

Save Coastal Wildlife Nonprofit

Seal Monitoring Activities Around Sandy Hook Bay, NJ from December 2021 to April 2022

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Abstract

This report presents the results of a series of volunteer surveys of the seal population around Sandy Hook Bay, New Jersey during the nonbreeding season between December 1, 2021 to April 15, 2022. The objectives of monitoring the seal population around Sandy Hook Bay, NJ are to 1) detect changes in population size, and 2) identify anthropogenic or environmental factors that may affect the health or physical condition of the population.

Long-term monitoring studies have been conducted at several haul out sites in Sandy Hook Bay since 2005 with volunteers from Save Coastal Wildlife Nonprofit, formerly known as the Bayshore Regional Watershed Council. Throughout this time, Atlantic harbor seals (*Phoca vitulina*) have been the most frequently observed pinniped in the Sandy Hook Bay, New Jersey coastal-estuarine ecosystem.

Notable Findings for the 2021-2022 Monitoring season include:

- During the nonbreeding winter season, 70 adult Harbor seals were observed on December 20, 2021 at the rock jetty across from Fort Hancock at Sandy Hook, Gateway National Recreation Area. This was the highest number of seals counted during the monitoring season.
- In addition to harbor seals, three adult female gray seals (*Halichoerus grypus*) were observed in Sandy Hook Bay. Adult gray seals are also sometime spotted swimming in the Atlantic Ocean across from Parking Area C at Sandy Hook. Only harbor and grey seals were observed during the monitoring season. No other species of pinnipeds were observed during monitoring activities.
- The highest amount of harbor seals observed at Rock Island were 30 on December 1, 2021
- The highest amount of harbor seals observed at the southern tip of Skeleton Hill Island were 30 on both December 2, 2021 and December 23, 2021
- The highest amount of harbor seals observed on the sand bar to the north of Skeleton Hill Island were 36 on March 2, 2022.
- During surveys, 22 disturbances to seals were recorded. The most frequent causes were large groups of people watching the seals (70%), windsurfers or boats getting too close to haul out sites (25%), and barking dogs or loud children (5%).
- Two harbor seals were observed were wounds or cuts that were healing. One had a wound around the neck (November 28, 2021) and the other seal had a slash wound on the lower abdomen (February 1, 2022).

Background

Since February 2005, volunteers with Save Coastal Wildlife Nonprofit, formerly known as the Bayshore Watershed Council, have been monitoring the seal population around Sandy Hook Bay, New Jersey.

From approximately November to April, pinnipeds are seen along the Jersey Shore and around New York Harbor. They arrive one by one soon after their breeding and molting seasons in the fall that takes place on and near coastal beaches along Cape Cod, Massachusetts, coastal Maine, and eastern Canada. The seals, mostly Atlantic harbor seals (*Phoca vitulina*) and Atlantic gray seals (*Halichoerus grypus*), are most often seen by humans when they "haul out" to rest, feed, and bask under the sun on sand bars, rocks, piers, or remote beaches.

According to studies done by wildlife scientists from NOAA fisheries from the scat of harbor seals collected on sandy beaches in New England, the most numerous prey species in the samples were sand lance, silver hake, Atlantic herring, and redfish. Other species included cod, haddock, pollock, flounders, mackerel, and squid. They will also consume clams, crabs, and shrimp. A Harbor Seal's diet varies seasonally and regionally and often is subject to local prey availability.

The location of their prey, which is mostly located in or near ocean waters, has largely determined where seals haul out to rest during times of low tide. Resting places for seals are called "haul-out" sites. Haul-out sites are important places for seals to rest, digest food and warm up. There are several long-established haul-out sites in New Harbor and along the Jersey Shore that all located near to ocean waters, frequently located in estuarine waters neighboring the open waters of the Atlantic Ocean.

Without safe places for seals to haul-out of the water to rest, reheat, and digest food (particularly important since seals usually swallow their food whole after being torn into chunks), the pinnipeds might get sick, exhausted, or stressed out. In addition, regular hauling out on land is needed for a seal to reduce thermal stress, permitting increased blood flow to the skin and extremities, which allows any cuts or wounds to heal normally, and reduces the need for excessive metabolic heat production.

