

## Farallon Islands Monthly Report

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

June 2021

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### Island Visitors

**Point Blue:** Olivia Boisen, Danielle Devincenzi, Katie Douglas, Rebecca Forney, Sarah Hecoeks, Mike Johns, Theresa Rizza, Stella Solasz, Amanda Spears.

**San Jose State University:** Scott Shaffer.

June 8<sup>th</sup>: **“So Good”** (skipper Harmon Shragge) brought out Amanda Spears and departed with Scott Shaffer.

June 19<sup>th</sup>: **“So Good”** (skipper Harmon Shragge) brought out Theresa Rizza and Stella Solasz and departed with Mike Johns.

### West End Island Visitors

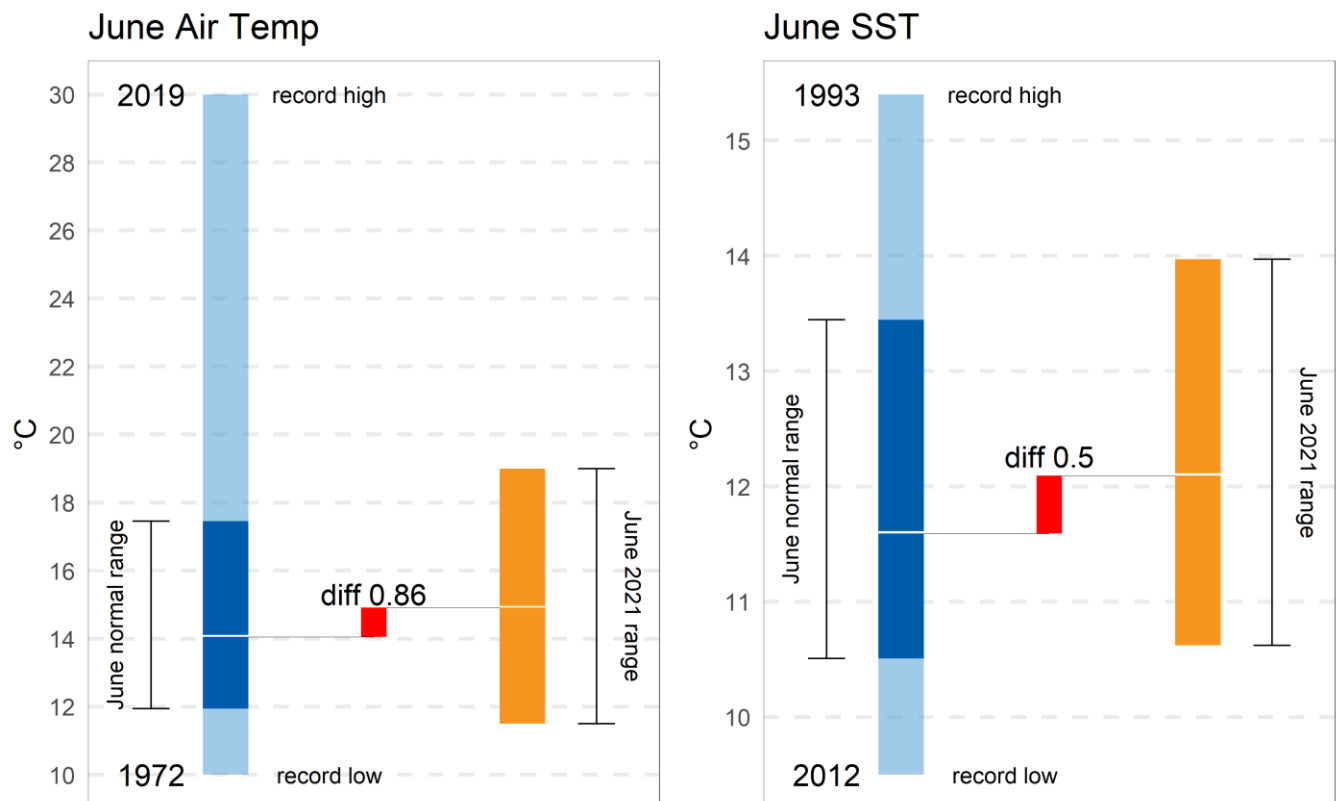
None

**COVID-19:** In response to ongoing concerns over impacts of this global pandemic, certain precautionary measures have been employed to minimize the risk of COVID-19 infecting island

