

Farallon Islands Monthly Report

Report to the U.S. Fish and Wildlife Service Farallon Islands National Wildlife Refuge

May 2021

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Point Blue Conservation Science – Point Blue advances conservation of birds, other wildlife and ecosystems through science, partnerships and outreach. Our highest priority is to reduce the impacts of habitat loss, climate change, and other environmental threats while promoting nature-based solutions for wildlife and people, on land and at sea. Visit Point Blue on the web www.pointblue.org.

Island Visitors

Point Blue crew: Olivia Boisen, Danielle Devincenzi, Katie Douglas, Rebecca Forney, Sarah Hecocks, Mike Johns, James Lee, Amy Miles, Scott Shaffer, Amanda Spears, and Pete Warzybok.

U.S. Fish and Wildlife crew: Gerry McChesney, Alyssa Clevenshine, Michael Pierson, Taylor Espenshade.

May 10th: **“John A. B. Dillard”** (skipper Kixon Meyer) brought out Olivia Boisen, Katie Douglas, Sarah Hecocks, and U.S Fish and Wildlife “Team Spinach” including Alyssa Clevenshine, Taylor Espenshade, Gerry McChesney, and Michael Pierson. They departed with James Lee and Pete Warzybok.

May 22nd: **“So Good”** (skipper Harmon Shragge) brought out Mike Johns and departed with Amy Miles and Amanda Spears.

May 24th: **“Outer Limits”** (skipper Jim Robertson) brought out Scott Shaffer, and departed with Alyssa Clevenshine, Taylor Espenshade, Gerry McChesney, and Michael Pierson of USFWS “Team Spinach”.

West End Island Visitors

None

COVID-19: In response to ongoing concerns over impacts of this global pandemic, certain precautionary measures were taken this month to minimize the risk of COVID-19 infecting island personnel: staff and research assistants were required to quarantine for a minimum of 14 days prior to arrival and provide proof of a negative test; and the use of PPE by crew members and island personnel was required during the patrol runs and landing operations. Only essential personnel are currently permitted on the island until further notice.

Vaccine availability has increased dramatically nation-wide since March 2021, and all incoming personnel have received at least one dose or are fully immunized. Only one research assistant on the island remains unvaccinated.

Weather/Ocean

Monthly weather is summarized in Figure 1. Moderate to strong NW winds dominated this month and the island received no rain. The range of midday air temperatures fell within the long-term normal range for this month, with an average of 12.35 ± 1.27 °C. This was 1.0 °C lower than the long-term average for the month. Sea surface temperature (SST) readings from the island were considerably lower than the long-term normal range for this month, with an average of 10.30 ± 0.22 °C. This was 1.2 °C below the long-term average for the month.

