

# Winter Marine Bird Surveys in Prince William Sound 2023

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# Background

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

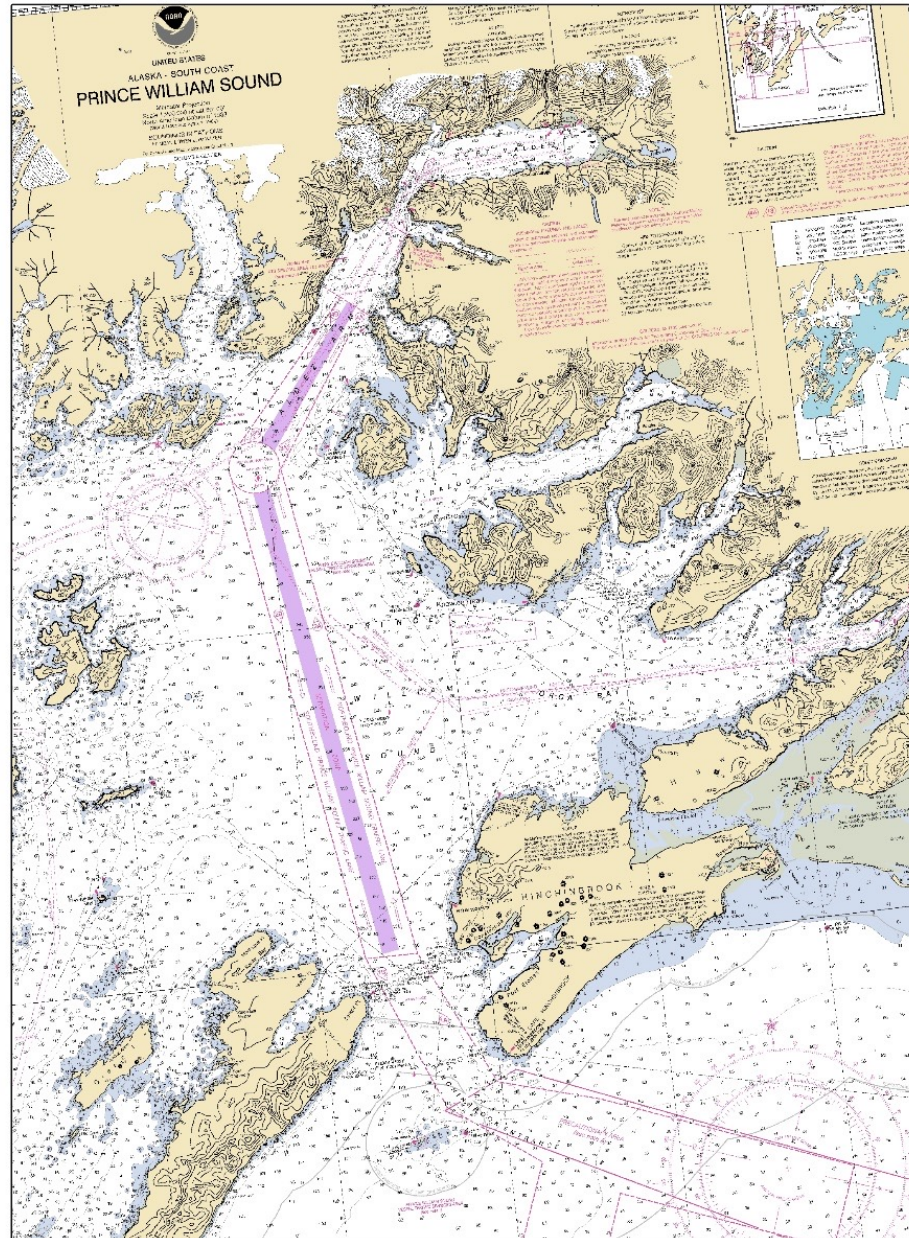
9 marine bird species

1 marine bird species group



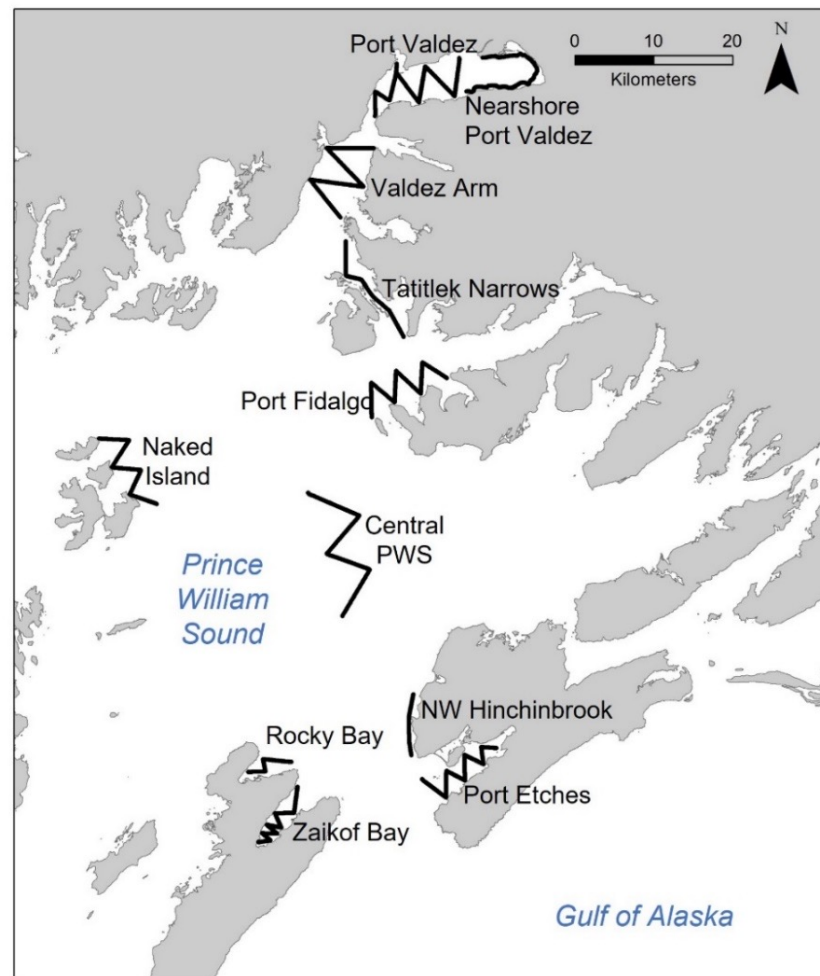
NOAA

