Protecting Blue Whales and Blue Skies

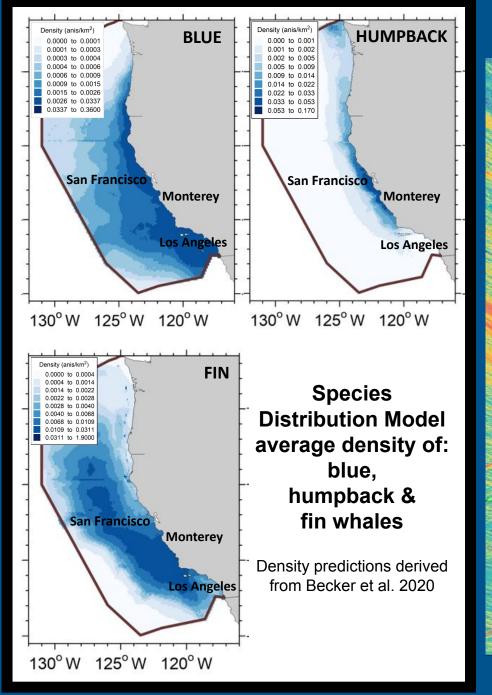


Reducing Ship Strike Risk in California's National Marine Sanctuaries

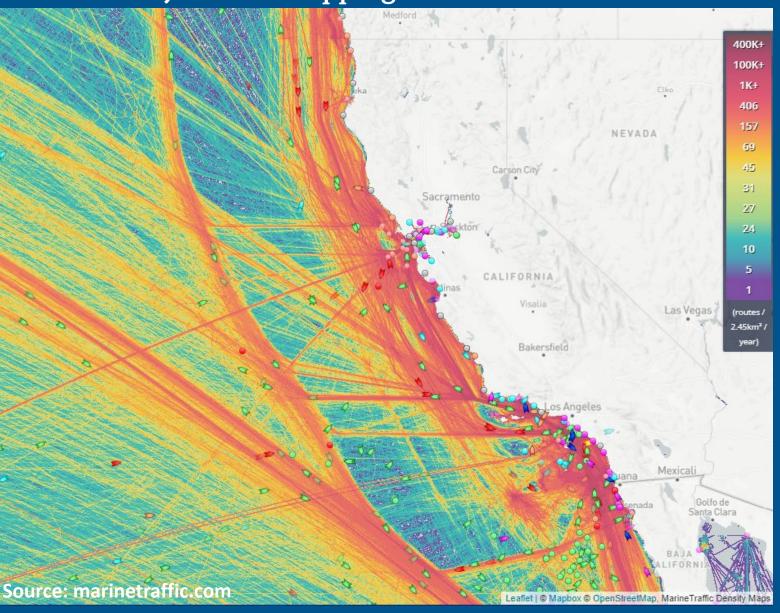


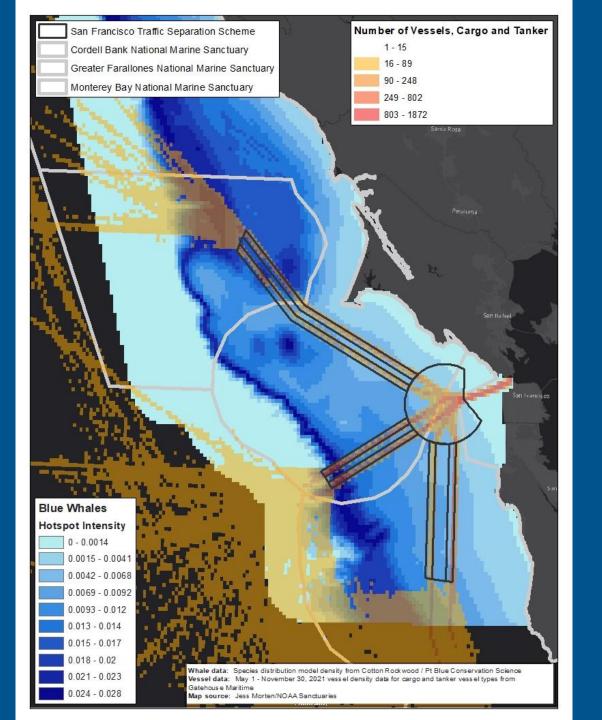


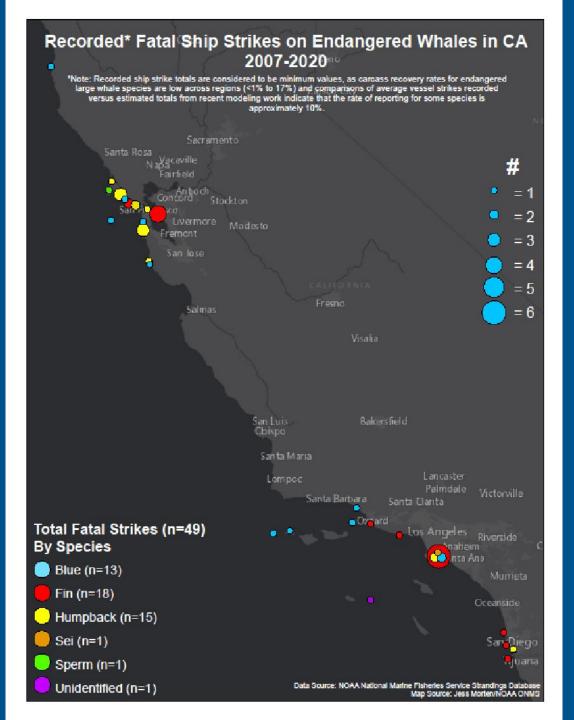




Density of 2020 Shipping Traffic off of California

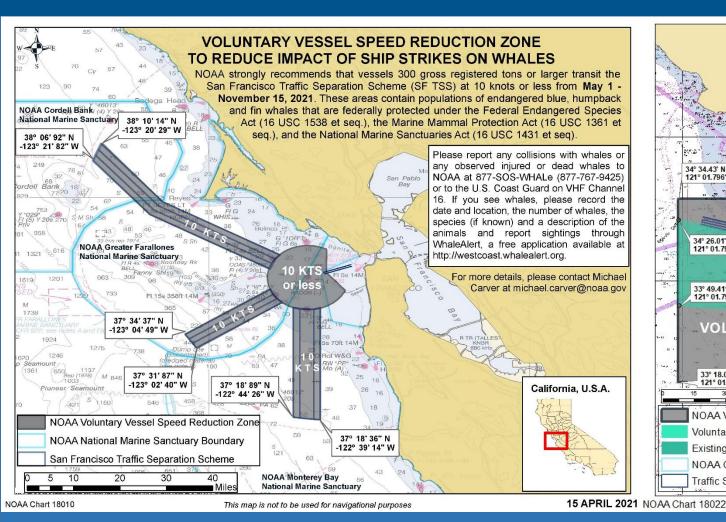


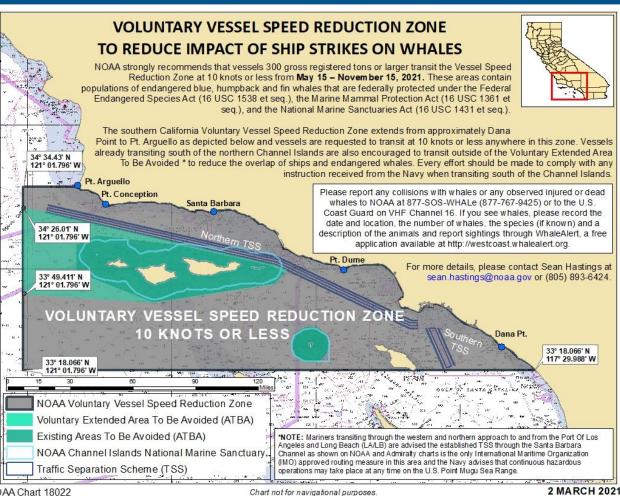




2021 NOAA Voluntary Slow Speed Zones (NOAA and USCG request to all vessels 300 gross tons or larger)







2021 SF Bay Region May 1 – November 15, 2021 2021 Southern California May 15 – December 15, 2021

NOAA Voluntary VSR Results



Percentage coo	peration from al	Il vessels 300 GT	or more, by year
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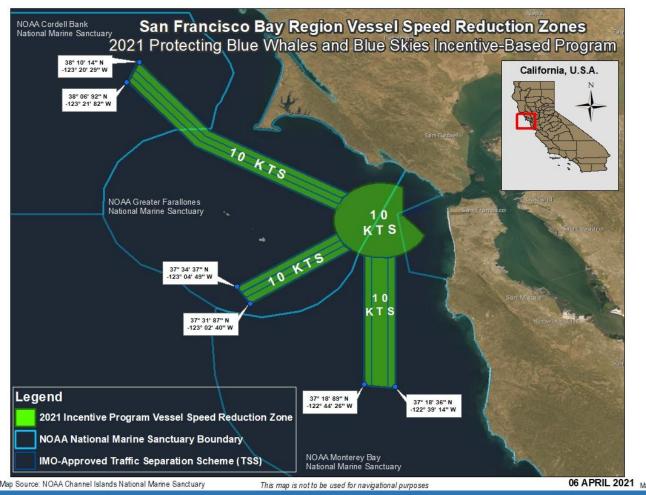
Region Region		<u>2018</u>	<u>2019</u>	<u> 2020</u>
San Francisco Bay Region NOAA Voluntary Slow Speed Request	45%	45%	58%	64%
Southern California Region NOAA Voluntary Slow Speed Request	18%	23%	50%	54%





2021 Protecting Blue Whales and Blue Skies Incentive Program (enrollment open to container and car carrier lines)







2021 SF Bay Region May 15 – November 15, 2021

2021 Southern California May 15 – November 15, 2021

YEAR	2014	2016	2017	2018	2019	2020
Area	Santa Barbara Channel	Santa Barbara Channel Region	Santa Barbara Channel Region & San Francisco Bay Area			SoCal Region and SF Bay Area
# Companies	7	10	11	12	15	16
# Vessels	14	25	44	280	349	495
Slow-speed Distance (nautical miles)	2,700	5,000	12,630	46,026	99,019	181,306
NOx Reductions (tons)	12.4	25.6	84	266	536	748
Regional GHG Reductions (metric tons)	535	1,005	2,630	8,668	17,026	24,258
Ocean Noise Reduction (Decibels [dB]/transit)	-	-	-	-	SoCal: 6 (Gold and Sapphire award tiers only)	SoCal: 4 (All award tiers)
Ship Strike Risk Reduction	-	-	-	-	-	35%*

^{*} **Note**: This represents the proportional decrease in risk from participating vessels and not absolute estimates of mortality avoided. Slower participating transits in the San Francisco VSR zone presented 61% lower mortality risk to whales than if they did not decrease speed, while mortality risk was lowered 30% in the Southern California zone.

Thank You

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Greater Farallones Association

with NOAA Channel Islands, Cordell Bank, and Greater Farallones National Marine Sanctuaries

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