

## Farallon Islands Monthly Report

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

July 2021

Amanda Spears, Pete Warzybok  
[aspears@pointblue.org](mailto:aspears@pointblue.org)

**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](http://www.pointblue.org).

---

### Island Visitors

**Point Blue:** D'Andre (DJ) Alejandro, Olivia Boisen, Danielle Devincenzi, Katie Douglas, Rebecca Forney, Sarah Hecocks, Theresa Rizza, Stella Solasz, Amanda Spears, Pete Warzybok.

July 1<sup>st</sup>: **“Outer Limits”** (skipper Jim Robertson) brought out FWS personnel Gerry McChesney and Alyssa Clevensline and eight USCG staff to tour the island for the day.

July 17<sup>th</sup>: **“Starbuck”** (skipper John Wade) brought out Pete Warzybok and DJ Alejandro, and departed with Danielle Devincenzi, Sarah Hecocks, and Katie Douglas. Two people toured the island.

July 24<sup>th</sup>: **“So Good”** (skipper Harmon Shragge) brought out Andrew Carothers-Liske to repair the closet flange of the PRBO downstairs toilet.

July 31<sup>st</sup>: **“Valkyrie”** (skipper Jamis MacNiven) brought out food and supplies and departed with DJ Alejandro, Rebecca Forney, and Pete Warzybok. Two people, Diana and Joycelyn from the Point Blue marine lab, toured the island.

