

## CAPS Work Plan for Calendar Year 2008

<b>Cooperator:</b>	<b>Illinois Natural History Survey</b>		
<b>State:</b>	<b>Illinois</b>		
<b>Project:</b>	<b>Part II Workplan - National Exotic Woodboring/Bark Beetle Survey and Sirex Noctilio Survey</b>		
<b>Project Coordinator:</b>	<b>Kelly Cook</b>		
<b>Contact Information:</b>	<b>Address:</b>	<b>1816 S. Oak St. Champaign, IL 61820</b>	
	<b>Phone:</b>	<b>217-333-1005</b>	<b>Fax: 217-265-5110</b>
	<b>Email Address:</b>	<b>kcook8@uiuc.edu</b>	

### I) OBJECTIVES AND NEED FOR ASSISTANCE

Illinois has a history of accidental introduction and establishment of insect pests associated with solid wood packing material (SWPM). Pine shoot beetle was detected in the state in 1992 and now infests a large portion of the northern half of the state. Asian longhorned beetle was detected in several locations in the Chicago metropolitan area in 1998, which resulted in the loss of nearly 2000 trees and cost millions in survey and eradication efforts. Banded elm bark beetle showed up in 2003, the emerald ash borer is well established throughout neighboring Michigan and Indiana and was found in Illinois in June 2006. Clearly, owing to its central location, the Port of Chicago, O'Hare International Airport, and the presence of large and ever-increasing intermodal centers associated with the rail system, Illinois is poised for even more such introductions. The cost to the state's urban and natural forest resources from such invasions is difficult to accurately assess, but it is certain, based on our experience with Asian longhorned beetle, that tens of millions of dollars in survey and eradication costs, tree removal, and restoration efforts are the likely result.

Our objective is to continue our survey activities at locations that are at high risk for the accidental importation/introduction of non-native woodborers and bark beetles as well as the Sirex woodwasp. We will work in conjunction with APHIS-PPQ to identify and survey sites that receive dunnage or other SWPM, including importer warehouses and businesses that receive bulk cargoes such as steel, marble, cast iron products, heavy machinery, and wooden spools. In particular, several large intermodal centers in the Joliet area (Will County) and Rochelle (Ogle County) are recipients of containers arriving via rail from the Port of Long Beach. Other high-risk sites such as SWPM storage and disposal areas and green waste recyclers, landfills, firewood dealers, and sawmills will also be assessed for inclusion in this survey.

A well-trained seasonal employee will be required for up to 16 weeks of field work (during peak bark beetle and woodborer trapping season, May through August) to assist in this extensive survey effort. Trap collections and maintenance will require considerable mileage and overnight travel. Vehicle operation, lodging, and per diem costs for associated travel are also requested.

## II) RESULTS OR BENEFITS EXPECTED

**The Cooperator seeks to conduct a cooperative agricultural pest survey program which is expected to result in:**

APHIS has identified SWPM as a high-risk pathway for the introduction of woodborers and bark beetles and has been increasing survey and detection efforts for these pests. The Cooperator seeks to conduct a cooperative agricultural pest survey program aimed at the early detection of a complex of bark beetles and other woodboring insects associated with SWPM of foreign origin. Surveys conducted within the Illinois CAPS program will assist USDA-APHIS-PPQ in expanding its efforts to detect exotic woodborers and bark beetles associated with SWPM that threaten the nation's urban and native forest ecosystems. The Illinois CAPS program's survey for exotic bark beetles has been effective. For instance, in 2003 we detected *Scolytus schevyrewi* for the first time in Illinois within months of its first reported occurrence in the U.S. In 2004, we detected *S. schevyrewi* in five new counties and preliminary results of the 2005 survey season suggest its presence in four additional counties in northeastern Illinois. The new find of emerald ash borer in Illinois clearly justifies the need for this ongoing high-level of surveillance. We continue to distribute a large amount of educational materials to participants and are deeply involved in a readiness and public awareness program for emerald ash borer. Continued and increasing involvement by the Illinois CAPS program in the National Exotic Woodboring/Bark Beetle Survey effort will help ensure the earliest possible detection of new introductions of this complex of pests. All survey data generated from this effort will be entered into the NAPIS database according to NAPIS reporting requirements outlined in the 2008 Eastern Region CAPS Guidelines (see Section V).