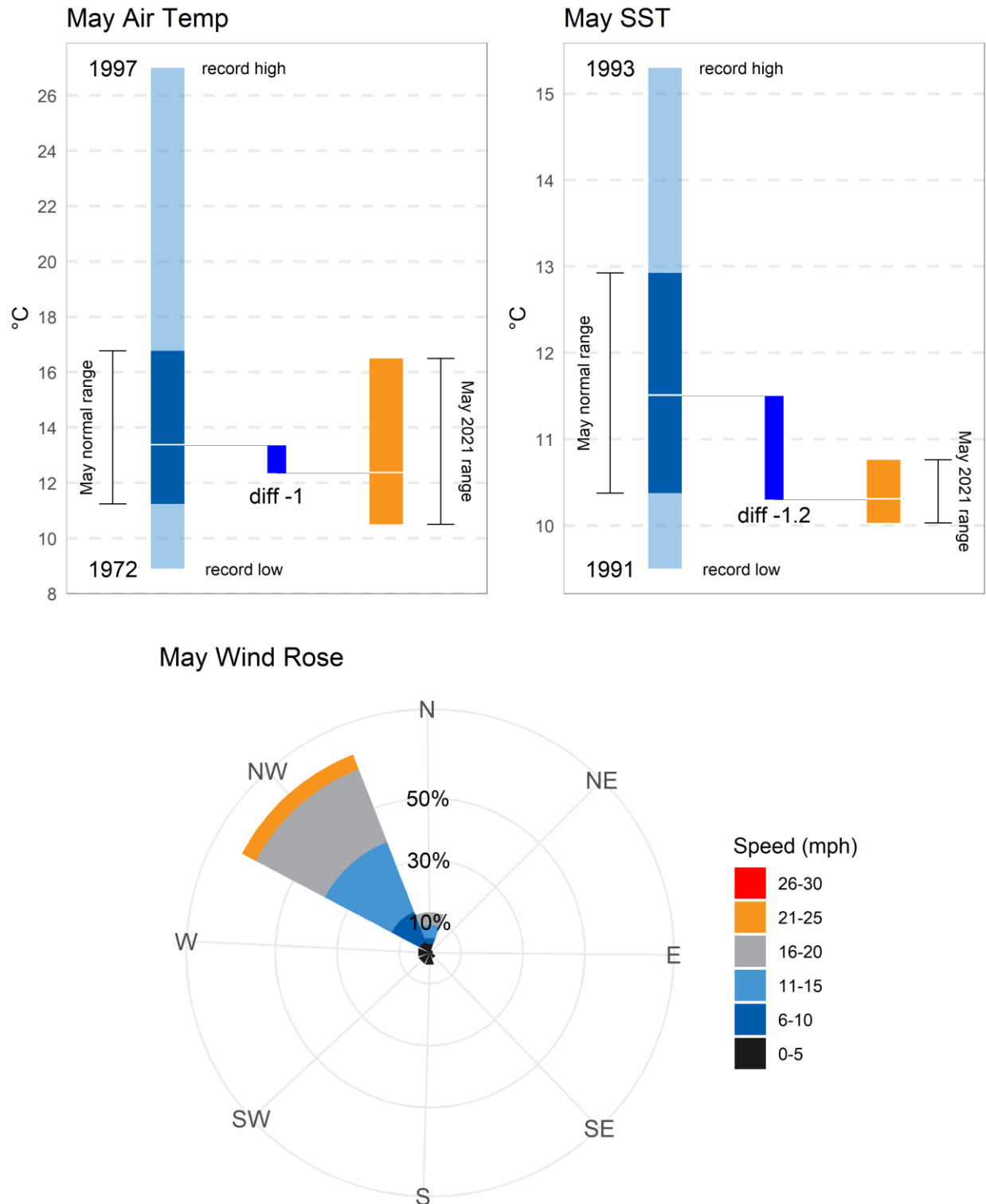


Figure 1. Noon air and sea surface temperature data summary. Light blue depicts the long-term (1971 – 2020) range of observations with years given for record highs and lows; dark blue shows the long-term range of averages for this month. Orange depicts the range of current (2021) observations. Differences between the long-term and current means are shown in red if above normal, and blue if below normal. Daily wind speed (color scale) and direction binned into sectors for morning, noon, and afternoon observations for this month. Larger bars indicate more wind from that direction.

Oiled & Entangled Wildlife

One dead and one living adult Cassin's auklets were observed or found with thick crane grease covering most or all of the body at East Landing early this month.

A common murre was seen from the Corm Blind with a thin layer of black oil on the top of its head. Another adult murre was seen on Shubrick Point with 25% of its body oiled, mostly on the back and left wing.

Four adult *Zalophus* were observed with monofilament or a packing strap embedding in their neck. An adult black oystercatcher was seen entangled with monofilament around its body and disappeared before the crew could attempt to catch it.

Feeding Flocks

No feeding flocks were detected from the island this month.

Breeding Birds

Storm-Petrels – Two standard 3-hour mist netting sessions were conducted at Lighthouse Hill (May 12th) and the Carp Shop (May 17th) this month; on the 12th, 42 total ash storm-petrels captured (24 new and 18 recaptures), and on the 17th, 51 total ash storm-petrels captured (41 new and 10 recaptures).

Breed checks to monitor ash storm-petrel productivity began on the 4th, and the first bird over egg was detected in the Habitat Sculpture on the 21st. One Leach's storm-petrel was heard calling from crevice 89 on the 12th.

Social attraction efforts for ash storm-petrels began at the Ashy Castle on May 6th. Playback occurred throughout the night during a two-week window around the new moon. One prospector was detected on the 6th.

