



**CORDELL BANK NATIONAL MARINE SANCTUARY
SANCTUARY ADVISORY COUNCIL**

Resolution to support staff recommendations within the Marine Mammals Topic Briefing

At its meeting on February 24, 2023, the Cordell Bank National Marine Sanctuary Advisory Council suggested edits to the staff recommendations within the Marine Mammals Topic Briefing. The council passed a resolution to support the staff recommendations with the suggested edits.

Attachments: Marine Mammals Topic Briefing

Voting Members

Community-at-Large Marin Co.	Community-at-Large Sonoma Co.	Conservation	Education
Vacant	Frank Capurro	Scott Artis	Vacant
Vacant	Steve Tubbs	Morgan Patton	Vacant
Fishing	Maritime Activities	Research	
Vacant	Vacant	Jeff Dorman	
Vacant	Kai Martin (Chair)	Chrissy Piotrowski	

The council is an advisory body to the sanctuary superintendent. The opinions and findings of this letter/publication do not necessarily reflect the position of the sanctuary and the National Oceanic and Atmospheric Administration.

Briefing on Marine Mammals in GFNMS and CBNMS

State of the Resource

- Condition Report Data
 - CBNMS and GFNMS: Blue and humpback whales were considered as focal species for CBNMS and humpback whales were considered a focal species in GFNMS. Overall, blue and humpback whale populations along the west coast are at low population levels and are showing signs of growth but are still endangered or threatened. CBNMS and GFNMS contain foraging habitat “hotspots” along the shelf and shelf break. Whales are seasonally abundant in CBNMS and GFNMS and in recent years have been arriving earlier and staying later. Acoustic data shows that some whales are present year-round, particularly humpback whales. Whale distribution and abundance is driven by prey availability and humpback whales in particular are vulnerable to habitat compression when oceanographic conditions concentrate suitable habitat and forage species nearshore, making them more vulnerable to human activities such as entanglement in fishing gear. Ship strikes have also been identified as a pressure to whales in the sanctuaries.
 - GFNMS: Disturbance to harbor seals was evaluated as an indicator of human activities that may affect living resources. Although disturbance from vessels and humans occurs regularly, it does not appear to be greatly impacting population levels or habitat use within GFNMS.
- Climate Vulnerability Assessment (CVA) Preliminary Findings. Vulnerability is calculated from exposure to climate and non-climate stressors, sensitivity to those same stressors, and the resource’s ability to adapt to the impacts. Ratings presented are from the original 2015 report and from 2023 revisions of some indicators.
 - Blue whales have a **moderate-high** vulnerability, based on high exposure to climate stressors, especially indirectly through their prey, and moderate-high sensitivity and adaptive capacity. Blue whale prey (krill) is affected by changing ocean conditions such as upwelling, temperature, and ocean acidification. In addition to climate vulnerability, the CVA notes the high vulnerability to non-climate stressors such as ship strikes.
- Other science information:
 - Many marine mammal species are abundant in the sanctuaries and are important parts of the ecosystem. For example, dolphins are observed

feeding and traveling in the sanctuaries in large numbers. Pinnipeds (seals and sea lions) breed and pup in GFNMS primarily at the Southeast Farallon Islands (SEFI) and Point Reyes National Seashore (PORE) and travel and forage in GFNMS and CBNMS. Sanctuary-wide trends for some pinniped species have increased (e.g., California sea lions and elephant seals). Monitoring programs on SEFI and at PORE provide long-term data at these locations.

- Point Blue Conservation Science has modeled reduction of risk of lethal ship strikes to endangered and threatened blue, humpback, and fin whales in the sanctuaries from slowing ships to 10 knots. A 60% cooperation rate by ships 300 gross registered tons or larger results in approximately a 23% reduction in risk of a lethal ship strike.
- A new study reports that humpback whale habitat is expected to decline in the California Current Ecosystem, including in GFNMS and CBNMS, based on species distribution models and climate projections of ocean conditions (prey data not yet included) from 1985-2015 to 2070-2100. However, the proportion of humpback whale habitat in both GFNMS and CBNMS relative to total habitat in the California Current Ecosystem is expected to increase. This indicates that the sanctuaries will have a more important role in their relative contribution to core humpback whale habitat in the future (Brodie et al. unpublished data).
- Marine mammals have been and will continue to be affected by changes in forage species distribution, resulting in changes in their distribution and abundance in the sanctuaries.
- Pressures on marine mammals in GFNMS and CBNMS:
 - Vessels (ship strikes, noise)
 - Human disturbance
 - Fishing gear (entanglements)
 - Climate change (forage species shifts, habitat compression)

Summary of Relevant Regulations

See full text, definition, and exemptions on the regulations page of the [GFNMS](#) and [CBNMS](#) websites.

The following GFNMS and CBNMS prohibitions can prevent impacts to marine mammals¹:

1. Taking any marine mammal, sea turtle, or bird within or above the Sanctuary.
2. Possessing within the Sanctuary (regardless of where taken, moved or removed from), any marine mammal, sea turtle or bird taken.

¹ See full regulatory language for exceptions.

3. Disturbing marine mammals or seabirds by flying motorized aircraft at less than 1,000 feet over the waters within any of the seven designated Special Wildlife Protection Zones. Failure to maintain a minimum altitude of 1,000 feet above ground level over such waters is presumed to disturb marine mammals or seabirds. (GFNMS only)

Summary of Relevant Sanctuary Projects

Conservation Science:

- The sanctuaries' science projects study: distribution and abundance of marine mammals at-sea in the context of ocean conditions and prey (ACCESS) in partnership with Point Blue Conservation Science and others; record live observations from the shore as well as dead and stranded animals on beaches (Beach Watch); partner with the National Marine Fisheries Service and Oregon State University to monitor sounds from marine mammals and vessels through drifting and stationary buoys.
- The sanctuaries work with Point Blue Conservation Science to model ship strikes and with NOAA's Office of Protected Resources, Greater Farallones Association, and the California Marine Sanctuary Foundation to assess vessel speeds to inform ship strike reduction efforts.

