



## What is diversity?

- Is it important?
- Why?
- What are some kinds of diversity?
- How could you measure them?

## Species Diversity

- Number of different species in a given area.  
How many species, and how many organisms of each species.  
Urban and polar habitats have low species diversity.  
Coral reefs and tropical rain forests have high species diversity.

## Genetic Variety

- Genetic variability within a species.  
Why is it important?  
  
Ex: Bats and white nose Syndrome.

## Habitat Diversity

- Number of different habitats per unit area that a particular ecosystem or biome contains.

## How to Measure?

- Simpson's Diversity Index  
– A way to quantify diversity.

$$D = 1 - \left( \frac{\sum n(n-1)}{N(N-1)} \right)$$

- D = diversity index
- N = total number of organisms of all species found
- n = number of individuals of a particular species