Point Blue Report

White Shark Research at Southeast Farallon Island 2025


Photo by R. Brodman

Report to the Shark Trust

February 2026

J. Tietz
California Current Group
Point Blue Conservation Science

Conservation science for a healthy planet

3820 Cypress Drive, #11 Petaluma, CA 94954
T 707.781.2555 | F 707.765.1685
pointblue.org

White Shark Research at Southeast Farallon Island 2025

February 2026

Point Blue Conservation Science

James R. Tietz

Acknowledgements

I thank Rachal Brodman, Nathan Dubrow, Moed Gerveni, Nick Hoffmann, Max Nootbaar, Maya Roopnarine, Amanda Spears, Ryan Terrill, and Phoebe Wilcox for their diligent hours of observation at the lighthouse. I also extend my gratitude to Paul Kanive and Scot Anderson for sharing results and discussing their observations from the boat, so I can make more sense of the shark activity we see from the island. I am also grateful to The Shark Trust for contributing funding for this research at SE Farallon Island. Lastly, I thank the U.S. Fish and Wildlife Service for permission to conduct these surveys, and I thank the Farallon Patrol for providing transport to and from Southeast Farallon Island.

Suggested Citation

Tietz, J.R. 2026. White Shark Research at Southeast Farallon Island, 2025. Unpublished report to the Shark Trust. Point Blue Conservation Science, Petaluma, California. Point Blue Contribution Number 2595.

Point Blue Conservation Science – Point Blue's 160 staff and seasonal scientists conserve birds, other wildlife and their ecosystems through scientific research and outreach. At the core of our work is ecosystem science, studying birds and other indicators of nature's health. Visit Point Blue on the web www.pointblue.org.

Cover photo credit/caption*: White shark by Rachel Brodman*

White sharks (*Carcharodon carcharias*) are highly mobile animals, and due to the vastness of their environment, it is logistically difficult to monitor their populations (Baum et al. 2003). However, because mature white sharks show site fidelity and feed on the surface, it is possible to monitor the frequency of their predation events, and this may provide an index to populations of sharks that exploit discreet foraging areas. The large pinniped haul-out and rookery provided by the Farallon Islands National Wildlife Refuge has made this a world-renowned location for viewing sharks. For the past 39 years, Point Blue (formerly PRBO) biologists have been conducting standardized surveys from the lighthouse to record white shark predation events. Long-term datasets, such as these, are important for assessing annual variation and potential trends in white shark predation.

Following protocols described by Tietz (2014), we conducted 533 hours of standardized shark surveys from the lighthouse from 1 Sep to 30 Nov 2025, which was a 5% decrease from the long-term mean (Figure 1). The number of biologists available to conduct shark surveys varied this year from two to six. The average number of observation hours per day on days we could survey was 6.3 (SD ± 2.4) but including days when we couldn't survey dropped the average to 5.9 hours per day (Figure 2). In particular, fog limited our observation hours from the lighthouse this fall with fog recorded on 21% of standardized weather observations (weather data were collected at 06:00, 12:00, and 15:00 hours PST).

The first shark observation of the 2025 season occurred on 22 Sep during a standardized shark watch, when a shark was observed predating a California sea lion off Shubrick Point. The final confirmed shark predation occurred on 28 Nov. Over the course of the season, we observed a total of 32 shark feeding events around the island; five of these could not be confirmed as predation events because blood was not visible from the island, which could indicate that the shark was scavenging. Indeed, scavenging events on decaying elephant seal carcasses were observed on 17 Oct and 15 Nov. As a result, we confirmed a total of 27 shark predation events with 21 during our standardized shark watch surveys, and the six additional events observed incidentally during non-shark watch times. Across the fall season, 0 predation events occurred in Aug, 11% in Sep, 37% in Oct, 52% in Nov, and 0 in Dec (Figure 3). In addition, we saw 22 shark breaches (an unusually high number), 5 sightings of a shark at the surface, and 10 recently shark-bit pinnipeds hauled out on land (9 California sea lions and 1 Steller sea lion).

