# Scientists warn of ecological impacts if great white sharks disappear from Cape Cod



Scientists have identified significant ecological consequences when great white sharks disappear from marine ecosystems, according to a recent study published earlier this year. The research highlights the critical role these apex predators play in maintaining ecological balance, with findings that hold particular relevance for areas such as Cape Cod, Massachusetts, which has become a notable hotspot for great white sharks over the past 15 years.

Cape Cod's rise as a hub for great white shark sightings has been linked to warming ocean waters and a growing seal population, with peak shark activity occurring from August through early autumn. As the upscale coastal region prepares for its summer season, experts are raising concerns about what might happen if the number of great white sharks declines in the area.

The study, which examined the ecosystem of False Bay, South Africa, found that the disappearance of great white sharks triggered a cascade of ecological changes. Without the sharks, seal populations increased substantially. This surge in seals was accompanied by a rise in another shark species, both of which contributed to a decline in smaller fish populations, thereby fundamentally altering the ecosystem's balance.

Neil Hammerschlag, executive director of the Shark Research Foundation, speaking to the Boston Herald, emphasised the broader implications: "There are a lot of lessons to learn here, and there are definitely implications for areas like Cape Cod. There was a cascade of ecosystem consequences. It was a completely different ecosystem, and you would have never known it had been home to great white sharks."

The changing dynamics are a cause for concern among fishermen, who worry that the growing seal populations could deplete fish stocks. Hammerschlag explained, "A lot of people are concerned about seals overpopulating places and eating fish. We see here the major changes when white sharks vanish, with seals increasing in numbers and changing their behaviour. Sharks help keep it all in balance. Some people look at great whites and see them as a danger, but in fact, they're the guardians. They keep it all in check."

During the 2024 season, researchers documented 76 individual white sharks off Cape Cod, including 22 previously unidentified sharks, according to the Atlantic White Shark Conservancy (AWSC). The season began in May when John Chisholm, a shark biologist from the New England Aquarium, recorded the first white shark off Monomoy Island. Notable sightings during the season included a curious great white shark approaching divers near Scituate, between Boston and Cape Cod, while feeding on a whale carcass. A video shared on the social platform X showed the shark closely inspecting the divers and exposing unique facial markings.

In October, the local community witnessed the discovery of a large dead great white shark on Cape Cod’s Nauset Beach in Eastham. The shark measured an impressive 12 feet in length and weighed approximately 1,240 pounds. Officials reported that the cause of death was not immediately apparent and remains under investigation.

These findings underline the intricate connections within marine ecosystems and the vital role that apex predators like great white sharks play in sustaining these environments. The ecological balance observed off South Africa’s False Bay may be mirrored in Cape Cod and other regions where white sharks have become increasingly prominent over recent years.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://news.miami.edu/rosenstiel/stories/2025/03/ecosystem-disrupted-following-the-disappearance-of-great-white-sharks-new-study-finds.html> - Documents the cascading ecological disruptions observed in False Bay, South Africa, following the disappearance of great white sharks, including increased seal populations and altered predator-prey dynamics.
2. <https://scienceblog.com/great-white-shark-disappearance-triggers-ecological-domino-effect/> - Supports the claim that the loss of great white sharks caused a 520% increase in Cape fur seal sightings and food web disruptions, as detailed in the 20-year study by University of Miami researchers.
3. <https://oceanographicmagazine.com/news/vanishing-great-white-shark-impacts-south-african-marine-health/> - Corroborates the study findings that great white shark disappearance creates profound marine ecosystem consequences, emphasizing the role of apex predators in maintaining ecological balance.
4. <https://www.enn.com/articles/76237-ecosystem-disrupted-following-the-disappearance-of-great-white-sharks-new-study-finds> - Confirms the linkage between great white shark declines and subsequent food web shifts observed through boat surveys, citizen science, and BRUVS data in South Africa.
5. <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2025.1530362/full> - Provides the primary study evidence of trophic cascades after white shark loss, including methodological details and ecological theory alignment as referenced by Hammerschlag.
6. <https://www.atlanticwhiteshark.org/> - Relevant to Cape Cod's shark monitoring (though not explicitly cited in results), the Atlantic White Shark Conservancy tracks local populations referenced in the article's 2024 season data.
7. <https://www.dailymail.co.uk/news/article-14656249/disappearance-cape-cod-iconic-great-white-shark-study.html?ns_mchannel=rss&ns_campaign=1490&ito=1490> - Please view link - unable to able to access data