

Farallon Islands Monthly Report

Report to the U.S. Fish and Wildlife Service

Farallon Islands National Wildlife Refuge

December 2021

Garrett Duncan, gduncan@pointblue.org

Jim Tietz, jtietz@pointblue.org

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**Island Visitors**

**Point Blue**: Seth Bartusek, Mackenzie Cahill, Natalia Cara, Garrett Duncan, Sonja Feinberg, Lexi Roberts, Rya Rubenthaler Stella Solasz, Jim Tietz.

December 3rd:  **“The Lil’ Swift”** (skipper Joseph Ferraro) brought out Leighton Hills and Matt Porter.

December 4th: **“Talisman”** (skipper Harmon Shragge and Don Bauer) brought out Seth Bartusek, Mackenzie Cahill, Natalia Cara, Garrett Duncan, and Sonja Feinberg. They departed with Lexi Roberts, Rya Rubenthaler, Jim Tietz, Leighton Hills, and Matt Porter.

December 17th: **“Outer Limits”** (skipper Jim Robertson) departed with Stella Solasz. Two people toured the island.

December 20th: **Specialized Helicopters** brought out Mike McGoey for a day trip to install new solar controllers.

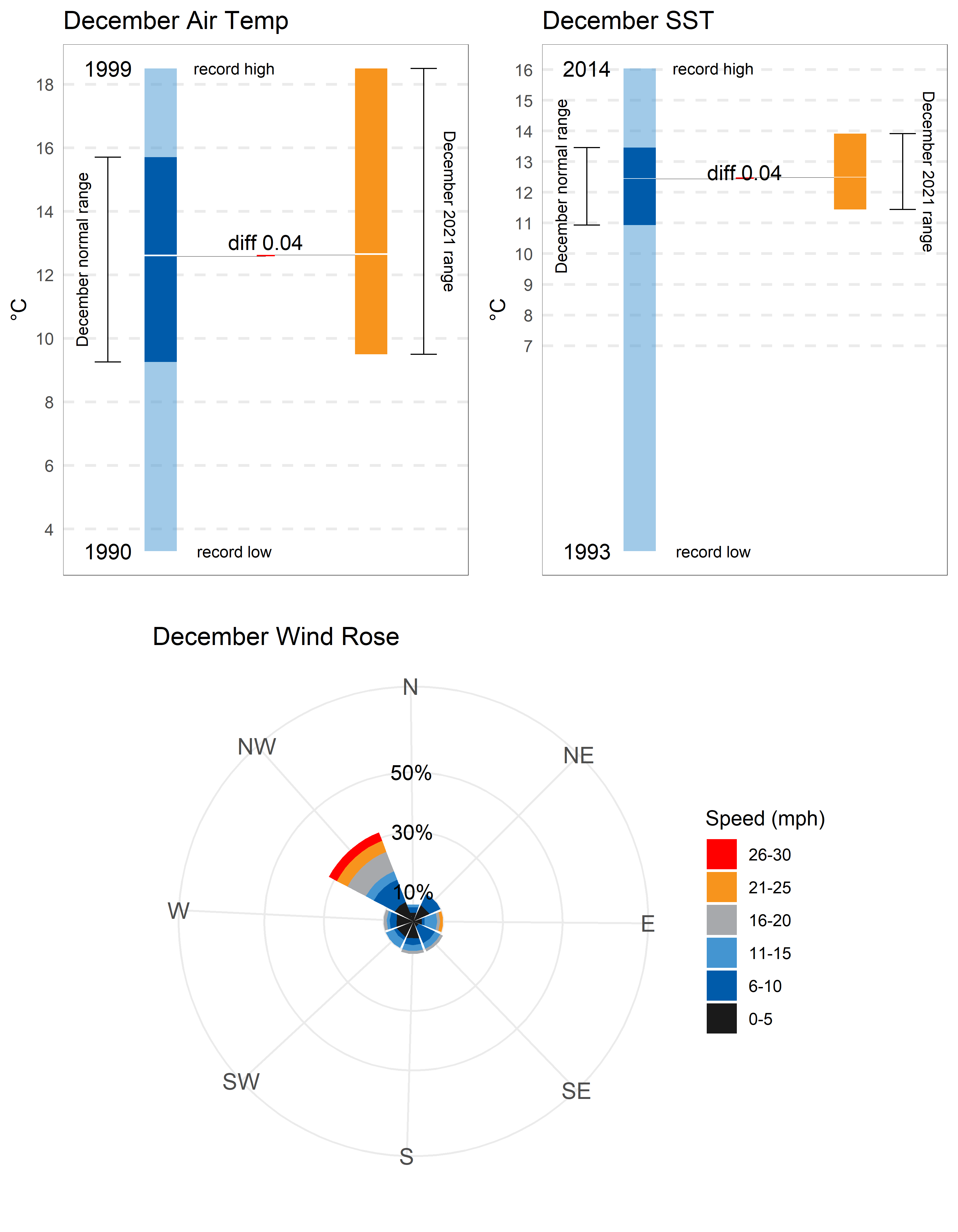
**West End Island Visitors**

December 18th: Duncan, Cara, and Feinberg visited West End Island to conduct a pinniped survey and resight tags.

