

Sandy Hook Bay, New Jersey Seal Monitoring

Year-End Report for 2021

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All collected seal monitoring data for Sandy Hook Bay, NJ including individual surveys can be reviewed at the Save Coastal Wildlife Nonprofit website at <https://www.savecoastalwildlife.org/winter-seal-survey>

Abstract

Atlantic harbor seals (*Phoca vitulina*) are the most frequently observed pinniped in the Sandy Hook Bay, New Jersey ecosystem. Long-term monitoring studies have been conducted at several haul out sites in Sandy Hook Bay since 2005 with volunteers from the Bayshore Regional Watershed Council, which has evolved into Save Coastal Wildlife Nonprofit. The objectives of monitoring the seal population in Sandy Hook Bay, NJ are to i) detect changes in population size, and ii) identify anthropogenic or environmental factors that may affect the condition of the population.

Harbor seal surveys in 2021 were from December 1, 2019 to April 11, 2021. Surveys were conducted during times of low tide and in the course of full and new moon cycles, which corresponded with the lowest low tide cycles in the bay. Members of the Seal Monitoring Volunteer Program with Save Coastal Wildlife Nonprofit helped to complete 47 surveys, contributing an estimated 97 volunteer hours.

During the winter season, 52 adult and sub-adult seals was the highest counted at all monitoring locations. In addition to harbor seals, two adult female grey seals (*Halichoerus grypus*) were observed resting at the southern tip of Skeleton Hill Island in Sandy Hook Bay. No other species of pinnipeds were observed during volunteer monitoring activities.

During surveys, 54 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 (5%).

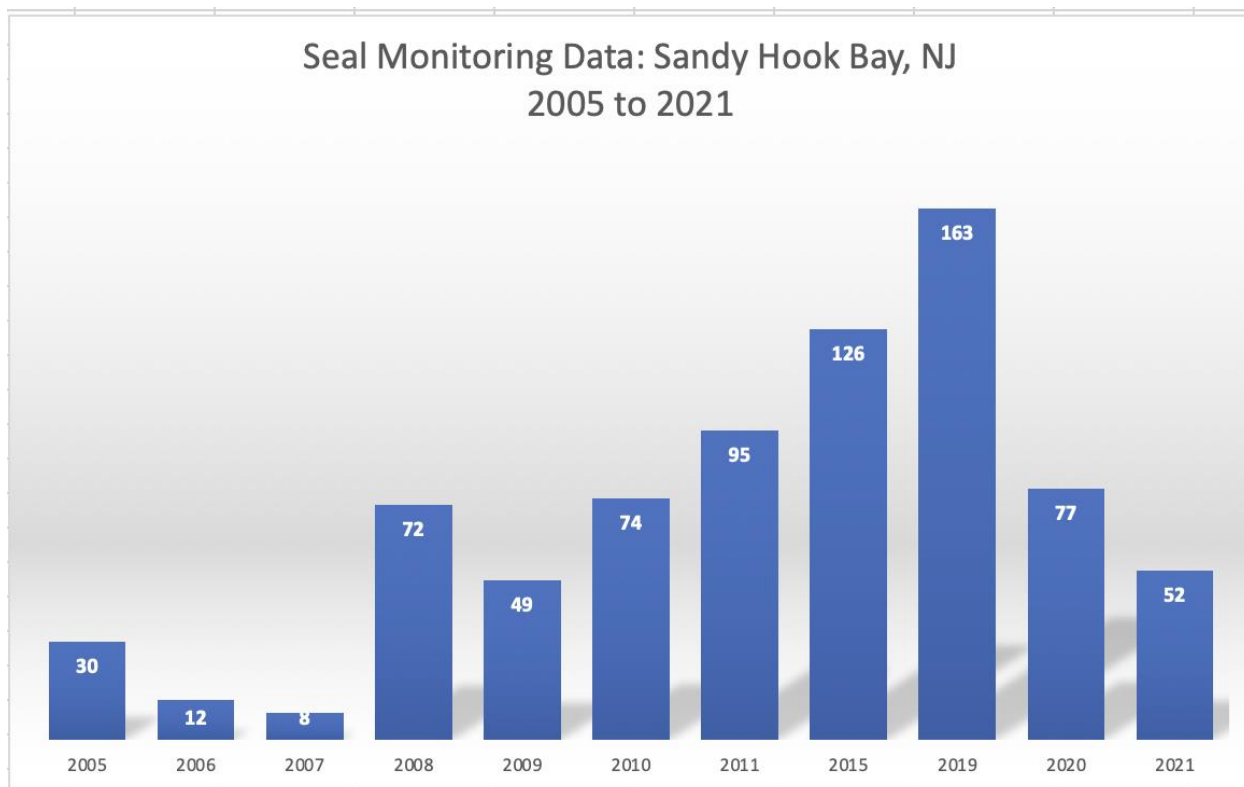
Volunteer Seal Monitoring Activities around Sandy Hook Bay