Resource Protection:

- The sanctuaries review project proposals, including proposed actions from other agencies, that could potentially violate sanctuary regulations and injure marine mammals.
- Through permitting actions the sanctuaries manage, reduce, or eliminate injury to marine mammals.
- The sanctuaries work with NOAA's Office of Law Enforcement to document and enforce sanctuary regulations that protect marine mammals and work with NOAA's General Council to issue fines and to work with responsible parties to restore marine mammals.
- GFNMS and CBNMS staff work in coordination with the Monterey Bay National Marine Sanctuary (MBNMS) to reduce the injury and mortality of whales from entanglement in fishing gear and with MBNMS and Channel Island National Marine Sanctuary to reduce lethal ship strikes to whales through a seasonal voluntary and a California regional air district incentive-based vessel speed reduction program for ships 300 gross registered tons (grt) and larger. The sanctuaries' vessel speed reduction efforts are supported by the Greater Farallones Association and the California Marine Sanctuary Foundation.

Education and Outreach:

- GFNMS and CBNMS educate kindergarten through university students, sanctuary volunteers, community members, and stakeholders about the importance of marine mammals to the sanctuary ecosystem and strive to inspire community members and stakeholders to be stewards of marine mammals through classroom, wildlife watching, summer camp, public lecture, and teacher workshop projects in addition to web stories, print, TV and social media that incorporate marine mammal content. Messages include marine mammal conservation, climate literacy, and ocean stewardship and are delivered through exhibits and outdoor interpretive signs as well as education programs to increase appreciation and awareness of marine mammals and highlight the value of sanctuaries.

Infrastructure and Vessels: Sanctuary infrastructure that supports research on, protection of, and education about marine mammals include office infrastructure and vessels.

- Research, GIS, Resource Protection, and Education and Outreach staff collaborate on marine mammal projects and meet with project partners at the sanctuaries' offices. The Research and Education programs train volunteers in marine mammal monitoring and natural history at the sanctuaries' Crissy Field Campus.
- The Crissy Field Visitor Center delivers marine mammal education programs and GFNMS and CBNMS partner with Point Reyes National Seashore on marine mammal exhibits.
- GFNMS and CBNMS conduct multi-day marine mammal surveys three times a year on the regional research vessel *Fulmar* and occasionally on larger NOAA "White Ships".

Summary

Marine mammals are abundant in the sanctuaries and the populations of many species are stable or increasing; however, the future impacts of a warming ocean are unknown. Endangered and threatened blue, humpback and fin whales are impacted by vessel strikes and endangered and threatened humpback whales are impacted by entanglement in fishing gear in the sanctuaries. The sanctuaries work to reduce lethal ship strikes to endangered and threatened blue, humpback, and fin whales through a seasonal voluntary and incentive-based vessel speed reduction for ships 300 gross registered tons and larger. GFNMS and CBNMS, through MBNMS, are involved in the California Department of Fish and Wildlife's efforts to reduce entanglement of endangered and threatened humpback whales in fishing gear. The sanctuaries' educate kindergarten through university students, sanctuary volunteers, and community

members about the importance of marine mammals to the sanctuary ecosystem and the vulnerability of marine mammals to human-caused threats and works directly with the shipping industry to encourage large vessels to travel at 10 knots or less.

GFNMS and CBNMS Advisory Council Recommendations

These recommendations were provided during a joint GFNMS and CBNMS Advisory Council meeting on February 24, 2023. To view council discussion on this topic, please visit https://farallones.noaa.gov/manage/sac_meetings.html and view the meeting's highlights.

Conservation Science: Continue at-sea ACCESS and Beach Watch marine mammal surveys on distribution, abundance, ecosystem function, human impacts, and management effectiveness to understand the health of marine mammal populations in the sanctuaries. Assess the effectiveness of GFNMS and CBNMS vessel speed reduction efforts to reduce lethal ship strikes to endangered and threatened blue, humpback, and fin whales to guide future management efforts. Further investigate the contribution of whales to supporting biogeochemical processes including carbon sequestration. Continue acoustic monitoring to understand the presence of vocalizing whales in the sanctuaries and to characterize potential acoustic impacts to marine mammals. Coordinate West Coast Region technology efforts with regard to best practice for data gathering and sharing. Ongoing support for community science and whale tracking and identification applications. Continue participation in the RAMP program.

Resource Protection: Implement management measures to reduce the threat of lethal ship strikes by a minimum of 50% to endangered and threatened blue, humpback, and fin whales.

Education and Outreach: Continue to educate and engage students, stakeholders, and local communities about the importance of marine mammals to the sanctuaries', the ocean's, and our communities' health and how students, stakeholders, and communities can become involved in marine mammal conservation. Focus messages and programming on vessel strikes, entanglement, and climate change impacts to whales, conservation actions, and the economic benefits of wildlife viewing. Investigate community science applications and activities to assess data collection and knowledge about species.

Infrastructure: To support conserving marine mammals, maintain facility infrastructure as a collaborative meeting space, increase visitor center education programming space to reach more students, and update exhibits and wayside signs as

needed. Maintain vessel access for marine mammal surveys and acoustic instrument deployments three times to four times a year.