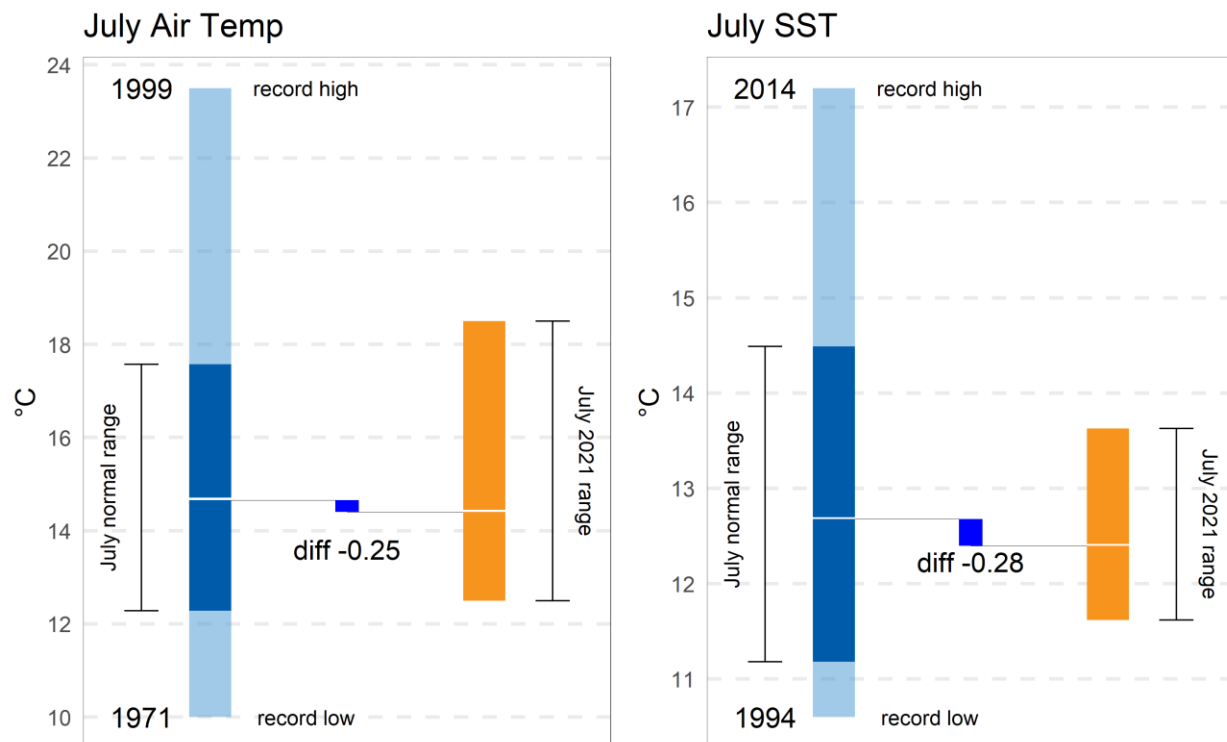
## West End Island Visitors

None

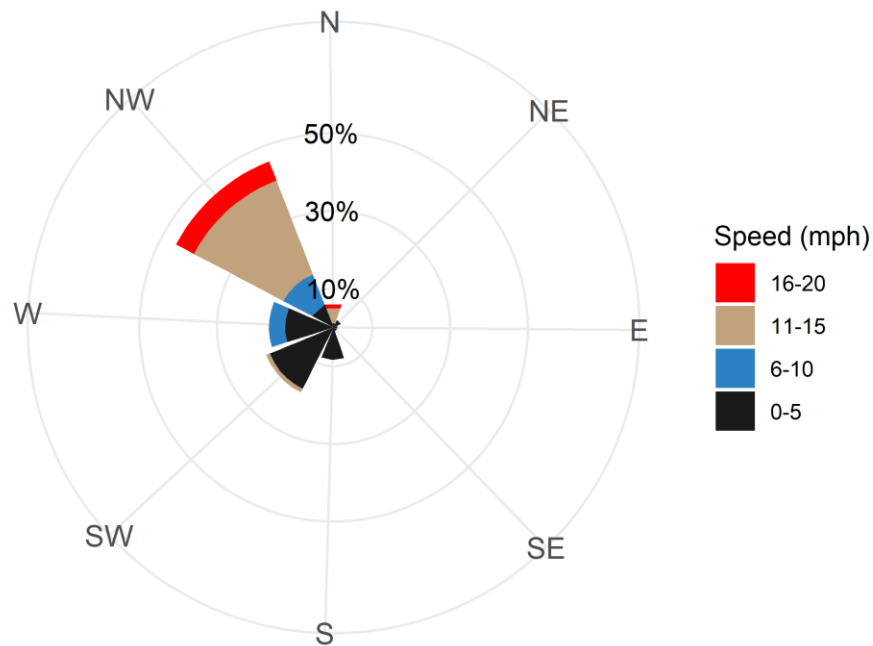
**COVID-19:** In response to ongoing concerns over impacts of this global pandemic, certain precautionary measures have been employed to minimize the risk of COVID-19 infecting island personnel. We have been following a strict protocol that has allowed continued, safe operations on the island.

## Weather/Ocean

Monthly weather is summarized in Figure 1. Light to moderate NW winds dominated this month, with occasional light winds from the S and SW. The island received only trace amounts of rain. Although the range of midday air temperatures extended  $0.93^{\circ}\text{C}$  above the long-term normal range for this month, the average midday air temperature was  $0.25^{\circ}\text{C}$  lower than the long-term average at  $14.40 \pm 1.43^{\circ}\text{C}$ . Sea surface temperature (SST) readings from the island fell within the long-term normal range for this month, with an average of  $12.34 \pm 0.54^{\circ}\text{C}$ . This was  $0.28^{\circ}\text{C}$  below the long-term average for the month.



### July 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

Three immature male and two adult female *Zalophus* were observed with monofilament or a packing strap embedded in their necks.

## Feeding Flocks

July 26<sup>th</sup>: One feeding flock was observed at 0830, northwest of the island, with 40 pelicans feeding on unknown prey.

## Breeding Birds

**Storm-Petrels** – Two standard 3-hour mist netting sessions were conducted on Lighthouse Hill and at the Carp Shop on July 4<sup>th</sup> and July 14<sup>th</sup>, respectively. On the 4<sup>th</sup>, 82 total birds were captured, including: 79 new ashly storm-petrels, 2 recaptured ashly storm-petrels, and 1 recaptured fork-tailed storm-petrel with a bare brood patch (banded as a new bird in 2017). On

the 14<sup>th</sup>, 70 total birds were captured, including: 58 new ashy storm-petrels, 10 recaptured ashy storm-petrels, and 2 new Leach's storm-petrel.

The first chick was seen in a crevice on Lighthouse Hill on July 3<sup>rd</sup>.

Social attraction efforts for ashy storm-petrels resumed at the Ashy Castle on July 17<sup>th</sup>. Playback occurred throughout each night during the two-week window around the new moon. One adult was confirmed over an egg in the Ashy Castle on July 18<sup>th</sup> (figure 2); this is a unique, newly active breeding site different from breeding sites occupied in the Ashy Castle last year.



