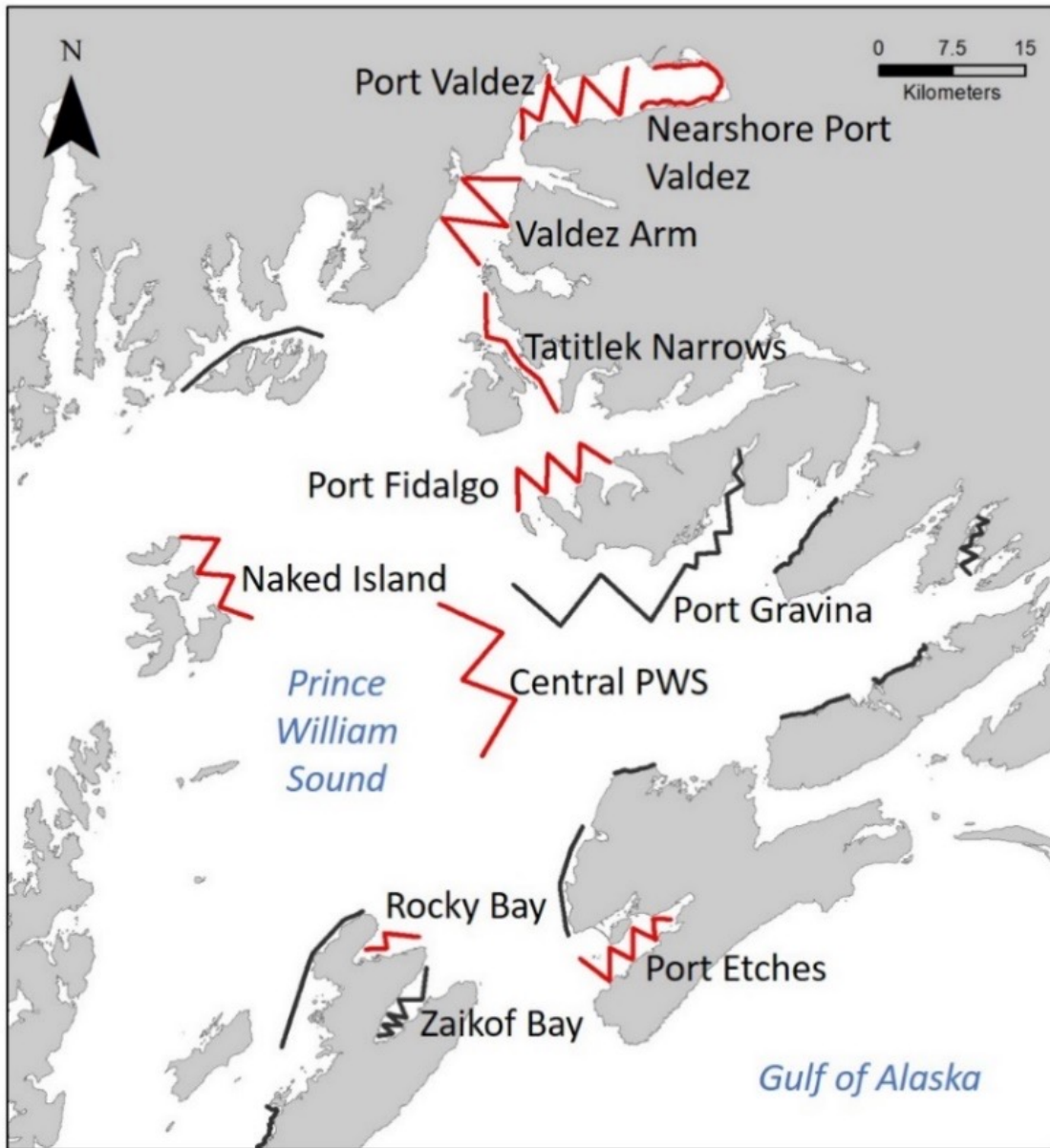
Field Methods

- At-sea strip transect surveys along fixed transects
- Record number, species, behavior both sides of bow



Red: 9 RCAC-funded transects

Black: EVOSTC Gulf Watch-funded transects in this area



Analysis/Summary Methods

- 2021 Survey Dates: March 1-6 & 16
- Surveyed 184.5 km
- Divided 9 transects into 3-km segments
- Grouped similar bird species and calculated relative density for each 3-km segment.
- Marine mammals recorded out to 1 km when possible



