# From Consume or be consumed: breaking down the structure of a food web, National Geographic, March 11, 2019

**Biomass**

Food webs are defined by their biomass — the energy in living organisms. Autotrophs, the producers in a food web, convert the suns energy into biomass. Biomass decreases with each trophic level. There is always more biomass in lower trophic levels than in higher ones.

Because biomass decreases with each trophic level, there are always more autotrophs than herbivores in a healthy food web. There are more herbivores than carnivores. An ecosystem cannot support a large number of omnivores without supporting an even larger number of herbivores, and an even larger number of autotrophs.

A healthy food web has an abundance of autotrophs, many herbivores and few carnivores and omnivores. This balance helps the ecosystem maintain and recycle biomass.

Every link in a food web is connected to at least two others. The biomass of an ecosystem depends on how balanced and connected its food web is. When one link in the food web is threatened, some or all of the links are weakened or stressed, and the ecosystems biomass declines.

**Lost Energy**

Biomass shrinks with each trophic level due to the fact that 80 to 90 percent of an organism's energy, or biomass, is lost as heat or waste. A predator consumes only the remaining biomass.