

Impacts of low oxygen on Puget Sound aquatic life

How does low oxygen impact aquatic species?

Chronic stress from lack of oxygen can make aquatic organisms more vulnerable to disease, pollution, or predation. Low oxygen can also result in reduced habitat for some species.

The most extreme impacts of low oxygen to aquatic organisms include decreased ability to reproduce, slowed development, deformities, and death. For some species, including squid, crabs, and octopuses it can impair eyesight.

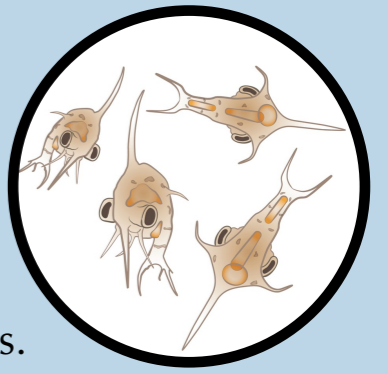
How do species respond?

Physiological changes can help some species survive but may come at a cost. Some fish, for example, can increase the surface area of their gills to allow more water (and thus more oxygen) to pass through. But this can increase the amount of pollution absorbed by their bodies. Other animals can increase their blood circulation or modify their need for energy.

Mobility is a big advantage. Many species can move away to **escape** low oxygen conditions unless they are stationary like mollusks or anemones. Some species can temporarily **acclimate**, and others have **adapted over generations** to tolerate low oxygen. In more extreme cases, species can **die**, especially if the change in oxygen is sudden or they are exposed for too long.

Did you know?

Dungeness crab larvae are more sensitive to low oxygen than adult crabs. Exposure to lethal levels of low oxygen at the larval stage could imperil future crab populations.



When it comes to oxygen, climate change strikes a double blow for aquatic life.

- ✦ Warmer water provides less oxygen.
- ✦ At the same time, it increases an animal's need for it.

Aquatic species may escape, acclimate, adapt, or die with exposure to low oxygen