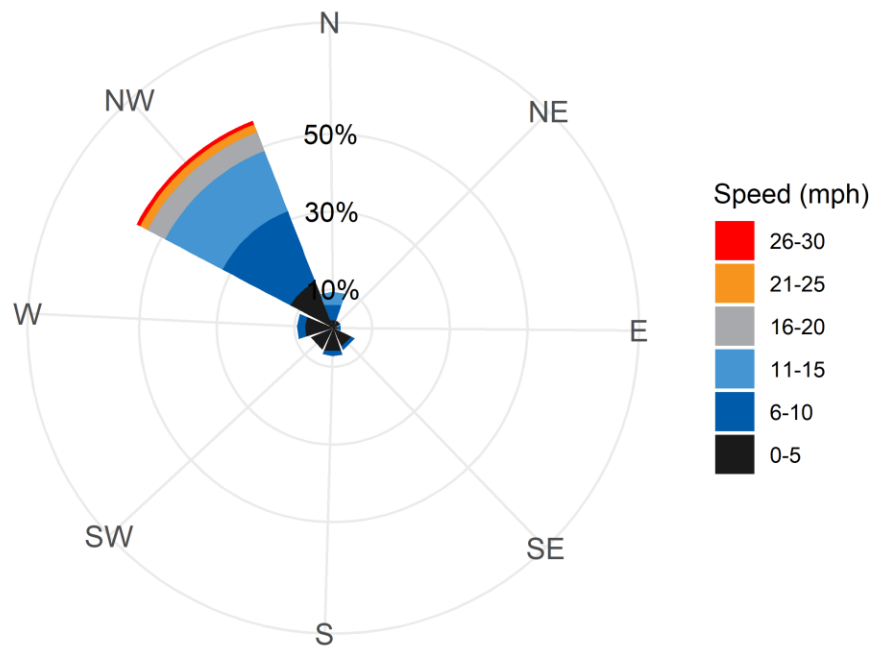
personnel. We have been following a strict protocol that has allowed continued, safe operations on the island. Only essential personnel have been permitted on the island.

## Weather/Ocean

Monthly weather is summarized in Figure 1. Light to moderate NW winds dominated this month and the island received only trace amounts of rain. The range of midday air temperatures extended  $1.55^{\circ}\text{C}$  above and  $1.10^{\circ}\text{C}$  below the long-term normal range for this month, with an average of  $14.91 \pm 1.77^{\circ}\text{C}$ . This was  $0.86^{\circ}\text{C}$  higher than the long-term average for the month. Sea surface temperature (SST) readings from the island were notably warmer than the long-term normal range for this month, with an average of  $12.09 \pm 1.78^{\circ}\text{C}$ . This was  $0.5^{\circ}\text{C}$  above the long-term average for the month.



### June Wind Rose



**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

Four adult *Zalophus* were observed with monofilament or a packing strap embedded in their necks.

## Feeding Flocks

June 23<sup>rd</sup>: One feeding flock was observed at 0930, 10 miles southeast of the island, with 3 humpback whales and 100 Western gulls feeding on unknown prey.

## Breeding Birds

**Storm-Petrels** – One standard 3-hour mist netting session was conducted at the Carp Shop on June 12<sup>th</sup>; 82 total birds captured (68 new ashly storm-petrels, 13 recaptured ashly storm-petrels, and 1 new Leach’s storm-petrel).

Social attraction efforts for ashly storm-petrel resumed at the Ashy Castle on June 3<sup>rd</sup>. Playback occurred throughout each night during the two-week window around the new moon. One

prospector was detected on the 23<sup>rd</sup> during regular ashy storm-petrel breed checks but no nests have been found.

**Brandt's Cormorant** – Breeding numbers at the study colonies remain high this month, attributed to the additional wave of young adults (hatched 2017-2019) that recruited in late May this year. On June 9<sup>th</sup>, the first naked chicks were observed at the Corm Blind colony, followed by the Sea Lion Cove colony on June 14<sup>th</sup>.

The all-island census was conducted on June 8<sup>th</sup>. After applying a correction factor to account for the lack of a boat survey, 5,204 well-built nests were estimated, resulting in a population estimate of 10,408 breeding adults this year.

**Pelagic Cormorant** – Nest attendance remained high as many pairs continued to incubate eggs or brood young chicks. By the 29<sup>th</sup>, the first mostly-feathered chicks in followed nests had fledged.

The all-island census was conducted on June 8<sup>th</sup>. After applying a correction factor to account for the lack of a boat survey, 221 well-built nests were estimates, resulting in a population estimate of 422 breeding adults this year.