DISCUSSION

The 27 confirmed shark predations detected in 2025 were 34% below the long-term mean (31.9 ± 17.5), and the shark attacks standardized for effort was 30.3% below average. Overall, the number of shark predations observed from the Farallones has been declining since the early 2000's, but predations have been trending higher since 2013 when predations bottomed out at seven (Figure 4).

Brown et al. (2010) found that the total number of pinnipeds, especially northern elephant seals (*Mirounga angustirostris*), counted during weekly surveys is the most important factor in determining annual variation in the number of shark attacks at the South Farallon Islands. Over the entire fall season, the numbers of California sea lions (*Zalophus californianus*), the most abundant pinniped at the Farallones, were 7.6% above the mean. Their numbers have been growing exponentially over the past four decades (Figure 5), and while the seasonal trend this year was typical with numbers decreasing over the fall, the counts were lower than they have been over the past 5 years, with numbers significantly below average in Nov. Elephant seals, on the other hand, continued their steady decline at the Farallones, which has been occurring for the past two decades, with overall numbers this fall 50% below the mean and the lowest they have been in the past four decades (Figure 6). The seasonal trend for elephant seals this fall was also atypical (but similar to last year) with numbers in Sep slightly below average but increasing, then decreasing in Oct with numbers in Nov plateauing significantly below average; typically, elephant seal numbers increase steadily throughout the fall. This seasonal population decline was especially unexpected since biologists were able to increasingly access their haul-out sites during the fall as California sea lions departed. This low number of elephant seals late in the fall may be related to their slow start during the January pupping season on the Farallones (James Yost, pers. comm), and the overall population decline during the fall may be related to the steady decline in the Farallon winter breeding population (Yost and Warzybok 2024).

Typically, white shark predations peak in Oct, but for two years in a row, predations peaked in Nov when elephant seal numbers were declining. Predation events on Elephant seals are easier to detect for human observers because their blood is brighter and they are more buoyant, whereas California sea lions have darker blood and they sink more rapidly, so when the proportion of elephant seals increases relative to sea lions, we typically see more predation events. During Oct-Nov, in both years, the number of California sea lions hauling out on the Farallones was also declining, so perhaps the white sharks were depredating a higher proportion of elephant seals which allowed observers to spot more predation events. Overall, though, there is increasing evidence that California sea lions are becoming a more significant part of the shark's diet such as the unusually high numbers of pinniped breaches, which may be associated with the sharks attempting to capture and miss the more mobile and increasingly common prey that sea lions represent, and the proportionally higher number of California sea lions recorded this fall with shark wounds (9 California sea lion to 0 elephant seal).

The total number of shark predation events we observed last fall was above the number we would have predicted given the maximum number of elephant seals hauled out during pinniped surveys (Figure 7). The California White Shark Project has been reporting an above average number of sharks around the Farallones for the past few years (Paul Kanive, pers. comm.), which is in line with a steadily increasing trend along the central California Coast since

at least 2011 (Kanive et al. 2021). Therefore, despite the decreasing number of elephant seals at the Farallones, the increasing number of sharks there may account for the increasing number of predation events we have been recording since 2013 (Figure 4). Since the number of sharks and sea lions at the Farallones are increasing as the number of elephant seals decreases, it seems likely that the sharks may be switching their diet to California sea lions, and as described above, predation events on sea lions are more difficult to detect.

LITERATURE CITED

Baum, J.K., R.A. Myers, D.G. Kehler, B. Worm, S.J. Harley, and P.A. Doherty. 2003. Collapse and conservation of shark populations in the Northwest Atlantic. Science 299:389-391.

Brown, A., D.E. Lee, R.W. Bradley, and S. Anderson. 2010. Dynamics of white shark predation in California: effects of prey abundance. Copeia 2:232-238.

Kanive, P.E., J.J. Rotella, T.K. Chapple, S.D. Anderson, T.D. White, B.A. Block, and S.J. Jorgensen. 2021. Estimates of regional annual abundance and population growth rates of white sharks off central California. Biological Conservation 257. https://doi.org/10.1016/j.biocon.2021.109104

Tietz, J.R. 2014. White Shark Research at Southeast Farallon Island, 2013. Unpublished report to the US Fish and Wildlife Service. Point Blue Conservation Science, Petaluma, California. Point Blue Contribution Number 1977.