Brandt's Cormorant – Breeding numbers remained low island-wide at the beginning of the month, and noticeably increased by May 15th. The first egg was detected at the Corm Blind colony on the 5th, and at the Sea Lion Cove colony on the 16th.

Pelagic Cormorant – The first naked chicks of the season were seen on May 25th. Nest attendance remains high as many pairs continue to incubate full clutches of 3-5 eggs and begin to brood naked chicks.

Double-crested Cormorant – The first chick was seen on Maintop during regular breed checks on May 31st. By the end of the month, 45 well-built nests were visible from the Lighthouse.

Western Gull – The first eggs in H-plot west and C-plot were found on May 1st and in K-plot on the 7th. The first chicks of the season were seen at a nest near the cistern on the 26th, and the first chicks in H-east were seen on the 30th. Scott Shaffer from SJSU arrived to the island in the

last week of May to deploy short-term GPS data loggers and air quality monitoring devices via harness attachments on Western Gulls. Katie Douglas, a master's student at SJSU, also began deploying long-term GPS GSM tags on Western Gulls via an experimental harness attachment design to study annual foraging patterns, resource usage, and roosting habits during the non-breeding season.

California Gulls – The first breeding surveys began on May 2nd. The first well-built nests were observed in the small colony on West Marine Terrace on the 6th, which grew to 17 well-built nests by the 21st. A few adults were seen on East Marine Terrace throughout the month, but only one attempted to nest there.

Common Murre – Egg laying peaked early this year for all island sub-colonies, with many birds laying in the first week of the month; birds in sub-colonies on the west side of the island, like those at Upper Upper and Sea Lion Cove, were about a week behind. The first chick in the Upper Shubrick Point study plot hatched on May 11th. Sea Lion Cove and Upper Upper Corm blind colonies had their first chicks on the 25th and 30th, respectively.

Pigeon Guillemot – Attendance of crevices on Lighthouse Hill and at Garbage Gulch was early, rapid, and noticeably high starting in early May. The first eggs in a followed crevice on Lighthouse Hill were found on the 7th, and peak lay occurred mid-month. The first chicks were found during a regular breed check at Garbage Gulch on the 22nd. One gls was recovered from an adult at Garbage Gulch.

Rhinoceros Auklet – The first chicks were found in a natural crevice on May 22nd, followed by the first chick in a nest box on the 31st. Occupancy of natural crevices and nest boxes is aligned with the long-term average at around 50%.

Tufted Puffin – Many adults were noticed attending known breeding crevices island-wide by the first week of May, and one pair on Tower Point was seen gathering nesting material on the 17th. The early season census of breeding sites began on May 24th.

Cassin's Auklet – Productivity remained exceptionally high this month as chicks continued to grow and fledge, reflective of active upwelling conditions in the CCS this month. The first mostly-feathered chick was banded in the known-age study on May 8th. The first assumed fledge of chick from a known-age box occurred on the 23rd; by the end of the month, most chicks were on track to fledge successfully in early June. The first double-brooding attempt was discovered on the 28th. Twenty-seven diet samples were collected this month; krill made up all of the diet observed, including large adult *Thysanoessa spinifera*, another indication of a very productive upwelling season.

Amy Miles continued physiological sampling of adults during the chick rearing period through May, which concluded on the 20th.

Black Oystercatchers* – Two nests were found with adult incubating eggs this month, one at lower Shubrick on the 14th, and the other at East Marine Terrace on the 23rd.

**We no longer conduct dedicated monitoring of this species, and only incidental breeding behaviors and attempts are noted.*

Pinnipeds

Weekly counts have been postponed until June 1st to reduce effort while still capturing high counts. Counts will resume during the window of long-term peak numbers for all species (June – September).

Harbor Seal – One red-stained adult was observed at East Landing on May 15th.

Canada Goose

One family with three large juveniles remained by the end of May.

Cetaceans

Standard Survey – Two one-hour standard whale watches were conducted this month from the Lighthouse using the Ocean Alert app. Daily high counts from standard watches combined with incidental observations are summarized in Figure 2. Detectability of cetaceans was again severely inhibited by prolonged periods of high winds this month, resulting in the low numbers of humpback and blue whales recorded. Several gray whales (up to 13 individuals) continued in nearshore waters.

