

Executive Summary

*Using Social Media to Assess the Presence and Distribution of Basking Sharks
(Cetorhinus maximus) in the Northeast Pacific*

Authored by **Olivia Cleek** for the degree of Professional Science Masters (PSM) in
Environmental Science, Oregon State University

Presented March 19, 2026

Graduate advisor: Alexandra McInturf
Graduate Committee: Taylor Chapple, Carolyn Fonyo

Abstract

Once highly abundant in coastal regions worldwide, the basking shark (*Cetorhinus maximus*) is now globally endangered. Historic fishing pressure, targeted eradication programs, environmental variability, and shifts in prey availability have all likely contributed to declines in regional sightings. Historically, basking sharks in the Northeastern Pacific ranged from British Columbia, Canada to Baja California, Mexico; however, recent studies indicate a dramatic population decline since the mid-1900s. No published sightings have been reported since 2018, leaving significant gaps in regional presence and distribution data. To address this deficiency in a cost-effective manner, we utilized social media and citizen science platforms as a novel approach for updating regional sightings data. We conducted a systematic webscrape of Facebook, Instagram, and iNaturalist, identifying 147 previously unpublished basking shark sightings recorded from 2010 to 2025 (Figure 1). At least one sighting was reported each year during this period (Figure 2). Sightings were heavily concentrated in southern California, with few reports from Canada and none from Mexico. Seasonal patterns in Canada aligned with

historic trends, with sightings limited to summer and fall, while sightings in southern California indicated increased spring and summer presence compared to historical data (Figure 3). Basking sharks were also present in southern California throughout the entire year. Most observations involved solitary animals, with only ten reports noting more than one individual, consistent with documented declines in regional aggregation size. Collectively, this study highlights the importance of utilizing social media as an alternative tool to understand temporal and spatial trends of a data-deficient species. Our findings demonstrate that basking sharks, although rare, continue to persist in the northeast Pacific.

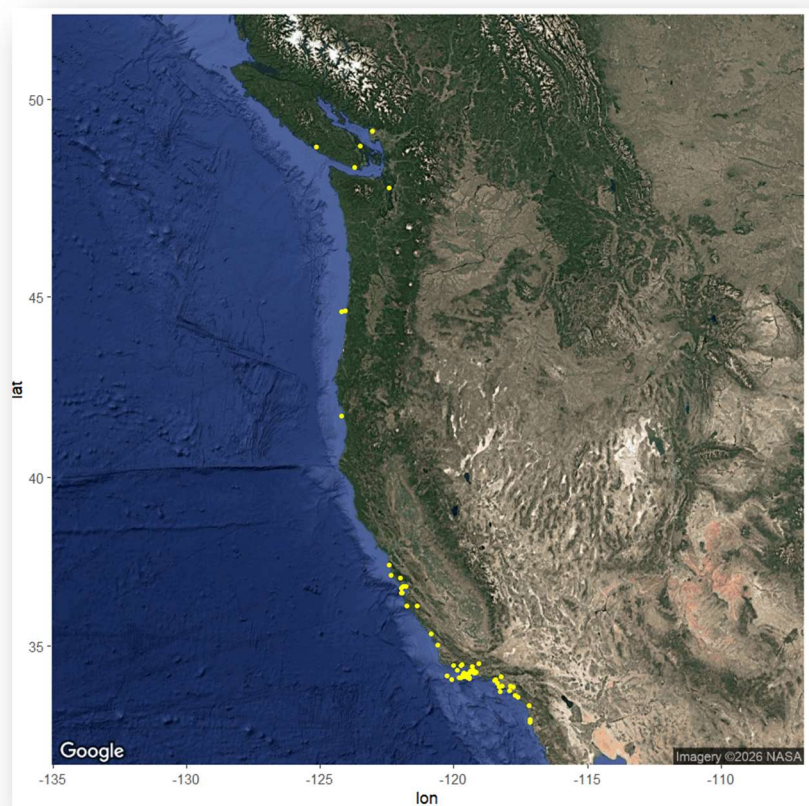


Figure 1. Basking shark sightings along the North American west coast from 2010-2025, based on data obtained from a systematic web scrape of Facebook, Instagram, and iNaturalist. Yellow points indicate locations of sightings reports.

