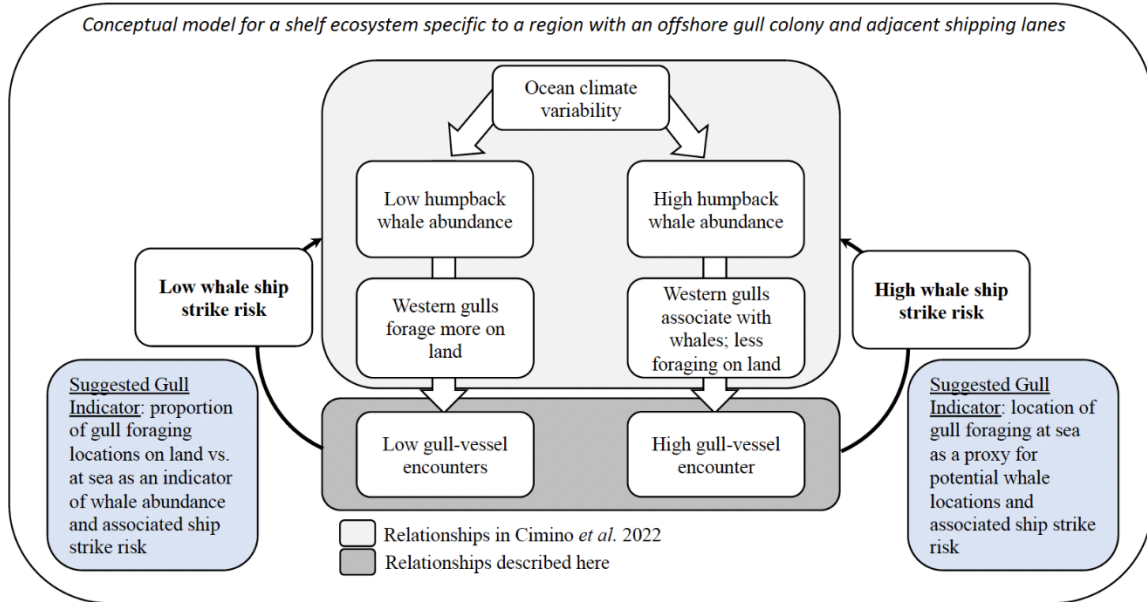
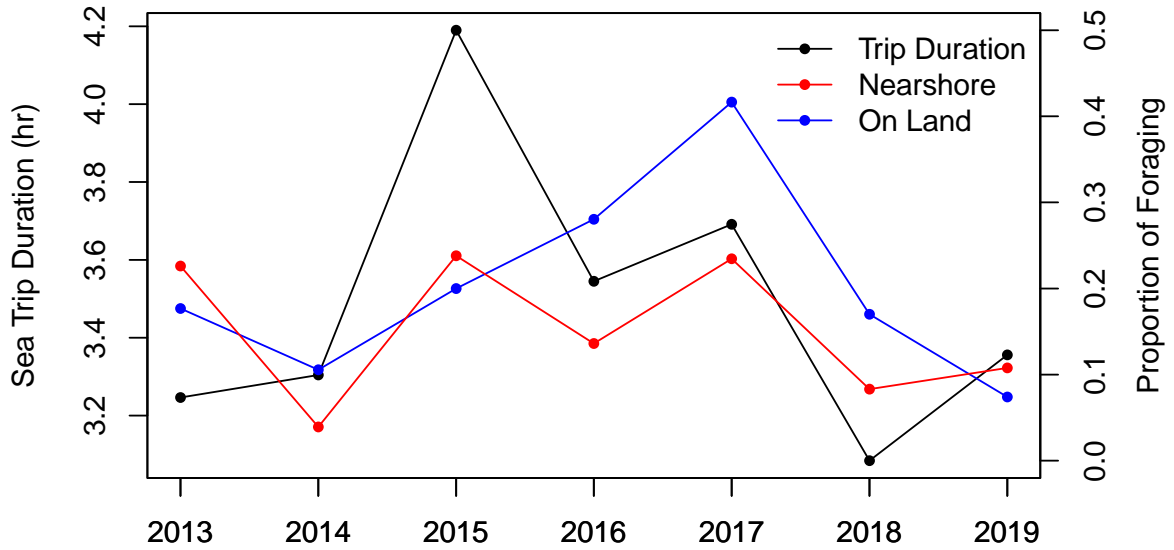


APPENDIX



**Fig. A1.** Conceptual model showing how ocean climate variability can lead to years or periods of low or high Humpback Whale abundance, which influences if Western Gulls forage more on land or at sea, and drives gull-vessel encounters rates in a nearshore shelf ecosystem. Western Gulls often associate with whales at sea because whales can drive prey to the surface, making it more accessible for gulls. Therefore, in periods of few whales near their offshore breeding colony, they forage more on land, which leads to few gulls encountering vessels, probably because gulls are spending less time at sea. This indicates ship-strike risk would be lower for whales due to their low abundances, suggesting a near real-time calculation of gull foraging locations on land vs. at sea could be an indicator of whale ship-strike risk. In contrast, when whales are abundant, gulls forage more at sea feeding in association with whales, which leads to more gull-vessel encounters. This indicates ship-strike risk would be higher for whales due to their high abundance, suggesting a near real-time calculation of locations of gull foraging could be used as a proxy for locations of where whales may be at risk of ship strikes.



**Fig. A2.** The mean sea trip duration for tagged Western Gulls and the proportion of foraging that was nearshore (within 5 km of the shoreline) and on land each year (as described in Cimino *et al.* 2022).