



Wildlife Biodiversity



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Resource Conservation
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Conservation That Works!



What is **wildlife**?

Wild animals that aren't kept as pets or livestock.

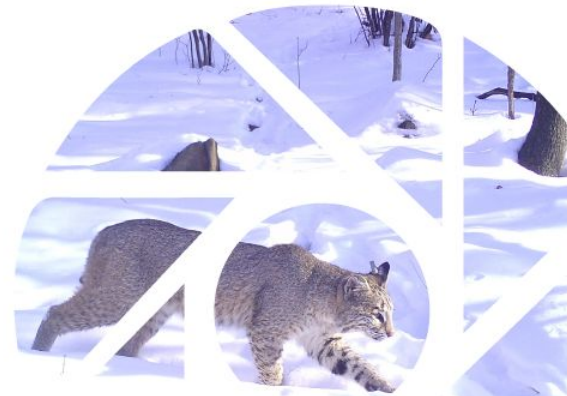




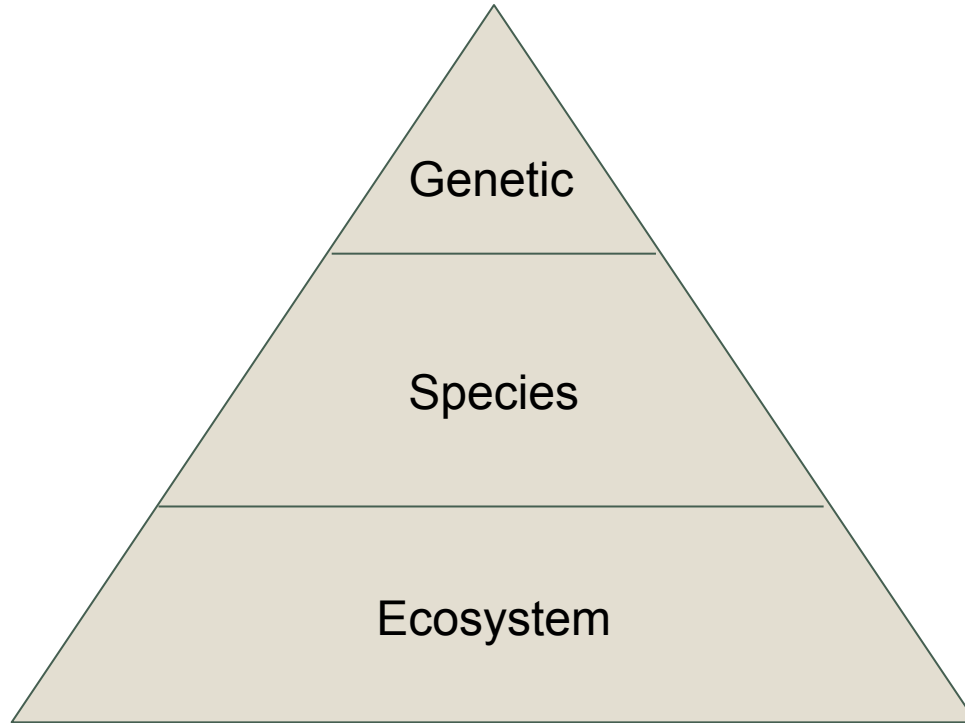
Photo taken from a Snapshot Wisconsin trail camera

