Fish Ecology

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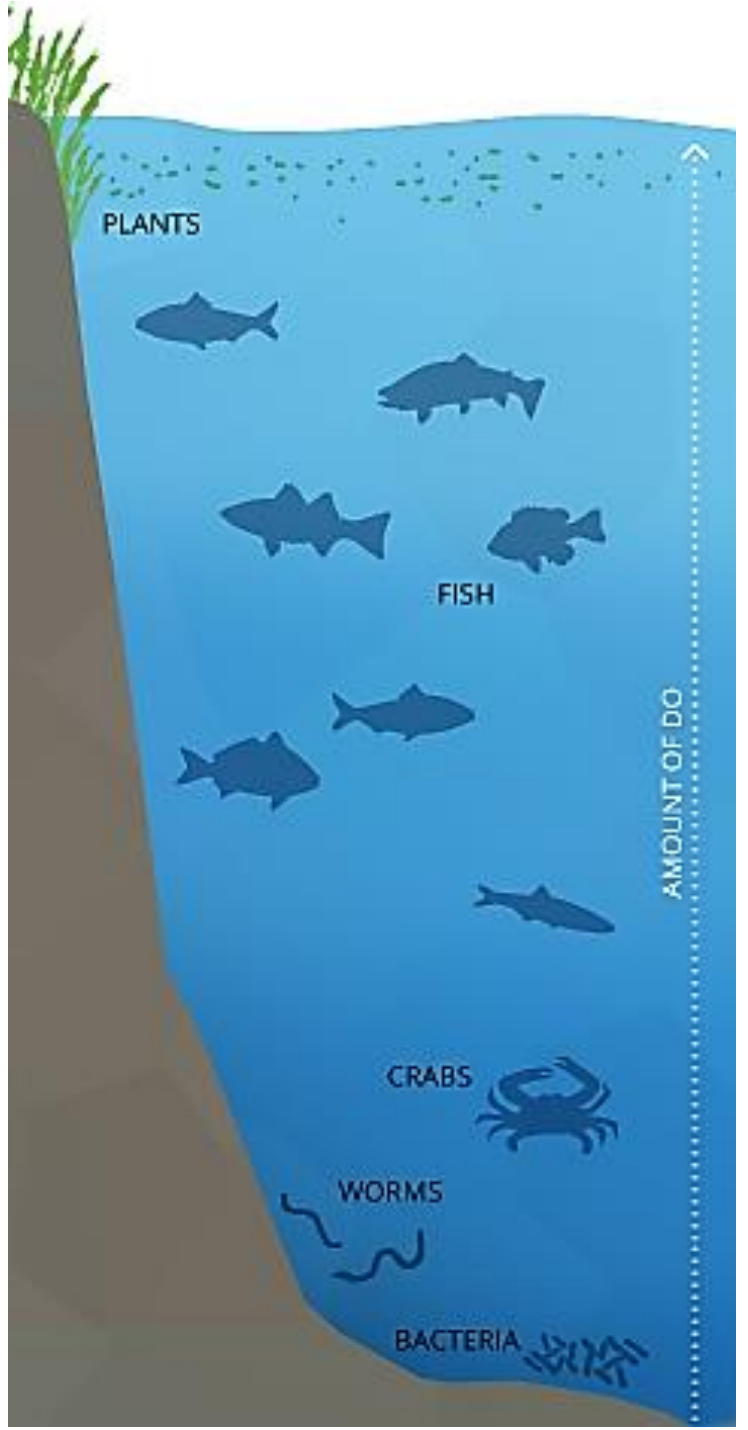
Dissolved Oxygen

- Dissolved oxygen is necessary to many forms of life including fish, invertebrates, bacteria and plants, in respiration.
- Plants and phytoplankton require dissolved oxygen for respiration when there is no light for photosynthesis.
- The amount of dissolved oxygen needed varies from creature to creature. Bottom feeders, crabs, oysters and worms need minimal amounts of oxygen (1-6 mg/L), while shallow water fish need higher levels (4-15 mg/L).



Dissolved Oxygen

- Microbes such as bacteria and fungi also require dissolved oxygen. These organisms use dissolved oxygen to decompose organic material at the bottom of a body of water. Microbial decomposition is an important contributor to nutrient recycling. However, if there is an excess of decaying organic material (from dying algae and other organisms), in a body of water with infrequent or no turnover (also known as stratification), the oxygen at lower water levels will get used up quicker.

Dissolved Oxygen

- Dissolved oxygen enters water through the air or as a plant byproduct.
- From the air, oxygen can slowly diffuse across the water's surface from the surrounding atmosphere, or be mixed in quickly through aeration, whether natural or man-made.
- The aeration of water can be caused by wind (creating waves), rapids, waterfalls, ground water discharge or other forms of running water. Dissolved oxygen is also produced as a waste product of photosynthesis from phytoplankton, algae, seaweed and other aquatic plants.