

# **Our Other Pollinators**

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# **Plant Something for Pollinators**

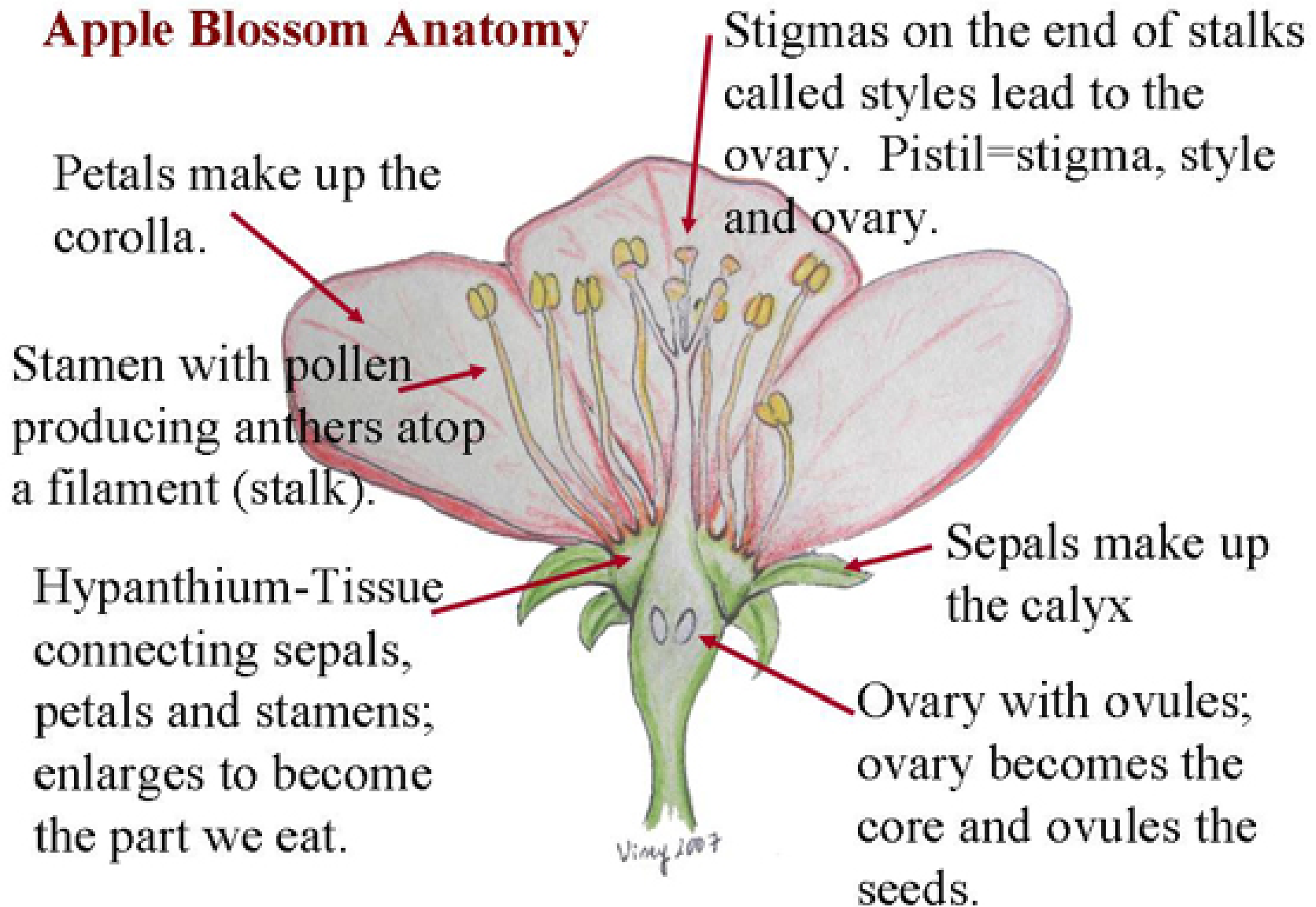
- **Spring, summer, and fall bloomers**
- **All colors**
- **Native plants best for native pollinators**
- **Flowering trees produce 1000s of flowers**
- **Perennials and annuals offer a variety of nutrition**

## **Plant Flowers this Year**

# **What's Pollination?**

- **The transfer of pollen from one flower to another to produce seeds for next year**
- **Seeds may be protected by good-tasting flesh that we know as fruits and vegetables**

## Apple Blossom Anatomy





# **Why Increase Pollinator Habitat?**

- **75 percent of world's 240,000 plants need pollinators**
- **30 percent of food and fiber crops grown in the world need pollination**
- **U.S. – 100s of crops pollinated by insects**

# Popular Crops Pollinated by Bees



# **Why Increase Pollinator Habitat?**

- **Awareness and concern over declines growing**
- **Science is ambiguous**
  - **Few studies of past populations**
  - **“Common Sense” -- loss of field edges, increasing needs for housing, roads, etc. lead to less pollinator habitat**