## III) APPROACH

We propose to conduct a Lindgren funnel survey for exotic bark beetles and other woodborers identified by the National CAPS Committee as high-risk for accidental introduction. The National Exotic Woodborer/Bark Beetle Survey clearly outlines target locations and pests and provides detailed survey protocols for the conduct of this activity. Target pests selected by the CAPS committee for the National Exotic Woodborer/Bark Beetle Survey include: *Agrilus planipennis*, *Anoplophora glabripennis* (Motschulsky), *Callidiellum rufipenne* (Motschulsky), *Chlorophorus annularis* Fabricius, *Dendrolimus sibiricus* Tschetverikov, *Hesperophanes (Trichoferus) campestris* (Faldermann), *Hylurgops (Hylurgus) palliatus* Gyllenhal, *Hylurgus ligniperda* (Fabricius), *Ips sexdentatus* (Boerner), *Ips typographus* (Linnaeus), *Monochamus alternatus* Hope, *Orthotomicus erosus* (Wollaston), *Pityogenes chalcographus* (Linnaeus), *Tetropium castaneum* Linnaeus, *Tetropium fuscum* (Fabricius), *Tomicus minor* (Hartig), *Tomicus piniperda* (Linnaeus), *Trypodendron domesticum* (Linnaeus), *Xyleborus* spp., *Xylotrechus* spp.

We also propose to conduct a Lindgren funnel survey for *Sirex noctilio*. Sites will be selected based on guidelines from the Exotic Wood Borer Bark Beetle field manual and *S. noctilio* trapping protocols. Each Lindgren funnel trap will have a lure consisting of (75% + enantiomer)-alpha-pinene (70%) and beta-pinene (30%) as suggested. Traps will be placed in mid-April and serviced bi-weekly until mid-September. Traps will be placed at locations designated for the Exotic Wood Borer Bark Beetle Survey.

**A) The Cooperator and APHIS mutually agree to/that:**

- i) Maintain a State Cooperative Agricultural Pest Survey Committee that will meet at least once a year to discuss fostering the goals of CAPS.
- ii) Work together in carrying out field surveys, trapping, and data collection, setting emphasis on pest/diseases particularly identified (**see attached list**), that may pose an immediate risk to the agriculture of this state and the United States.
- iii) Have representation at National and/or Regional **annual** planning meetings.
- iv) Utilize Cooperator and APHIS program funding, as outlined in the Financial Plan, within the authorized parameters to support survey and detection activities. In addition, specific appropriated funding in the level authorized by the PPQ Eastern Region, will be dedicated to the delivery of CAPS objectives listed above.

**B) The Cooperator will:**

Provide a State Survey Coordinator responsible for coordinating and completing all activities outlined in this Part II CAPS Work Plan. The SSC will coordinate survey activities and ensure data entry, management, and quality. The SSC will act as liaison with the State PPQ Office (including the SPHD and PSS) and Illinois Department of Agriculture, the University of Illinois, and other cooperators in the development of exotic pest surveys and management plans. More specifically, the Cooperator will:

1. Coordinate the placement of 100 Lindgren funnel traps at high-risk SWPM sites according to survey guidelines and protocols for exotic bark beetle and woodborer survey. At a minimum, a grouping of three Lindgren funnel traps will be placed at each location utilizing three different lures (Phero-Tech exotic bark beetle lure, alpha-pinene, and high-release ethanol). Because of their size or type of operation, some locations may receive more than a single grouping of traps. Traps will be fitted with dry collection baskets and vapoona killing strips and will be checked and serviced biweekly for the duration of the survey, which is expected to begin in mid to late March and be completed by mid-September.
2. Coordinate the placement of 24-40 Lindgren funnel traps at high-risk SWPM sites or host sites according to survey guidelines and protocols for *Sirex noctilio*. Traps will be fitted with wet collection baskets, *Sirex noctilio* lure, and will be checked and serviced bi-weekly for the duration of the survey which is expected to begin in mid to late March and be completed by mid-September.
3. Hire and supervise seasonal employees for assistance in survey activities and the development of outreach and educational materials.
4. Train seasonal employees to identify ash trees and to differentiate symptoms of ash yellows and ash decline from damage caused by the emerald ash borer. As a result, trap tenders will also conduct visual surveys for emerald ash borer during the course of trap servicing and collection.
5. The Illinois SSC will be responsible for pre-screening all trap collections for

target species. Suspect specimens will be submitted along with PPQ Form 391 to the Chicago Area Identifier.

6. A reference collection of relevant non-target specimens collected in the course of this survey will be compiled by the SSC and maintained in the collection of the Illinois Natural History Survey.
7. Be responsible for purchasing new equipment and supplies related to pest survey and education activities.
8. Ensure that all documents, forms, and reports are processed and filed according to schedule.

i) Provide the following resources:

**(1) List types of personnel and what they will be doing.**

The Illinois SSC will coordinate survey activities and hire one or two part-time seasonal employees to assist in the SWPM survey, all employed by the Illinois Natural History Survey.

