



# AQUATIC ECOLOGY 7

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- The rapidity with which living material can replace itself is measured by the production/biomass ratio.

- This ratio is high for plankton (high production, low biomass) and relatively low for fishes (low production, high biomass), and provides a better indication of energy transfer between trophic levels than instantaneous measures of biomass.

# Energy

- Every organism must acquire energy to live, grow and reproduce.
- In aquatic ecology, biologists often classify organisms according to how they obtain energy.

- **Autotrophs** use its energy directly  
Because sunlight is the ultimate source of energy used by organisms on the earth's surface
- **Heterotrophs** those indirectly by consuming other organisms

- Autotrophs, or **producers**, are organisms that can manufacture their own organic material from inorganic sources. Most autotrophs carry out this process using **photosynthesis**

- the process by which plants and algae use solar energy to combine carbon dioxide with water to produce starch, sugars and oxygen.
- Photosynthesis is the most important biological process on the planet

- The photosynthesis equation is as follows:



- Carbon dioxide + water + energy from light produces glucose and oxygen