

Dead orca had record levels of toxic chemicals

Ben Webster Oceans Correspondent

A killer whale found washed up dead on the island of Tiree had one of the highest levels ever recorded of banned toxic chemicals in her blubber, a study has found.

The whale, which was well known to conservationists and had been given the name Lulu, had polychlorinated biphenyls (PCBs) at 100 times the level above which there are health effects on marine mammals.

Lulu died after she became entangled in fishing ropes but scientists believe the PCBs may have contributed to her death by weakening her.

Tests on Lulu's ovaries revealed she had never reproduced despite being at least 20 years old. PCBs are known to cause miscarriages or the death of newborn mammals.

Lulu's death leaves just eight members remaining of the only pod of killer whales in seas off the UK. The pod has not had a new calf in the 23 years that they have been monitored.

About 300,000 tonnes of PCBs were produced in Europe between 1954 and 1984 and used in electrical equipment, flame retardants, paints and sealants. PCBs were banned in the UK in 1981 and in the rest of the EU in 1987 but are still leaking into rivers and estuaries from landfills, demolished buildings and old industrial sites. PCBs are ingested by fish that are then eaten by whales and dolphins and end up in their blubber.

Andrew Brownlow, head of the Scottish Marine Animal Stranding Scheme and a veterinary pathologist at Scotland's Rural College, said: "The levels [of PCBs] in this case are some of the highest we've ever seen. We know Lulu died from becoming entangled, but given what is known about the toxic

effects of PCBs, we have to consider that such a high pollutant burden could have been affecting her health and reproductive fitness.

"Lulu's apparent infertility is an ominous finding for the long-term survivability of this group. With no new animals being born, it is now looking increasingly likely that this small group will eventually go extinct. One of the factors in this group's apparent failure to reproduce could be their burden of organic pollutants."

He said that killer whales were particularly vulnerable to PCBs because they ate other marine mammals that already had high concentrations of PCBs in their blubber.

Paul Jepson, a vet specialising in marine mammals at the Zoological Society of London, said the EU needed to adopt a more aggressive strategy to prevent PCBs from leaking into waterways.

Populations of harbour porpoises, white-beaked dolphins and minke whales in the North Sea are stable, contrary to fears that offshore wind farms and other industrial activity have reduced their numbers, according to a separate

study by the University of St Andrews.

A survey conducted by three ships and seven aircraft estimated there were more than 1.5 million whales, dolphins and porpoises in the European Atlantic, including 467,000 harbour porpoises, 468,000 common dolphins, 26,000 pilot whales and 14,000 sperm whales.

Researchers who found that fish larvae prefer to eat tiny plastic particles to their usual food have been accused of dishonesty. The study by researchers from Uppsala University, published in *Marine Biology*, is likely to be retracted on the advice of Sweden's Central Ethical Review Board after a colleague said data was fabricated. The researchers did not respond to requests for comment.

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**Lulu's death leaves eight
killer whales off the UK**

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