**Farallon Island NWR**

**Monthly Report**

**May 2016**

Biologists: Russ Bradley, Pete Warzybok, and Ryan Berger

**Island Visitors**

Point Blue crew this month included: Carlo Acuña, Russ Bradley, Ryan Berger, Lindsey Broadus, Emma Chiaroni, Sarah Guitart, Cotton Rockwood, Kiah Walker, Pete Warzybok, and Brad Wilkinson.

**May 7:** “**Outer Limits”** (skipper Jim Robertson) brought out Pete Warzybok, Sarah Guitart, Emma Chiaroni, Bradley Wilkinson (SJSU grad student), Lindsey Broadus (SJSU grad student) and Jonathan Shore from USFWS. They departed with Russ Bradley, Cotton Rockwood, and Kiah Walker. Six people toured the island.

**May 11:** **“Dillard”** (US Army Corps of Engineers vessel, skipper Kixon Meyer) picked up Jonathan Shore.

**May 23:** **“Stillwater”** (skipper Richard Weber) brought out Russ Bradley, Ryan Berger, and Scott Schaffer (SJSU) and departed with Pete Warzybok and Carlo Acuña. Three people toured the island.

**West End Island Visitors**

No trips to West End were conducted in May

**Weather/Ocean**

The month of May saw generally light winds and favorable seas with only occasional strong northwesterly winds. There was a total of 0.14 inches of precipitation recorded this month, mostly collected as fog. Mean noon day air temperature was 14.57°C, with a standard deviation of 1.10°C. The highest air temperature was 17°C recorded at 1500 hours on the 13th. Mean sea surface temperature was 12.01°C, with a standard deviation of 0.88°C, a high of 14.02°C on the 13th and a low of 10.19°C on the 3rd. This mean sea surface temperature was 0.90°C above the long term (44 year) mean for May.

**Oiled & Entangled Things**

**Western Gull** – One gull with 40% oiling on its body was seen at the Habitat Sculpture on the 31st.

**Common Murre** – Six oiled murres were seen this month, 5-10% oiled.

**California Sea Lions** – Five individuals with embedded entanglements around the neck were observed this month.

**Breeding Birds**

**Storm-Petrels –** We conducted standard mistnet sessions for storm-petrels twice in May. On the 13th, we netted on Lighthouse Hill and caught 58 birds; 42 new ASSP, 15 recaptured ASSP, and 1 new LHSP. On the 31st, we netted at the Carp Shop and caught 89 birds; 86 new and 3 recaptured ASSP. Breed checks were started on the 4th and the first egg of the season was seen in a crevice on the 9th. Social attraction searches for new breeding sites began on the 24th. Nineteen predated ASSP wings were found this month, almost all from Western Gull predation.

**Brandt’s Cormorant** – The first major attendance at the Sea Lion Cove colony was noted on the 2nd. Numbers of breeding birds grew through May, with the first eggs under the Corm Blind on the 10th and at Sea Lion Cove on the 15th. Strong winds after initial egg laying coincided with many birds abandoning nests where they had not yet laid eggs. Slow expansion and nest growth at most colonies continued through the end of May.

**Pelagic Cormorant –** Attendance at nest sites has increased throughout the month and a few sites have well-built nests. However, there have been no eggs observed and very few birds have even been observed in incubation posture as of the end of May.

**Double-crested Cormorant** – Numbers increased during the month on Maintop, but are still low compared to previous years. By the 26th, there were 74 well-built nests with birds in incubation posture.

**Western Gull** – Gulls continued to lay in all followed plots throughout May. The first chicks were seen on the 25th. Lindsey Broadus deployed 60 “egg loggers” temporarily in gull nests to study incubation behavior between the 16th and the 31st. She also collected eggs for contaminant analysis. Scott Shaffer deployed 20 GPS tracking tags on adult gulls at the end of the month. Nest counts in all plots were conducted on the 29th – numbers were down at all sites. The annual breeding census was conducted on the 30th, with a corrected breeding population estimate of 10,041 birds. This is lowest estimate in our Farallon time series.