**Double-crested Cormorant** – Well-built nests remained around a count of 34. This count is considerably lower than what has been observed in previous years. Up to 12 chicks were observed throughout the month.

**Western Gull** – Hatching phenology seems relatively normal this season, with chicks observed in all followed plots by June 5<sup>th</sup>. Chicks at followed known-age nests were large enough to band starting June 12<sup>th</sup> with the band combo 00bm.

The annual all-island census was conducted on June 9<sup>th</sup>, resulting in a corrected population estimate of 14,938 breeding birds. Counts of well-built nests in index plots were completed on June 2<sup>nd</sup>.

Scott Shaffer with San Jose State University recovered short-term GPS data loggers from 6 adults as a part of his ongoing tracking study to examine foraging strategies during the breeding season. Katie Douglas deployed year-long GPS tags on 16 adults throughout the month for her study to examine foraging strategies during the non-breeding season. Danielle Devincenzi completed 70 novel object tests over the last month on incubating adults investigating the relationship between personality and nesting habitat and quality in Western gulls.

**California Gulls** – The first chicks were seen on June 10<sup>th</sup>, and by the end of the month 11 chicks were counted in the colony on the West Marine Terrace. On the June 25<sup>th</sup> and June 30<sup>th</sup> surveys, many adults (up to 130 birds) were noticed roosting and nest-building on the East Marine Terrace, though no eggs were detected on later surveys.

**Common Murre** – Daily 2-hour diet watches began on June 3<sup>rd</sup>. Anchovy and juvenile rockfish predominated in the chick diet during the first half of the month, with occasional flatfishes, market squid, smelt, lingcod, and pacific sand lance observed. By June 15<sup>th</sup>, the diet switched to be almost entirely anchovy. The annual index plot photos were completed by June 8<sup>th</sup>. The first assumed fledges in the Upper Shubrick and Upper Upper study plots occurred on June 11<sup>th</sup> and June 23<sup>rd</sup>, respectively. Peak fledging for Upper Shubrick Point occurred in the last week of June.

Sarah Hecocks began deployment and retrieval of short-term GPS and TDR on adults captured with a noose pole from Sea Lion Cove and Upper Shubrick Point for her study on individual foraging strategies during the chick-rearing period in response to interannual environmental variation. Twenty-one tags were deployed this month, and all were retrieved or were confirmed to have lost the tag by June 23<sup>rd</sup>.

**Pigeon Guillemot** – Breeding activity was at its peak this month, with egg laying, incubation, and chick rearing happening simultaneously island-wide. Adults seem to occupy every available crevice on the island this season, and several of the new nest boxes installed this year are already occupied by a breeding pair. The first chick was banded at Garbage Gulch on June 16<sup>th</sup>. Diet watches began on June 13<sup>th</sup>. Nearly 90% of the diet in June consisted of sculpin, flatfishes, and juvenile rockfishes.

**Rhinoceros Auklet** – Standard netting of provisioning adults at dusk began on June 9<sup>th</sup>, with 58 diet samples collected over 8 netting sessions. The diet in the first half of the month was diverse, including juvenile rockfish, pacific sand lance, and northern anchovy, then switched to predominantly anchovy by the 20<sup>th</sup>. The first chicks were banded on June 30<sup>th</sup>. Annual index plots were completed on June 16<sup>th</sup>.

**Tufted Puffin** – Early season puffin surveys were completed on June 5<sup>th</sup>, with an estimated 68 crevices determined active in visible locations across the island. An adult puffin was spotted flying with a bill load of squid on June 28<sup>th</sup>, indicating that chicks had likely begun to hatch by the end the month.

**Cassin's Auklet** – Fledge success was high this month, with 83% of the pairs in the PRBO study successfully fledging a chick. Most chicks fledged within the second week of June, and by the 20<sup>th</sup> many adults in boxes island-wide had started their second-brood attempt (37% in the PRBO study). Annual index plots were completed on June 2<sup>nd</sup>. Temperature data loggers were downloaded and redeployed for another round this month in paired nest boxes and clay modules.

Thirty-four diet samples were collected this month; krill was present in most of the samples collected in the first half of the month, and mysids replaced krill as the dominant prey in the samples collected in the latter half of the month.

Blood, feather, and nest box and natural rock crevice nest soil samples from Cassin's auklet chicks and nests were collected this month as part of a contaminants study by Arcadis, Inc, for the United States Coast Guard (USCG). Sampling was completed on June 18<sup>th</sup> and sent off the island on June 19<sup>th</sup>.