Before 2000, seals were almost never seen in New York Harbor or along the Jersey Shore. Now waters are cleaner due to the Clean Water Act of 1972, and seals are protected species under the Marine Mammal Protection Act of 1972, which prohibited the killing or harassment of any wild seal.

Methods

Long-term monitoring studies have been conducted at several haul out sites in Sandy Hook Bay since 2005 with volunteers from Save Coastal Wildlife Nonprofit, formerly known as the Bayshore Regional Watershed Council.

Before each monitoring season begins, volunteers are trained to monitor the seal population around Sandy Hook Bay, and how to identify common species of seals, and injuries and threats to the seals. A trained volunteer will conduct land-based seal surveys, identify seals species, and conduct photo-ID when and if possible. Tools used to identify seals are 8x42 binoculars or 20x60 scopes.

Seal monitoring activities generally take place around new and full moon dates during low tide events in December, January, February, March and early April. Volunteers will count species of seal and approximate ages (adult or juvenile) at four haul-out sites around Sandy Hook Bay:

1. The southern tip of Skeleton Hill Island
2. The Sandbar located to the southwest of Skeleton Hill Island
3. Rock Island located across from Spermaceti Cove
4. The rock jetty located across from Fort Hancock at Gateway National Recreation Area.



The picture above represents haul-out sites that are regularly used by large numbers of seals and regularly monitored by volunteers.

The 2021-2022 Seal Monitoring Count

Variable viewing conditions, including icy waters, high wind speeds and stormy weather, account for most of the variability in count numbers from year to year. Stormy weather also accounts for volunteer monitoring activities. Unsafe or unfavorable weather conditions will limit volunteer viewing activities. In general, years with favorable weather conditions have produced the highest counts.

During Save Coastal Wildlife's seal monitoring season for 2021-2022, volunteers observed 70 seals on December 20, 2021. This was the most seals observed at any one time during the monitoring period. This was greater than the previous year when 52 harbor seals were observed at any one time. The maximum count of 70 seals is also higher than the average of 63.69 seals for the history of our count. This higher-than-average number may be attributed to a decrease in human disturbances that were recorded during the monitoring period. Yet, 70 seals observed hauled out near Fort Hancock is lower than the all-time high of 163 seals observed in February 2019 at the southern tip of Skeleton Hill Island.

Two adult female gray seals (*Halichoerus grypus*) were observed resting on top of Rock Island across from Spermaceti Cove in Sandy Hook Bay. Both gray seals were observed along with 4 harbor seals on February 27, 2022. One other female gray seal was observed on the rock jetty across from Fort Hancock along with 34 harbor seals. Both locations are within the boundaries of the Sandy Hook Park, part of Gateway National Recreation Area.

Disturbances

Disturbances included any event that caused the seals to lift their head (head alert), flush (move towards the water), or flush into water. In 2022, observers recorded 22 human disturbances which is less than the 54 human disturbances, in 2021 and less than the 44 human disturbances recorded in 2020. Both 2021 and 2020 were COVID-19 years when attendance to parks were higher than normal.