**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 strong NW winds dominated this month. The island received 6.06 inches of precipitation this month, of which 1.81 fell during a storm on the 12th to 14th and another 1.31 inches fell on the 29th. The average midday air temperature this month was 12.63 ± 1.87 °C, which was 0.04 °C higher than the long-term average of 12.59 °C. The average sea surface temperature (SST) this month was 12.48 ± 0.58 °C, which was 0.04 °C above the long-term average of 12.44 °C. The air quality this month was mostly good according to EPA standards (Table 1), with an average Air Quality Index (AQI) of 12 for PM2.5 and 20 for PM10. The PM2.5 and PM10 levels were “moderate” on only one day, the 13th, with an AQI value of 36 and 58.



**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.

Table

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**Table 1.** The Air Quality Index (AQI) is divided into six categories that correspond to different levels of health concern. The breakpoints between these categories are selected based on a review of the health effects evidence. (<https://www.epa.gov/wildfire-smoke-course/wildfire-smoke-and-your-patients-health-air-quality-index>)

**Oiled & Entangled Wildlife**

One oiled Common Murre was seen at North Landing on the 12th, 10% coverage with black oil.

Eight Zalophus (one adult female, two sub-adult males, and five immatures) were found entangled this month with monofilament, nylon rope, rubber strap, or unknown material around their necks and/or head. One Western Gull was seen with \_\_\_\_\_\_ wrapped around its foot.

**Feeding Flocks**

December 1st: ~500 gulls, ~100 pelicans 6 km north of the island.

December 3rd: ~400 gulls, ~150 pelicans, ~150 cormorants, 4 HUWH 10 km east of the island.

December 11th: ~100 gulls 8km SW of the island in the morning and ~200 gulls 15km E of the island in the afternoon.

**Breeding Birds**

**Storm-Petrels** – The last three nests fledged by the December 20th crevice check.

**Brandt’s Cormorant** – A few thousand birds (2,000-5,000) were seen daily roosting on offshore islets, such as Sugarloaf, Aulon Islets, and Saddle Rock.

**Pelagic Cormorant** – Up to a hundred birds were seen daily roosting along the shoreline or in gulches.

**Double-crested Cormorant** – None observed.

**Western Gull** – Number of roosting gulls dropped throughout the month and pair were only occasionally seen on plots.

**California Gulls** – Low numbers of roosting individuals seen regularly on the marine terrace.

**Common Murre** – Numbers varied over the month from a few scattered on the water to over 300,000 (all colonies with full attendance).

**Pigeon Guillemot** – No birds were seen this month.

**Rhinoceros Auklet** – Occasionally individuals were seen near East Landing.

**Tufted Puffin** – No birds were seen this month.

**Cassin’s Auklet** – Estimates of vocalizing birds returning to the island to dig burrows ranged from just a few on moonlit nights, to several hundred individuals during dark or rainy evenings.

**Black Oystercatchers\*** – Roosting birds were counted daily during high tide surveys and averaged 25 birds per survey, with a high count of 38 on the 3rd and the 25th.

*\*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 4,629 (std ± 1,284) individuals counted during the weekly pinniped census from the Lighthouse, with a high count of 6,592 individuals on the 2nd.

**Steller Sea Lion –** On average there were 69 (std ± 13) individuals counted, with the high count of 89 on the 30th.

**Northern Fur Seal –** Numbers declined markedly on West End this month. On average there were 142 (std ± 52) individuals counted, with the high count of 242 observed on the 2nd. A trip to West End on the 18th counted 310 individuals, including 33 bulls. A total of 3 tags were read, with one of those tagged on the Farallones.

**Harbor Seal –** On average there were 12 (std ± 13) individuals counted, with a high count of 37 on the 10th.

**Northern Elephant Seal –** Numbers fell this month with the arrival of the first breeding age animals. The average count was 194 (std ± 69) individuals. A high count of 305 individuals was observed on the 2nd. The decrease was due to the departure of immature seals over the course of the month from 273 to 106. By the end of the month there were 6 large males, 6 cows and one pup on SEFI and WEI.

**Canada Goose**

A flock of 22 remained from November but slowly departed over the month. Three remained by the end of the year.

**Cetaceans**

**Standard Survey** – 19 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. Humpback whales were seen on 8 days this month, with a high count of 11 on the 3rd. Gray whales were seen on 10 days.

**Figure 2.** Daily high counts of cetaceans observed from Southeast Farallon Island for December 2021. Survey days are denoted with an asterisk.

**Sharks**

One shark attack was reported by shark researchers on the 3rd.

**Salamanders**

Two salamander surveys occurred this month. The first survey on the 1st encountered 38 large and 10 small salamanders, while the second survey on the 16th encountered 52 large and 3 small individuals.

