

Save Coastal Wildlife Nonprofit

# Seal Monitoring Activities Around Sandy Hook Bay, NJ from December 2022 to April 2023

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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, 2022 to April 15, 2023. 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 2022-2023 Monitoring season include:

- During the non-breeding winter season, 188 adult and juvenile Harbor seals were observed on February 20 and 21, 2022 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.
- One harbor seal was seen resting during low tide on the small rock jetty near the Chapel at Fort Hancock, Sandy Hook on March 22, 2023. This was the first time a seal was observed at this site.
- In addition to harbor seals, four gray seals (*Halichoerus grypus*) were observed in Sandy Hook Bay. There was also one resting juvenile male near the entrance to Sandy Hook. Two adult gray seals were also sometime spotted swimming in the Atlantic Ocean across from Parking Area C at Sandy Hook.
- The highest amount of harbor seals observed at Rock Island were 10 on February 20 and 21, 2022
- The highest amount of harbor seals observed on the sand bar to the north of Skeleton Hill Island were 11 on February 20, 2022.
- There was no seal activity at the southern tip of Skeleton Hill Island during this period.
- During surveys, 31 disturbances to seals were recorded. The most frequent causes were large groups of people watching the seals (70%), kayaks getting too close to haul out sites (25%), and barking dogs or loud children (5%).
- Two harbor seals were observed with wounds or cuts that were healing. Both had wounds on the belly or lower abdomen. They were observed frequently throughout the monitoring season at the Fort Hancock site.

## 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 2022-2023 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 2022-2023, volunteers observed 109 seals on February 20 and February 21. This was the most seals observed at any one time during the monitoring period. This was greater than the previous year when 70 harbor seals were observed at any one time. The maximum count of 88 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 slight decrease in human disturbances that were recorded during the monitoring period. Yet, 109 seals observed is lower than the all-time high of 163 seals observed in February 2019 at the southern tip of Skeleton Hill Island.

Four adult female gray seals (*Halichoerus grypus*) were observed resting on top of Rock Island across from Spermaceti Cove in Sandy Hook Bay. All gray seals were observed along with 10 harbor seals on February 20, 2023. One other juvenile female gray seal was observed on the It was alone. 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 2023, observers recorded 31 human disturbances which is greater than the 21 human disturbances in 2022, but 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.

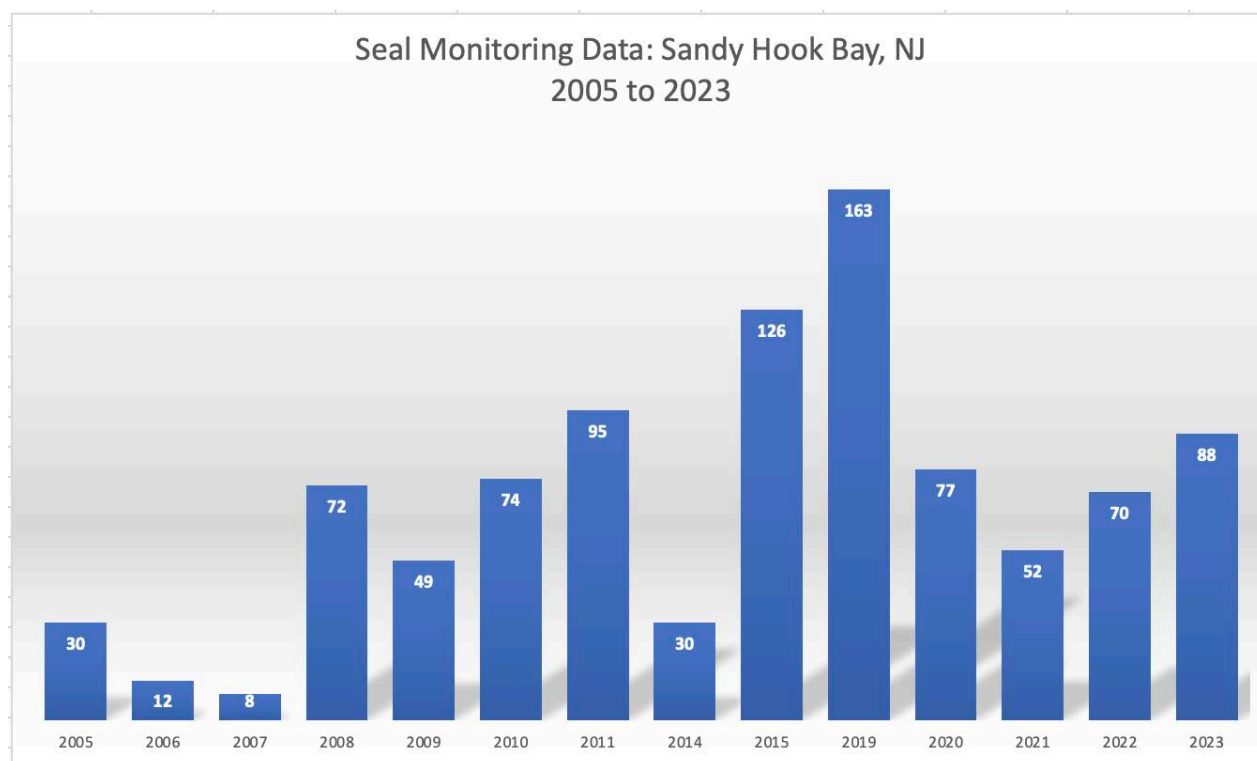
The majority of human disturbances in 2023 were large groups of people watching the seals for over an hour at Fort Hancock. This activity was noted about 70 percent of the time. Large groups of people often stressed out the seals so they would not remain at a haul site during the entire low tide time to rest. The next human disturbance were kayaks 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, such as loud vehicles, 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. Both had wounds on the belly or lower abdomen. They were observed frequently throughout the monitoring season at the Fort Hancock site.

## **Seal Populations Over the Years:**



## **Acknowledgments**

Members of the Seal Monitoring Volunteer Program with Save Coastal Wildlife Nonprofit helped to complete 67 surveys, contributing an estimated 135 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 2022-2023 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.

## **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 SEALS:**

- 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 of 1972 prohibits disturbing, feeding, or harassing seals.*