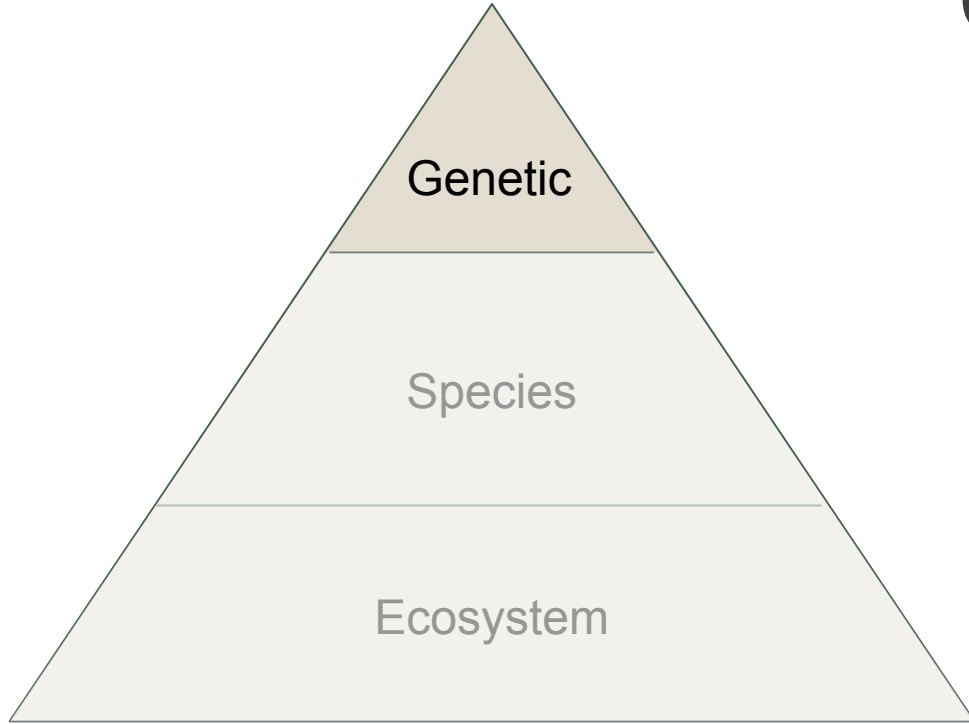
What is **biological diversity (biodiversity)**?

The variety found at all levels of biology.



3 Levels of Biodiversity





Genetic diversity:

The variety of different inherited traits within a species.



Examples of inherited traits:

- eye color
- hair color
- height
- skin tone
- blood type
- color blindness
- genetic disorders

Can you spot the different inherited traits?