Species group	Common Name(s), observed on RCAC transects
Cormorants	Double-crested, Pelagic
Grebes	Horned, Red-necked
Guillemots	Pigeon
Harlequin Ducks	Harlequin
Inshore Ducks	Barrow's Goldeneye, Common Goldeneye, Bufflehead
Kittiwakes	Black-legged
Large Gulls	Glaucous-winged, Herring
Loons	Common, Pacific
Long-tailed Ducks	Long-tailed
Mergansers	Common, Red-breasted
Murrelets	Marbled
Murres	Common
Scoters	Surf, White-winged
Small Gulls	Mew

Photo credits: VJ Anderson, D. Keats, A. Riego & C. McClarren, D. Daniels, R. Knight, A. Schmierer, G. Schechter, A. Berndtsson, G. Smith

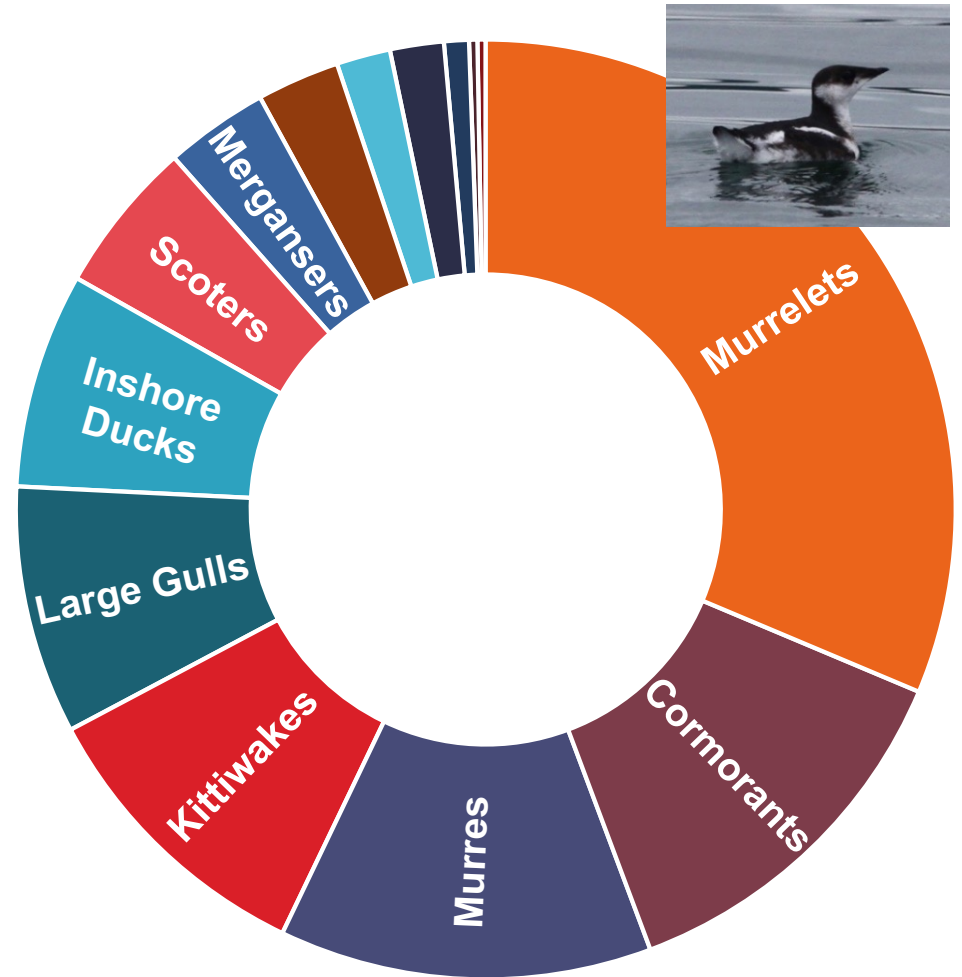


Transect Name	Length (km)	Area Sampled (km ²)	Sea State	Weather State	Bird density (birds/km ²)	# Mammals (within 1 km)
Central PWS	25.0	7.79	3	0	0.8	2
Port Etches	19.7	5.91	1	7	39.3	27
Port Fidalgo	23.9	7.17	1	0	18.3	8
Naked Island	18.4	5.53	1	0	9.5	4
Nearshore Port Valdez	18.2	5.46	1	0	26.3	78
Port Valdez	30.8	9.23	1	0	4.6	7
Rocky Bay	7.3	2.19	1	0	8	6
Tatitlek Narrows	15.4	4.63	1	1	12	21
Valdez Arm	25.7	7.71	2	1	0	15

