

Pollinators:  
Endangered &  
Threatened



# Let's define some terms:

- **Extinct**
  - the death of the last individual of a species, the species does not exist



# Let's define some terms:

- **Endangered**
  - a species of organisms that will likely become extinct



# Let's define some terms:

- Threatened
  - any species likely to become endangered within the foreseeable future





# Threats to pollinators

- Habitat Loss
- Pesticides/Herbicides
- Climate Change
- Diseases and Parasites
- Pollution
- Loss of Food Source
- Non-native Species
- And more....





# What do we have to lose?

If pollinators go extinct, what would happen to our plants?



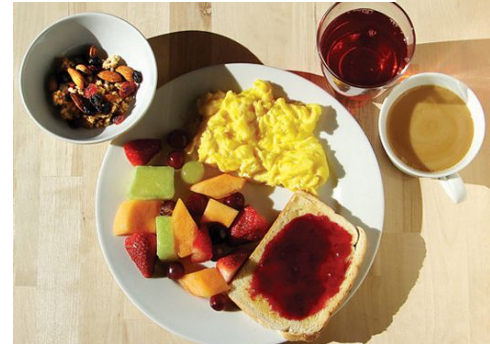
# Bees

Bees pollinate one-third of the food we eat.

## Without Bees, We'd Lose:

- 100% Almonds
- 90% Apples
- 90% Onions
- 90% Blueberries
- 90% Cucumbers
- 90% Carrots

Breakfast with bees:



Without bees:



**SAVE THE  
BEES**



# Rusty Patched Bumble Bee



- **Scientific Name:**
  - *Bombus affinis*
- **Location:**
  - Previously east coast through midwest - mostly midwest now
- **Pollinates:**
  - A wide variety of crops and wildflowers
- **Status: Endangered**
  - Habitat loss, disease, pesticides





# Blue Calamintha Bee



- **Scientific Name:**
  - *Osmia calaminthae*
- **Location:**
  - Central Florida
- **Pollinates:**
  - *Clinopodium ashei* (Ashe's calamint) only!
- **Status: Endangered**
  - Loss of host plant and habitat





# Butterflies/Moths

- Butterflies are on every continent except Antarctica
- Over 24 endangered and threatened moth and butterfly species
- Some species specialize on specific plants



# Miami Blue





- **Scientific Name:**
  - *Cyclargus Thomasi*  
*Bethunebakeri*
- **Location:**
  - Florida
- **Status: Endangered**
  - Urban development in coastal regions
  - use of pesticides for mosquitoes





# Bats

## What if bats suddenly went extinct?

- More than 530 plants require bats to pollinate their flowers.
  - Plants pollinated by bats often have nocturnal flowers. Therefore, there is no animal other than bats to pollinate these plants.
  - Plants such as mango, cocoa, banana, durian, and guava, are the primary plants that this extinction will affect
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# Mexican Long-nosed Bat



- **Scientific Name:**
  - *Leptonycteris Nivalis*
- **Location:**
  - Mexico, Texas, New Mexico
- **Pollinates:**
  - Up to 21 different plant species
- **Status - Endangered:**
  - Loss of habitat and food sources





# Birds



## Ornithophily

- Worldwide, there are about 2,000 species of pollinating birds
- Bird pollination mainly occurs in tropical regions, where they help pollinate a few food crops, including bananas, papaya and nutmeg.
- Wildflower habitat decreasing



# Short-crested Coquette



- **Scientific Name:**
  - Lophornis Brachylophus
- **Location:**
  - Guerrero, Mexico
- **Pollinates:**
  - Wildflowers and pineapples
- **Status: Critically Endangered**
  - Habitat loss due to land clearing for agricultural purposes