Inherited Trait Differences

- Body size
- Fur color
- Antler height and width
- etc



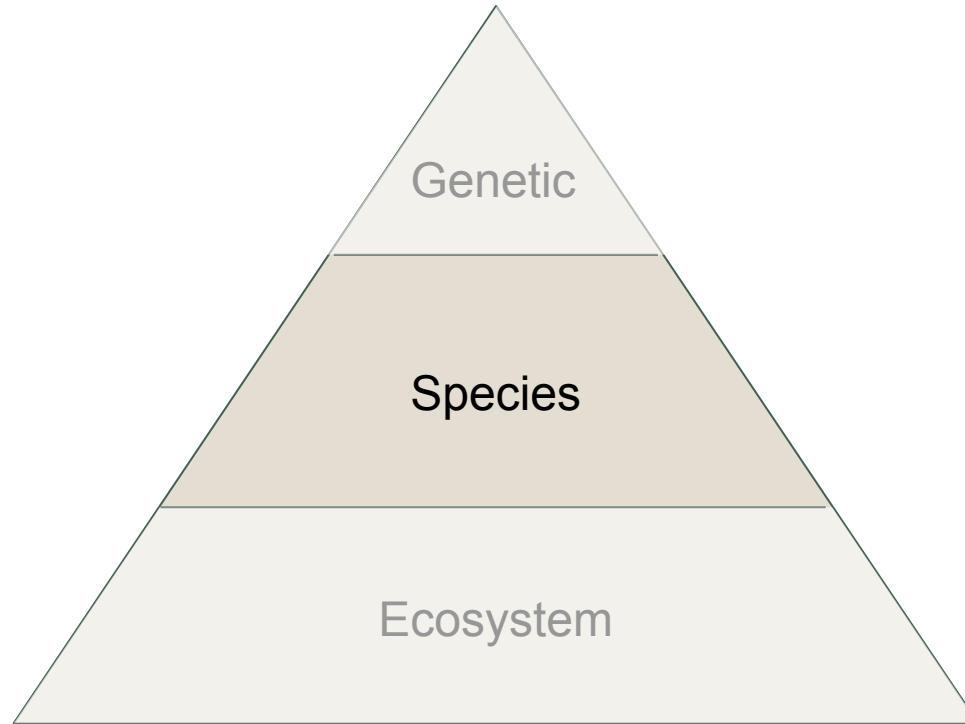


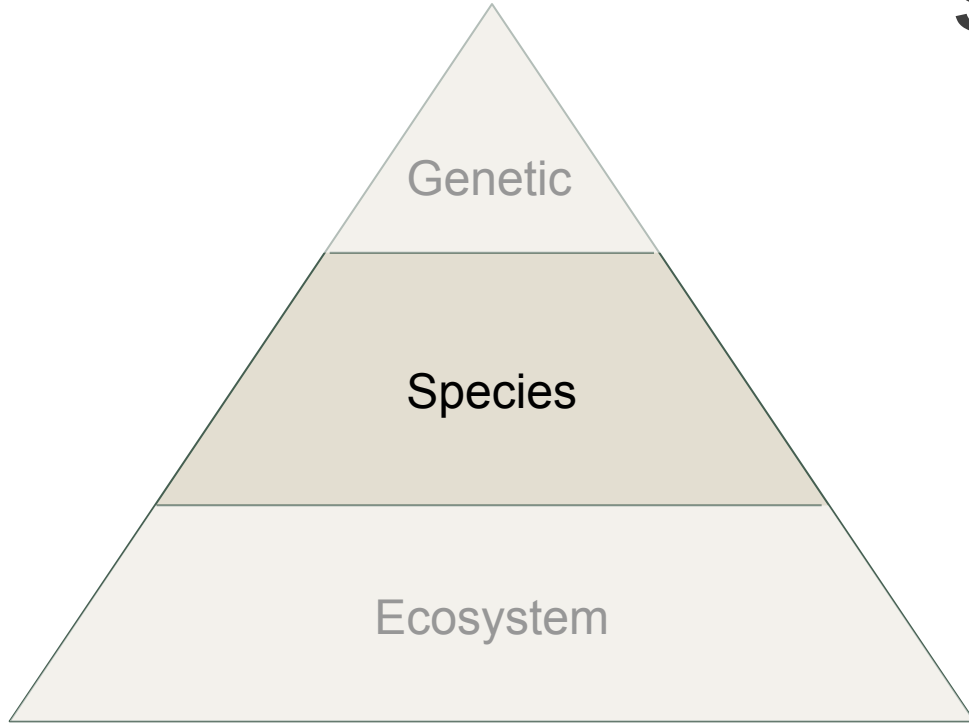
Genetic Diversity Activity

Benefits of Genetic Diversity

- A species that is genetically diverse is more likely to **adapt**, or adjust, to a change.
- For example, if a deadly disease is introduced, a species is more likely to survive if there is a higher level of genetic diversity (due to the adaptations that can occur among individuals within the species)

3 Levels of Biodiversity





Species diversity:

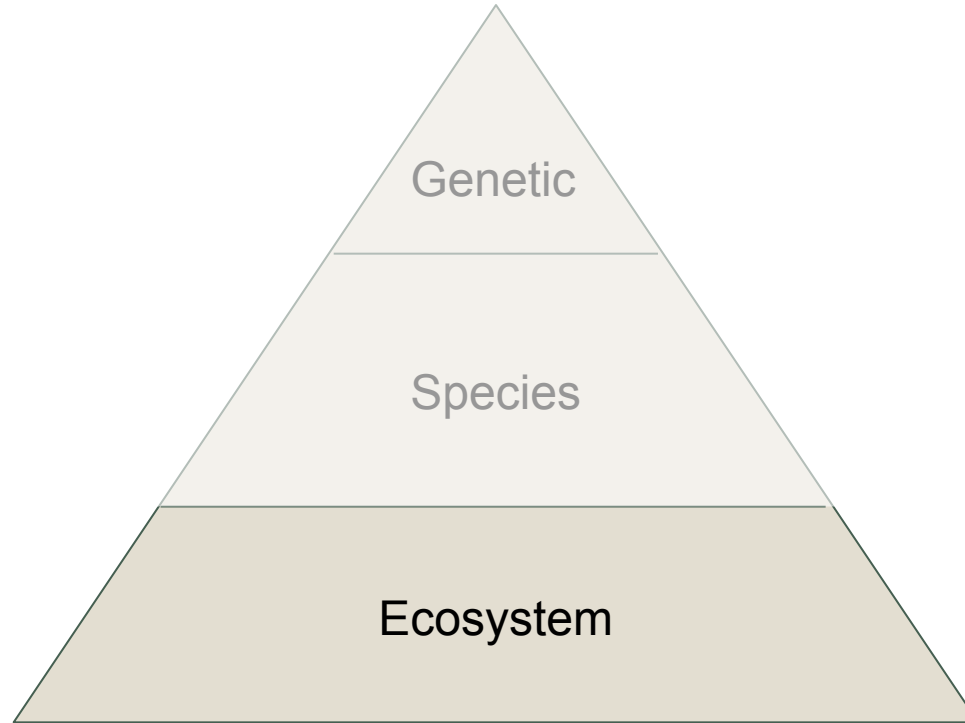
The variety of species within an area.

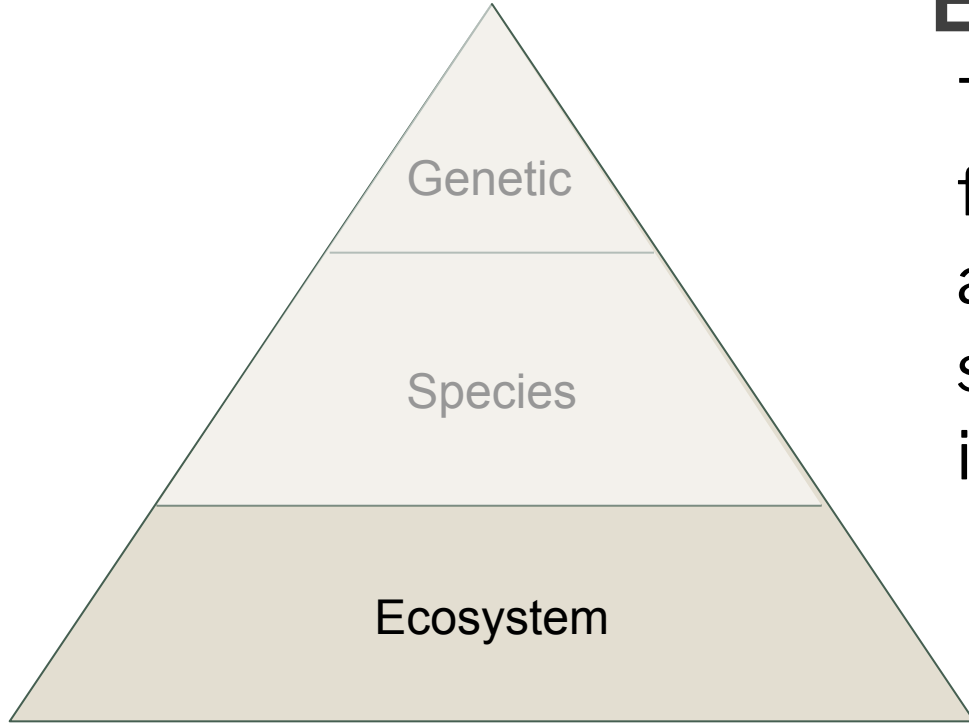
Species Diversity Example

- If that area is Wisconsin, there are many different species of animals that we can find within our state.
- Bear, deer, turkey, rabbit, squirrel, crow, etc.