Yost, J.P. and P. Warzybok. 2024. Population size and reproductive performance of pinnipeds on the South Farallon Islands, 2023-2024. Unpublished report to the US Fish and Wildlife Service. Point Blue Conservation Science, Petaluma, California. Point Blue Contribution Number 2510.

FIGURES

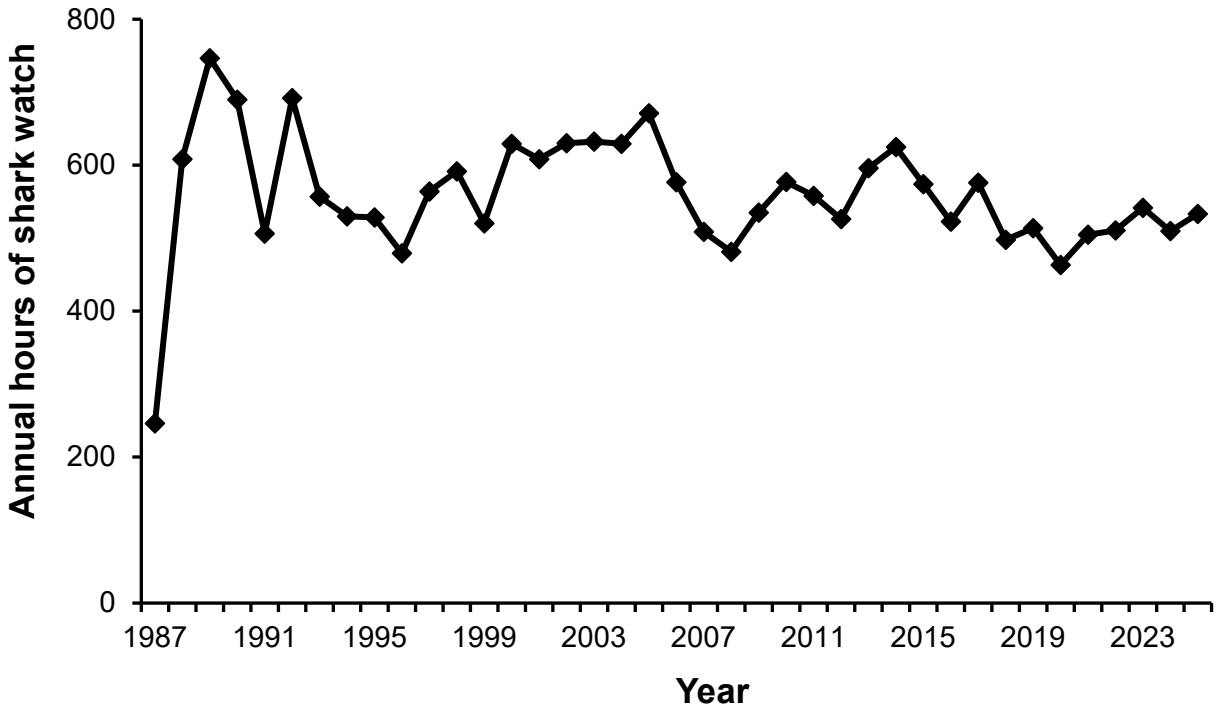

Figure 1. Annual hours of standardized observation conducted at the lighthouse from 1987 to 2025 on Southeast Farallon Island, CA.

