# Chemical pollution and rising sea temperatures threaten UK dolphins’ health



Dolphins inhabiting waters around the United Kingdom have been increasingly affected by chemical pollution over recent decades, with researchers highlighting significant concerns about their health. Notably, short-beaked common dolphins have frequently been found washed ashore, often carrying elevated levels of toxic substances in their tissues.

Rosie Williams, a researcher at the Zoological Society of London, has drawn attention to the lingering impact of once-banned chemicals alongside shifts in sea temperatures as factors contributing to the health challenges these marine mammals face. The study emphasises the role of both environmental contamination and changing ocean conditions in endangering dolphin populations.

A prominent chemical of concern is polychlorinated biphenyls (PCBs). These compounds were heavily used in industrial manufacturing but were banned in the United Kingdom during the 1980s because of their harmful properties. Despite the prohibition, traces of PCBs continue to infiltrate marine environments, likely due to residual contamination from old industrial sites which leak these toxic substances into waterways, eventually affecting marine habitats.

Environmental changes compound the issue. Sea surface temperatures have been rising in certain parts of the UK, placing additional stress on various species, including dolphins that depend on stable conditions for essential activities such as feeding. These warmer waters may not only disrupt feeding patterns but also facilitate the proliferation of pathogens that contribute to disease.

Short-beaked common dolphins occupy a high position in the marine food chain, making them particularly vulnerable to bioaccumulation of toxins like PCBs. Thea Taylor, managing director of the Sussex Dolphin Project, explained that the toxins become concentrated in the dolphins’ blubber, stating, “Their position at the top of the food web means that toxins from their prey accumulate in their blubber, providing a concentrated snapshot of chemical pollutants in the ocean – though unfortunately at the expense of their health.”

This accumulation has been linked with detrimental health effects, notably a weakened immune system that heightens susceptibility to infections. Analysis of stranded dolphins along UK coastlines has revealed a troubling correlation between PCB levels and increased mortality from infectious diseases, including gastritis, enteritis, bacterial complications, and pneumonia. The research indicates that even slight rises in PCB burdens correspond with greater risks of fatal infections. Additionally, periods marked by increased sea temperatures tend to coincide with heightened disease risks.

Scientific findings suggest that warmer waters may alter the distribution of prey species, further complicating feeding strategies and contributing to the dolphins’ declining condition. Moreover, increased temperatures may amplify the activity of disease-causing organisms in the marine environment, potentially exposing dolphins to more frequent or severe infections.

The persistence of PCBs in ocean sediments continues to present a challenge decades after their ban. These chemicals strongly bind to sediments and can remain in the environment for extended periods, posing ongoing risks. Current industrial practices sometimes inadvertently release trace amounts of PCBs, complicating regulatory efforts aimed at curbing their presence.

Researchers advocate for comprehensive approaches to mitigate these issues. Rosie Williams highlighted the recurring detection of PCBs in estuaries and coastal areas where industrial runoff impacts water quality. She stated, “The ocean is facing ‘a triple planetary crisis’ – climate change, pollution and biodiversity loss – but we often look at threats in isolation.” This perspective suggests that coordinated strategies addressing multiple environmental stressors simultaneously are essential.

Efforts to remove contaminated sediments through dredging and to improve filtration methods have been pursued to limit the spread of persistent pollutants. Beyond PCBs, other substances such as perfluoroalkyl and polyfluoroalkyl compounds (PFAS) also present similar toxic risks to marine life and human health if not regulated effectively.

Thea Taylor emphasised the importance of preventing further chemical contamination, remarking, “While we cannot reverse the contamination that has already occurred, it is critical to prevent further chemical inputs into the environment.”

Dolphins are often regarded as indicators of marine ecosystem health due to their position as apex predators. Their well-being can provide insight into the broader condition of marine environments, including potential risks to smaller organisms and human populations.

Research outcomes such as these are expected to inform future policies aimed at marine conservation and pollution control. Identifying and prioritising regions with elevated PCB pollution is a key step toward targeted intervention, particularly as dolphin strandings continue to be reported.

Given the complex interactions within marine ecosystems and the unpredictable effects of climate change, early and decisive action remains crucial to enabling marine species to cope with environmental pressures without being overwhelmed by chemical contamination.

These findings have been published in the journal Communications Biology.

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

## References

* <https://www.earth.com/news/dolphins-face-serious-threats-from-chemical-pollution-and-ocean-warming/> - This article corroborates that dolphins in UK waters, particularly short-beaked common dolphins, have experienced increasing chemical pollution and health issues due to toxins like PCBs and rising sea temperatures, as highlighted by researcher Rosie Williams from the Zoological Society of London.
* <https://phys.org/news/2025-04-uk-dolphin-deaths-elevated-sea.html> - This source supports the claims about the correlation between elevated sea temperatures, persistent industrial toxins such as PCBs, and increased mortality from infectious diseases in UK short-beaked common dolphins, referencing a study published in Communications Biology.
* <https://uk.whales.org/our-goals/create-healthy-seas/chemical-pollution-facts/> - This page explains biomagnification of toxic chemicals like PCBs in marine mammals at the top of the food chain, causing immune suppression and reproductive problems, which aligns with the article's points on toxin bioaccumulation in dolphins affecting their health.
* <https://www.nhm.ac.uk/discover/news/2023/november/toxic-chemicals-uk-whales-dolphins-exceeding-safe-limits.html> - This news from the Natural History Museum confirms that nearly half of marine mammals around the UK have chemical levels exceeding safe limits, including PCBs, and discusses the ongoing threat posed by these banned substances despite their prohibition in the 1980s.
* <https://phys.org/news/2023-11-toxic-chemicals-uk-whales-dolphins.html> - This article details how banned chemicals like PCBs remain prevalent in UK marine mammals due to contamination from old industrial sites and environmental changes, validating the concerns about persistent pollution and the need for stronger pollution control voiced by the researchers.