Results: Marine Birds

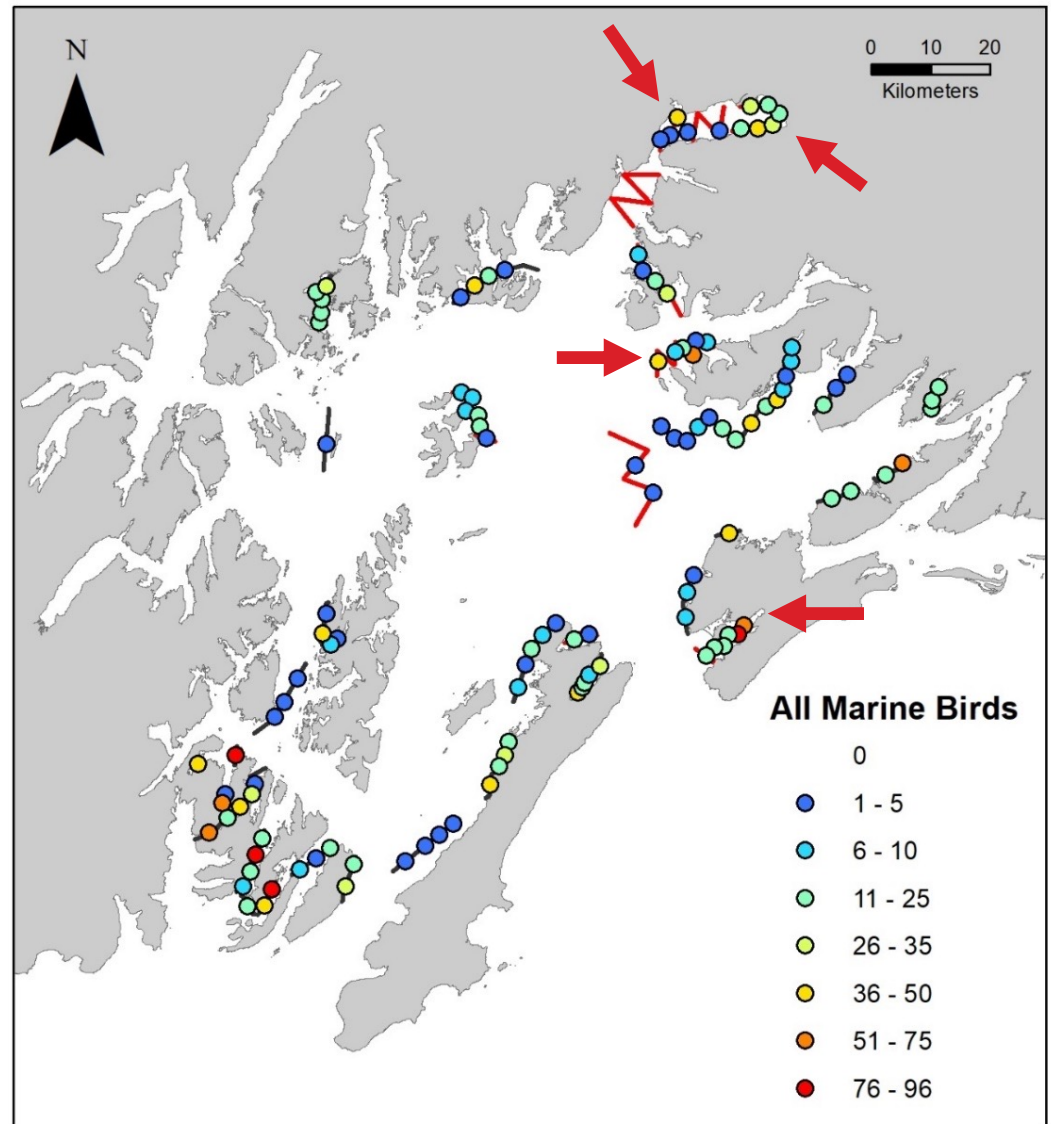
Species Group Proportions

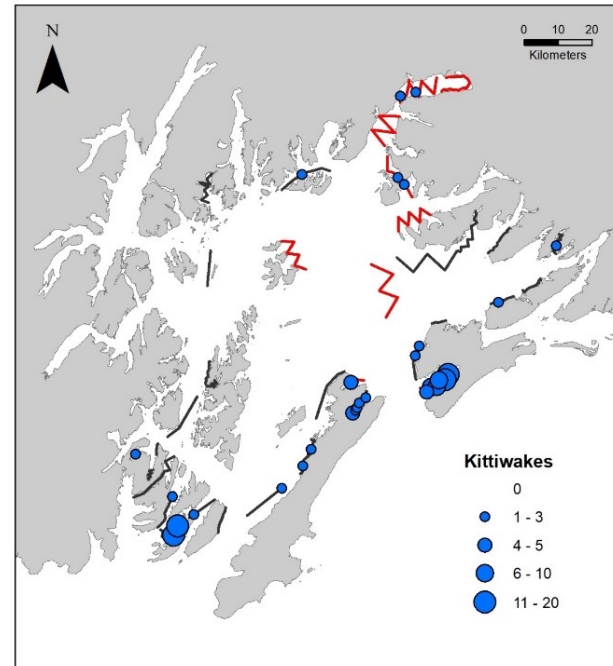
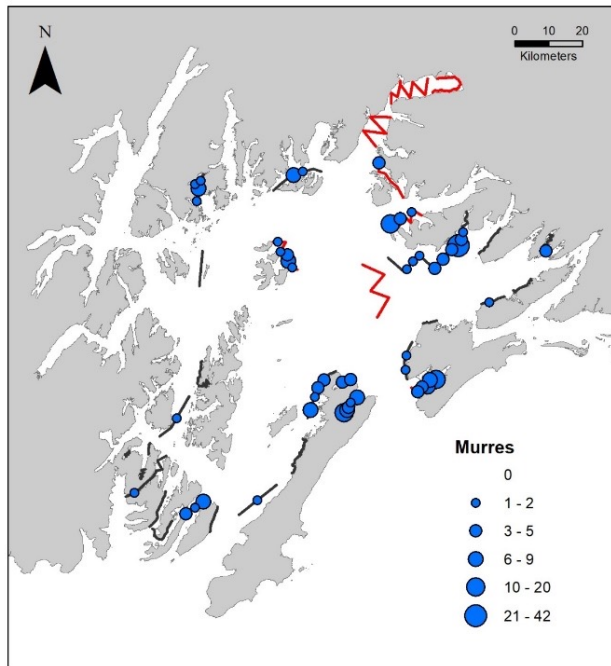
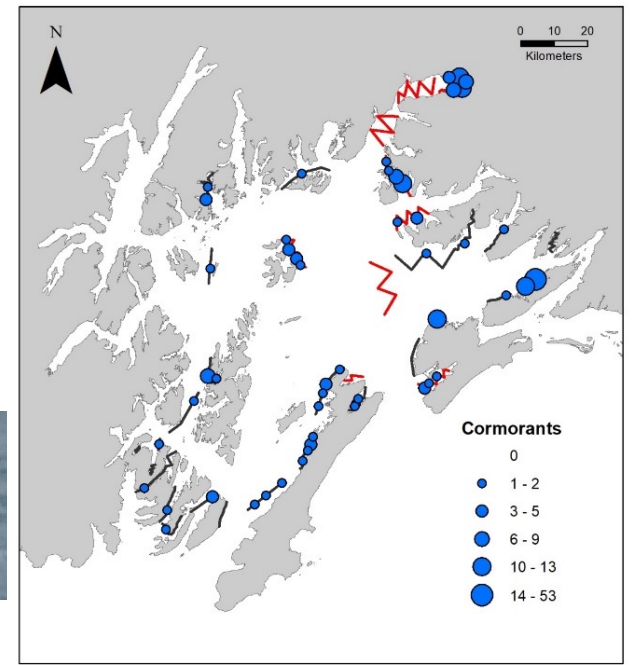