3 Levels of Biodiversity



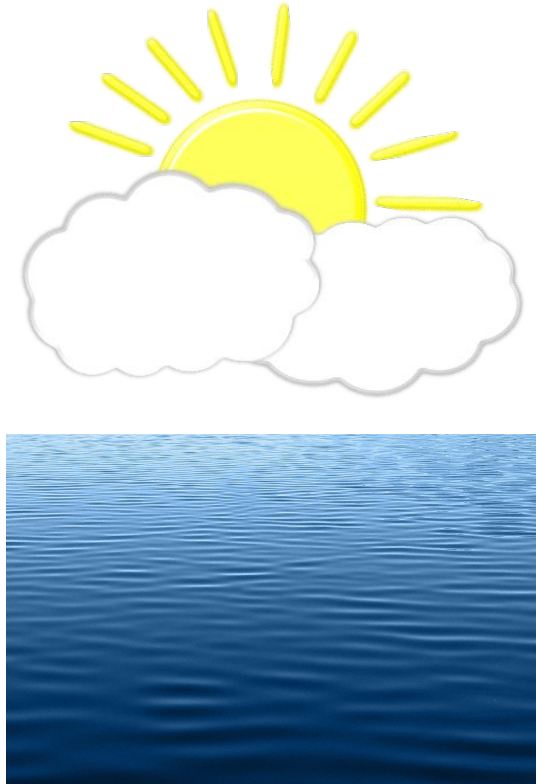
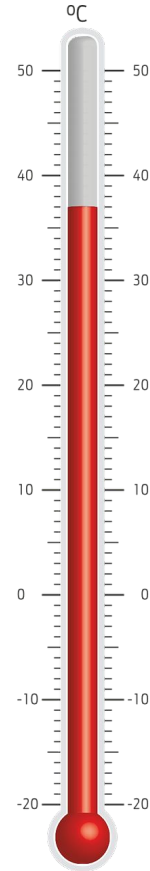


Ecosystem diversity:

The variety of abiotic factors within an area, and how various living species within that area interact with them.

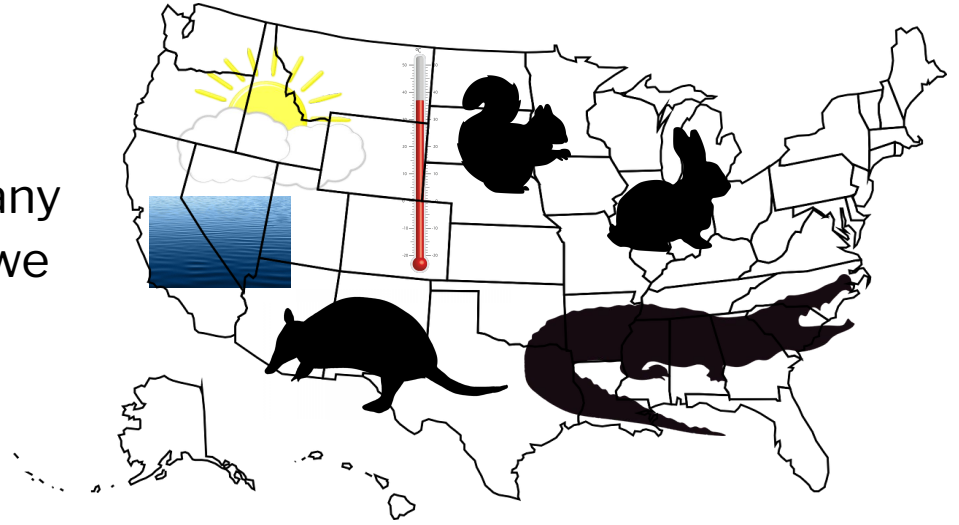
Abiotic Factors

- a non-living part of an ecosystem
- Ex: sunlight, temperature, water, etc



Ecosystem Diversity Example

- If that area is the U.S, there are many different species of animals that we can find, as well as many different types of climates.
- The Northern U.S. generally has cooler temperatures than the Southern U.S. because it is farther from the equator.
- Due to these varying climates, we might find different species in each region. You wouldn't find an alligator or armadillo in Wisconsin naturally.



