

## SUGGESTED SKILL

 Visual Representations

## 2.C

Explain how environmental concepts and processes represented visually relate to broader environmental issues.



## AVAILABLE RESOURCES

- External Resource > [Environmental Literacy Council's AP Environmental Science Course Material](#)

## TOPIC 8.5

# Eutrophication

### Required Course Content

#### ENDURING UNDERSTANDING

**STB-3**

Human activities, including the use of resources, have physical, chemical, and biological consequences for ecosystems.

#### LEARNING OBJECTIVE

**STB-3.F**

Explain the environmental effects of excessive use of fertilizers and detergents on aquatic ecosystems.

#### ESSENTIAL KNOWLEDGE

**STB-3.F.1**

Eutrophication occurs when a body of water is enriched in nutrients.

**STB-3.F.2**

The increase in nutrients in eutrophic aquatic environments causes an algal bloom. When the algal bloom dies, microbes digest the algae, along with the oxygen in the water, leading to a decrease in the dissolved oxygen levels in the water. The lack of dissolved oxygen can result in large die-offs of fish and other aquatic organisms.

**STB-3.F.3**

Hypoxic waterways are those bodies of water that are low in dissolved oxygen.

**STB-3.F.4**

Compared to eutrophic waterways, oligotrophic waterways have very low amounts of nutrients, stable algae populations, and high dissolved oxygen.

**STB-3.F.5**

Anthropogenic causes of eutrophication are agricultural runoff and wastewater release.