**(2) Type of equipment provided by Cooperator for personnel**

(a) Identify major equipment needs:

Equipment provided by Cooperator for personnel: Microscopes for screening specimens, field and survey tools.

(b) Use of the equipment purchased:

Equipment will be used for general survey practices, screening and preserving target specimen.

(c) Purchased with APHIS funds?

Not anticipating purchase of new equipment (over \$5,000)

(d) Method of procurement:

(e) Method of disposition:

**(3) Provide office space at the Illinois Natural History Survey, 1816 S. Oak St. Champaign, IL , with associated services and utilities, computers and other office equipment to for the use of Cooperator personnel in entering survey data into the NAPIS database**

**(4) Vehicles for Cooperator personnel in conducting field surveys and collecting data. The Cooperator will provide for all operational costs of the vehicles.**

**(5) Supplies**

(a) **Trapping supplies for field surveys:**

Consumable office supplies include copying costs, diskettes, printer and copier paper, ink cartridges, batteries, and other miscellaneous renewable materials and supplies (including shipping containers) will be provided by cooperator. Trapping supplies include: lures, vapona killing agents, replacement traps and trap stands, antifreeze, specimen collecting containers, alcohol, pins and storage boxes will be purchased as needed.

(b) Special Supplies:

--

(c) Method of procurement

Trapping supplies such as pheromones will be obtained through USDA or from approved retailer.
---

**ii) Contracts:**

(a) Who will handle contractual needs:

--

(b) Cooperator Procurement activities shall be in accordance with A-102 and A-110.

(c) Special requirements – rate of spray, kill rate, special features etc.

--

**iii) Reports:**

**Submit all reports to the APHIS Authorized Department Officer's Designated Representative (ADODR). Reports include:**

(a) Narrative accomplishment reports (**Accomplishment Report – Appendix H of the ER CAPS Guide**) in the frequency and time frame specified in the Notice of Award, Article 4.

(b) Financial Status Reports, SF-269, in the frequency and time frame specified in the Notice of Award, Article 4.

**iv) Adhere to APHIS ADP security guidelines as referenced in the Notice of Award when entering pest survey data and transmitting it to NAPIS.**

**C) APHIS will:**

<ol style="list-style-type: none"><li>1. The ADODR will track the Cooperative Agreement to ensure that all survey data are entered into NAPIS by the completion date of the Cooperative Agreement, or date agreed upon in the work plan.</li><li>2. Provide the following resources:<ol style="list-style-type: none"><li>i. A SPHD and PSS who will provide guidance and assist in the determination and prioritization of survey sites for inclusion in the SWPM survey for exotic woodborers and bark beetles. PPQ Regional identifiers will assist with confirmation of suspected target pest identifications.</li><li>ii. Federal equipment for its personnel.</li><li>iii. Funds to the Cooperator to cover costs outlined in the Financial Plan. In addition, specific appropriated funding, in the level authorized by the APHIS Eastern Region, will be dedicated to the delivery of CAPS objectives listed above.</li></ol></li></ol>
---

**D) OTHER PARTIES WHO WILL WORK ON THE PROJECT:**

**i) List Participating Agency/Institution:**

USDA-APHIS-PPQ (including AQI) Illinois Natural History Survey
---

Illinois Department of Agriculture  
Illinois Department of Natural Resources  
University of Illinois Department of Crop Sciences  
University of Illinois Department of Natural Resources and  
Environmental Sciences  
University of Illinois Plant Clinic  
University of Illinois Extension  
U.S. Forest Service  
U.S. Customs and Borders Protection

**ii) List all who will work on the project:**

Kelly Cook, INHS  
Greg Rentschler, USDA-APHIS-PPQ  
Laura Ettema-Khan, USDA-APHIS\_PPQ  
Jeffrey Davidson, USDA-APHIS-PPQ  
Steve Knight, USDA-APHIS-PPQ  
Jeff Coath, USDA-APHIS-PPQ  
Mark Cinnamon, IDA  
Warren Goetch, IDA

**iii) Describe the nature of their effort:**

The above mentioned individuals will provide guidance and assistance with site selection. The nature of their efforts will range from providing information to running traps and screening insects.