Which definition belongs to the appropriate term?

- Genetic Diversity
- Species Diversity
- Ecosystem Diversity
- The variety of species within an area.
- The variety of abiotic factors within an area and how various living species within that area interact with them.
- The variety of different inherited traits within a species.

Threats to wildlife biodiversity

- Habitat Loss
- Disease
- Pollution
- Overexploitation
- Invasive Species



Habitat Loss

- Habitat loss can occur from natural habitats being turned into
 - Cropland
 - Homes
 - Roads
 - Industries
 - Dams
- Since there is less land available for wildlife, they are forced into less suitable habitats



There are less places that wildlife can call home



Disease

- Species are more at risk from diseases if biodiversity is lower, because there is a lower possibility of a species becoming resistant.
- Example: Chronic Wasting Disease (CWD) is an incurable fatal disease which can affect deer.



Pollution

- After fertilizers and cow manure are applied to the soil for agricultural crops, excess nutrients (such as Nitrates) can run off into nearby bodies of water.
- This nutrient runoff can cause algae blooms.
- If the algae bloom is severe, it can block out the sunlight that plants need to survive and even cause low oxygen levels that animals need to survive.



Overexploitation

- Many animals that we keep as pets (fish, snakes, turtles, spiders, etc.) can be unsustainably taken from the wild.
- Gray wolves were over hunted and are now on the endangered species list



Photo taken from a Snapshot Wisconsin trail camera

Invasive Species

- An invasive species is an organism that has spread or been introduced beyond its native range and is causing harm to the environment
- Example: Emerald Ash Borer
 - Native to Asia
 - First found in the U.S. in 2002
 - Larvae kill ash trees because they cut off the nutrient and water flow within a tree by eating the layer under the bark
 - Don't move firewood!



Photo Credit:

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Species Survival Activity

Effects of Threats to wildlife biodiversity

- These threats (habitat loss, disease, pollution, overexploitation, and invasive species) to wildlife biodiversity can cause a species to become **endangered** or **extinct**.



Endangered vs Extinct

How many animal species in WI are endangered?



Number of Endangered Animal Species in Wisconsin

According to the DNR, there are currently 61 endangered animal species in WI.

<https://p.widencdn.net/byxof6/ER001>

How many animal species in the U.S. are endangered?



Number of Endangered Animal Species in the U.S.

According to the USFWS, there are currently 504 endangered animal species throughout the US.

<https://ecos.fws.gov/ecp/report/boxscore#ij>

Endangered Species Act

Passed in 1973 to help protect endangered animals and plants.

What can you do to help?

Now that we know what is being done federally to protect our endangered species, we're going to learn about what you can do to help our wildlife.

Build a birdhouse



Plant native plants to provide food for wildlife



Volunteer at a wildlife refuge



Keep pets on a leash while walking to help keep them
and wildlife safe



Participate in community science!


- Visit [Snapshot Wisconsin's data dashboard webpage](#) to see the wildlife species that are in your area!
- Help to monitor wildlife. Snapshot Wisconsin has [trail cameras available](#) for educators to use.
- Help identify the species that were captured on these trail cameras by visiting [Snapshot Wisconsin's Zooniverse webpage](#).



Photo of a Snapshot Wisconsin trail camera



True or False?