The Sandy Hook Bay Seal Monitoring Program is a volunteer effort to observe and better understand local seal populations. The project is designed to provide useful observations that will help to contribute to the long-term monitoring of the winter seal population around Sandy Hook Bay, which will aid in protecting seal colonies and assessing the health of the overall marine ecosystem along the Jersey Shore.

Volunteers with the Bayshore Watershed Council, which has evolved into Save Coastal Wildlife Nonprofit, originally began monitoring seals in 2005. Monitoring consists of volunteer observations at known haul-out sites throughout the winter and early spring seal spotting season (December to April).

Seals are marine mammals, and as such are protected by the Marine Mammal Protection Act (MMPA) of 1972. Volunteers with Save Coastal Wildlife Nonprofit comply with seal watching guidelines set forth by NOAA Fisheries. These guidelines include remaining at least 50 yards away—about 1/2 a football field away from the seals, and limiting viewing time to a maximum of 30 minutes. These precautions will help to not cause resting seals unnecessary stress.

The 2021 Seal Monitoring Count



During Save Coastal Wildlife’s seal monitoring season for 2020-2021, volunteers observed 52 seals on January 14, 2021. This was the most seals observed at any one time during the monitoring period. 33 harbor seals were observed resting on an exposed sandbar in Spermaceti Cove and 19 harbor seals were observed hauled out and resting on a rock jetty across from Fort Hancock. Both locations are within the boundaries of the Sandy Hook Park, part of Gateway National Recreation Area.

Two adult female gray seals (*Halichoerus grypus*) were also observed resting at the southern tip of Skeleton Hill Island in Sandy Hook Bay. A gray seal was seen on November 24, 2020 along with 26 harbor seals. Another gray seal was seen by itself on February 22, 2021. It was resting at the tip of Skeleton Hill Island.

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. Years with favorable weather conditions have produced the highest counts, because seals prefer to haul out in sunny conditions with light winds in largely ice free waters.

Yet, the maximum count of 52 seals in 2021 is lower than the average of 68.9 seals for the history of our count. This lower-than-average number may be attributed to an increase in human disturbances that were recorded as they occurred. Disturbances included any event that

caused the seals to lift their head (head alert), flush (move towards the water), or flush into water. In 2021, observers recorded 54 human disturbances, which was up from the previous year of 10 or fewer human disturbances. The majority of human disturbances in 2021 were large groups of people watching the seals for over an hour. This activity was notes about 70 percent of the time by an observer. 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 were also noticed by observers to stress out seals so all eyes of the seal herd was focused on the barking dog. This occurred about 5 percent of the time.

Seal Haul-out Sites Around Sandy Hook Bay



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

Common seal haul-out or resting locations for harbor and gray seals in Sandy Hook Bay include:

1. The southern tip of Skeleton Hill Island in Spermaceti Cove.
2. Rock or rip-rap island to the northwest of Skeleton Hill Island just outside of Spermaceti Cove.
3. An exposed sandbar during extreme low tide events which is located to the west of Skeleton Hill Island and just outside of Spermaceti Cove.
4. A rock jetty near Fort Hancock, located between buildings 6 & 7 along Officer's Row.

Harbor seals and grey seals are seen from these four sites within Sandy Hook Bay, from Spermaceti Cove to Fort Hancock. Haul-out sites are variable in terms of their use by seals. Some are only occasionally visited, while others regularly have over 40 seals present at low tide.

Thanks and Gratitude

The Sandy Hook Bay Seal Monitoring Program is a volunteer effort to observe and better understand local seal populations. The Bay-Wide Seal Count is an annual effort coordinated by Save Coastal Wildlife Nonprofit. We would like to thank our 2021 volunteer seal monitors for their service and dedication.