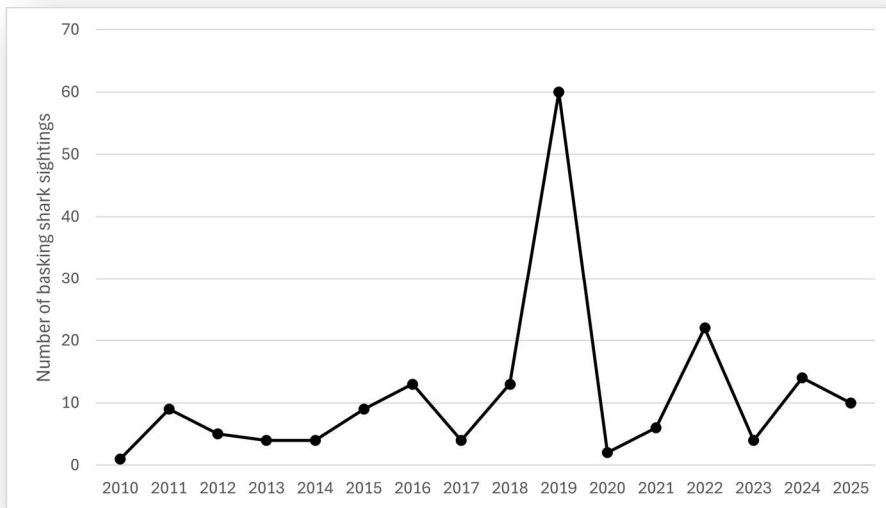


Figure 2. Annual number of basking shark sightings reported along the North American west coast from 2010-2025, based on data obtained from a systematic web scrape of combined results from Facebook, Instagram, and iNaturalist.

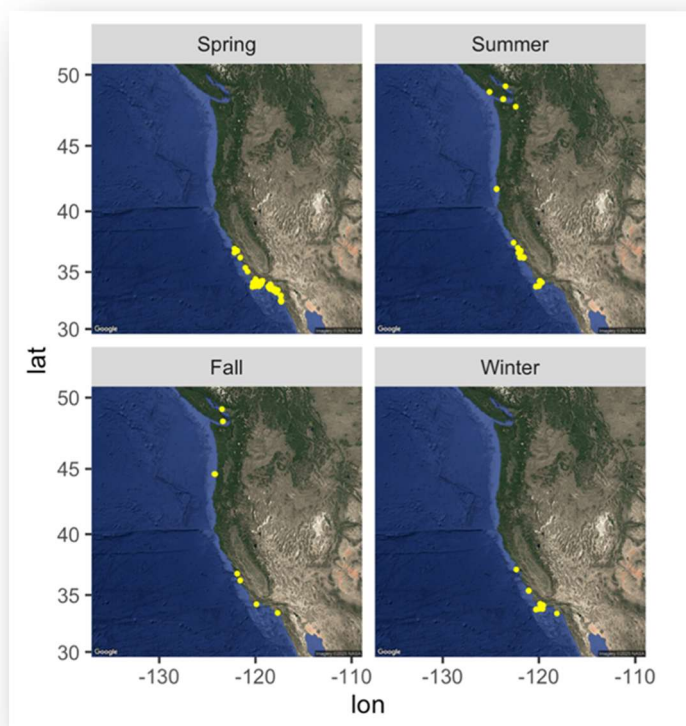


Figure 3. Seasonal distribution of basking shark sightings along the North American west coast from 2010-2025. Seasons and sample sizes are delineated as follows: Spring (March – May; $n=97$), Summer (June – August; $n=42$), Fall (September – November; $n=8$), Winter (December – February; $n=12$).