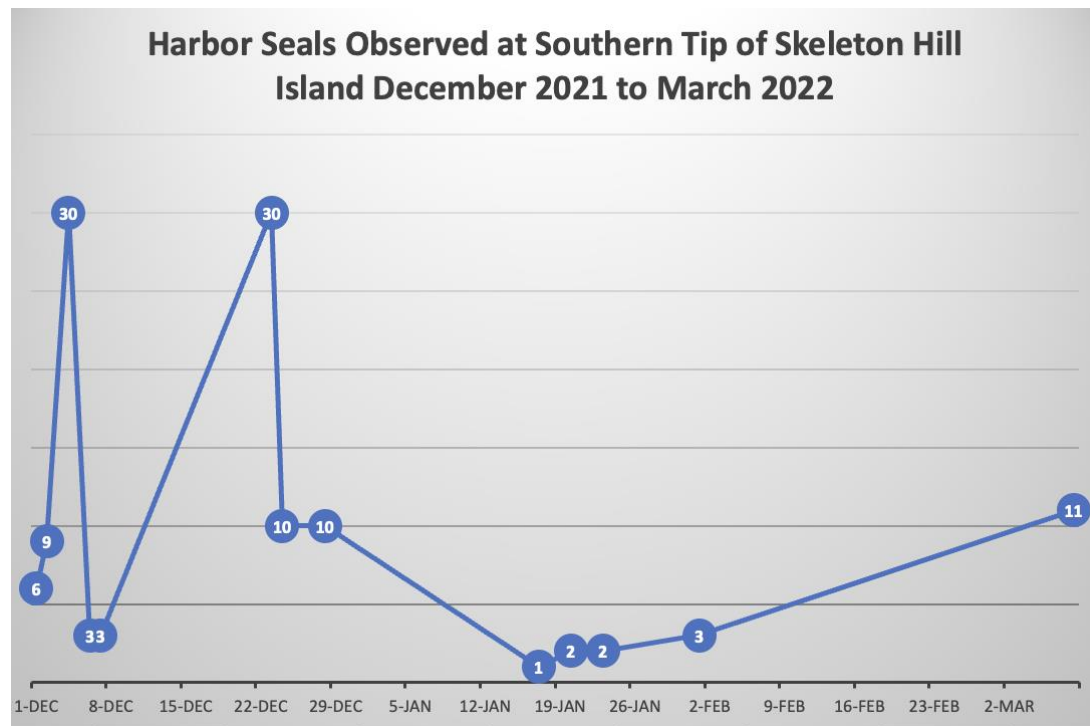
The majority of human disturbances in 2022 were large groups of people watching the seals for over an hour. This activity was noted about 70 percent of the time. Large groups of people often stressed out the seals so they would not remain at a haul site during the entire low tide time to rest. The next human disturbance were windsurfers or boats that would get too close to haul-out sites around Spermaceti Cove to scare away resting seals. This incident occurred about 25 percent of the time an observer was present. Barking dogs, loud children or other loud noises were also noticed