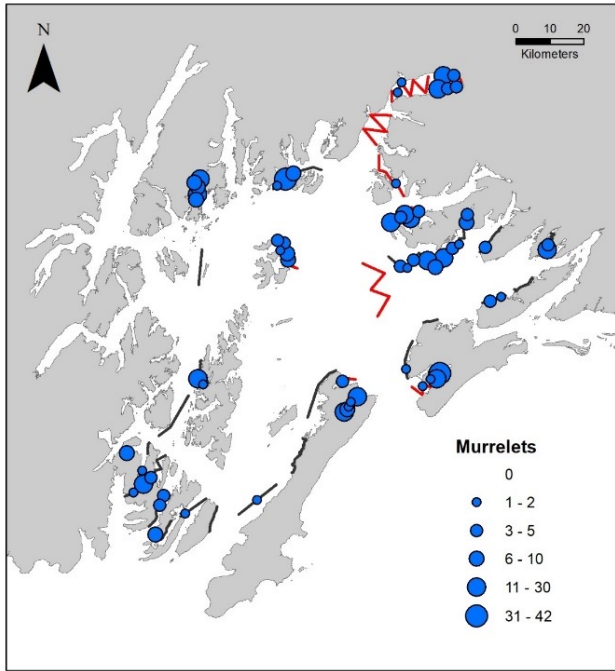
- 707 birds
- 21 species (+2 beyond strip)



Results: Marine Birds

- High density: head of Port Valdez, Shoup Bay, Port Etches, nearshore Port Fidalgo;
- Low density: Valdez Arm, Port Valdez, central PWS