**Figure 2.** A fork-tailed storm-petrel (left) recaptured at the Carp Shop on July 14<sup>th</sup>. An adult ashy storm-petrel (right) incubating a fresh egg at a new site in the Ashy Castle, July 18<sup>th</sup>, 2021.

**Brandt's Cormorant** – Nest attendance remained high as many pairs continued to brood and provision young chicks. Chicks at nearly 70% of nests followed at the Corm Blind sub-colonies hatched this month, compared to 25% at the Sea Lion Cove sub-colonies. Some chicks at Corm Blind hatched as late as July 24<sup>th</sup>. The first fledges were observed on July 26<sup>th</sup>.

Two chick banding sessions occurred at the Sea Lion Cove and Corm Blind colonies on the 27<sup>th</sup> and 30<sup>th</sup>, respectively. A total of 344 chicks were banded with the banding combo 00bm, 129 chicks at Sea Lion Cove and 215 chicks at Corm Blind.

Rebecca Forney began deployment of Ornitela GPS/GSM tags harnessed to adults on July 24<sup>th</sup> for her pilot study examining intra- and inter-annual foraging strategies of Brandt's cormorants. Seven tags were deployed on adults at followed nests at the Sea Lion Cove and Corm Blind colonies.

**Pelagic Cormorant** – The majority of followed nests (60%) had fledged chicks by the end of the month. Sixteen active nests (28%) will continue to be monitored through August to document fledge success of the remaining chicks.

**Double-crested Cormorant** – The first fully-feathered chicks were observed on July 1<sup>st</sup>, and many chicks were of fledging age by the 26<sup>th</sup>. Counts of well-built nests, adults, and chicks continued through the end of the month, as a few adults continued to brood young chicks.

**Western Gull** – The first confirmed fledges at followed sites in C-plot and H-west occurred on the 18<sup>th</sup>, followed by H-east on the 26<sup>th</sup> and K-plot on the 30<sup>th</sup>. Chick resighting began in all followed plots on the 18<sup>th</sup>. To boost our sample size of potential future known-age recruits, C-plot saturation banding occurred on the 7<sup>th</sup>, followed by H-east and H-west on the 9<sup>th</sup>, and finally K-plot on the 13<sup>th</sup>. A total of 588 chicks were banded this season, including the 308 additional chicks that were banded during these sessions.

**California Gulls** – A noticeable increase in dispersing juveniles occurred mid-month. The first fledges in the West Marine Terrace colony occurred on July 26<sup>th</sup>, and most chicks remaining at the end of the month were fully-feathered.

**Common Murre** – Monitoring efforts concluded for the season at the Upper Shubrick study plot when the last remaining chick was seen fledging on July 14<sup>th</sup>. The last chick fledged in the Upper study plot on July 25<sup>th</sup>. Newly hatched chicks were observed as late as the 15<sup>th</sup> in the Corm Blind and Sea Lion Cove sub-colonies, though many of these chicks disappeared by the end of the month.

Diet watches concluded on the 4<sup>th</sup>. Preliminary results show Northern anchovy was predominate in the chick diet this season, making up 71% of all observed feeding events. Juvenile rockfish made up 16% of the diet, a decrease in proportion from last year. Between the first half of June and last half of June this season, the proportion of Northern anchovy in the diet increased from 62% to 89%, and the proportion of juvenile rockfish decreased from 22% to 6%, indicating a change in prey availability or foraging strategy around June 21<sup>st</sup>.

**Pigeon Guillemot** – The first chicks fledged from a followed Garbage Gulch site on the 6<sup>th</sup>, and at a site on Lighthouse Hill on the 11<sup>th</sup>. Of the 97 sites active this year, 49 (51%) hatched two chicks, of which 21 (43%) successfully fledged both chicks. Thirteen sites (13%) remain active by the end of the month. Adults began to raft in large numbers just off the island on the 28<sup>th</sup> in preparation for their fall migration north.

Diet watches at both Garbage Gulch and Lighthouse Hill concluded on July 25<sup>th</sup>. Preliminary results show the diet mostly consisted of sculpin (39%), flatfishes (21%), and juvenile rockfish (19%). Interestingly, Northern anchovy made an appearance in the diet, starting on July 3<sup>rd</sup>, and peaked on July 25<sup>th</sup>, when 41 (21%) feedings were observed.

**Rhinoceros Auklet** – The first fledge in a followed nest box occurred on July 10<sup>th</sup>, and from a natural site on the 11<sup>th</sup>. The final round of standard netting sessions to collect diet samples began at the PRBO Catacombs on the 19<sup>th</sup> and concluded at the Rabbit Cave Catacombs on the 25<sup>th</sup>. All diet samples collected in July (n=54) were of Northern anchovy.

