

In Situ Observations of Pinnipeds in New York City

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Abstract

Urbanization along marine habitat has greatly influenced species interaction. Some species thrive under these conditions, while others experience negative consequences, such as population decline or local extinction. One such example of this process has been the local extinction of pinnipeds within the New York City region. Population decline likely occurred in concurrence with increased anthropogenic activities, such as rapid industrialization and pollution of the marine ecosystem. Recently, the general public began to report anecdotal sightings of pinnipeds within the New York City waterways. Given the prevalence of potential sightings, we conducted naturalistic observations of harbor seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*) between the wintering months of 2011-2017, and along the New York City foreshore, particularly focusing on two main locations: Orchard Beach and Swinburne Island. Over this period, we monitored the demographic trend and found that seasonal populations are relatively stable and consistent from year-to-year. The results are encouraging, and demonstrate that pinnipeds are likely returning to a previously inhabited niche. Moreover, their presence may serve as bioindicators of ecosystem health. Despite continued anthropogenic activities, increasingly positive environmental conditions seem to favor a population of wintering pinnipeds. Consequently, this may have additional positive impacts on the interaction of species that share the same habitat. Overall, with urban populations increasing, there will always be contact between humans, their activities, and pinnipeds at select haul out locations. In order for populations to be sustainable, pinnipeds must negotiate local natural and artificial challenges, and adapt to dynamic conditions created by an urban environment.