Results: Marine Mammals

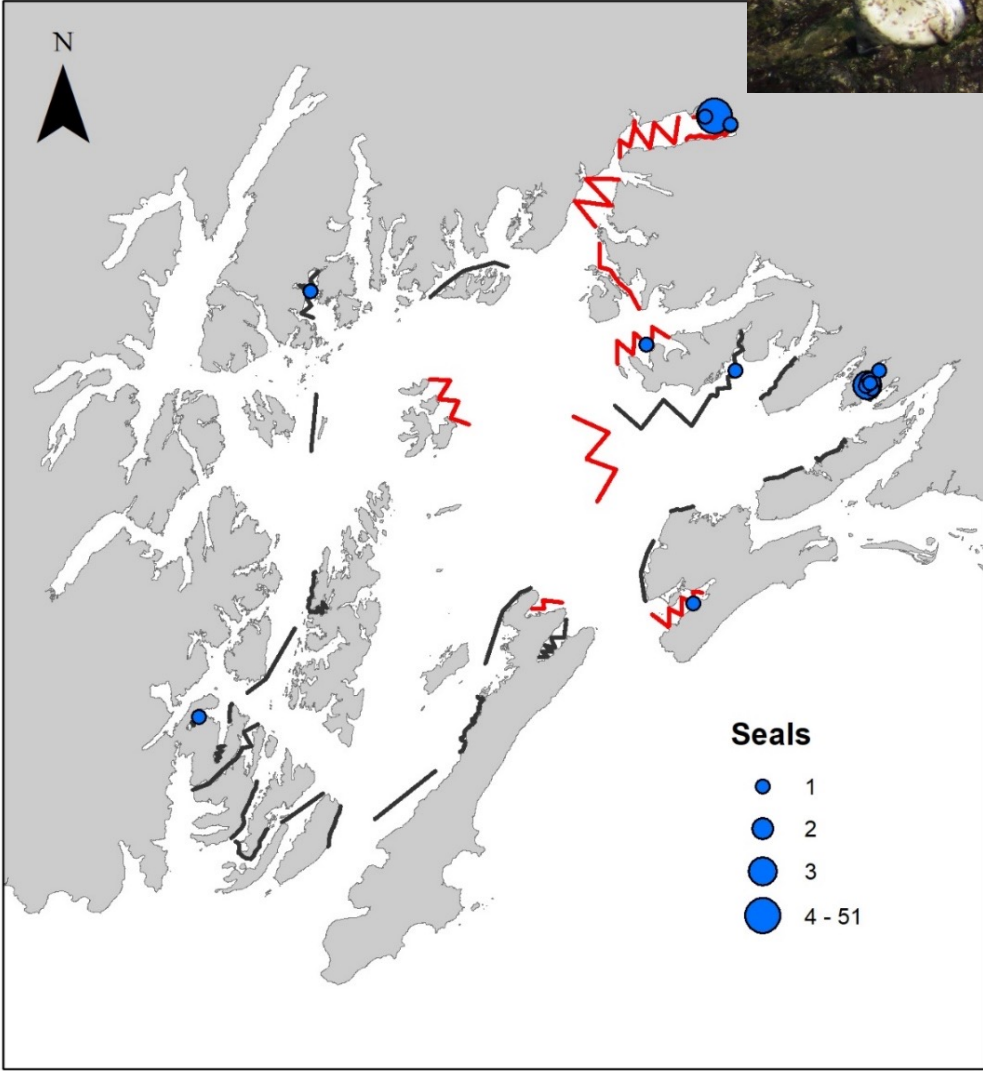


Species	Count (including observations beyond 300 m)
Dall's Porpoise	15
Unidentified Porpoise	2
Harbor Seal	56
Steller Sea Lion	20
Sea Otter	72
Humpback Whale	1
Killer Whale	2