May 2021 Cetacean Sightings

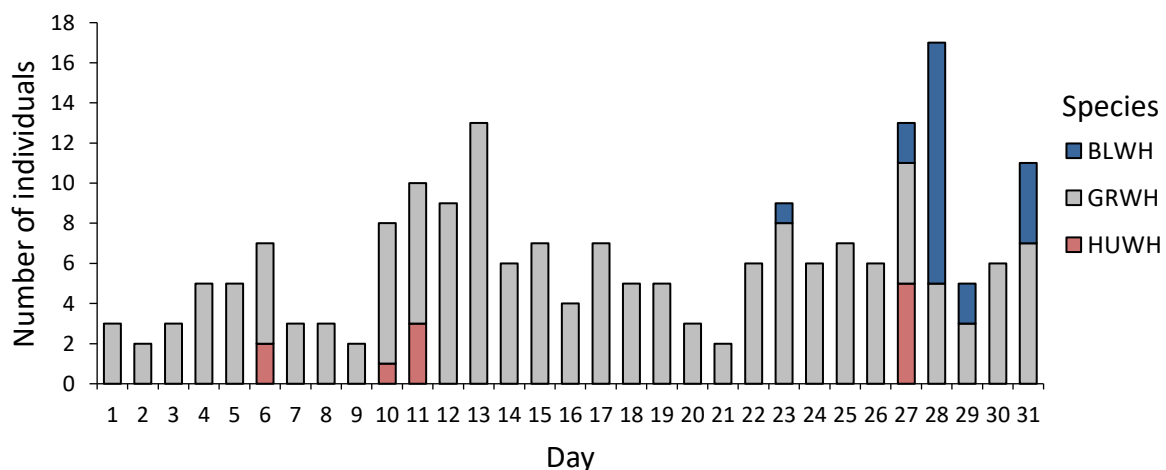


Figure 2. Daily high counts of cetaceans observed from Southeast Farallon Island for May 2021. BLWH = Blue Whale, GRWH = gray whale, HUWH = Humpback Whale.

Sharks

No shark attacks were detected this month.

Salamanders

One standard North Landing survey was conducted on the 3rd. No salamanders were detected; surveys have ended for the season.

Owls

No burrowing owls were detected this month.

During routine spraying of New Zealand spinach by FWS personnel on May 13th, one adult and two downy barn owl chicks were discovered in a crevice on the southeast side of Lighthouse Hill (owl chute). Photos were taken to document the chicks and nesting site, as this is the first confirmed and documented breeding attempt by this species on Southeast Farallon Island.



Crickets

No cricket surveys were conducted this month.

Bats

No bats were detected this month.

Mice

Mice were infrequently detected this month.

Inverts & Intertidal

One large ochre star was seen in Queen's Bath periodically through the month.

Plants

On May 10th, Fish and Wildlife Service staff and volunteers arrived and assessed the status of invasive plant species on the island. They spent nine days spraying mostly New Zealand spinach, which had heavily infested the Marine Terrace, Power House Hill, and the southside of Lighthouse Hill. Other invasive species sprayed include Plantago, Malva, Ehrharta, Sonchus, and Chenopodium. A small number of Indian-hedge mustard (*Sisymbrium orientale*) plants were sprayed in Heligoland. All areas that did not have actively nesting birds were treated, and most invasives began to die-back by the end of the month.

Violations

May 13th: One small fishing vessel (CF 7581ZK) was seen with lines in the water within the MPA. Four people were on board.

May 15th: A red-sailed sailboat flushed 200 murrelets when it made a close pass by Saddle Rock.

Maintenance

Island biologists Spears and Johns conducted routine weekly maintenance checks on the PV system and generators. Monthly changes of water filters and crane greasing were conducted. The water quality test for May came back negative for Coliforms and E. Coli.

Additional maintenance performed this month are as follows:

- Four research assistants were trained or refreshed on East Landing crane operations and safety procedures, and one North Landing crane training was conducted this month.
- Regular exercising of the Kohler 30REOZJC generator "Speedwagon" has cleared up the rotor lock shutdown fault.
- FWS refuge specialist Clevestine lubricated the slew and hoist wire ropes at East Landing.
- FWS refuge specialist Clevestine cleaned the solar panels.