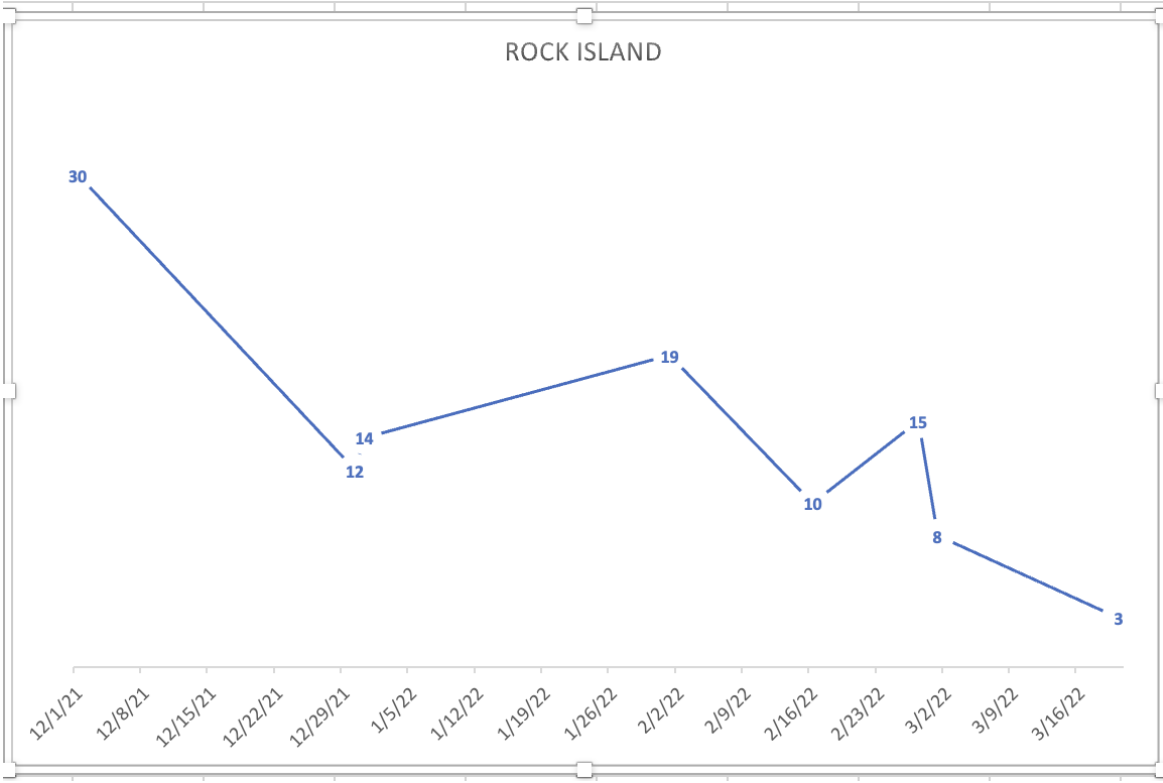
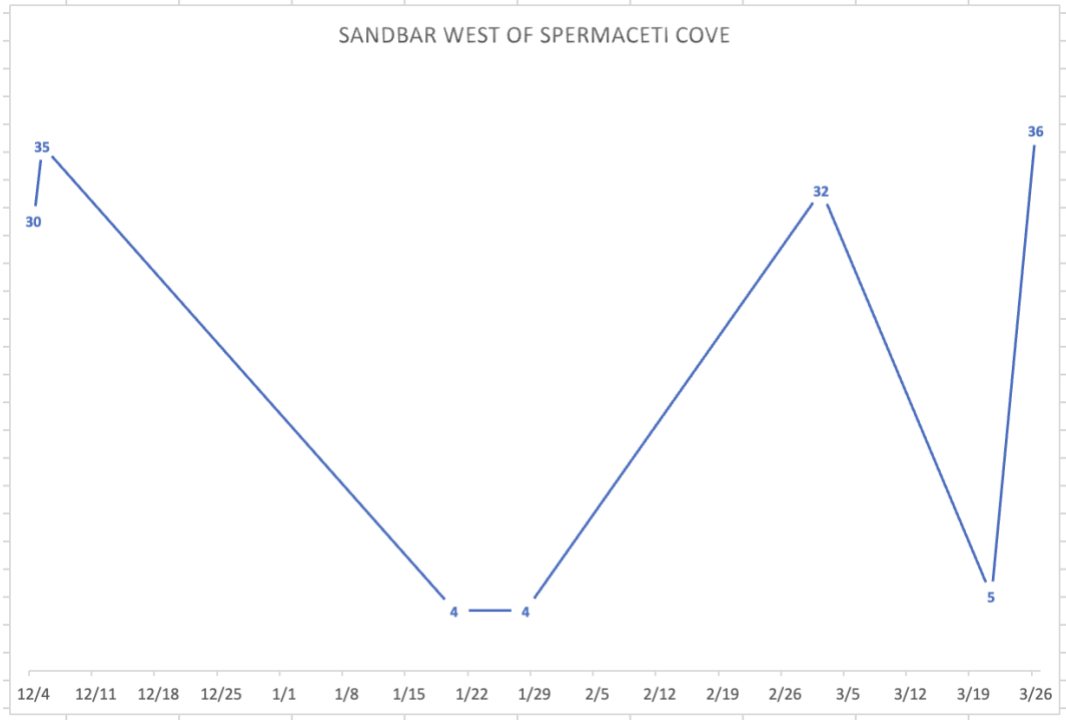
by observers to stress out seals so all eyes of the seal herd was focused on the noise. This occurred about 5 percent of the time.

