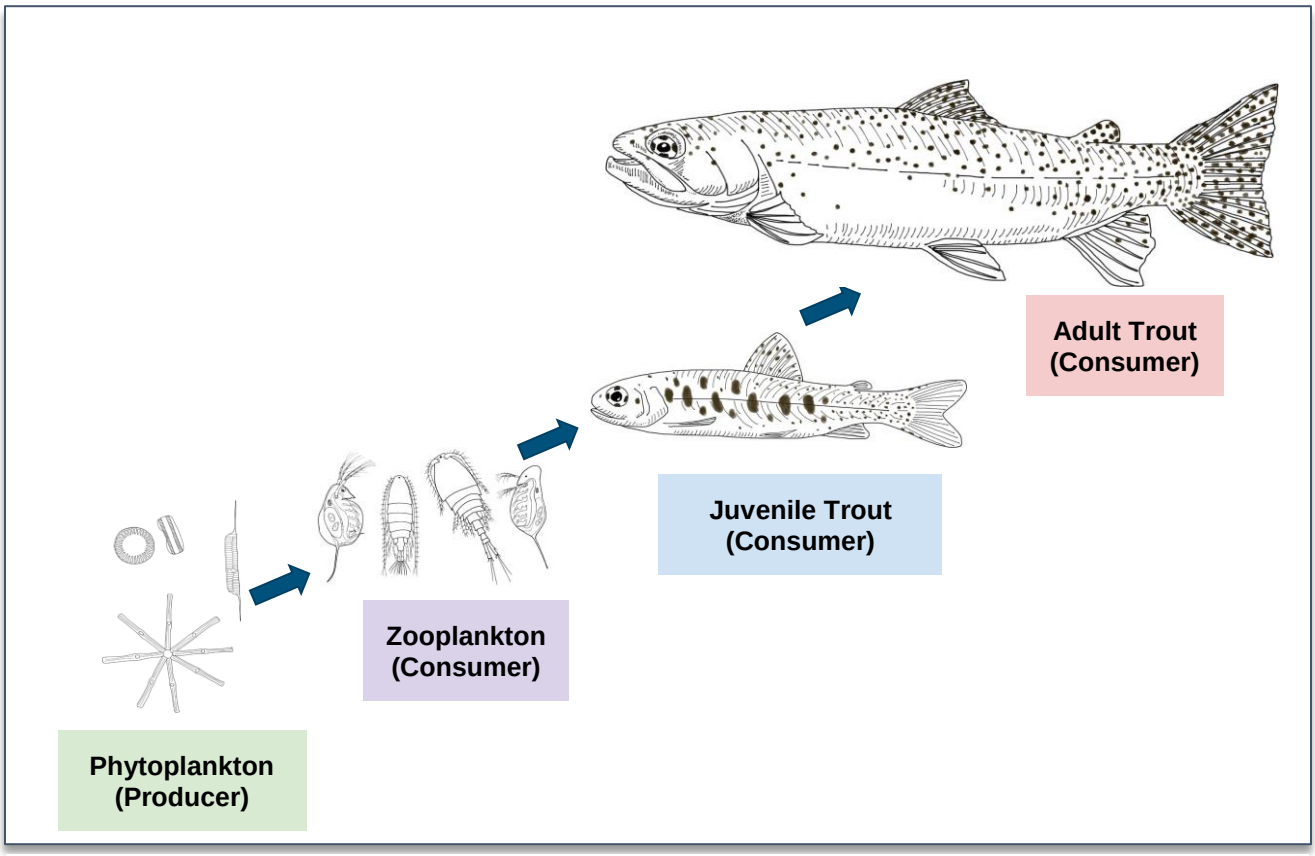
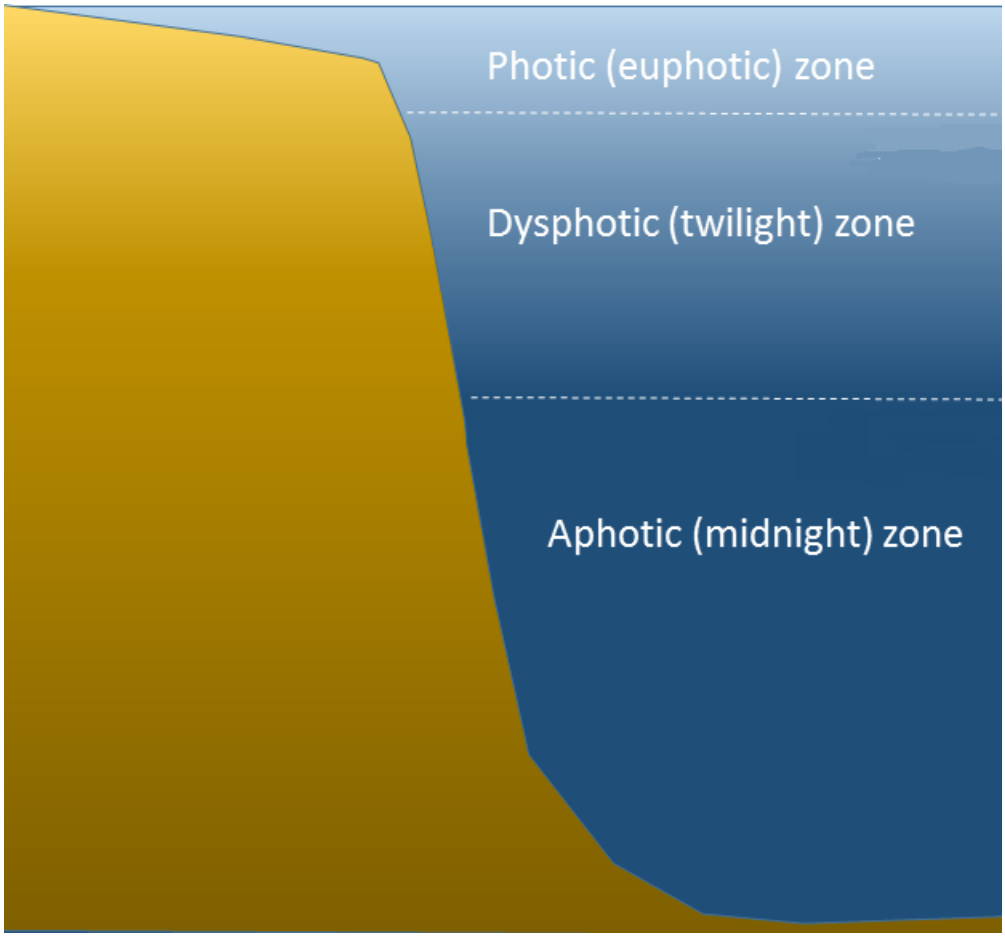
Aquatic Ecosystems and Light

Why measure light in a lake? Lakes and streams, or aquatic **ecosystems**, need light. Primary **producers** are at the base of **food chains**. They are **organisms**, such as **plants**, that use the energy from sunlight, carbon dioxide, and water to make food (sugars) and oxygen. We call this process photosynthesis. **Phytoplankton** (sometimes called algae) and aquatic plants are common primary producers in lakes and streams. **Animals**, especially **zooplankton**, eat phytoplankton which gives them the energy to move and grow. Below is an example of a simple lake food chain. Aquatic plants provide shelter as well as food for organisms in a lake.



A basic food web for Flathead Lake. PC: Flathead Lake Biological Station

Aquatic plants and phytoplankton live in the **euphotic zone**. The euphotic zone is the layer of water closest to the surface where there's enough light for photosynthesis. Phytoplankton have many different shapes which can help them stay suspended in the euphotic zone. Once they sink below this zone, they cannot go through photosynthesis.



Enough sunlight reaches the euphotic zone of a lake to allow organisms to photosynthesize. PC: Wikimedia Commons (CC BY-SA 4.0)