Maintenance Needs

- PV system charge controllers 3 and 4 are not functioning and need to be replaced.
- The cistern and other elements of the water catchment system are showing their age and are in need of major repairs or replacement. The cistern continues to lose water at a rate ~250 gallons per month.

- The Settling Tank has a leak in it when water is above 5.1 feet.
- The PRBO house kitchen counters especially around the sink continue to deteriorate. Replacement sometime in the next year is recommended.
- The HADS weather station is no longer transmitting data to the web. Attempts to reset the unit have failed and will require expert guidance to fix.
- The gutters and flashing on both houses are degrading and will need to be improved or replaced.
- Aluminum railings at East Landing and the lighthouse need repair.
- Powerhouse roof-access ladder mounts are badly corroded and need to be replaced.
- There are several locations in the PRBO house that show evidence of moisture penetration in the ceiling and/or walls. This includes a small leak in the closet next to the downstairs bathroom and recent water staining in the Walk-Through Room. Will continue to monitor but a professional roof inspection is recommended.
- The load cell battery and antenna at the EL crane were replaced, but now the load cell needs to be recalibrated. A2B is also non-functional.
- The fresh water flow meter in the PBRO water closet is not functioning despite replacing the batteries.
- The diesel fuel pump flow meter in the Powerhouse is not functioning despite replacing the batteries.
- The 9.9hp Yamaha kicker outboard motor on the Safeboat fails to run after initial startup, reasons for this remain inconclusive.

Solar/Electric

PV System

Distilled water used:	2 gallons
Distilled water reserves:	40 gallons

Generator run times

Kohler 30REOZJC (Speedwagon):	4.4 hours	(683.2 on meter)
Kohler 40REOZK (Zeke):	0 hours	600.8 on meter)
Kohler 15REOZK (PeeVee Herman):	8.2 hours	(62.7 on meter)
Webasto:	~24 hours	

Power use

Facilities power use: Start = 91,436; End = 92,183; for total of 747 kWh

Fuel Reserves

Diesel used:	N/A (fuel meter out of service)
Diesel drums: 6@55gal	~350 gallons
Kohler 15REOZK (PV) Tank:	3/4
Kohler 30REOZJC (Speedwagon) Tank:	Full
Kohler 40REOZK (Zeke) Tank:	7/8
Webasto Tank:	3/4
Gasoline for portable generator/boats:	21 gallons (9 gallons racing)
6 gallon boat tank:	3/4

3 gallon boat tank: Full

Water Reserves

Water used this month: Start = 318,942; End = 322,869; for a total of 3,927 gallons

Cistern: 5'6" or ~ 67,500 gallons

Settling Tank: empty

Drinking water: 13 5-gal jugs

Sightseeing Boats

May 16th: Salty Lady, 10 POB.

May 22nd: Salty Lady, 10 POB.

May 23rd: Salty Lady, 15 POB.

Non-breeding birds

Pacific Loon, Red-necked Grebe, Eared Grebe, Northern Fulmar, Pink-footed Shearwater, Sooty Shearwater, Brown Booby, Northern Gannet, Brown Pelican, **Greater White-fronted Goose**, Surf Scoter, Peregrine Falcon, Wandering Tattler, Spotted Sandpiper, Whimbrel, Black Turnstone, Red-necked Phalarope, Red Phalarope, Herring Gull, Iceland (Thayer's) Gull, Glaucous-winged Gull, Eurasian Collared-Dove, Mourning Dove, Barn Owl, Rufous Hummingbird, **Olive-sided Flycatcher**, Warbling Vireo, Tree Swallow, **Bank Swallow**, Barn Swallow, Red-breasted Nuthatch, Rock Wren, Ruby-crowned Kinglet, Hermit Thrush, American Robin, Yellow Warbler, "Audubon's" Warbler, "Myrtle" Warbler, Townsend's Warbler, Hermit Warbler, **Palm Warbler (Western)**, Common Yellowthroat, Wilson's Warbler, "Sooty" Fox Sparrow, White-crowned Sparrow, Golden-crowned Sparrow, "Oregon" Junco, Brown-headed Cowbird, House Finch, **Lawrence's Goldfinch**.

Bold indicates an unusual or noteworthy species.