

Indiana Cooperative Agricultural Pest Survey

2008 Semi-Annual Report



Department of Entomology at Purdue University

Indiana Department of Natural Resources (IDNR)

United State Department of Agriculture (USDA), Animal and Plant Health
Inspection Service (APHIS), Plant Protection and Quarantine (PPQ)

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11 July 2008

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Dr. Peter Hirst	Purdue University	Horticulture
Dr. Carole Lembi	Purdue University	Invasive Aquatic Plants
Dr. Ray Martyn	Purdue University	Center for Crop Biosecurity
Glenn Nice	Purdue University	Weed Science
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James Manor, PSS	USDA APHIS PPQ	Regulatory Science
Ellen Jacquart	The Nature Conservancy	Plant Ecology/ Identification

Semi-Annual Activity Report
January – June 2008

January

- Investigated, evaluated, located, and reorganized CAPS files, office equipment, literature, survey equipment (multiple days).
- CAPS lab equipment and supplies were gathered from multiple locations within the Department of Entomology and a centralized, temporary laboratory was established within the Field Crops Laboratory space (multiple days).
- Located and evaluated survey equipment (multiple days).
- Multiple communications with Eileen Luke, administrator for Center for Environmental and Regulatory Information Systems (CERIS) and meetings with Susan Schechter (CERIS/ National Agricultural Pest Information System (NAPIS) 18 and 24 Jan) establishing links and training for survey data submissions to NAPIS data base, Department of Entomology, Purdue University, West Lafayette.
- Began inputting NAPIS data (multiple days).
- Read and familiarized myself with the 2008 work plan (multiple days).
- Multiple communications with Christopher Pierce regarding 2008 work plan/survey details.
- Interviewed and hired half-time CAPS lab manager, (temporary position-student).
- CAPS vehicles service/maintenance (multiple days).
- Began familiarizing myself with Indiana CAPS web site ‘Indiana’s Most Wanted’ invasive species (multiple days)
- Meeting (23 Jan) with Arwin Provonsha, curator of Purdue Entomological Collection, Jeffery Holland, Assistant Professor of Entomology/Landscape Ecology, and Bobby Brown, PPQ area identifier to discuss and plan the creation of an integrated data base for organisms of regulatory and academic interest, Department of Entomology, Purdue University, West Lafayette.

February

- Meeting and evaluations of candidate for Director of Pest and Disease Diagnostic Laboratory- Feb 4 and 6, Department of Entomology, Purdue University, West Lafayette.
- Meeting (7 Feb) with Phil Marshall, Department of Entomology, Purdue University, West Lafayette. Information and progress discussions.

February activities continued

- Read and familiarized myself with the 2008 work plan (multiple days).
- Began managing/revising “Indiana Most Wanted” web site.
- Began old world bollworm literature review and investigation of procedures for discriminating from corn earworm.
- Conducted a Master Gardener Program in Muncie, IN (12 Feb) that included a portion on invasive species (outreach).
- Meeting (13 Feb) with Arwin Provonsha, curator of Purdue Entomological Collection, Jeffery Holland, Assistant Professor of Entomology/Landscape Ecology, and Bobby Brown, PPQ area identifier to further discuss and plan the creation of an integrated database for organisms of regulatory and academic interest. Department of Entomology, Purdue University, West Lafayette.
- Conducted a Master Gardener Program in Terra Haute, IN (20 Feb) which included a section on invasive species (outreach).
- Inputting NAPIS data (multiple days).
- PPQ Risk Based Survey (RBS) exotic bark and wood boring insects (EBB) planning meeting (27 Feb) in Indianapolis with Tim Vawryk, Shayne Galford, Maureen McWilliams, and Rob Alleman.
- Invasive Plant Species Assessment Working Group (IPSAWG) meeting (28 Feb) with Ellen Jacquart in Indianapolis to discuss/plan the Invasive Species Task Force Recommendations.
- Meeting (29 Feb) with Jeff Holland and Scott Charlesworth (web designer) on database for organisms of regulatory and academic interest. Department of Entomology, Purdue University, West Lafayette.
- Web site updates (multiple days).
- Interviewed candidate (29 Feb) for CAPS summer aid position.