# **Why Increase Pollinator Habitat?**

- **Lots of Interest**
- **Lots of \$**
- **Easy Slogans**
  - **Save the Monarch!**
  - **Save the Bees!**

**No current loss of production for any US crop**  
**Plantings for pollinators help honey bees and**  
**honey crops**

# **Foods Pollinated by Wind**

- **Wheat**
- **Corn**
- **Rice**
- **Hay for livestock**
- **Soybeans – many varieties self-fertile**

# Why Not Just Honey Bees?

- Increased yield, size and sweetness with wild pollinators and honey bees
- Some native pollinators are better than honey bees
  - Leafcutter bees for alfalfa
  - Squash bees for squashes, pumpkin, watermelon

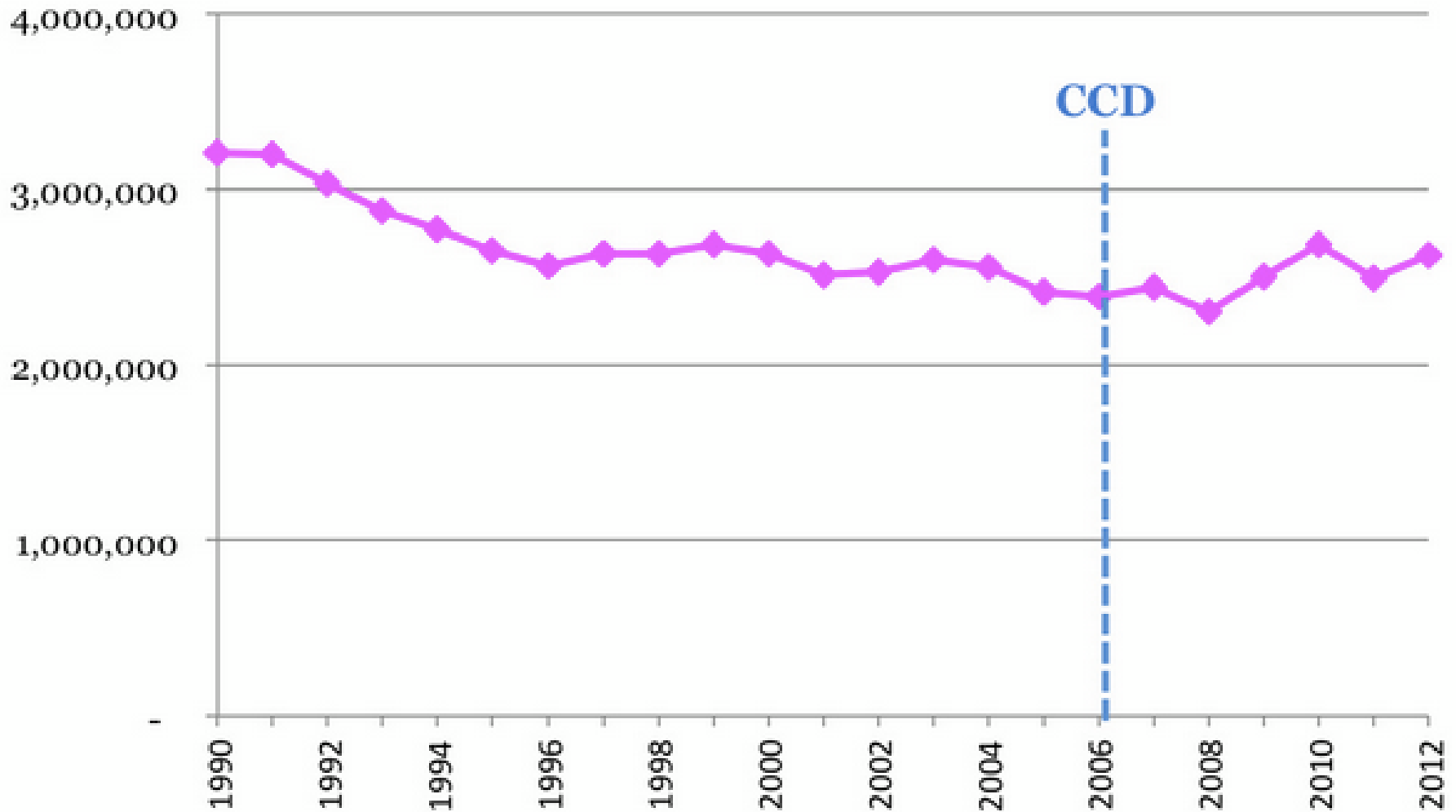


**Bees Disappearing—CCD 2006**



# Honey Bees in Decline!

## U.S. Honeybee Colonies



Source: USDA NASS Honey Production Report

# Why Bees Most Important

- Bees are hairy—carry pollen easily
- Only species to collect pollen for brood food
- *Flower Constancy*
- One trip=hundreds of flowers visited