# Historically tanker escort zone under-surveyed



# Objectives

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



# Field Methods

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





Loons



Scoters



Kittiwakes



Grebes



Inshore  
Ducks



Murres



Cormorants



Mergansers



Murrelets



Harlequin  
Ducks



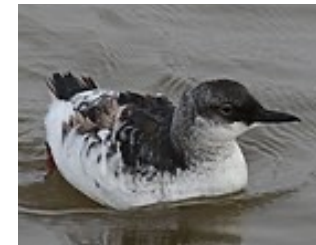
Large  
Gulls



Long-tailed  
Ducks



Small  
Gulls

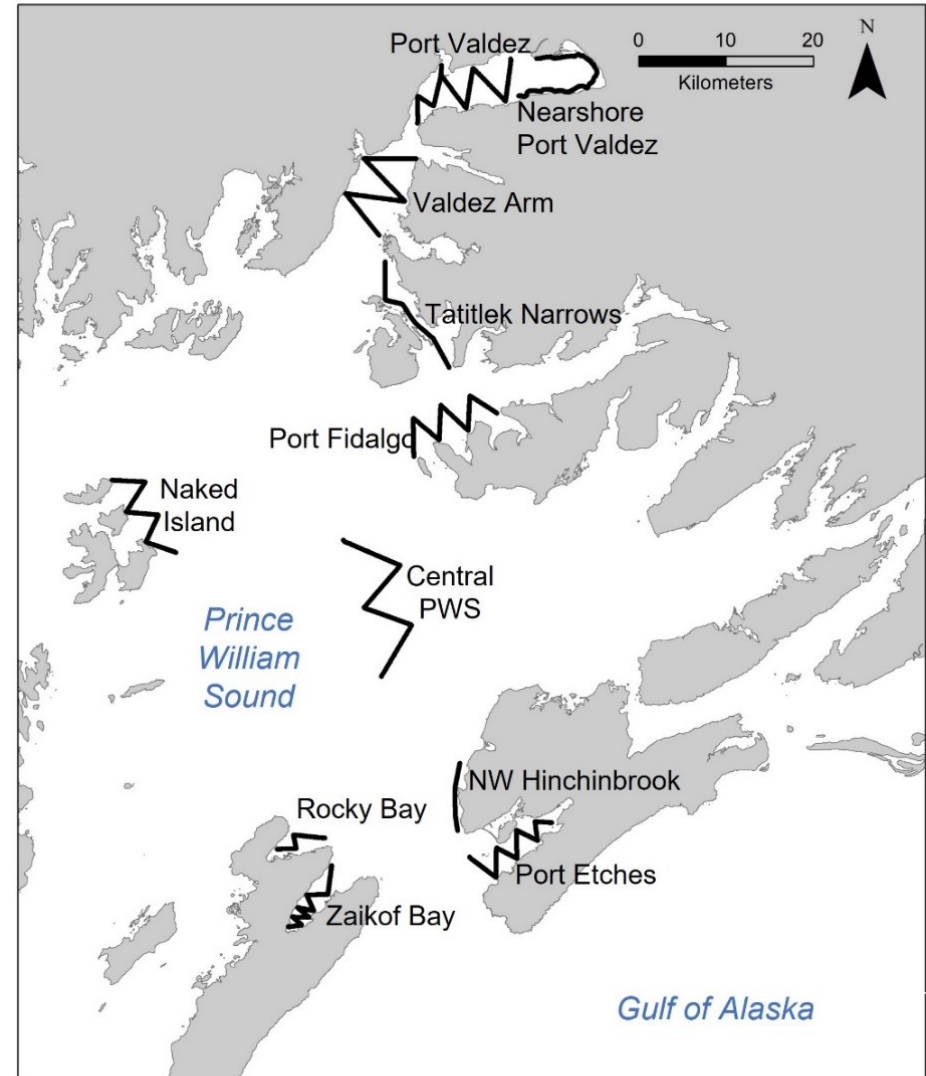


Guillemots

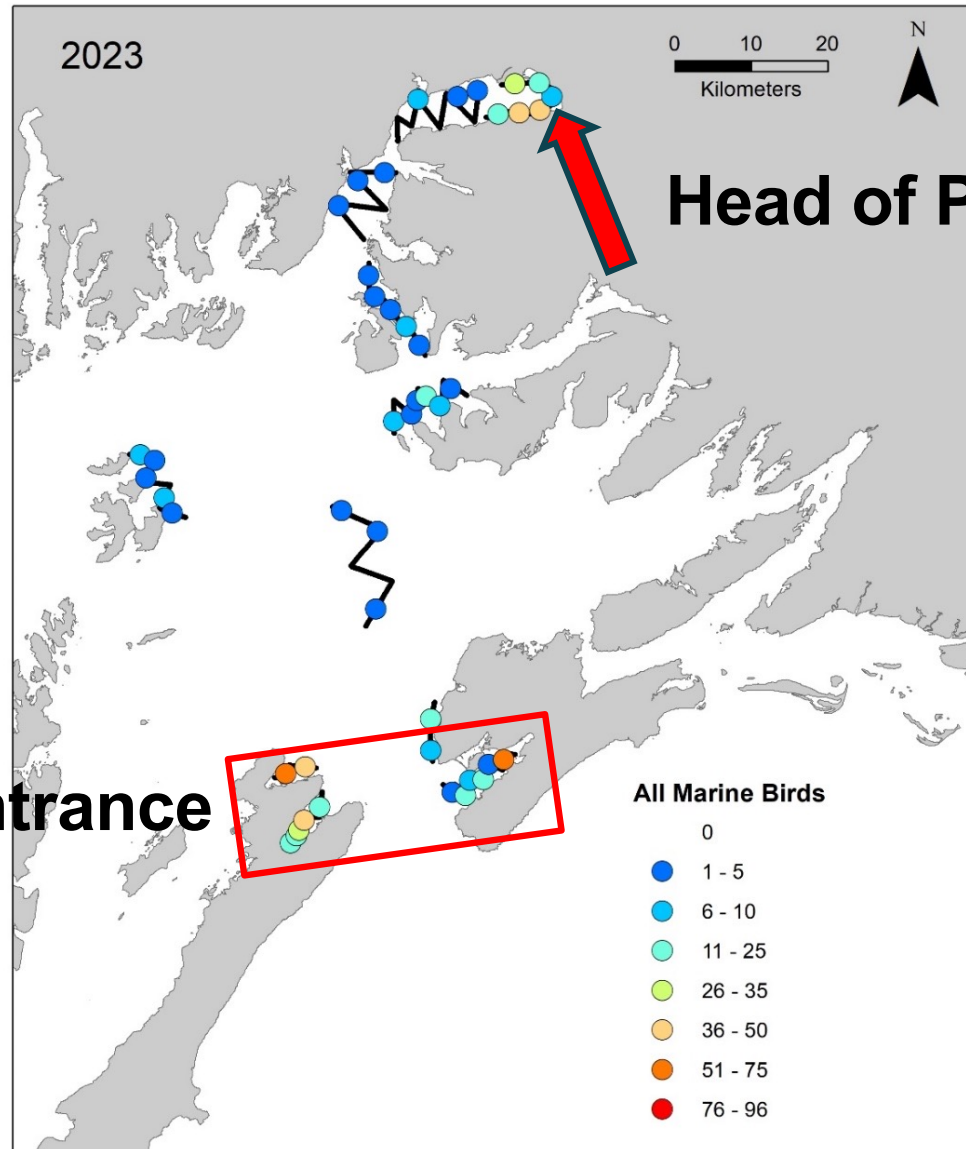
Photo credits: VJ  
Anderson, D. Keats, A.  
Riego & C. McClarren,  
D. Daniels, R. Knight, A.  
Schmierer, G.  
Schechter, A.  
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# Results