**California Gulls –** The first egg was observed at a site near Heligoland Hill on the 16th. Nesting activity was completely absent at the Sea Pigeon Gulch colony, and the monthly maximum count for the colony on the western side of the terrace above Mirounga Beach was 85 birds and 11 nests. Most of those nests were gone by the end of the month. It appears that large numbers of California sea lions that have been hauling out high on the marine terrace have reduced both roost attendance and nesting attempts for California Gulls.

**Common Murre –** Murres began laying eggs at the beginning of May and have continued to lay eggs throughout the month. The first egg under the Corm blind was seen on the 1st, and on the 2nd in the Shubrick study plot. Index plot counts began on the 29th.

**Pigeon Guillemot** – Counts of birds rafting around the island concluded on the 2nd . Three nesting boxes that had been crushed by sea lions were replaced at Garbage Gulch on the 12th. The first egg in a followed site was observed on the 21st in the Habitat Sculpture. Laying continued to increase by month’s end.

**Cassin’s Auklet –** While the first chick hatched in late April, most nests began hatching in late May. Temperature loggers at nest boxes were downloaded and redeployed on the 3rd. Time depth recorders were deployed on birds with small chicks on the 20th, and all were recovered 3 days later. Index plot counts were conducted on the 24th and were lower than last year for almost all plots. The number of burrows in plots on the marine terrace were dramatically reduced due to the presence of California sea lions hauling out in the area.

**Rhinoceros Auklet –** The first ever Rhinoceros Auklet breeding in a Habitat Sculpture box was found on the 6th. The first chick of the season was observed in a nest box on the 25th.

**Tufted Puffin –** The early season puffin census began on the 26th and will run for about 10 days.

**Black Oystercatchers** – Oystercatchers have been seen pairing up on territories around the island during the last month and foraging in the intertidal. Breed site checks began on the 4th and the first eggs were observed at a site on Aulon Peninsula on the 24th.

**Canada Goose –** A total of 3 pairs build nests and laid eggs this season and an additional 2 pairs were present throughout the spring but did not nest. One nest failed to hatch but the remaining two hatched multiple chicks that have been growing rapidly as they forage on the marine terrace. By months end there were a total of 7 goslings remaining (3 for one pair and 4 for the other).

**Pinnipeds**

**California Sea Lion** –Overall numbers increased in the second half of the month. On average there were 3,417 animals counted during pinniped census from the lighthouse. The high count was 5,555 on the 19th. Two new aborted fetuses were seen this month, hopefully the last of the season, bringing the total for the year to 215. The first live pup was seen on the 13th in Sea Lion Cove. There was also a dead decapitated animal seen at Sea Lion Cove on the 25th. On the 4th a juvenile sea lion walked through the lowest edge of the Shubrick Point murre colony, causing the loss of at least 10 eggs.

**Steller Sea Lions** – Overall numbers remained stable during May, but adult males continued to increase, with a high of 8 on the 19th. On average there were 74 animals. The high count was 83 on the 19th.

**Northern Elephant Seal –** Numbers started to decline in May with the departure of molting animals. On average there were 317 animals counted during census. The high count was 390 on the 6th.

**Harbor Seal –** As usual overall numbers were highly variable this month and heavily dependent upon tide and swell conditions (high tide or swell results in reduced haul out areas).The average count for the month was 42 with a high count of 102 on the 12th.

**Northern Fur Seals** – Overall numbers were very low through the month, but started to increase at the end of May. The average count from standard lighthouse surveys was 10 animals. The high count was 35 on the 26th.

**Cetaceans**

There were 14 one hour standardized whale watches conducted this month using the Apple iPad and Spotter App, along with daily incidental observations.

**Gray Whale** – The high count for Gray Whales this month was 2 on the 3rd. All other sightings appear to be of a resident whale observed on 20 days.

**Humpback Whale** – there were 155 seen during May on 13 days. There was a huge spike in activity in the 3rd week of May, with a high count of 58 on the 21st.

**Blue Whale** – one seen on the 21st

**Sharks**

No shark attacks observed

**Salamanders**

The standard surveys were conducted on the 3rd and 18th. We found one salamander on the 3rd and none on the 18th. With very dry soil conditions salamanders have gone underground, and board surveys will not be conducted again until October.