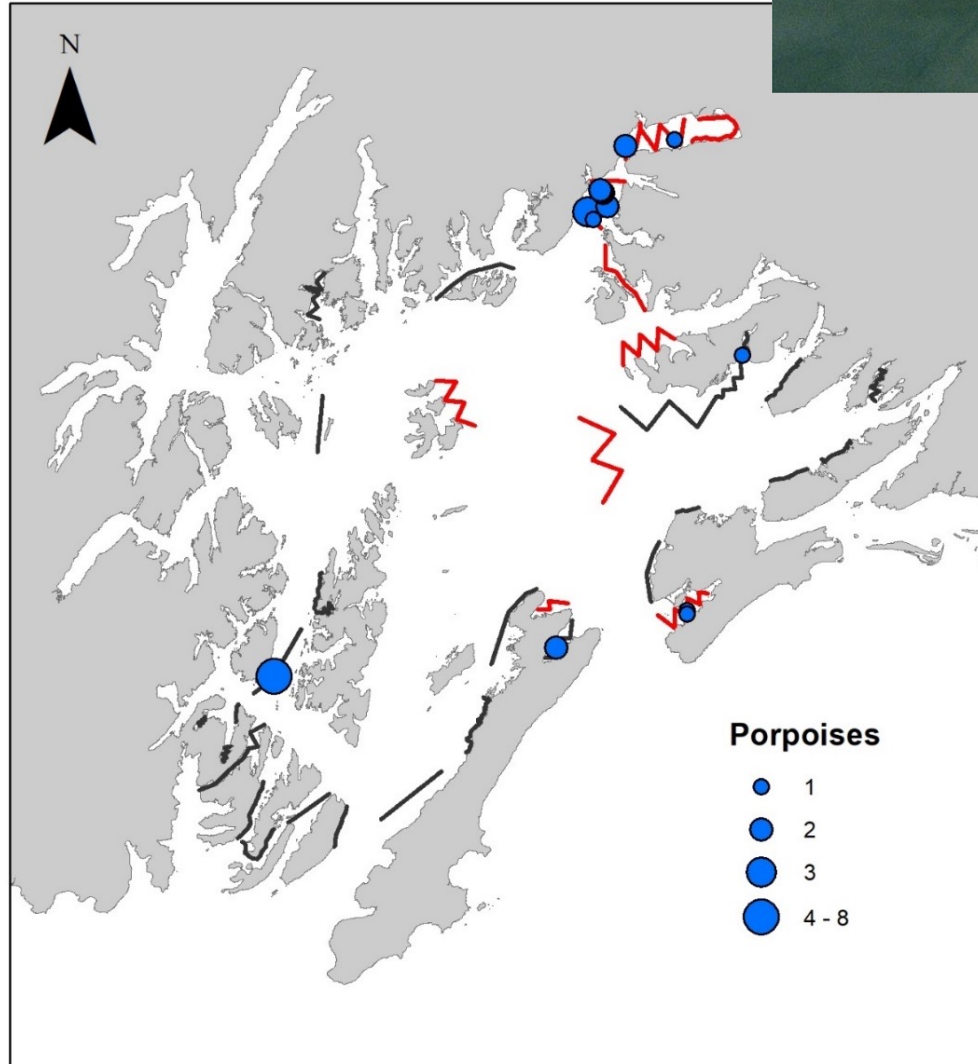


Photo credits: M. Baird, A. Schaefer,
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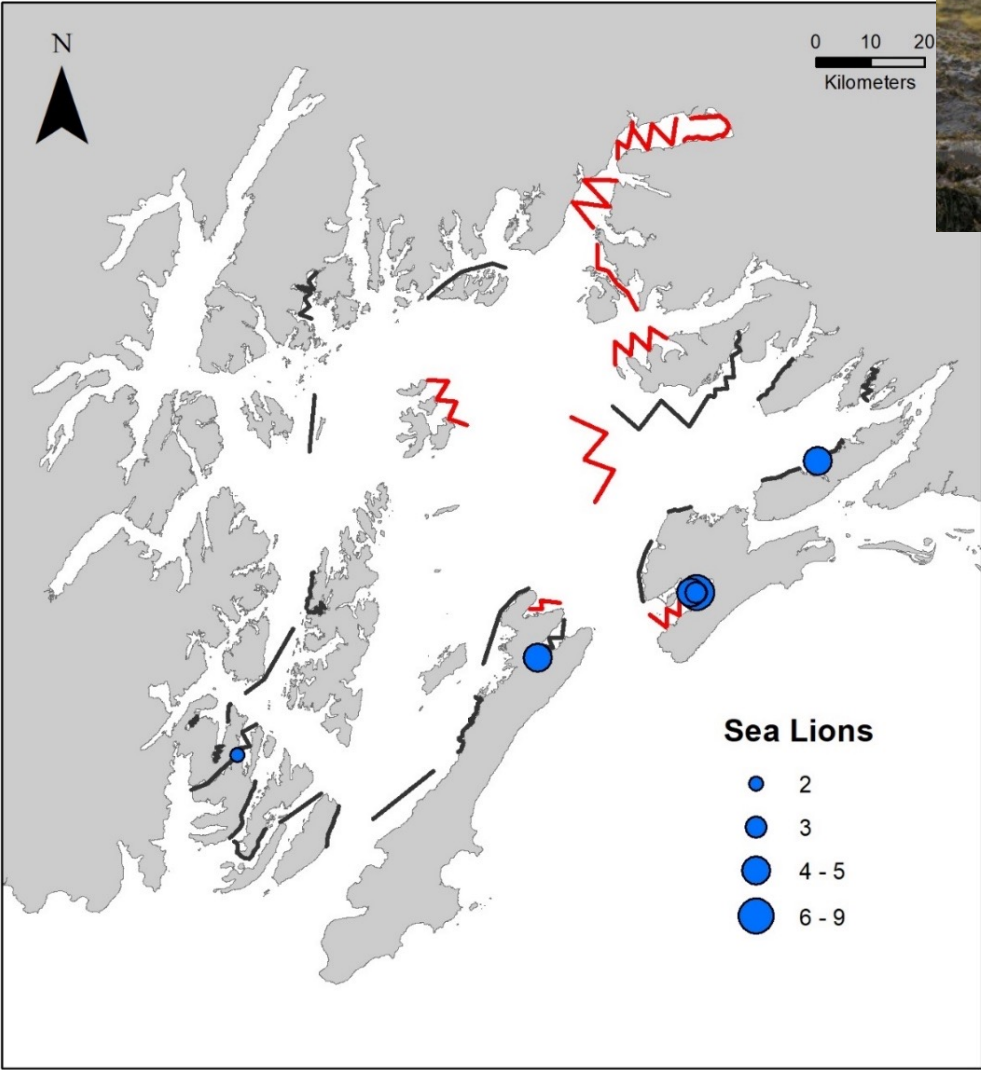
Results: Harbor Seal