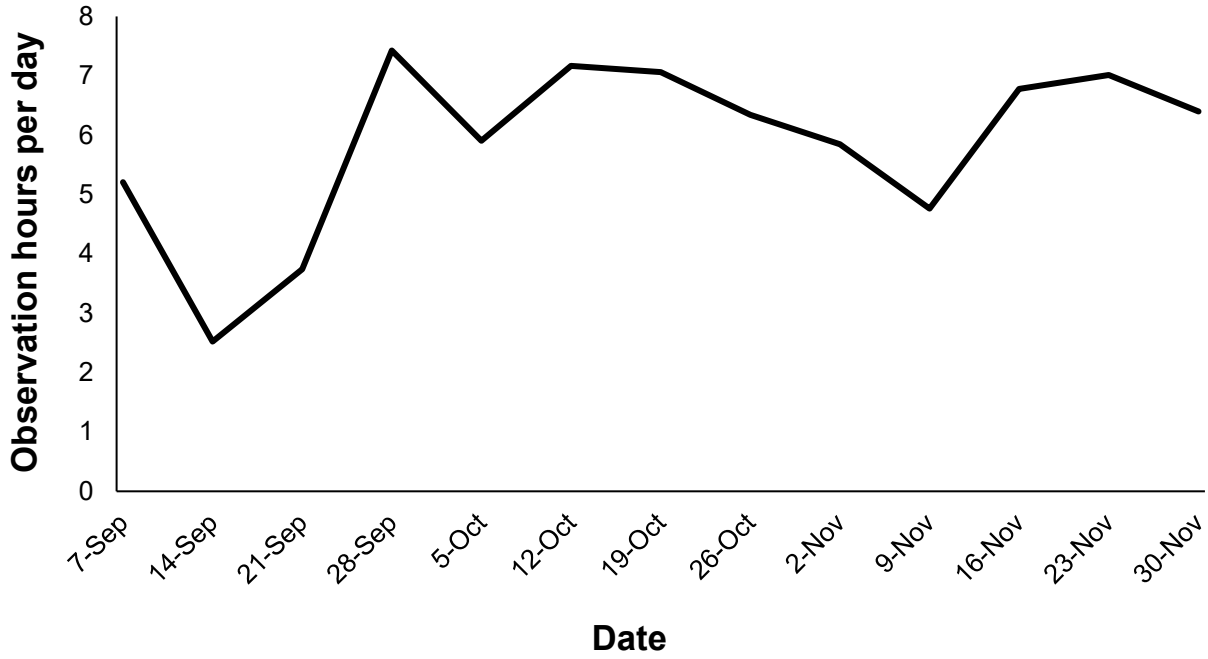

Figure 2. Number of standardized daily observation hours during 2025 averaged by weekly periods. Standardized observations were conducted from the lighthouse on Southeast Farallon Island, CA.

