

RESOLUTION of the
Greater Farallones National Marine Sanctuary Advisory Council

To support staff recommendations within the Seabirds and Shorebirds Topic Briefing

At its meeting on February 24, 2023, the Greater Farallones National Marine Sanctuary Advisory Council suggested edits to the staff recommendations within the Seabirds and Shorebirds Topic Briefing. The council passed a resolution to support the staff recommendations with the suggested edits.

Attachments: Seabirds and Shorebirds Topic Briefing

This resolution was passed with majority vote by a quorum of primary members (or alternate members serving in place of primary members) at a public meeting on February 24, 2023 held in Point Reyes Station, CA and via Google Meet. Council discussion regarding this resolution can be found in Meeting Highlights documentation at https://farallones.noaa.gov/manage/sac_meetings.html.

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 Seabirds and Shorebirds

State of the Resource

- Condition Report Data
 - CBNMS (in publication) - Cassin's auklets, black-footed albatross, sooty shearwaters, and pink-footed shearwaters were examined as focal species. Abundances were variable, there were no discernible trends, and no major cause for concern. Seabird biodiversity was investigated with no significant concerns or patterns identified.
 - GFNMS (in preparation) - Brandt's cormorants, Cassin's auklets, common murre, snowy plovers, willets, and brants were examined as focal species.
 - Seabirds: Brandt's cormorants, Cassin's auklets, and common murre (all breed and roost on Southeast Farallon Islands) are numerous in the sanctuary and are increasing. Distribution of Cassin's auklets at-sea shifted during the 2014-2015 marine heat wave from the shelf break to across the shelf. No shift observed for Brandt's cormorants and common murre.
 - Shorebirds: Snowy plovers are federally listed as threatened and their numbers in the sanctuary are very low, but are stable and increasing. Willet numbers in the sanctuary are low and declining. Willet populations overall are stable or increasing but foraging in the sanctuary is shifting, resulting in a decline in the sanctuary. Brants have shown a long-term increase but since 2014 have declined within the sanctuary. Overall, shoreline surveys recorded a decrease in abundance of all shorebird species and an increase in bird species richness during the time frame assessed, with a notable decrease in 2020 (which may be effort-related as a result of COVID).
- Climate Vulnerability Assessment Preliminary Findings. Vulnerability is calculated from exposure to stressors, sensitivity, and adaptive capacity. Ratings presented are from the original 2015 report and from 2023 revisions of some indicators.
 - **4 seabirds with Moderate vulnerability:** Brandt's cormorant, common murre, pigeon guillemot, and tufted puffin vulnerability is largely due to the impact of non-climate stressors such as disturbance during breeding season from human activity and predation from introduced species; Cassin's auklet vulnerability is driven by documented impacts

from the Marine Heat Wave (mass mortality event). All of these seabirds are mostly impacted by climate change via prey availability and impacts to breeding habitat.

- **1 seabird and 2 shorebird species with Moderate-high vulnerability, and all 3 are in the top 10 most vulnerable species in the GFNMS-CBNMS management area:** Ashy storm petrel vulnerability is higher than the other seabirds because of its markedly lower adaptive capacity due to limited geographic extent, threatened status, and recent population declines. Oyster catcher is the most vulnerable species in our assessment, due to high sensitivity and exposure to both climate (e.g. sea level rise and inundation) and non-climate stressors (e.g. land use change and recreation). Snowy plover vulnerability is driven by climate impacts (i.e. erosion, precipitation) to nesting habitat and disturbance from human activities.
- Other science information:
 - Seabirds are sensitive to changes in environment (e.g., forage availability) and are known to be indicator species of environmental changes.
 - Of the 78 reports of disturbances GFNMS received from 2012–2021, 53 were associated with low flying aircraft. Most of the wildlife disturbance events are medium or large incidents, impacting 10–1,000 individuals. This was documented by US Fish and Wildlife Service as an ongoing, chronic issue at significant seabird colonies in the sanctuary.¹
- Pressures on seabirds and shorebirds:
 - Climate change (seabirds: declines in prey availability due to oceanographic changes; shorebirds: sea level rise, erosion, increased wave action)
 - Marine debris
 - Human disturbance
 - Invasive predators

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 seabirds and shorebirds²:

1. Taking any marine mammal, sea turtle, or bird within or above the Sanctuary.

¹ Scopel, L. C., C. M. Bednar, G. J. McChesney, M. A. Baran, N. J. Swanson, M. V. Balitbit, M. Birch, A. S. Mang, and R. T. Golightly. 2021. Restoration of Common Murre colonies in central California: annual report 2021. ,U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex, Fremont, California and Humboldt State University, Department of Wildlife, Arcata, California. 76 pages.

² See full regulatory language for exceptions.

