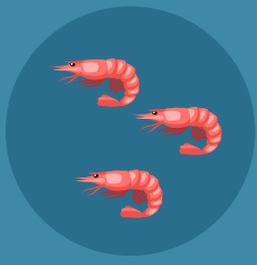
Whales and Climate Change

How Do Whales Store Carbon?

Whales store carbon dioxide in their bodies through feeding over their lifespan. Most significantly, one Great Whale takes in 33 tons of carbon on average during its life. After death, whales sink to the bottom of the ocean bringing the carbon they have absorbed with them, keeping it trapped underwater for hundreds to thousands of years (a carbon sink).

The Whale Pump

Whales support plankton populations despite eating them. Plankton are a group of microscopic organisms that dwell in watery environments. Notably, plankton contributes half of the world's oxygen via their photosynthesis and "capture about 37 billion metric tons of CO2, an estimated 40 percent of all CO2 produced." Whales nourish plankton by excreting their waste at the ocean's surface, which contains essential nutrients for plankton (iron, nitrogen, phosphorus). This process is called a "whale pump". Due to this "pump", wherever whales go, plankton multiply.

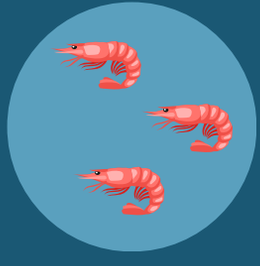


Threats That Whales Face

Whales have already been greatly harmed by human activity. Major threats include pollution, commercial whaling/overfishing, boat traffic, and global warming & acidification (affects food chain). In fact, "six out of the 13 great whale species are classified as endangered or vulnerable". one can imagine the potential for carbon capture if whale populations were restored from "pre-whaling number of 4 to 5 million—from slightly more than 1.3 million today" and what that might do for plankton populations as well.

What Needs To Be Done?

Support sanctions and laws that regulate or are against the commercial whaling industry. Picking up litter whenever possible, disposing of trash and recycling properly, and reducing waste to decrease ocean pollution (just some examples). Raise awareness about the value of whales to earth (their protection needs to be higher on climate change agendas)



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