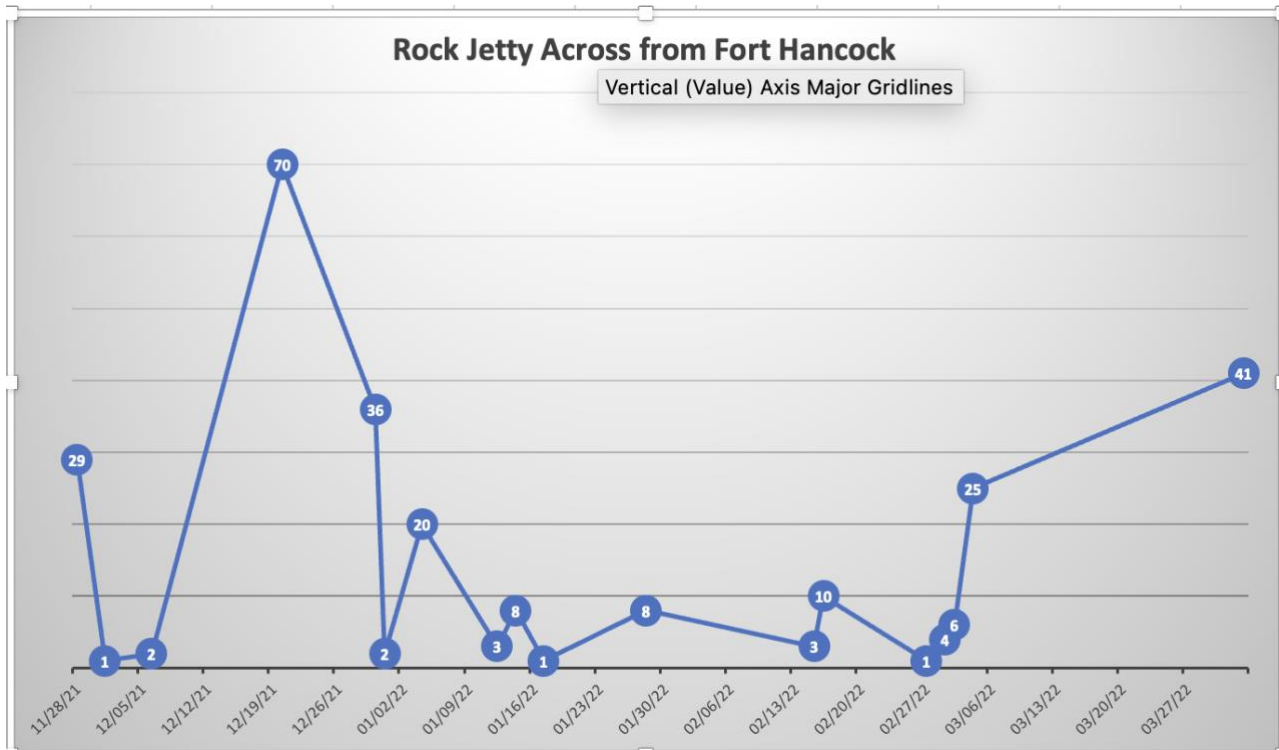
Injuries

Two harbor seals were observed with wounds or cuts that were healing. One had a wound around the neck (November 28, 2021) and the other seal had a slash wound on the lower abdomen (February 1, 2022).

Seal Population By Site







Acknowledgments

Members of the Seal Monitoring Volunteer Program with Save Coastal Wildlife Nonprofit helped to complete 51 surveys, contributing an estimated 110 volunteer hours. The Sandy Hook Bay Seal Monitoring Program is a volunteer effort to observe and better understand local seal populations. Save Coastal Wildlife Nonprofit would like to extend our gratitude and kindness to everyone who participated in our 2021-2022 seal monitoring programs and thank them for their service. With your help and assistance, we will continue to develop the Sandy Hook Bay seal monitoring program in 2022.

How To View Seals

Many people enjoy watching seals at their haul-out sites. However, sometimes observers can put stress on the seals and frighten them off their resting spots, causing them to lose precious energy. What might seem like a minor disturbance may be one of many they experience throughout the day and is, in fact, a violation of the Marine Mammal Protection Act. Follow these tips to get the most out of your seal-watching experience and keep seals safe.

HOW TO WATCH:

- From at least 50 yards away with binoculars or a spotting scope.
- Leash or control your dog.
- From a Boat: Maintain a parallel course at least 50 yards away, which is less threatening than a direct approach. Avoid sudden changes in course or speed, or circling the animals. Kayaks and canoes, with their low profiles and quiet approach, can actually be more threatening than motorboats.

BE ALERT FOR SIGNS OF DISTURBANCE

Seals stretching their necks, moving toward the water, looking at you or increasing their vocalization indicate that the seals are preparing to flee. Back off immediately.

DO NOT FEED THE SEALS

Feeding encourages seals to approach boats, increasing the likelihood for propeller injuries. Seals also bite, carrying infectious diseases.

LEAVE STRANDED SEALS ALONE

If you find a seal that is dead, being harassed, or stranded in the same area for more than 24 hours, please contact the New Jersey marine Mammal Stranding Center at 609-266-0538.

The Marine Mammal Protection Act prohibits disturbing, feeding, or harassing seals.