**Owls**

No Burrowing Owls were seen in May. There was also one Barn owl present on the island through at least the first half of the month, it was last observed on the 13th.

**Crickets**

Seasonal cricket surveys at Rabbit Cave, Corm Blind, and pocket caves near North Landing were conducted on the nights of the 3rd and the 6th. Numbers were low but most abundant at North Landing pocket caves.

**Inverts and Intertidal**

Nothing of note this month.

**Plants**

Small numbers of flowering New Zealand Spinach were pulled in early May. All observed spinach appeared stressed and was flowering/seeding earlier than usual.

**Violations**

May 1: 20 ft small sport fishing with 3 people fishing in MPA off East Landing. No id number was observed.

May 10: 2 unidentified boats anchored on the north side of the island had very bright lights illuminating the island. Attempts to contact the vessel, and to have Coast Guard broadcast an advisory to mariners were unsuccessful.

May 12: At 1330, 7 jet skis without a “mothership” showed up and transited inside MPA closed areas and disturbed wildlife. Photographs were taken of all, id’s were: CF0562KX, CF4653RC, CF4258RX, CF7449UH, CF4659RC, CF3083RJ, CF4748??

May 22: ~26ft sport fishing boat CF407GX with 2 people on board seen fishing in MPA off East Landing.

May 23: Unidentified small fishing boat with 1 person fishing in MPA in Fisherman’s Bay. Attempts to contact were unsuccessful.

**Maintenance**

Island biologists Bradley, Warzybok, and Berger conducted routine maintenance checks on the PV system and generators weekly**.** Monthly changes of water filters, crane inspection, greasing and outboard motor operation were also conducted. With the help of Jonathan Shore, the expansion tank from the gray water system was removed for replacement. A temporary system for gray water use in the Coast Guard House was setup. The settling tank was pumped out and the sand filter recirculation pump was run in the cistern. The ozonator unit in the cistern was found to have an improperly installed check valve, which was adjusted so the unit would run. New sparkplugs were installed in the main outboard engines at each landing. The mounting of the exhaust system for the Buffy generator was repaired. Jonathan conducted a self-safety audit of all our facilities. Three new interns/grad students completed crane operations training. On the 22nd a rock fall on Lighthouse Hill damaged our internet fiber optic cable. After setting up a temporary internet and phone system at the lighthouse, the strands used in the cable were switched to undamaged ones to allow for phone and internet connectivity at the house. However this event seems to have disrupted our island internal network. Three new GFCI outlets were installed in the main house and the cabinet door in the kitchen was repaired. A new on demand pump was brought out to the island as a backup for the water system. New wireless equipment to link the lighthouse dishes with the houses was purchased and brought to the island.

**Maintenance Needs**

* Repair liner in the Gravity tank
* Repair gray water system. The pump will not build enough pressure to flush the toilets anymore. We think the problem may be with the expansion tank but troubleshooting needs to be done to confirm the issue. With no functioning gray water system, we are using fresh water to flush toilets which greatly increases our water use.
* Downstairs toilet in PRBO house leaking slowing, we have to shut off water after flushing to avoid it running continuously.
* After the damage to and strand adjustments within the fiber optic cable to the lighthouse, internal network connectivity has been disrupted. Two computers and our main printer will no longer connect to our internal island network. Need to restore functionality to our local network.
* Regular door on the power house is broken and needs to be replaced. A temporary repair was done in late March by FWS volunteer Peter Winch and it is working for now. However, the frame is split and the concrete block around the door frame is broken at two of the attachment points.
* The 30Kwh Kohler “Speedwagon” persistent coolant leak appears to now be very minimal. The bolts on the water pump may still need to be tightened with a torque wrench to the proper specifications to see if that will stop the leak. Otherwise, it is likely that the water pump gasket will need to be replaced.
* The dumper jet battery appears to be losing its charge quickly despite regular recharges. The reason for the rapid discharging is not known. The batteries are fairly new so the issue may be with the charger not bringing them up to full capacity.
* On-demand hot water heater in PRBO house is not functioning at all
* Webasto heater is not functioning and needs a new fuel pump.
* Water supply lines have developed several leaks over the last few months and need to be replaced.
* Cistern is losing water at a rate ~250 gallons per month and needs to be inspected.
* Settling Tank appears to have a leak in it when water is above 5.1 feet
* Some of the wooden railing on Light House Hill still needs repair.
* Cart path rail line needs several major repairs.
* Clean water line going to upstairs bathroom in PRBO house needs to be cleared to increase water pressure.
* PRBO upstairs toilet needs to be fixed so it flushes properly. It is currently on clean water and we are employing the rule of “its yellow so let it mellow”.
* Drain line from PRBO kitchen sink needs to be replaced.
* Front door and frame to PRBO house are rotting at bottom corner and need to be repaired or replaced. The weather stripping for all doors needs to be replaced to keep out weather, flies, and mice.
* Refurbishment of North Landing platform