- March 2-7, 2023 surveys
- Surveyed 205 km
- 646 Birds, 23 species
- 4 marine mammal species



# Results: High bird density areas





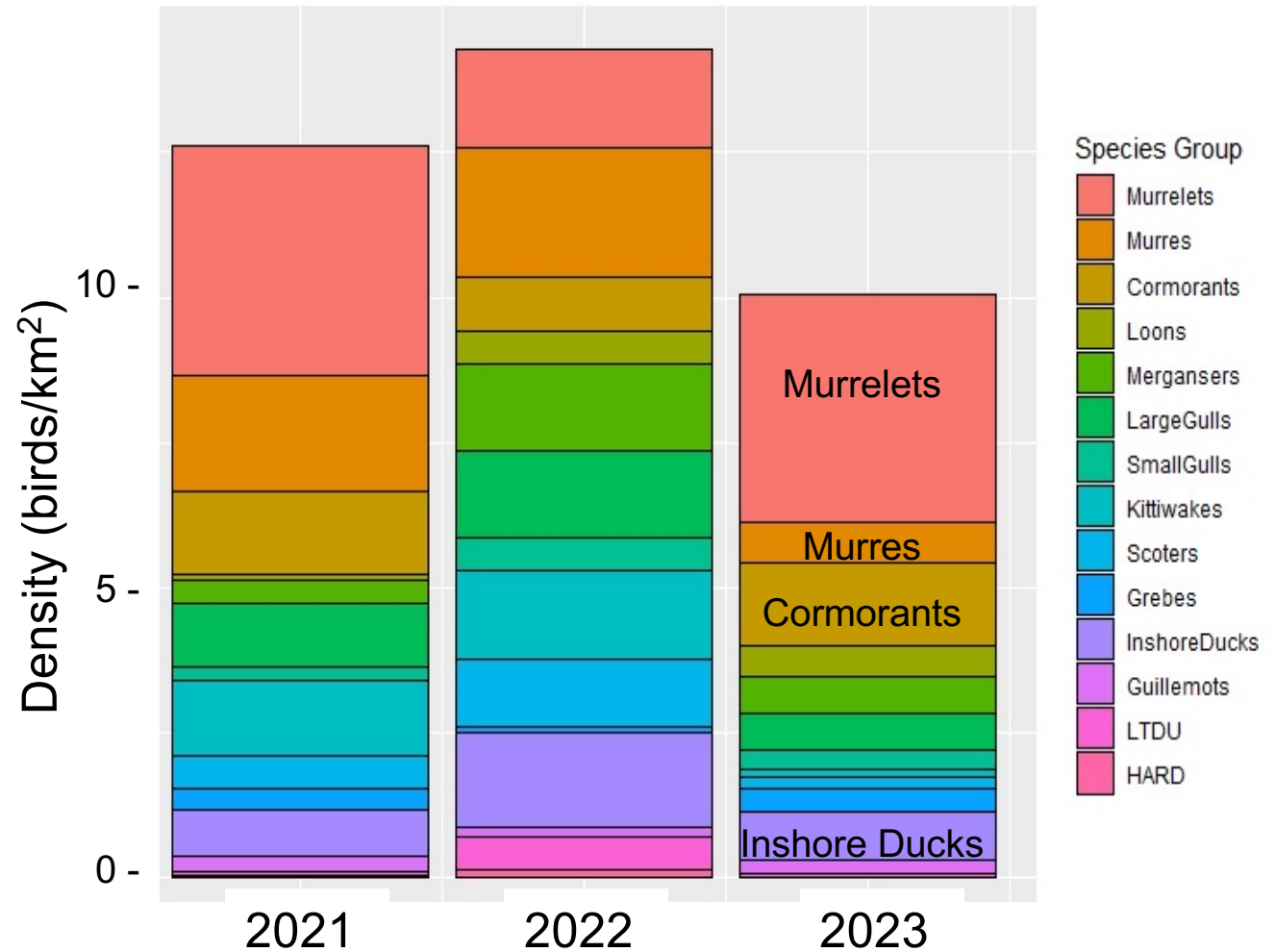
Transect Name	Mean bird density (birds/km <sup>2</sup> )	# Mammals (within 1 km)
Central PWS	0.5	0
Port Etches	17.5	37
Port Fidalgo	6.3	16
Naked Island	5.2	8
NW Hinchinbrook Isl.	13.0	0
Nearshore Port Valdez	26.3	43
Port Valdez	1.9	11
Rocky Bay	49.5	3
Tatitlek Narrows	4.6	10
Valdez Arm	0.8	0
Zaikof Bay	27.2	34