**Black Oystercatchers\*** – On June 30<sup>th</sup>, an adult was seen attending a juvenile on Blowhole Peninsula, confirming a successful breeding attempt for this species on the island this year.

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

## Pinnipeds

**California Sea Lion** – On average there were 4,050 (std  $\pm$  553) individuals counted during the weekly pinniped census from the lighthouse, with a high count of 4,790 individuals on the 24<sup>th</sup>. The high count for pups was 499 on the 24<sup>th</sup>.

**Steller Sea Lion** – On average there were 160 (std  $\pm$  67) individuals counted, with the high count of 235 on the 17<sup>th</sup>. There were at least 23 bull males at several sites around the island. The first pup was observed on June 10<sup>th</sup>, and a high count of 43 pups occurred on the 24<sup>th</sup>.

**Northern Fur Seal** – On average there were 562 (std  $\pm$  315) individuals counted, with the high count of 998 observed on the 24<sup>th</sup>. The first pups were seen on Indian Head Beach on June 10<sup>th</sup>, and a high count of 55 pups occurred on the 24<sup>th</sup>.

**Harbor Seal** – On average there were 21 (std  $\pm$  4) individuals counted, with a high count of 25 on the 10<sup>th</sup>. An adult with a pink flipper tag and white tag affixed to the top of its head was observed in Garbage Gulch on June 20<sup>th</sup>.

**Northern Elephant Seal** – On average there were 18 (std  $\pm$  9) individuals counted, with a high count of 30 individuals observed on the 10<sup>th</sup>.

## Canada Goose

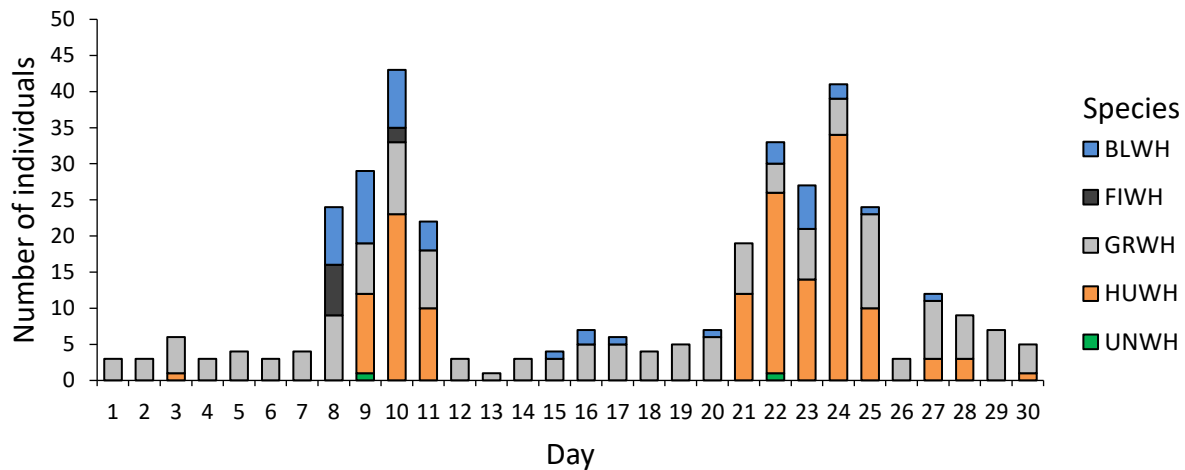
One family with three large juveniles continued through the end of June.

## Cetaceans

**Standard Survey** – Ten 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 somewhat inhibited by high winds and/or poor visibility this month. On June 24<sup>th</sup>, a great diversity of cetaceans was detected within the Marine Sanctuary, likely attributed to the calm weather and visibility of over 60 miles. This diversity included large numbers of humpback whales, Risso's dolphins, and a pod of 14 killer whales (including at least one male) of unknown ecotype.

Several gray whales (up to 13 individuals) continued in nearshore waters; what we believe was the same individual has been observed rubbing up against rocks at various locations across the island multiple times throughout the summer.

### June 2021 Whale Sightings



**Figure 2.** Daily high counts of cetaceans observed from Southeast Farallon Island for June 2021. BLWH = Blue Whale, FIWH = Fin Whale, GRWH = gray whale, HUWH = Humpback Whale, UNWH = Unknown Whale.

### Sharks

No shark attacks were detected this month.

