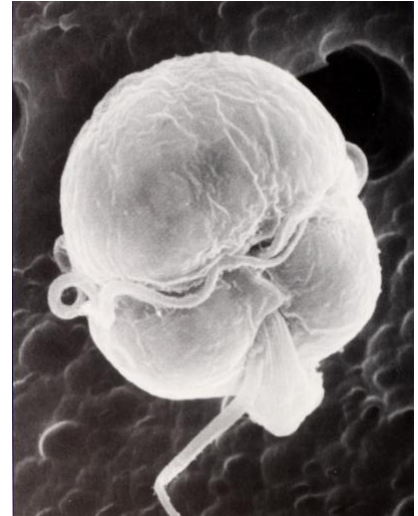


How Eutrophication Impacts Humans, and Why You Should Care

The negative impact of eutrophication on human health and wellbeing

By: Alexandre Labonte, NY

Eutrophication, characterized by excessive plant and algal growth due to increased nutrient availability, can have negative impacts on human health and wellbeing. Harmful algal blooms (HABs) are a significant concern as they produce toxins that can harm other organisms, including humans [1]. Some HABs, such as *Pfiesteria* spp. have been linked to eutrophication and are potentially toxic to humans [2]. The global increase in algal blooms has been attributed to nutrient pollution, leading to debates about the consequences of eutrophication [3]. Therefore, eutrophication can harm human health by promoting the growth of harmful algae and producing toxins that can cause physical damage and illness.



Eutrophication can also impact drinking water and water recreation. Excessive nutrients can lead to algal blooms and low-oxygen waters that can reduce essential fish habitats and kill fish and seagrass [4]. Algal blooms in drinking water sources can also lead to tainted drinking water supplies, making it unsafe for human consumption [5]. Additionally, improper management of aquaculture operations can lead to nutrient waste discharge, which can have severe impacts on aquatic ecosystems [6]. This helps us conclude that eutrophication can negatively impact human health and wellbeing by reducing the quality of drinking water and limiting recreational activities.

Eutrophication control and mitigation can also have economic costs. Human-induced eutrophication degrades freshwater systems worldwide, reducing water quality and altering ecosystem structure and function [7]. The cost of controlling and mitigating eutrophication can be significant, including the cost of implementing best management practices, upgrading wastewater treatment facilities, and reducing nutrient inputs [8]. These costs can impact industries that rely on clean water, such as tourism and recreation, leading to economic losses. Therefore, eutrophication can have significant economic impacts on industries that rely on clean water and healthy ecosystems.

1. Harmful Algal Blooms (HABs) & Eutrophication

<https://www.marinebio.org/conservation/ocean-dumping/harmful-algal-blooms-habs-eutrophication/>

2. Harmful algal blooms and eutrophication

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2677713/>

3. Harmful algae at the complex nexus of eutrophication and...

<https://www.sciencedirect.com/science/article/pii/S1568988319300277>

4. **What is eutrophication?** <https://oceanservice.noaa.gov/facts/eutrophication.html>
5. **Causes, Consequences, and Controls in Aquatic Ecosystems**
<https://www.nature.com/scitable/knowledge/library/eutrophication-causes-consequences-and-controls-in-aquatic-102364466/>
6. **About Eutrophication and Hypoxia** <https://www.wri.org/initiatives/eutrophication-and-hypoxia/learn>
7. **Eutrophication of U.S. Freshwaters ... - ACS Publications**
<https://pubs.acs.org/doi/10.1021/es801217q>
8. **Eutrophication and the Ecological Health Risk – PMC**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7503835/>