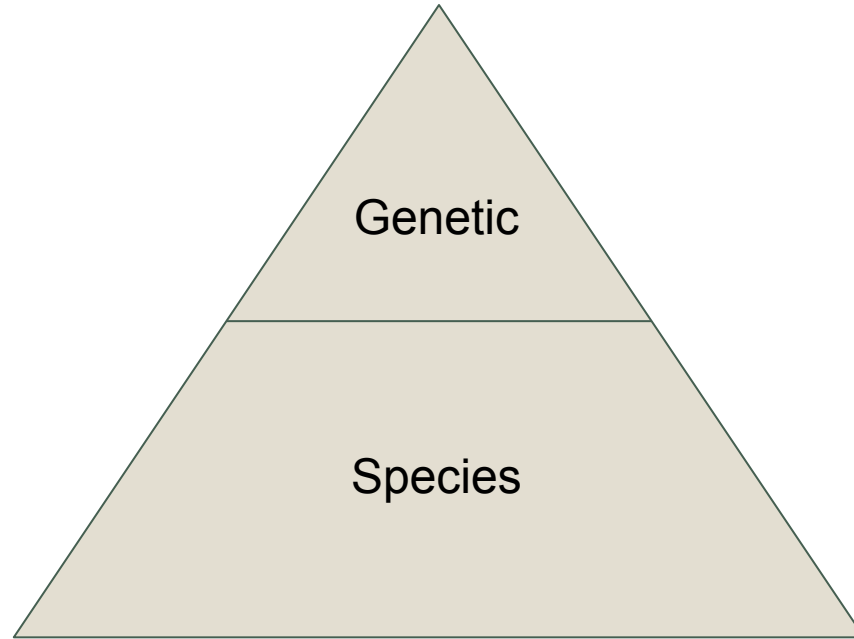


Biological Diversity (Biodiversity) is the variety found at all levels of biology.



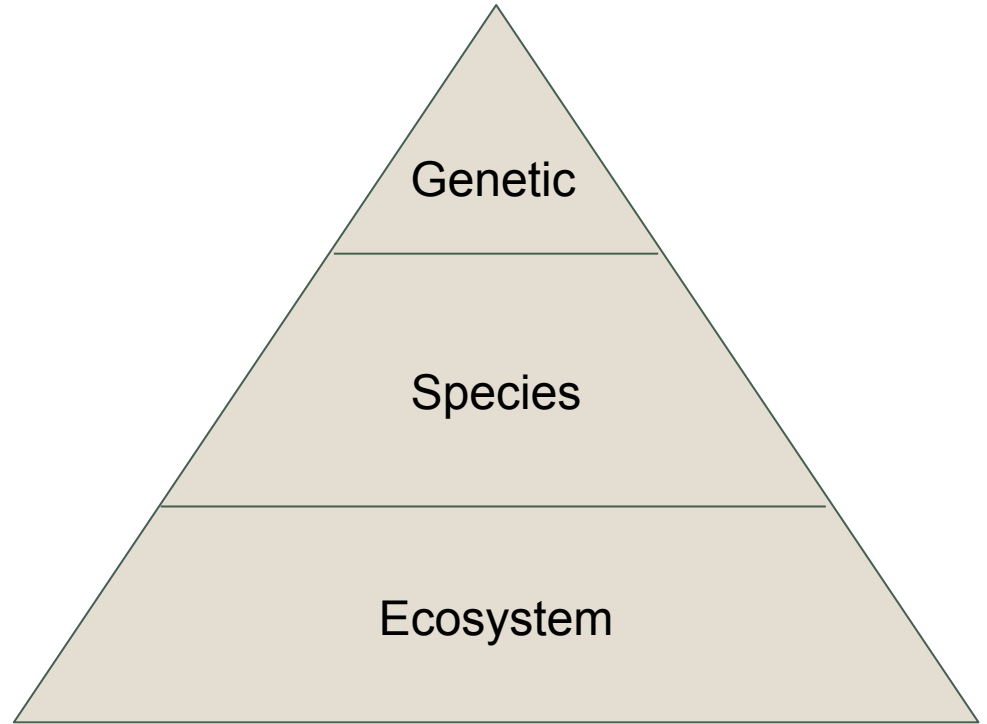
True


There are 2 levels of biodiversity (genetic and species diversity).



False

There are 3 levels of biodiversity (genetic, species, and ecosystem diversity).





The Endangered Species Act doesn't help protect endangered animals and plants.



False

The Endangered Species Act **does** help protect endangered animals and plants.

You should keep pets on a leash while walking to help keep them and wildlife safe.





True

Questions?





Thank you!



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