On June 15<sup>th</sup>, an Oceanic Society naturalist notified Point Blue staff that a salmon shark was observed surfacing just southwest of the island.

### Salamanders

No salamander surveys were conducted this month.

### Owls

No burrowing owls were detected this month.

### Crickets

No cricket surveys were conducted this month.

### Bats

No bats were detected this month.

### Mice

Mice were infrequently detected this month.

## Inverts & Intertidal

Three sea nettles were observed at East Landing on June 19<sup>th</sup>.

There has been a noticeable absence of Painted Lady butterflies observed this year, and none were detected this month.

## Plants

Very few live invasive plants were present in accessible areas, an indication of successful control efforts by FWS in May.

## Violations

1. One recreational boat was observed actively fishing with the MPA on June 14<sup>th</sup>.
2. A USCG helicopter circumnavigated the island at an altitude of roughly 300ft, flushing a few thousand gulls on June 23<sup>rd</sup>.

## 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 June came back negative for Coliforms and E. Coli.

Additional maintenance performed this month are as follows:

- The broken connector on the fuel line of the Honda 60hp outboard motor was replaced.
- The battery housing on the new Dumper Jet was fixed.
- The faulty gray water valve stem in the downstairs bathroom of the PRBO house was replaced.
- The toilet in the upstairs bathroom of the PRBO house was fixed and no longer runs continuously.
- The carburetor in the Yamaha 9.9 hp (kicker) outboard motor was cleaned of existing buildup and reinstalled, now starts up without stalling.
- The latch on the inner front door of the Coast Guard house was fixed.

## 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 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 Speedwagon generator continues to encounter rotor lock shutdown faults. This is likely due to a bad starter solenoid.
- 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 rail cart axles are badly corroded and may need replacement soon.
- There is a new leak in the copper pipe at the base of the gray water shut-off valve. There is a temporary patch currently, but a more permanent fix is needed.
- A faulty check-valve in the gray water line may be allowing pressure to slowly leak out, causing the pump to operate more than necessary. A replacement valve is requested so it can be replaced.
- The toilet in the downstairs bathroom of the PRBO house is struggling to flush completely during each use, likely due to clogged drain lines.
- There is visible corrosion in the freshwater pipes between the 5- and 1-micron filters in the PRBO water closet and the kitchen sink. A full replacement of the PRBO freshwater pipes is long overdue.

## Solar/Electric/Fuel/Water

### PV System

Distilled water used:	0 gallons
Distilled water reserves:	44 gallons

### Generator run times

Kohler 30REOZJC (Speedwagon):	8.9 hours	(692.1 on meter)
Kohler 40REOZK (Zeke):	11.4 hours	(612.2 on meter)
Kohler 15REOZK (PeeVee Herman):	7.7 hours	(70.4 on meter)
Webasto:	0 hours	

### Power use

Facilities power use: Start = 92,183; End = 92,872; for total of 689 kWh

#### Fuel Reserves

Diesel used:	55.4 gallons (new fuel meter installed)
Diesel drums: 7@55gal	~385 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:	0 gallons (2 gallons racing) *
6 gallon boat tank:	1/3*
3 gallon boat tank:	Full

\* Gasoline old, causing boat motors to sputter and stall. Fresh supply of racing fuel requested.

#### Water Reserves

Fresh water used this month: Start = 322,869; End = 326,500; for a total of 3,631 gal

Cistern:	5'1" or ~ 61,250 gallons
Settling Tank:	empty
Drinking water:	13 5-gal jugs

Gray water used this month: Start = N/A; End = 15,743; for a total of N/A gal

### Sightseeing Boats

June 12<sup>th</sup>: New Captain Pete, 22 POB; Salty Lady, unknown POB  
June 13<sup>th</sup>: Salty Lady, 20 POB  
June 19<sup>th</sup>: Salty Lady, 15 POB  
June 20<sup>th</sup>: Salty Lady, 15 POB (including former research assistant Mario Balitbit)  
June 26<sup>th</sup>: Salty Lady, 15 POB

### Non-breeding birds

Sooty Shearwater, **Fork-tailed Storm-Petrel**, Northern Gannet, Brown Pelican, **Greater White-fronted Goose**, Canada Goose\*, **Mallard**, Peregrine Falcon, **Sora**, Red-necked Phalarope, **Horned Puffin**, Eurasian Collared-Dove, Barn Owl\*, Western Wood-Pewee, Cliff Swallow, Northern Mockingbird.

***Bold indicates an unusual or noteworthy species.***

\* Confirmed breeder 2021