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
<table>
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<tr>
<th>USDA/APHIS</th>
<th>National Bee Health Survey ($150K)</th>
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<td>Hawaii Varroa Response ($469K)</td>
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<td>USDA/NRCS</td>
<td>Conservation Practice Standards</td>
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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)