**Tufted Puffin** – Late season puffin surveys began on the 22<sup>nd</sup>. Several adults carrying bill loads of larval fishes and northern anchovy were seen in the third week of July, indicating a productive season. In an attempt to collect genetic samples from puffins this year, several active crevices were discovered on the eastern slope of Lighthouse Hill on July 26<sup>th</sup>, but all were too deep to grub for chicks.

**Cassin's Auklet** – Approximately two-thirds of relays and second brood attempts failed this month, when eggs were left unattended for an extended amount of time around the full moon in late June and early July. Those birds that have continued to attend are incubating eggs or brooding small chicks from second broods. Thirty-one diet samples were collected this month; krill was absent from nearly all samples; mysids were the predominant prey this month.

All RFID readers installed this season, in a continuation of a study by Amy Miles examining parental attendance at breeding sites, were disassembled on the 5<sup>th</sup>.

**Black Oystercatchers\*** – On July 4<sup>th</sup>, an adult was seen attending a juvenile on Shubrick Point. On July 18<sup>th</sup>, two adults were seen attending three fully-feathered chicks on East Marine Terrace.

*\*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 7,174 (std  $\pm$  2774) individuals counted during the weekly pinniped census from the Lighthouse, with a high count of 10,673 individuals on the 22<sup>nd</sup>. The high count for pups was 780 on the 22<sup>nd</sup>, an all-time record high and a continuation of an increasing trend in pup production at the Refuge.

Twenty-six scat samples were collected this month from various locations around the island.

**Steller Sea Lion** – On average there were 183 (std  $\pm$  25) individuals counted, with the high count of 215 on the 3<sup>rd</sup>. There were at least 20 bull males at several sites around the island. The high count for pups was 69 on the 3<sup>rd</sup>, an all-time record high. The previous pup record was 58 in 1984.

**Northern Fur Seal** – Numbers continued to grow for the colony on West End this month. On average there were 1,876 (std  $\pm$  226) individuals counted, with the high count of 2,130

observed on the 15<sup>th</sup>. The high count for pups was 809 on the 15<sup>th</sup>. These high counts are a continuation of an increasing trend in productivity of the colony on West End.

**Harbor Seal** – On average there were 26 (std ± 9) individuals counted, with a high count of 36 on the 15<sup>th</sup>.

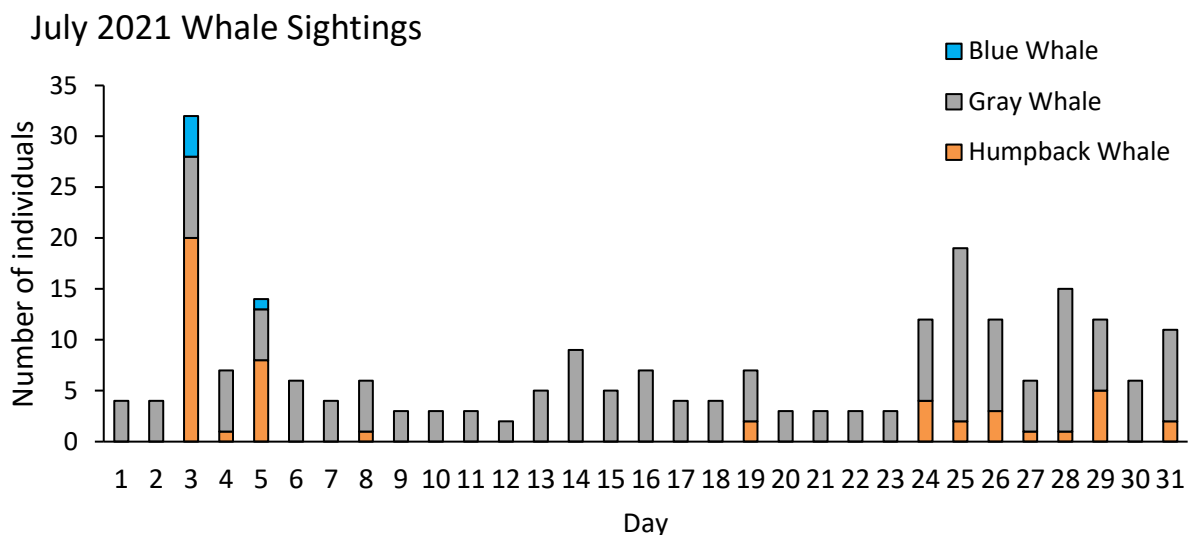
**Northern Elephant Seal** – Numbers remained low this month, with an average count of 8 (std ± 3) individuals. A high count of 12 individuals observed on the 15<sup>th</sup>. One bull and several subadult males arrived and hauled out on Sand Flat this month.