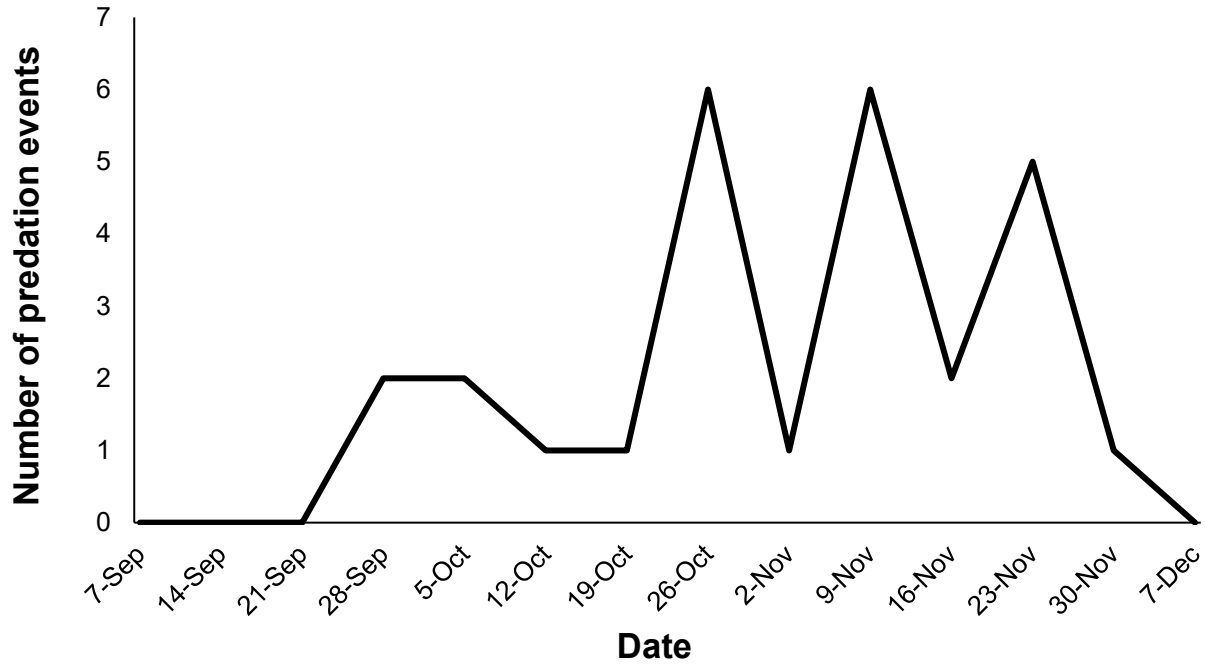

Figure 3. Weekly seasonal distribution of white shark predation events during 2025 at Southeast Farallon Island, CA. This includes both standardized and incidental observations.

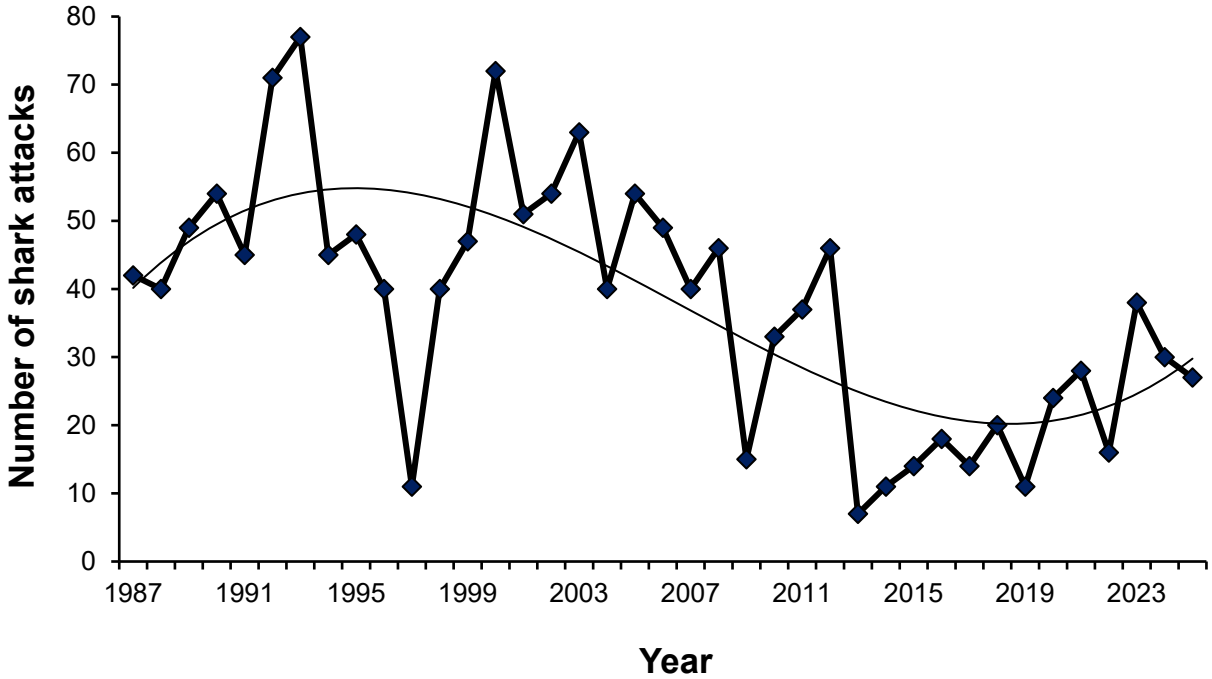

Figure 4. Total number of white shark predation events seen at SE Farallon Island, CA by year from 1987 to 2025. This includes observations seen during standardized shark watches and incidental observations but does not include unconfirmed attacks that may have been scavenging events.