**Solar/Electric**

**PV System**

Weekly checks were conducted on Wednesdays. All PV checks went well and the system appears to be functioning properly. 12 gallons of water was added to battery cells on the 4th. On the 10th, a bypass access panel for the inverters was repaired. Solar panels were cleaned on the 25th.

**Generator run times**

White Kohler (Buffy): 4.4 hours

Black Kohler (Speedwagon): 16.1 hours

PV Kohler: 2.7 hours

Webasto: Not working

Power Used: 468kwh (5/4 to 6/1)

**Fuel Reserves**

Fuel Remaining:

Drums: 6 1/2 X 55g = ~358 gallons

PV Kohler Tank: Full

White Kohler Tank: Full

Black Kohler Tank: Full

Webasto Tank: 1/4 full

Diesel Fuel used in May: 9.7 gallons

**Water Reserves**

Cistern: ~101,430 gallons (7’5”)

Gravity Tank: empty

Settling Tank: empty

No water was pumped this month. Water use at PRBO house water meter was 6,692 gallons. Using fresh water for toilets has more than doubled our water use compared to this time last year.

**Sightseeing Boats**

Kitty Kat seen six times this month (1st, 7th, 8th, 21st, 22nd, and 29th) with 20-50 POB. Hyperfish brought out divers on the 7th. The single handed Farallones sailing race took place on the 14th.

**Non-breeding birds**

Pacific Loon, Eared Grebe, Sooty Shearwater, **Brown Booby, Blue-footed Booby**, Northern Gannet, Brown Pelican, Surf Scoter, Canada Goose (mostly breeders but a couple of migrants), Peregrine Falcon, Willet, Wandering Tattler, Whimbrel, Glaucous-winged Gull, Glaucous Gull, Elegant Tern, Eurasian Collared Dove, Ringed Turtle Dove, Barn Owl, Anna’s Hummingbird, Rufous Hummingbird, Western Wood Pewee, Willow Flycatcher, Pacific Slope Flycatcher, Hammond’s Flycatcher, Ash-throated Flycatcher, Western Kingbird, Cassin’s Vireo, Warbling Vireo, Violet-green Swallow, Barn Swallow, Red-breasted Nuthatch, Ruby-crowned Kinglet, Swainson’s Thrush, Hermit Thrush, American Robin, Varied Thrush, Northern Mockingbird, Tennessee Warbler, Orange-crowned Warbler, Northern Parula, Nashville Warbler, Yellow Warbler, Audubon’s Warbler, Myrtle Warbler, Black-Throated Gray Warbler, Townsend’s Warbler, Hermit Warbler, MacGillivray’s Warbler, Common Yellowthroat, Hooded Warbler, Wilson’s Warbler, Yellow-breasted Chat, Summer Tanager, Western Tanager, Spotted Towhee, Chipping Sparrow, Clay-colored Sparrow, White-crowned Sparrow Golden-crowned Sparrow, Oregon Junco, Slate-colored Junco, Black-headed Grosbeak, Indigo Bunting, Lazuli Bunting, Tricolored Blackbird, Yellow-headed Blackbird, Brewer’s Blackbird, Brown-headed Cowbird, Bullock’s Oriole, Lesser Goldfinch.