## Canada Goose

All four remaining juveniles successfully fledged this month.

## Cetaceans

**Standard Survey** – Five 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 3. Detectability of cetaceans was somewhat inhibited by high winds and/or poor visibility this month. Blue whales were noticeably absent this month, with only a few animals documented on the 3<sup>rd</sup> and the 5<sup>th</sup>. Several gray whales (at least 9 individuals) continued in nearshore waters.



**Figure 3.** Daily high counts of cetaceans observed from Southeast Farallon Island for July 2021.

## Sharks

Four *Zalophus* were detected on the island this month with large, fresh shark bites; one on the 16<sup>th</sup> and three on the 23<sup>rd</sup>.

## Salamanders

No salamander surveys were conducted this month.

## Owls

No burrowing owls were detected this month.

## Crickets

A quarterly cricket survey was conducted this month at Rabbit Cave and the Corm, Gap, and North Landing pocket caves. It began on July 12<sup>th</sup> and ended on the 16<sup>th</sup>. Rabbit Cave had an average of 86 (std  $\pm$  42) individuals counted on the inside, and 6 (std  $\pm$  5) on the outside; Corm Blind Cave had an average of 10 (std  $\pm$  5) individuals on the inside, and 0 individuals on the outside; Gap Cave had an average of 27 (std  $\pm$  10) individuals on the inside, and 6 (std  $\pm$  3) on the outside; and the North Landing Cave had an average of 17 (std  $\pm$  10) individuals on the inside, and 6 (std  $\pm$  5) on the outside.

## Bats

No bats were detected this month.

## Mice

The number of mice detected in and around the houses steadily increased this month.

## Inverts & Intertidal

Dragonflies made an appearance this month, including spot-winged gliders and a variegated meadowhawk.

The crew made a visit to Jewel Cave to explore the intertidal zone on the 26<sup>th</sup>; many species were observed, including harbor seal, purple urchin, owl limpet, tidepool sculpin, striped shore crabs, green anemone, pink volcano barnacles, hermit crabs, California mussels, acorn barnacles, gooseneck barnacles, ochre sea star, sea lemon nudibranch, gumboot chiton, aggregating sea anemone, Christmas tree worm, and sea snails.

## Plants

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



## Violations

July 28<sup>th</sup>: One small recreational fishing vessel (CF 6972PW) was observed fishing 0.5 miles SW of the island in Mirounga Bay. 2 POB. Vessel was hailed, but no response.

July 29<sup>th</sup>: One small recreational fishing vessel (WN 0179SU) was observed fishing and landing rockfish just off Low Arch within the Special Closure and Marine Reserve. 4 POB. Vessel was hailed, but no response. No wildlife disturbance was observed.

## Maintenance

Island biologists Spears and Warzybok 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 July came back negative for Coliforms and E. Coli. The crew conducted one NL training on the 8<sup>th</sup>.

Annual maintenance of the Honda 60hp and the Yamaha 9.9hp outboard motors was conducted on the 26<sup>th</sup>. Engine oil, lower gear oil, oil filter, fuel strainer, in-line fuel filter, spark plugs, and sacrificial anodes were replaced. The fuel-water separator under the bench of the Safeboat was replaced on July 1<sup>st</sup>.

On July 1<sup>st</sup>, trouble with both outboard motors stalling during a landing revealed that the gasoline with ethanol additive in the fuel tanks had gone bad. From this point forward, we have gone back to using ethanol-free racing fuel only in our outboard engines. We hope that this will prevent this issue going forward.

Additional maintenance performed this month are as follows:

- The faulty diesel fuel meter in the Powerhouse was replaced.
- The toilet in the downstairs bathroom of the PRBO house was replaced.
- Plumber Carothers-Liske made a trip out to the island and replaced the broken closet flange that connects the toilet to the sewer pipe in the PRBO downstairs bathroom.
- The faulty freshwater flow meter in the PRBO water closet was replaced (but see Maintenance Needs, below).
- The metal grating on the path at the gap was reaffixed to the ground.
- All RHAU and CAAU boxes were relabeled with paint.