2. Possessing within the Sanctuary (regardless of where taken, moved or removed from), any marine mammal, sea turtle or bird taken.
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 seabirds offshore in the context of ocean conditions and prey (ACCESS), in partnership with Point Blue Conservation Science and in collaboration with others; record live observations of seabirds and shorebirds from shore and dead and stranded animals on beaches (Beach Watch), in partnership with Greater Farallones Association;
- The science staff analyze scientific data to assess the status and trends of seabirds and shorebirds in the sanctuaries and provide data and analysis to support seabird and shorebird protection in the sanctuaries.

Resource Protection:

- The sanctuaries review project proposals, including proposed actions from other agencies, that could potentially violate sanctuary regulations and injure seabirds and shorebirds.
- Through permitting actions the sanctuaries manage, reduce, or eliminate injury to seabirds and shorebirds.
- The sanctuaries work with NOAA's Office of Law Enforcement to document and enforce regulations that protect seabirds and shorebirds and work with NOAA's General Council to issue fines and to work with responsible parties to restore seabird and shorebirds.
- GFNMS: 1) provides educational materials and presentations to boaters, kayakers, pilots, coastal visitors and seabird biologists to address the most frequent and impactful human-caused disturbance; 2) trains docents, researchers and citizen scientists to identify and document observed human activities that harm wildlife in order to address problem areas and target outreach to the appropriate audiences; and 3) in partnership with shares educational methods and materials with two California Marine Protected Area Community-based Collaboratives (Golden Gate and San Mateo) about "special closures", state regulated no-access zones designed to protect seabirds. The sanctuaries' efforts

are coordinated with US Fish and Wildlife Service and supported by the Greater Farallones Association.

- GFNMS reduces human disturbances to seabirds through working with enforcement agencies to address the most frequent and impactful human-caused disturbances.

Education and Outreach: GFNMS and CBNMS educate kindergarten through university students, sanctuary volunteers, community members, and stakeholders about the importance of seabirds and shorebirds to the sanctuary ecosystem and strive to inspire community members and stakeholders to be stewards of seabirds and shorebirds through classroom, wildlife watching, summer camp, public lecture, and teacher workshop projects in addition to web stories, print, TV and social media that incorporate seabird and shorebird content. Messages are also delivered through exhibits and outdoor interpretive signs to increase appreciation and awareness of seabirds and shorebirds and highlight the value of sanctuaries. Current demand for sanctuary school-based education and outreach projects that incorporate seabird and shorebird content exceeds the capacity of site education and outreach staff.

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

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

Summary

Although seabirds and shorebirds are facing threats globally, in general, seabird species in GFNMS and CBNMS appear to be stable with some variability in the trend. Some shorebird species abundances in the sanctuary are low but increasing (e.g., western snowy plover) or declining (e.g., willets). Seabird species are good indicators of ecosystem health and should continue to be monitored. Existing projects focus on reducing human disturbance through promulgating regulations, promoting compliance

by the main sources (pilots, boaters and coastal visitors) through the Seabird Protection Network and partner docent programs, and ensuring adequate reporting of disturbance incidents observed by researchers, community science volunteers and docents. The sanctuaries' education efforts focus on kindergarten through university students, sanctuary volunteers, and community members about the global and local impacts to the health of seabirds and shorebirds as well as the importance of seabirds and shorebirds to the sanctuary ecosystem. All of this work is supported by office infrastructure and vessels.

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 bird surveys on distribution, and abundance, ecosystem function, human impacts, and management effectiveness to understand the health of marine bird populations in the sanctuaries. Continue to monitor seabird and shorebird abundance, distribution and health in the sanctuaries to track status and trends, identify issues, and inform management.

Resource Protection: Continue to support community reporting of seabird disturbance to law enforcement. Continue to work with target audiences (including pilots, drone pilots, and recreational watercraft users) causing seabird disturbances to prevent human-caused disturbances and reduce disturbance-causing behaviors. Continue to work with the National Park Service on low overflight regulations over Point Reyes National Seashore waters.

Education and Outreach: Continue to deliver interpretation, education, and outreach programs to kindergarten through university students, sanctuary volunteers, and community members about the importance of seabirds to the sanctuary ecosystem. Strive to inspire our communities to be stewards of seabirds and shorebirds through classroom, wildlife viewing, summer camp, public lectures, teacher workshops, web stories, print and social media, and other education projects that incorporate seabird and shorebird content. Increase the number of seabird and shorebird classroom education programs to meet community demand. Continue programs that help prevent the entanglement of seabirds.

Infrastructure and Vessels: To support conserving seabirds and shorebirds, maintain facility infrastructure as a collaborative meeting space, increase visitor center education programming space to allow more programs that reach more students, and update exhibits and wayside signs as needed. Maintain vessel access at a minimum of three times a year for offshore seabird surveys.