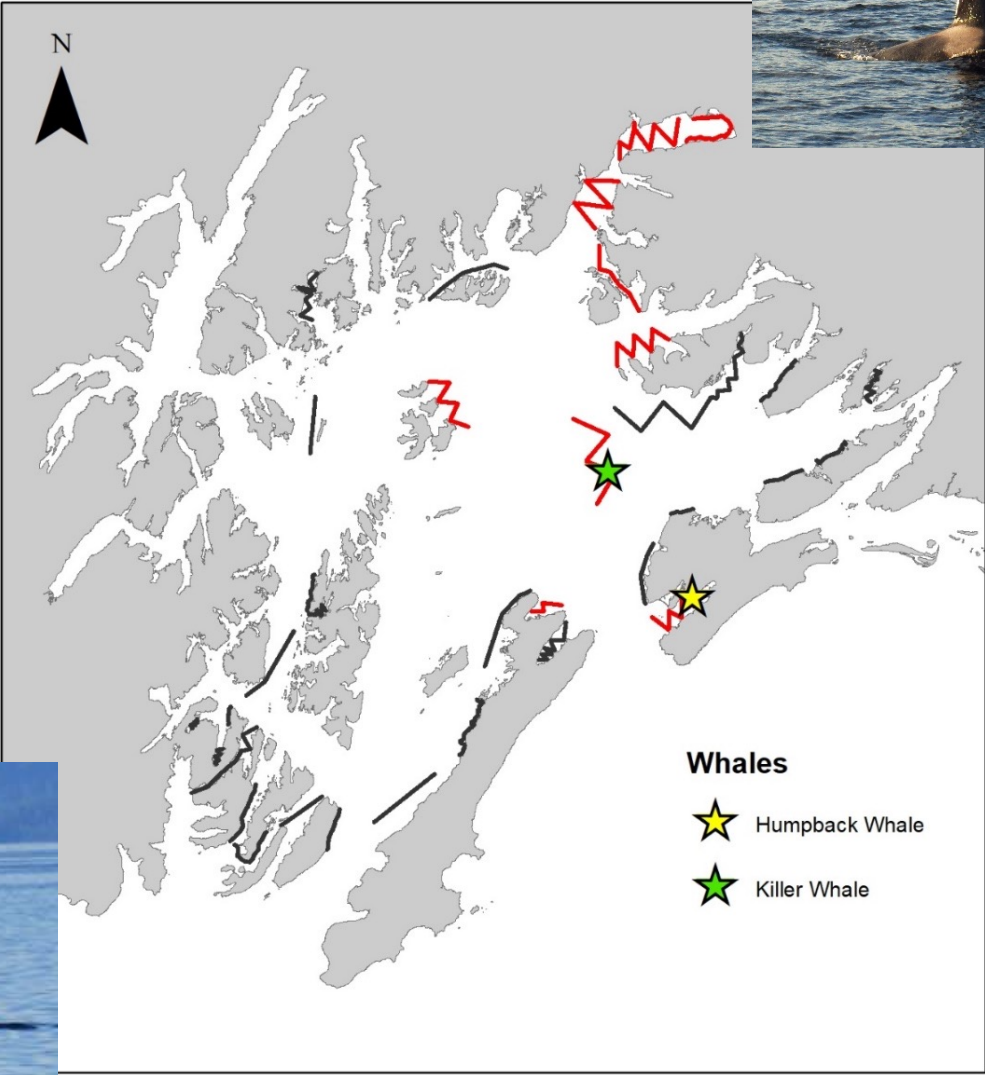
Results: Porpoise



Results: Steller Sea Lions



Results: Whales

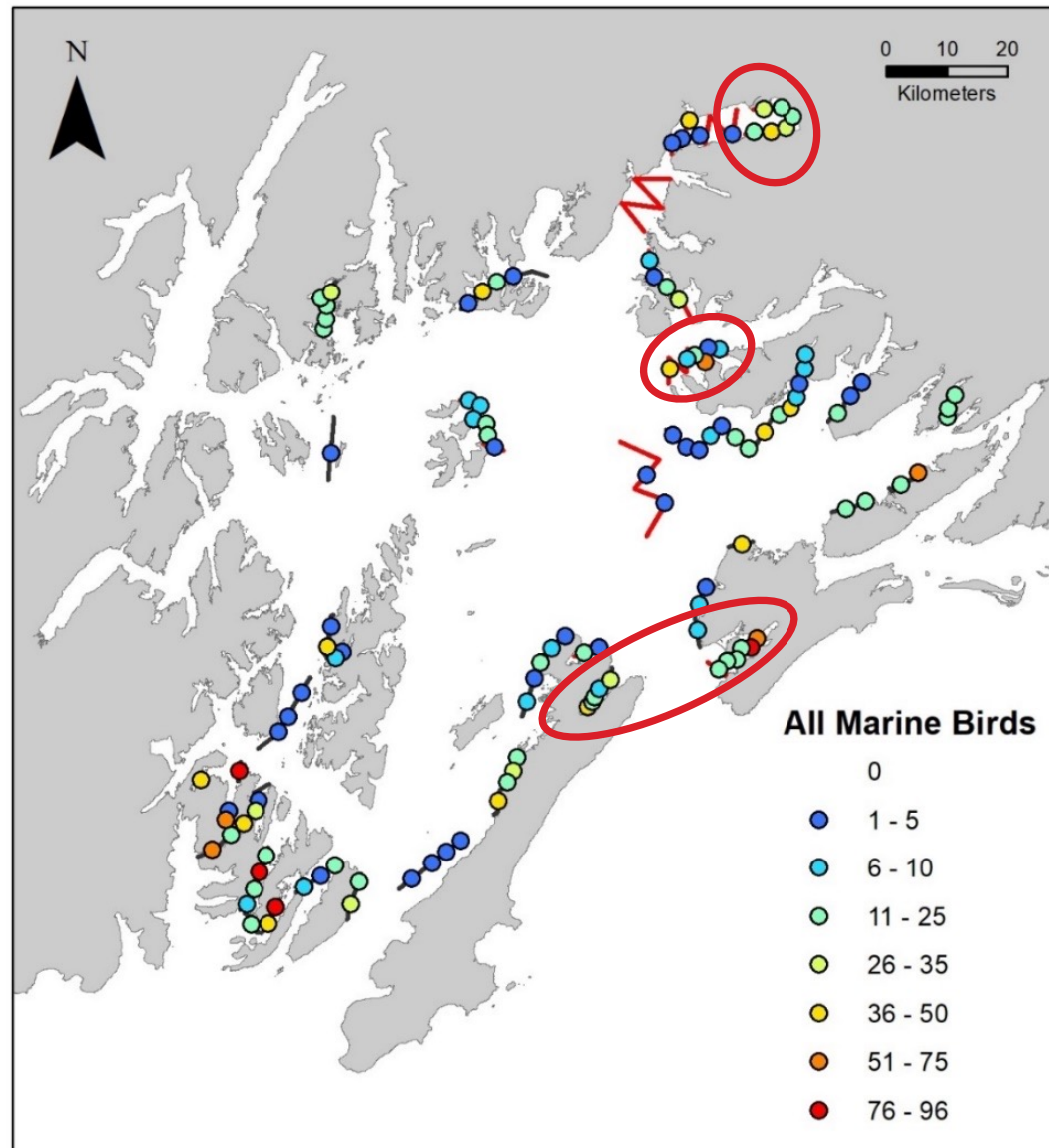


Conclusions

- PWS is a winter refuge from the Gulf of Alaska for seabirds
- Preference for nearshore areas consistent with patterns reported previously for PWS in non-breeding season.
- Challenging to draw results from a single survey.
- Continued monitoring- February/March 2022 and beyond!



Recommendations – Priority Areas



Thank you!

- PWS Regional Citizens' Advisory Council
- Exxon Valdez Oil Spill Trustee Council Gulf Watch Alaska
- Dr. Rob Campbell, Prince William Sound Science Center