**Owls**

Two Burrowing Owls were banded on the 11th (D21/S and S/P70). The high count of 3 was observed on the 1st, 3rd and 24th.

**Crickets**

No surveys were conducted this month.

**Bats**

No bats were detected this month.

**Mice**

Mice were seen occasionally outside during the day and night, but by the end of the month they were seen very rarely.

**Inverts & Intertidal**

A group of sea nettles was seen at North Landing on the 17th and a sea pen (Ptilosarcus gurneyi) was found near Queen’s Bath on the 19th.

**Plants**

*Lasthenia maritima* has grown aggressively with the continued rains and now blankets all of the flat ground and gradual slopes of the island. A Rumex species was found between the temperature box and Sewer Gulch. It had not been documented there before.

**Violations**

Seven fishing violations in the State Marine Reserve were documented in December from seven boats. A boat was caught by CDFW off Sugarloaf on the 3rd. None of these boats were in the Special Closure area, nor did any of these boats disturb wildlife on the refuge.

**Maintenance**

Island biologists Tietz 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 December came back negative for Coliforms and E. Coli. A classroom crane training was conducted on the 7th, East Landing trainings were conducted on the 7th and the 30th. A training at North Landing was conducted on the 29th.

Additional maintenance performed this month are as follows:

* Pumped 21’ of water from Settling Tank to Cistern.
* The crew started removing vegetation from the water catchment pad.
* Contractors completed the first new microwave data connection to Muir Beach.

**Maintenance Needs**

* Outdoor shutoff valves along the gray water line to CG house are severely corroded 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.
* Some of 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. The roof has been repaired but some drywall needs to be replaced.
* The Speedwagon generator occasionally experiences a rotor lock shutdown fault. This is likely due to a bad starter solenoid. The frequency of the fault is reduced with regular exercising of the generator.
* The Speedwagon generator sprung a leak in the water pump and is out of commission until a replacement water pump is installed.
* The rail cart axles are badly corroded and may need replacement soon.
* 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.
* PRBO house fire hose station shutoff valve is leaking at a drop per second.
* 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.
* Metal mesh on several “windows” along the perimeter of the cistern have corroded open, allowing sediment, debris, and potentially birds to enter the cistern.
* Yamaha 9.9hp (kicker) needs new a carburetor rebuild to fix the rough idle.
* 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.**
* The roof of the gravity tank caved in and poses a threat to seabirds becoming trapped in it. A hole was cut in the floor of the tank to allow birds to escape.
* Speedwagon exhaust pipe is badly corroded and broken where it exits Powerhouse. Exhaust is leaking and/or backing into the Powerhouse. This needs to be replaced. In the meantime, the powerhouse doors need to be open when running this generator.
* Hot water pressure to downstairs PRBO shower is degrading quickly.

**Solar/Electric/Fuel/Water**

**PV System**

Distilled water used: 0 gallons

Distilled water reserves: 29 gallons

**Generator run times**

Kohler 30REOZJC (Speedwagon): 4.0 hours (724.2 on meter)

Kohler 40REOZK (Zeke): 11.9 hours (699.2 on meter)

Kohler 15REOZK (PV): 12.5 hours (159.2 on meter)

Webasto: 6 hours

**Power use**

Facilities power use: Start = 96,054; End =96,715; for total of 661 kWh

**Fuel Reserves**

Diesel used: 65.1 gallons

Diesel drums: 2.5@55gal 86 gallons

Kohler 15REOZK (PV) Tank: Full

Kohler 30REOZJC (Speedwagon) Tank: 3/4

Kohler 40REOZK (Zeke) Tank: Full

Webasto Tank: 3/4

Gasoline for boats (racing fuel): 12 gallons

6 gallon boat tank: 1/3

3 gallon boat tank: Full

**Water Reserves**

Fresh water used this month: Start = 337,172; End =338,939; for a total of 1,767 gal

Cistern: 7’5” or ~ 101,430 gallons

Settling Tank: 2’3”

Drinking water: 12 five-gallon jugs

Gray water used this month: Start = 35,631; End = 38,678; for a total of 3,047 gal

**Sightseeing Boats**

No sightseeing boats were seen this month.

**Non-breeding birds**

Pacific Loon, Eared Grebe, Northern Fulmar, Pink-footed Shearwater, Sooty Shearwater, Brown Booby, Northern Gannet, Brown Pelican, Greater White-fronted Goose, Canada Goose, Surf Scoter, Peregrine Falcon, Pacific Golden-Plover, Spotted Sandpiper, Whimbrel, Ruddy Turnstone, Black Turnstone, Rock Sandpiper, Pomarine Jaeger, California Gull, Herring Gull, Iceland Gull, Glaucous-winged Gull, Burrowing Owl, Long-eared Owl, Anna’s Hummingbird, Black Phoebe, American Robin, Varied Thrush, Nashville Warbler, Yellow-rumped Warbler, Fox Sparrow, White-throated Sparrow, and Golden-crowned Sparrow.