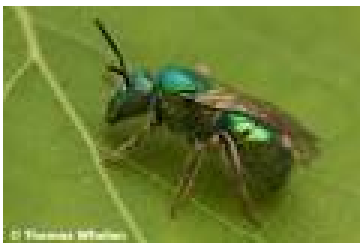
# 70% of Wild Pollinators are Bees

**Social Bees**

**Bumble bees**

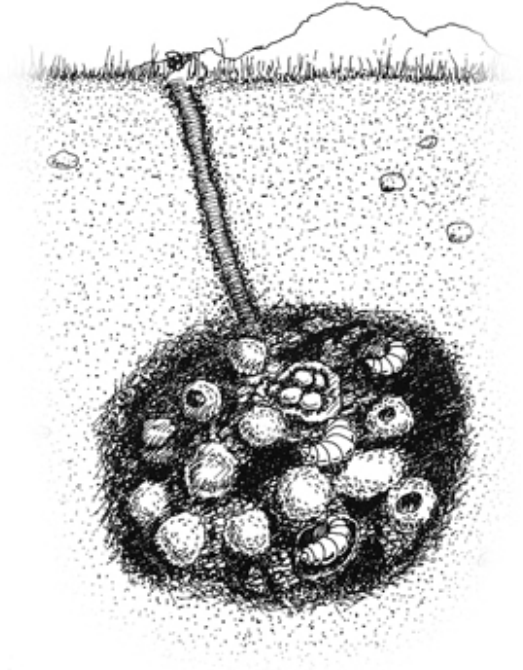


**Some sweat bees, sometimes**





# Bumble Bees



- Nest in ground
- Only queen overwinters
- Queen and daughters in nest together--spring to fall
- 10-80 bees per nest
- Eat pollen and nectar
- Forage up to 1 mile from nest





# Sweat Bees



- Nest in ground, need barren areas
- Queen overwinters in the ground
- Queen and daughters in nest together late spring through fall
- About a dozen bees per nest
- Eat pollen and nectar
- Small bees (1/4-1/2 inch) -- forage a couple hundred yards from nest

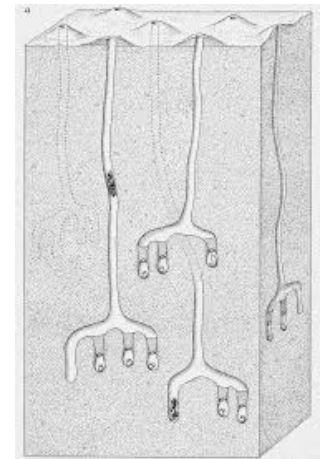


# Solitary Bees

- Each queen makes her own nest and does all the work
- About a dozen bees per nest
- Life span is 2-6 weeks
- Mason bees – nest in wood

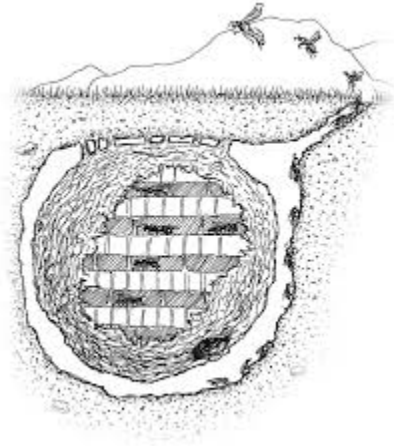


- 70% nest in ground – miner bees





# Wasps



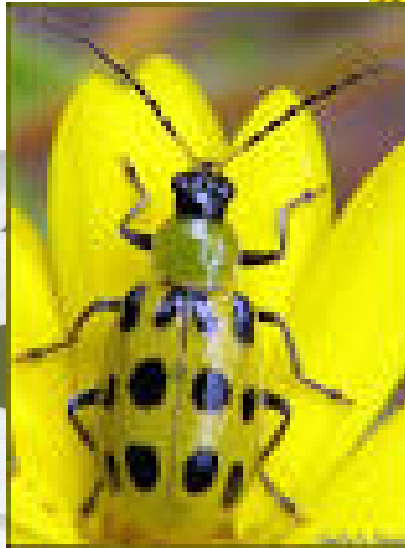
European hornet nest interior showing cell cores.



# Flies



# Beetles





# Butterflies





# Pollinator Needs

- **Food - Flowers in all Seasons**
  - Nectar
  - Pollen
- **Shelter - Nest Sites**
  - Bare ground, mulch free
  - Dead trees
  - Brush piles
  - Hollow stems

# Spring Bloomers



# Late Spring Bloomers





# Summer Bloomers



# Fall Bloomers



# Right Plant Right Place

- **Natives require less maintenance after establishment**
- **Plant trees, perennials and annuals for variety**
- **Plant shade-tolerant species in shade, understory trees in partial shade, etc.**
- **Bee meadows require dedication**
- **Plant what you like to look at**

# **Plant Something for Pollinators**

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- **All colors**
- **Native plants best for native pollinators**
- **Flowering trees produce 1000s of flowers,**
- **Perennials and annuals offer a variety of nutrition**

## **Plant Flowers this Year**

### **Honey bees and natives benefit**



# Questions?

