

Ecology is a call for wisdom, care, and restraint as we alter the biosphere.

**First Law of Ecology:** Everything is connected to everything else.

**Second Law of Ecology:** Everything must go somewhere.

**Third Law of Ecology:** Nature knows best.

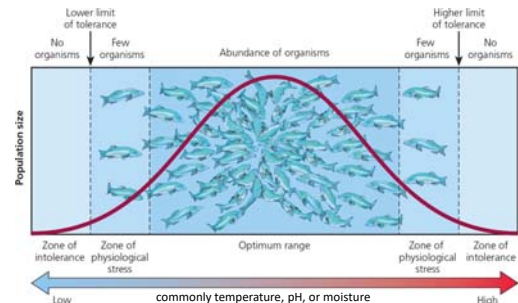
**Fourth Law of Ecology:** There is no such thing as a free lunch.

**Zeroth Law of Ecology:** If you do not put it into the environment, then it will not be there.

— Barry Commoner  
From *The Closing Circle*  
Founder of the modern environmental movement

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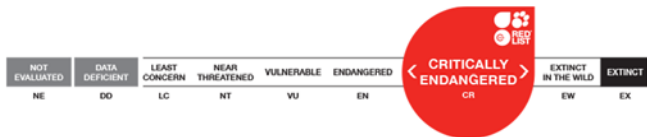
The range of tolerance describes variations in the physical and chemical environment under which species can survive.



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International Union for Conservation of Nature maintains the Red List Categories for Species.

The taxonomic unit for the Red List is for eukaryotes at or below the species level.



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International Union for Conservation of Nature Red List categories for ecosystems.

Ecosystems more effectively represent biological diversity.  
Ecosystem scale includes fundamental abiotic components.  
Decline in ecosystem status may be more apparent than extinctions of individual species.



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Humans accelerate species extinction and degradation of ecosystem services.

1. Habitat destruction, degradation, and fragmentation.
2. Invasive species.
3. Population growth and increasing use of resources.
4. Pollution.
5. Climate change.
6. Overexploitation of resources.

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**No civilization has survived the ongoing destruction of its natural support system. Nor will ours.**

— Lester Brown

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