

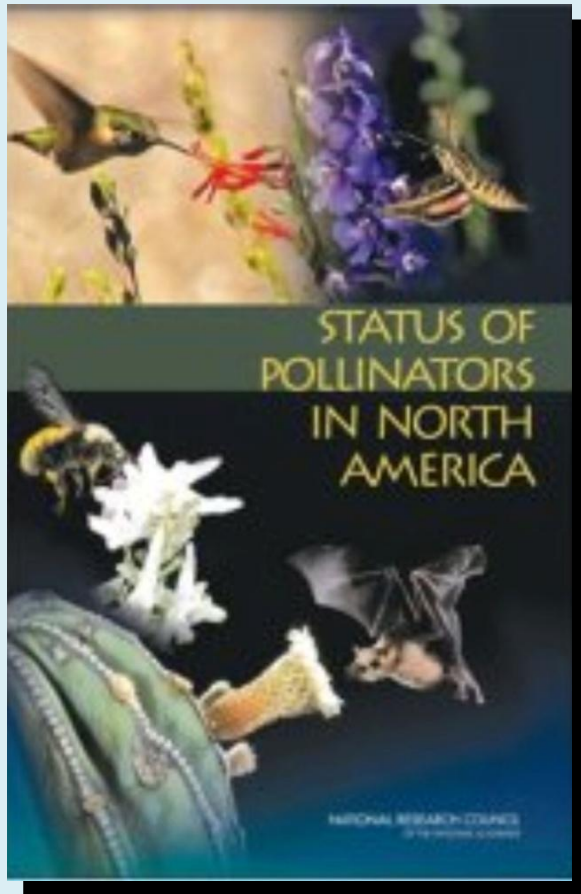
# ***USDA Programs Addressing Pollinator Decline and CCD***

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# North America Pollinators



2002 NAPPC requested study

Adhoc committee performed 2 year study

2007 Book published

Funded by

USDA-ARS

USGS

National Academy of Sciences

National Research Council

<http://www.nap.edu/catalog/11761.html>

**Habitat destruction**

**Urbanization**



**Pesticides**

**Large-scale Agriculture**



# Monocultures



**Fewer field margins**

**Nutritional value ?**



Winter 2006-7 Mysterious disappearance of managed honey bees → CCD

2007 USDA-ARS and NIFA coordinated meeting at ARS Beltsville MD with leading experts on apiculture and bee biology  
CCD Steering Committee formed to coordinate research activities and provide funding for in-house and extramural research

Action Plan Released July 2007 USDA Website

1. Survey and data collection
2. Analysis of samples
3. Hypothesis driven research
4. Mitigation and Prevention

# USDA Investments

USDA/NIFA

2008-2012 Coordinated Agricultural Project (CAP):

Protection of Managed Bees \$4.1M

2007-08 Critical and Emerging Issues \$269K

Investigator led Grants on Pollinators ~ \$1.2 M

USDA/ARS

NAS Report \$200K

Area-wide Project to Promote Bee Health \$5M

Temporary Funding from Administrator's Acct (\$476K)

Alternative Pollinators

# USDA Investments Contin.

USDA/APHIS	National Bee Health Survey (\$150K) Hawaii Varroa Response (\$469K)
USDA/NRCS	Conservation Practice Standards

# Other Factors Potentially Impacting Pollinators

- Climate Change: Changes in plant abundance & distribution, insect development rates
- New purposes for agricultural crops (e.g., bioenergy crops)
- Invasive pests, diseases, new pesticides



- Beginning 2010 : \$3M minimum funding to AFRI for CCD and pollinator decline research
- Anticipated funding to increase in 2011 (\$7M)

# Current extramural funding opportunities:

## Agriculture & Food Research Initiative (AFRI)

- Foundational programs
  - *Pest and Beneficial Insects*
- Climate Change
  - *Adaptation and mitigation*
- Sustainable Bioenergy Research
- Global Food Security
  - *Wide-area monitoring CAP*
- Fellows Programs Post-doc, Pre-doc

# Foundational Programs

- Pest and Beneficial Insects in Plant Systems: \$3 M for managed and wild bee pollinators (+ associated organisms affecting bees)
- Hypothesis-driven research at organismal or molecular level:
  - ❖ Understand environmental and biological processes affecting abundance and spread of agriculturally important insects.
- Grants up to \$500K and 5 years duration
- Anticipate funding 6 grants

# Climate Change: Mitigation and Adaptation

- Goal: Maximize resilience and adaptation of species to climate change:
- Priority: Develop and test models and technologies
  - Forecast and control of weed, pest, disease & invasive species
  - Improve survival and distribution of insect pollinators
- 2010 Cereals
- 2011 Legumes, rangeland
- 2012 Horticultural systems
- \$1 M/ year, 5 years
- Research, extension, or education projects

## Global Food Security RFA:

Goal: Enhance food availability and accessibility

- FY 2010 Wide-area monitoring program (high consequence pests and pollinators) Primarily Extension \$1 M per year, 5 years, fund 1 grant
- FY 2012 Manage plant insect pests

# **Sustainable Bioenergy Research**

*Regional Systems: Perennial grasses, oil seed crops, algae, sorghum, woody biomass*

- FY 2011 Evaluate and mitigate pests and beneficial species including pollinators in feed stocks for biofuels
- FY 2011 Impacts on Wildlife/pollinators
- FY 2012 Evaluate impacts of land-use changes (broad)
- \$200K per year, 5 yrs, \$1 M total

# Fellowship Program: October 5

- Must be relevant to 1 of the challenge areas (climate change, bioenergy, etc.)
- Post-doc \$130K, 2 yrs max
- Pre-doc \$75K, 2 yrs max (post advancement to candidacy)
- Only US citizens, permanent residents and nationals
- Pre-doc advancement to candidacy on/after Jan 2010
- Post-doc within 3 yrs post PhD

# **Additional funding opportunities**

- Sustainable Ag Research Education (Broad eligibility)
- IPM Regional programs (mainly land grant colleges and universities, ag experiment stations)
- Small Business Innovation Research (small private industries must lead)
- Biotech Risk Assessment Grant Program (broad eligibility)