## 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 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.
- 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.
- Shut-off valves along the gray water lines to the Coast Guard house are severely corroded and need to be replaced.
- Fire hose station shutoff valve is starting to fail, allowing water to slowly leak out.
- Box housing fire hose for the Coast Guard house has been blown apart by strong winds this spring and needs to be rebuilt. The fire hose is currently in the boot room of the Coast Guard house.
- Two side-impact helmets necessary for crane operation safety are missing straps need to be replaced.
- A safety railing on the port side, near the stern, of the Safeboat is cracked and has completely detached at the connection point, causing the railing to rattle when the tag line is attached.
- Metal mesh on several "windows" along the perimeter of the cistern have corroded open, allowing sediment, debris, and potentially birds to enter the cistern.
- An air hose on the Yamaha 9.9hp (kicker) outboard motor is damaged and needs to be replaced.
- Post-installation testing of the freshwater flow meter revealed that the flow meter is unable to detect water usage at low flow faucets and shower, thus underestimating the

amount of water used in the PRBO house. It is recommended that a more sensitive flow meter is installed.

- **Annual maintenance of the Honda 15 and Yamaha 25 at North Landing are overdue and need to be performed asap.**
- Air flow gaps on the gravity tank are open, no longer covered by mesh, and present a hazard to wildlife. The tank either needs to be disassembled or the gaps need to be covered with a permanent fix.

## Solar/Electric/Fuel/Water

### PV System

Distilled water used:	14 gallons
Distilled water reserves:	30 gallons

### Generator run times

Kohler 30REOZJC (Speedwagon):	17.1 hours	(709.2 on meter)
Kohler 40REOZK (Zeke):	11.4 hours	(623.6 on meter)
Kohler 15REOZK (PeeVee Herman):	8.9 hours	(79.3 on meter)
Webasto:	0 hours	

### Power use

Facilities power use: Start = 92,872; End = 93,571; for total of 699 kWh

### Fuel Reserves

Diesel used:	19.0 gallons
Diesel drums: 5@55gal	294 gallons
Kohler 15REOZK (PV) Tank:	3/4
Kohler 30REOZJC (Speedwagon) Tank:	Full
Kohler 40REOZK (Zeke) Tank:	Full
Webasto Tank:	3/4
Gasoline for boats (racing fuel):	7 gallons
6 gallon boat tank:	1/3
3 gallon boat tank:	Full

### Water Reserves

Fresh water used this month: Start = 326,500; End = 329,911; for a total of 3,411 gal	
Cistern:	4'11" or ~ 58,750 gallons
Settling Tank:	empty
Drinking water:	7 five-gallon jugs
Gray water used this month: Start = 15,743; End = 20,857; for a total of 5,114 gal	

## Sightseeing Boats

July 4<sup>th</sup>: Sea Wolf, 17 POB  
July 10<sup>th</sup>: Salty Lady, 8 POB; New Captain Pete, 25 POB  
July 11<sup>th</sup>: Salty Lady, 10 POB  
July 12<sup>th</sup>: Outer Limits, 10 POB

July 17<sup>th</sup>: Salt Lady, 20 POB; Hulicat, 25 POB  
July 18<sup>th</sup>: Salty Lady, 20 POB  
July 19<sup>th</sup>: New Captain Pete, 20 POB  
July 24<sup>th</sup>: Salty Lady, 10 POB  
July 25<sup>th</sup>: Salty Lady, 12 POB  
July 28<sup>th</sup>: The Marine Mammal Center, 4 POB  
July 31<sup>st</sup>: Hulicat, 30 POB; Salty Lady, 27 POB

## Non-breeding birds

Black-footed Albatross, Pink-footed Shearwater, Sooty Shearwater, **Fork-tailed Storm-Petrel**, Northern Gannet, Brown Pelican, **Great Blue Heron**, Canada Goose\*, Peregrine Falcon, Wandering Tattler, **Marbled Godwit**, Black Turnstone, **Short-billed Dowitcher**, Red-necked Phalarope, **Ancient Murrelet**, Eurasian Collared-Dove\*, "Western" Flycatcher, **Ash-throated Flycatcher**, Hermit Warbler, **Bullock's Oriole**.

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

\* Confirmed breeder 2021