March

- Conducted two Master Naturalist Programs in Charlestown and Corydon, IN (3 Mar) that included a portion on invasive species (outreach).
- Inputting NAPIS data (multiple days).
- Web site updated (multiple days).

March activities continued

- Studied Risked Based Survey for Exotic Bark and Wood Boring Insect power point presentation and related material (multiple days).
- Continued old world bollworm literature review and investigation of procedures for discriminating from corn earworm.
- Began reviewing literature and trapping and specimen preparation protocols for insects associated with RBS/EBB
- Attended Central Plant Board meeting (11 Mar) in Madison, WI.
- Attended state CAPS coordinators teleconference (12 Mar) originating at the continuing CPB meeting in Madison, WI.
- Conducted a Master Gardener Program in Valparaiso, IN (13 Mar) that included a section on invasive species (outreach).
- Conducted two Master Gardener Programs in Scottsburg and Salem, IN (17 Mar) that included a section on invasive species (outreach).
- Conducted two Master Gardener Programs in Bloomington and Switz City, IN (20 Mar) that included a section on invasive species (outreach).
- Vacation (24-28 Mar).

April

- Studied RBS/EBB procedure manual (multiple days).
- Inputting NAPIS data (multiple days).
- Web site updated (multiple days).
- Interviewed candidate (2 Apr) for CAPS summer aid position.
- Began collecting, assembling and tuning traps for old world bollworm and RBS/EBB surveys. (multiple days).
- Preliminary meeting of CAPS core committee (8 Apr) at Department of Entomology, Purdue University, West Lafayette. See attached agenda.
- Meeting with CERIS/NAPIS (9 Apr) at Purdue Research Park, West Lafayette to further discuss and plan the creation of an integrated database for organisms of regulatory and academic interest.

- Web site updated

April activities continued

- CAPS program progress meeting (11 Apr) with Gary Simon at Purdue Research Park, West Lafayette.
- Received RBS/EBB samples about 29 April. Began processing/preparing samples (multiple days).
- CAPS committee meeting (30 Apr) at Department of Entomology, Purdue University, West Lafayette. See attached minutes.
- CAPS vehicles service/maintenance.

May

- Worker Protection Standards training for summer crew (14 May).
- CAPS committee meeting (15 May) at Department of Entomology, Purdue University, West Lafayette. See attached minutes.
- Continued inputting NAPIS data (on multiple days).
- Received RBS/EBB samples (23 May). (preparation requires multiple days).
- Researched 2009 work plan (multiple days).
- RBS/EBB traps deployed (30 May).
- Web site updated

June

- Received RBS/EBB samples (9 Jun). (Preparation requires multiple days.)
- Safety meeting for summer workers (10 Jun).
- Old world bollworm (OWB) traps deployed 11-12 Jun and 20 Jun (flood delay).
- RBS/EBB traps serviced/samples collected (16 Jun). (Preparation requires several days.)

June activities continued

- OWB traps serviced (18-19 Jun).
- Inputting NAPIS data (multiple days).

- Research on 2009 work plan (multiple days).
- Multiple communications with USDA area identifiers/national specialists for noctuidae, Julietta Brambila and Steven Passoa to determine protocols for old worm bollworm identification.
- Indiana Exotic Forest Pests Advisory Committee (IEFPAC) meeting (20 Jun) in Indianapolis.
- Began preliminary discussions with Department of Entomology Purdue University outreach coordinator to facilitate educational program for Giant African Land Snail.
- OWB traps serviced (25, 26, 27 Jun). Samples stored until after meeting (10 July) with Steven Passoa, USDA national noctuidae specialist.
- Eastern Region CAPS State Survey Coordinators Teleconference (27 Jun).
- SSC RBS/EBB traps serviced/samples collected (30 Jun) (Preparation requires several days.)
- Web site updated

SSC target organisms and survey preliminary results and progress; Jan– June 2008

1. *Helicoverpa armigera* Old world bollworm (OWB)

Traps set 11-12 and 20 June. Samples collected weekly. OWB one-day workshop on noctuidae micro-dissection and identification with Steven Passoa, UDSA national noctuidae specialist at The University of Ohio, Columbus, OH, planned for 10 July. Prescreening for OWB among the large number of similar (and common) *Helicoverpa zea*, corn earworm that appear in traps, will begin following this workshop.

