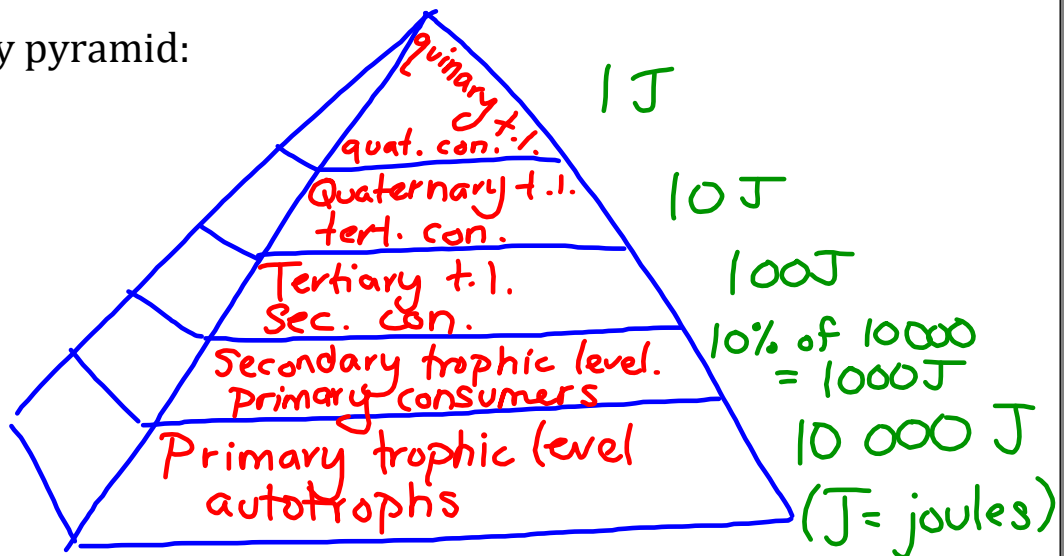


## Another look at energy

Energy pyramid:



May 27-6:57 AM

\* Ecological niche: an organism's place in the food web, its habitat, breeding area, and time of day it is most active.

\* The niche an organism fills is essentially the role it plays in the ecosystem.

\* Exotic/ Invasive species: a species not native to the ecosystem.

\* Exotic/invasive species will compete with native species for their niche and may end up taking over.

\* Invasive species cost Canada almost \$30 billion annually

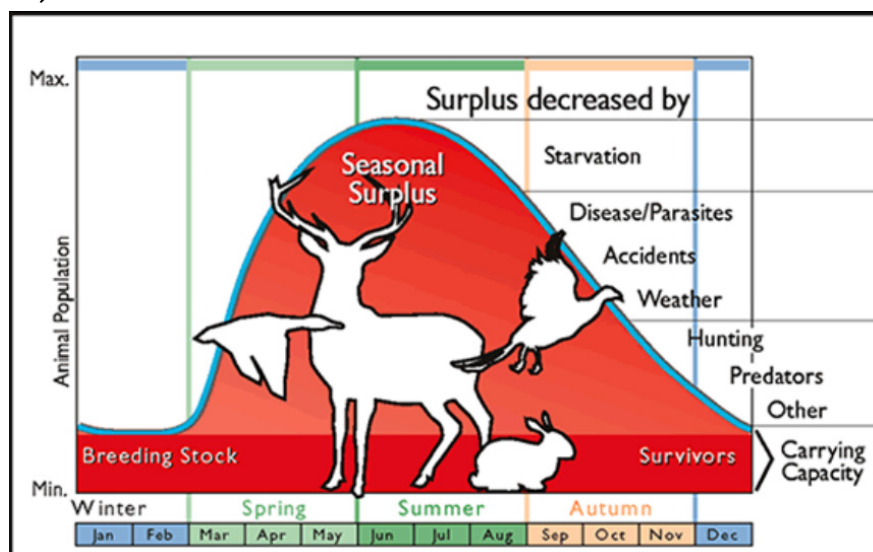
May 27-7:00 AM

## Zebra Mussels - Pros and Cons

Positive Effects	Negative Effects
<ul style="list-style-type: none"> <li>• provide food for ducks and other birds</li> <li>• shells provide shelter for aquatic insects and other small crustaceans, which in turn provides food for perch</li> <li>• hydra feeds on the larva of zebra mussels</li> <li>• reduced amount of algae</li> <li>• filters pollutants out of the water</li> </ul>	<ul style="list-style-type: none"> <li>• blocks intake pipes</li> <li>• decrease in pearly mussels</li> <li>• pass toxins along food chain</li> <li>• less algae means less oxygen in water</li> <li>• costs industry a lot of money (\$20mil initially, \$1mil annually, loss of \$400mil/year in fishing revenue)</li> </ul>

May 27-7:04 AM

**Carrying Capacity:** the maximum number of individuals of a species that can be supported indefinitely by an ecosystem. It is determined by availability of resources like food, water, shelter, etc.



May 27-7:28 AM

**Limiting factors**: any biotic or abiotic factors that prevent populations from growing uncontrollably.

ex. predators, disease/ illness, limited resources, weather/ climate, life span/ reproductive span

\*Limiting factors determine the carrying capacity of a species

May 27-7:42 AM

**Density Dependent factors**: natural resources that affect population growth as a result of the *density of the population*.

EX: food, water, space, predation, disease, availability of mates

**Density independent factors**: environmental conditions that affect a population *regardless of density*.

EX: flood, fire

May 27-7:44 AM