

Definition: **eutrophication** from *Philip's Encyclopedia*

Process by which a stream or lake becomes rich in inorganic nutrients by agricultural run-off or other artificial means. Compounds of nitrogen, phosphorus, iron, sulphur and potassium are vital for plant growth in water; in excess they overstimulate the growth of surface algae or cyanobacteria producing bloom that can consume all available dissolved oxygen with devastating effects on marine life.



Image from: [A general scheme of lake zonation and... in *The Encyclopedia of Ecology and Environmental Management*. Blackwell Science](#)

Summary Article: **eutrophication**
From *The Columbia Encyclopedia*

(yōtrō'fīkā'shə'n), aging of a lake by biological enrichment of its water. In a young lake the water is cold and clear, supporting little life. With time, streams draining into the lake introduce nutrients such as nitrogen and phosphorus, which encourage the growth of aquatic organisms. As the lake's fertility increases, plant and animal life burgeons, and organic remains begin to be deposited on the lake bottom. Over the centuries, as silt and organic debris pile up, the lake grows shallower and warmer, with warm-water organisms supplanting those that thrive in a cold environment. Marsh plants take root in the shallows and begin to fill in the original lake basin. Eventually the lake gives way to bog, finally disappearing into land. Depending on climate, size of the lake, and other factors, the natural aging of a lake may span thousands of years. However, pollutants from man's activities can radically accelerate the aging process. During the past century, lakes in many parts of the earth have been severely eutrophied by sewage and agricultural and industrial wastes (see water pollution). The prime contaminants are nitrates and phosphates, which act as plant nutrients. They overstimulate the growth of algae, causing unsightly scum and unpleasant odors, and robbing the water of dissolved oxygen vital to other aquatic life. At the same time, other pollutants flowing into a lake may poison whole populations of fish, whose decomposing remains further deplete the water's dissolved oxygen content. In such fashion, a lake can literally choke to death.

APA

Chicago

Harvard

MLA

eutrophication. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from <https://search.credoreference.com/content/topic/eutrophication>



The Columbia Encyclopedia, © Columbia University Press 2018



APA

eutrophication. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from <https://search.credoreference.com/content/topic/eutrophication>

Chicago

"eutrophication." In *The Columbia Encyclopedia*, by Paul Lagasse, and Columbia University. 8th ed. Columbia University Press, 2018. <https://search.credoreference.com/content/topic/eutrophication>

Harvard

eutrophication. (2018). In P. Lagasse & Columbia University, *The Columbia encyclopedia*. (8th ed.). [Online]. New York: Columbia University Press. Available from: <https://search.credoreference.com/content/topic/eutrophication> [Accessed 18 September 2019].

MLA

"eutrophication." *The Columbia Encyclopedia*, Paul Lagasse, and Columbia University, Columbia University Press, 8th edition, 2018. *Credo Reference*, <https://search.credoreference.com/content/topic/eutrophication>. Accessed 18 Sep. 2019.