2. *Phytophthora ramorum* Sudden oak death (SOD)

The first set of SOD National Nursery samples were submitted to Plant Pest and Diagnostic Laboratory (P&PDL) by IDNR nursery inspectors on 23 May. As of 30 June 08 P&PDL staff have processed 314 samples (another 486 samples expected in the next several months). To date all sample submissions have tested negative.

3. Risk Based Survey for exotic bark beetle and wood-boring insects in cooperation with PPQ statewide trapping network. See NAPIS submission report below for positive finds Jan-Jun 2008.

Scientific Name:	Target insects	Common Name:
<i>Anoplophora chinensis</i> (Forster)		Citrus longhorned beetle
<i>Anoplophora glabripennis</i> (Motschulsky)		Asian longhorned beetle
<i>Callidiellum rufipenne</i> (Motschulsky)		Small Japanese cedar longhorned beetle
<i>Chlorophorous annularis</i> Fabricius		Bamboo/tiger bamboo longhorned beetle
<i>Hesperophanes (Trichoferus) campestris</i> (Faldermann)		Chinese longhorned beetle
<i>Hylurgops (Hylurgus) palliatus</i> Gyllenhal (conifer)		Exotic bark beetle
<i>Hylurgus ligniperda</i> (Fabricius)		Golden-haired bark beetle
<i>Ips sexdentatus</i> (Boerner)		Six-spined engraver beetle
<i>Ips typographus</i> (Linnaeus)		European spruce bark beetle
<i>Monochamus alternatus</i> Hope		Japanese pine sawyer beetle
<i>Orthotomicus erosus</i> (Wollaston)		Mediterranean pine engraver beetle
<i>Pityogenes chalcographus</i> (Linnaeus)		Six-toothed spruce engraver
<i>Sirex noctilio</i> (Fabricius)		European wood wasp (Sirex)
<i>Tetropium castaneum</i> Linnaeus		Black spruce longhorned beetle
<i>Tetropium fuscum</i> (Fabricius)		Brown spruce longhorned beetle
<i>Tomicus minor</i> (Hartig)		Lesser pine shoot beetle
<i>Tomicus piniperda</i> (Linnaeus)		Common pine shoot beetle
<i>Trypodendron domesticum</i> (Linnaeus)		European hardwood ambrosia beetle
<i>Xyleborus</i> spp.		Exotic bark beetles
<i>Xylotrechus</i> spp.		Exotic longhorned beetles
<i>Agrilus planipennis</i> Fairmaire		Emerald ash borer IDNR survey.

Achatina fulica (Bowditch) Giant African Land Snail Outreach and Education. Only preliminary plans have been made to coordinate distribution of outreach material to Cooperative Extension area educators and to statewide high school science teachers.

NAPIS DATA ENTRY

Date of Search: 07/11/08
 Time of Search: 09:02 AM EST
 Date Range: 01-01-2008 thru 06-30-2008
 State: INDIANA
 Sort Order: Pest Scientific Name

* For nursery records, plant counts may have been recorded in lieu of sites.

Target Pest	Counties	Positive
Emerald Ash Borer (EAB) VISUAL Agrilus planipennis EMERALD ASH BORER SURVEY	9	67
Bark Beetle TRAP Hylurgops rugipennis pinifex TRAP; LINDGREN	1	1
Pine Shoot Beetle (Psb) TRAP Tomicus piniperda TRAP; LINDGREN	1	1
Scolytid Beetle TRAP Xyleborus atratus TRAP; LINDGREN	8	8
Ambrosia Beetle TRAP Xyleborus pelliculosus TRAP; LINDGREN	7	8

Minutes for Preliminary progress and planning meeting of CAPS 8 April 2008

Objectives:

1. Discuss/determine logistics for 2008 surveys

Summary

- a. Giant African Land Snail
Combine with ENTM outreach effort (May not retain for 2009)
 - b. Risk-Based Survey=Hot Zone
Trap locations determined/not established. Waiting on lure/ warmer conditions. May SSC may only process samples for PPQ and not actively trap in 09'
 - c. Old World Bollworm
Will actively trap in 08 using pheromone traps (not blacklight traps). Trapping questionable for 09
 - d. Sudden Oak Death
Gail/PPDL will continue for 08 and 09
2. Discuss additional survey activity for 2008.
 - a. Emerald ash borer
IDNR only
 - b. Potato Cyst Nematode
Jamal Faghihi will survey in 08/need proposal to G. Simon asap.
 - c. Light Brown Apple Moth
Fifty traps provided by PPQ/Simon. Who submits proposal/who surveys, IDNR or PU?
 - d. Scarabs
Doug Richmond may survey for oriental beetle
 3. Discuss time line for developing 2009 activities/budget following publication of CAPS National Guidelines in mid April.
 4. Other?