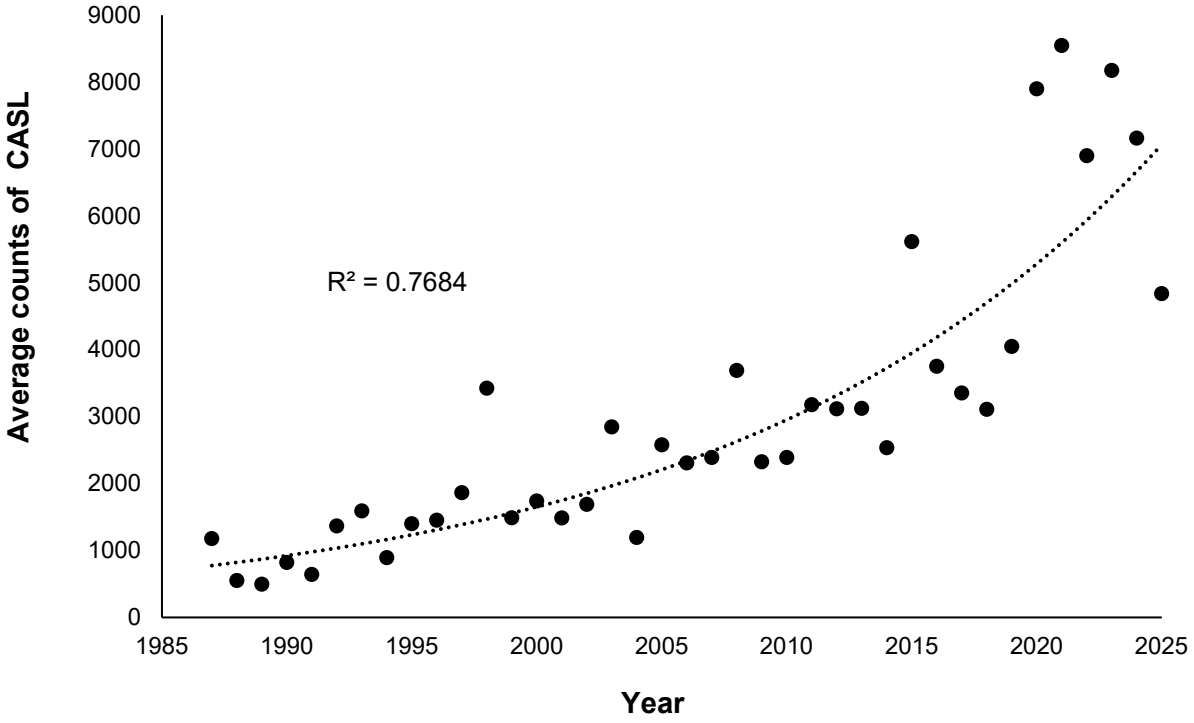

Figure 5. The average number of California sea lions counted at SE Farallon Island on standardized weekly pinniped surveys during the fall season (Sep 1 to Nov 30) from 1987 to 2025. The trendline shows an exponential growth curve.