# Results: Density by Species Group

- Murrelets



- Murres

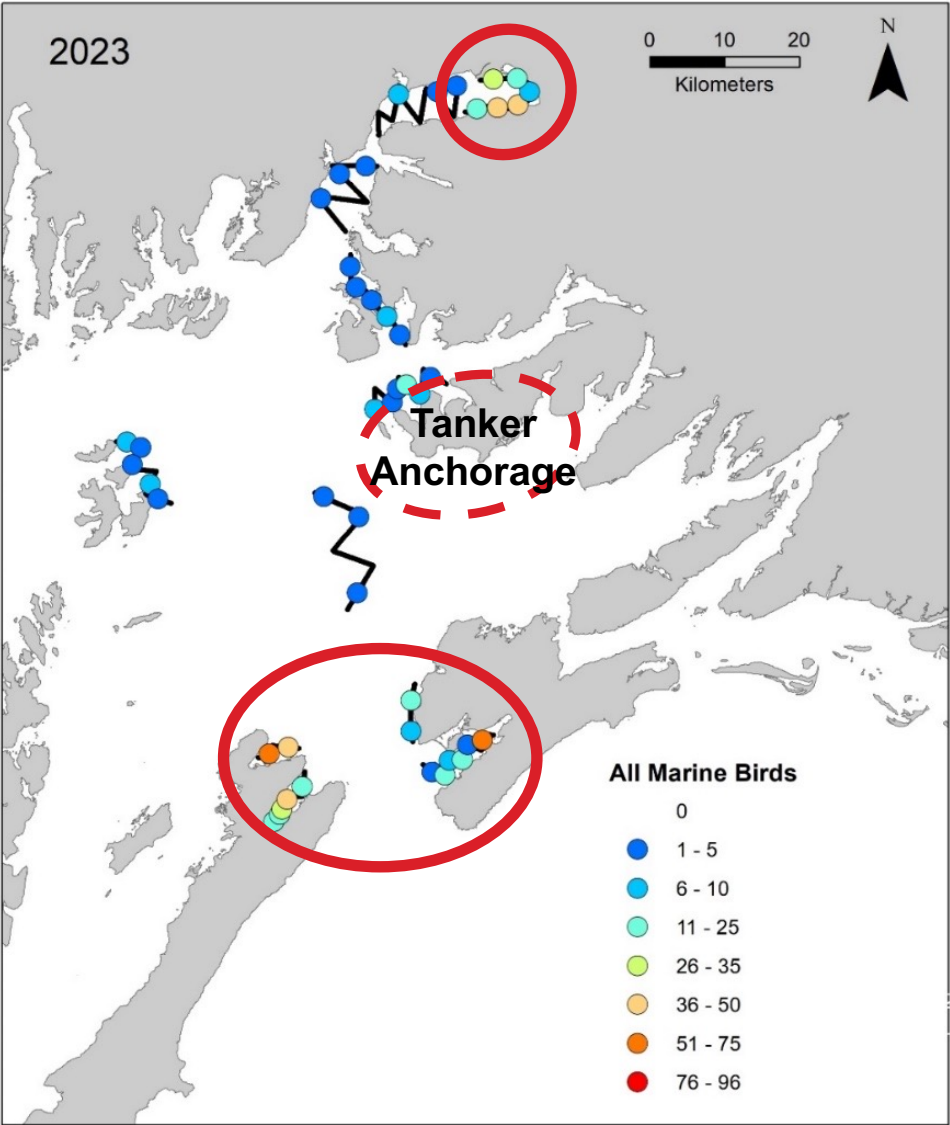


# Results: Marine Mammals

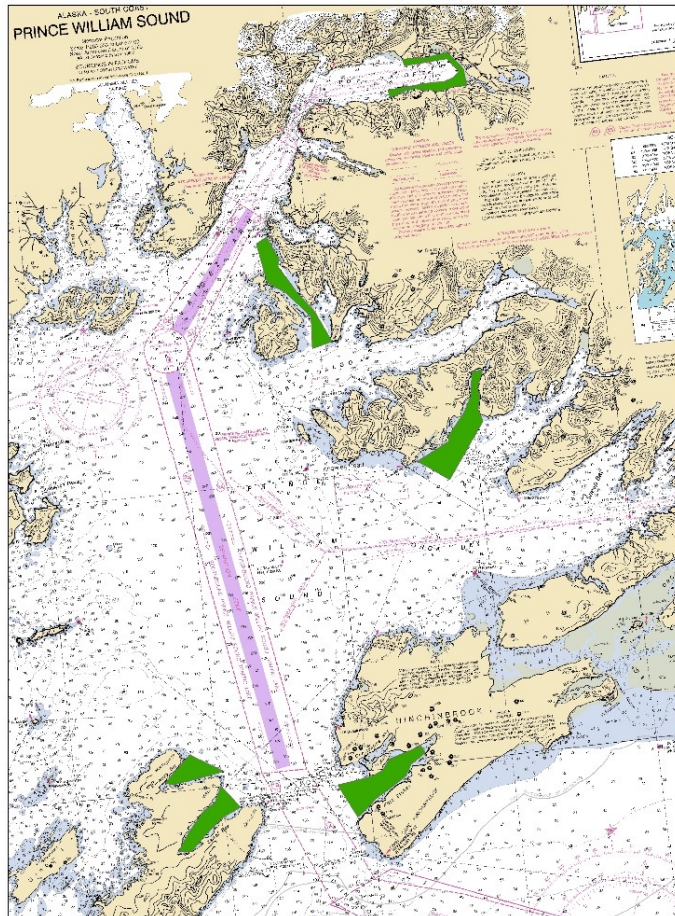
Species	2023 Count (including beyond 300 m)
Dall's Porpoise	6
Harbor Porpoise	
Unid.Porpoise	5
Harbor Seal	16
Steller Sea Lion	30
Sea Otter	108
Humpback Whale	
Killer Whale	



# Recommendations – Priority Areas



# Environmental Response Management Application (ERMA)



- Provides resource managers with the necessary data to make informed decisions for environmental response, damage assessment, and recovery/restoration
- Marine bird data submitted:
  - 6 areas (highlighted green)
  - **Mean marine bird density, 2021-2023**
  - **List of species occurrence**

# Conclusions

- For seabirds - PWS is a winter refuge from the Gulf of Alaska
- Preference for protected waters and nearshore areas
- Priority areas:
  - Hinchinbrook Entrance
  - Head of Port Valdez
  - Knowles Head tanker anchorage



# Final thoughts

- Continued surveys in 2024 + hot spot analysis
  - Mean March marine bird density by 3x3 km grid
- 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

# Thank you!

- PWS Regional Citizens' Advisory Council
- Dr. Rob Campbell, Prince William Sound Science Center