Minutes of 30 April meeting

Tier 1 funding Infrastructure \$100K

Suggested that infrastructure budget remain similar to 08.
2008 core budget is \$79,963.00

Tier 2 funding up to \$50K – Potential projects

A. Specimen ID (labor and supplies)

1. PERC \$15K? suggest \$6,720 (14 wks 1.0 fte summer+14 weeks 0.5 fte winter)
2. PDDL \$5K?

B. Data mgt – CAPS database \$5-20K?

(integrate data from CAPS, INDR, PERC, Holland/Brown, NPDN)
suggest \$10K for programming

C. Digitize collection

1. Indiana species
2. Species of regulatory interest
3. Hardwood forest species
4. CAPS collaboration species

suggest \$6,720 (14 wks 1.0 fte summer+14 weeks 0.5 fte winter)

D. Outreach \$?

1. Industry - shippers/receivers (high risk sites)
2. Transportation industry – haulers
3. K-12

Surveys - 2008 = \$30K

Pests of national concern 75% of 08 budget = \$22.5K

Pests of state concern 25% of 08 budget = \$7.5K

Potential surveys for 2009

1. It was suggested that SSC drop the few RBS/EBB traps that he samples and concentrate on sample processing, identification, and curation.
2. Continue old world bollworm (LWB)
3. Continue sudden oak death (Gail)
4. Continue giant African land snail (LWB)
5. Add oak slender beetle? (LWB) \$?
6. Add *Xylella fastidiosa* (Pierce's Disease/Bacterial Leaf Scorch) / glassy winged sharpshooter (Gail/Cliff) \$?
7. Honey bee colony collapse disorder (who?) \$?

Miscellaneous:

1. Add Light Brown Apple Moth to 2008 survey (50 traps) – Traps from G. Simon?
2. Add Potato Cyst Nematode to 2008 survey (Jamal Fagihi)
3. Add committee member from industry (forest?, field crops?, horticultural?)

Minutes of 15 May 2008 meeting

I. INFRASTRUCTURE-Tier 1 \$79,963

Infrastructure budget will remain similar to 08 (level funding).

I. INFRASTRUCTURE-Tier 2 up to \$39,981.5 – Potential additional infrastructure projects

A. Specimen ID (labor and supplies)

1. CAPS RBS/EBB; SSC will drop his six RBS/EBB sites and concentrate on sample processing, identification, and archiving. 10K
2. PPDL \$5K? (Tom Gail)

B. Data mgt – CAPS database \$5-20K?

(integrate data from CAPS, INDR, PERC, Holland/Brown, NPDN)
\$10K for programming development/data entry

C. Digitize information only collection PERC

1. Indiana species
2. Species of regulatory interest
3. Hardwood forest species
4. CAPS collaboration species

8K (16 wks 1.0 fte summer+14 weeks 0.5 fte winter)

II-National Surveys 09 – 2008 Surveys = \$30K 75% = \$22.5K

1. Sudden oak death (TC/GR) 11.5K?
2. Oak splendour beetle? (LWB?) \$3K
3. *Candidatus Phytoplasma* on grape and environs \$13.5 (TC/GR)
4. Old world bollworm (LWB) 1K Elwood, SWPAC, PPAC,

III-State Surveys 25% = \$7.5K

1. drop GALS if needed to supply more funds to oak splendour beetle

Miscellaneous:

1. 2008 Supplemental surveys
 - a. Light Brown Apple Moth (50 traps from GS)
 - b. Potato Cyst Nematode (Jamal Faghih)
2. Add committee member from industry (forest?, field crops?, horticultural?)
3. Honey bee colony collapse disorder 2010
4. Potential funds provided by APHIS for Taxonomic support (labor, wages, supplies) 10K.
5. Need draft(s) by mid June