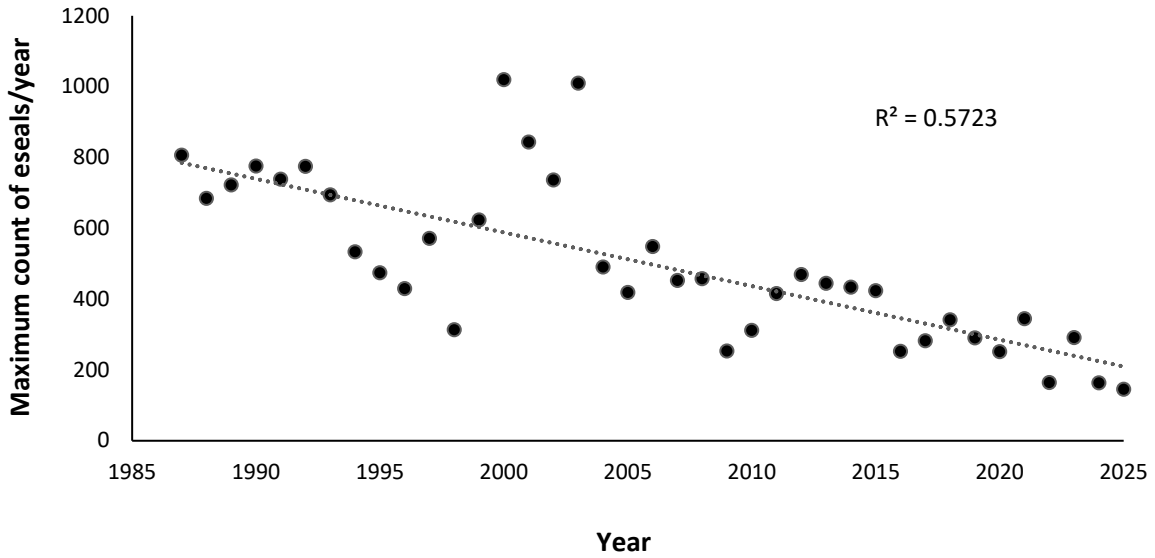

Figure 6. The maximum number of elephant seals counted at SE Farallon Island on standardized weekly pinniped surveys conducted during the fall season (Sep 1 to Nov 30) from 1987 to 2025.

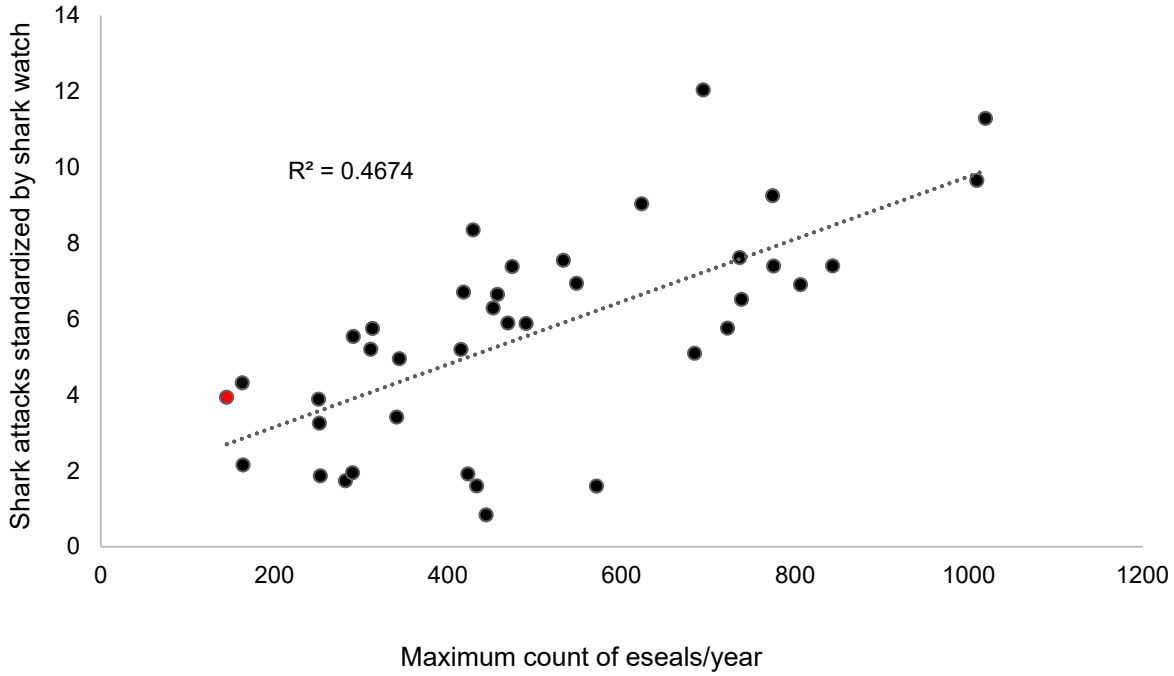

Figure 7. The number of shark predation events detected from the lighthouse survey standardized by shark watch hours plotted against the maximum count of elephant seals during each fall season. The red dot shows the plotted location for 2025.