**iv) Contribution:**

Kelly Cook - assist with site selection, coordinate survey efforts, manage traps, screen insects  
Greg Rentschler - provide information, assist with site selection, manage traps, screen insects  
Laura Ettema-Khan - provide information, assist with site selection  
Jeffrey Davidson - provide information, assist with site selection, manage traps, screen insects  
Steve Knight - provide information and guidance  
Jeff Coath - provide information and guidance  
Mark Cinnamon - provide information and guidance  
Warren Goetch - provide information and guidance

#### IV) Quantitative Projection of Accomplishments to be Achieved:

- A. The Illinois SSC, SPHD, and PSS will identify potential survey sites during January 2008.
- B. Mailings and phone calls to potential cooperators concurrent with activities above and completed during February 2008.
- C. Begin site visits and personal meetings with potential cooperators February and March 2008.
- D. Trap placement beginning in March 2008; depending on spring weather conditions completed by mid-April 2008.
- E. SSC will train assistant in identification skills necessary to pre-screen organisms collected in exotic pest surveys.
- F. Institute bi-weekly trap collection circuit upon field placement of traps.
- G. Continue trap collection, lure and vapona replacement according to national survey protocols.
- H. Forward suspect specimens with PPQ Form 391 to area identifier as needed.
- I. Complete survey and remove traps, September 2008.
- J. Summarize results for report to cooperators October 15 - November 1, 2008.
- K. Illinois SSC will compile negative summary records for submission to NAPIS database at completion of survey. Data entry for positive record of target pest within 48 hours of confirmation.
- L. Final report to National Plant Board, December 2008.
- M. Final written report to Eastern Region, April 2009.

#### V) DATA COLLECTION AND MAINTENANCE

**A) SSC Cook will coordinate NAPIS data entry for the state of Illinois. Individuals completing surveys within the state of Illinois will submit data for entry to SSC Cook. All guidelines below will be followed.**

- i) All survey data from cooperative agreements involving pest surveys will be entered into the NAPIS database.
  - (1) First record for the State and/or County will be entered within **48 hours** of confirmation of identification by a qualified identifier.
  - (2) All other required records, both positive and negative survey data, must be entered **within two weeks** of confirmation.
  - (3) All records are to be entered into the NAPIS database by **December 1** of the year of survey, so these data can be included in the yearly Plant Board Report.
- ii) All appropriate PPQ data will be entered into NAPIS.
- iii) All appropriate data obtained by the CSREES network will be entered into NAPIS.
- iv) Exotic pest survey data from other sources (such as U.S. Forest Service, State Departments of Agriculture, and other qualified survey programs) will be entered into NAPIS as part of the Core project.

**B) The kind of data to be collected:**

Information will be collected bi-weekly at each site. Data collected will be used to complete all NAPIS entry requirements including, but not limited to date, location, pest, positive or negative pest status, trap type, and duration of trap.

**C) The data to be maintained in:**

SSC Cook maintains written records as well as electronic records in excel. PPQ officers maintain data in ISIS.

**D) Criteria to evaluate the results and successes of the project:**

- i) Pest detection surveys, outreach, and other Core project activities, are completed in the manner and time frame outlined in Section III.
- ii) All data collected from the pest detection surveys is entered into the NAPIS database in the timeframes outlined in Section V.
- iii) Maps of the pest detection survey activities are produced to aid in planning of future pest detection surveys, pathway risk analysis, and outreach activities.

**E) Methodology used to determine if the results and benefits are achieved:**

- i) Review the NAPIS database to ensure that data from the pest detection activities has been entered.
- ii) Review the accomplishment reports, supporting outreach materials (if applicable), and maps.

## **VI) GEOGRAPHIC LOCATION OF PROJECT**

**Surveys will be conducted in the counties of Cook, Lake, Will, Peoria, Tazewell, as well as targeted counties in southern Illinois to be determined at a later date. Data will be provided to the Cooperator's State Regulatory Official (SPRO) for entry into the database.**

**A) Type of terrain:**

SWPM locations, intermodal distribution centers, parks, green waste locations, firewood dealers – natural areas, woodland, industrial areas

**B) Features which may have an impact on the project or activity:**

high risk sites for accidental introduction of targeted pests accompanying SWPM

## **VII) TAXONOMIC SUPPORT**

**A) Person or Institution that will screen targets (Name & Contact Information):**

Kelly Cook, Illinois Natural History Survey (SSC)  
Larry Hanks, University of Illinois – longhorned beetles  
Phil Nixon, University of Illinois – insects of woody ornamentals  
James Appleby, University of Illinois – forest insects  
Ramona Ivashchenko, Bill Winnie, PPQ Regional Identifiers – confirmation of target pests

**B) CAPS Survey Collection Details: (Total Number of Trap Collections= Number of Sites X Number of Traps X Total Number of Visits)**

<b>Target Species</b>	<b>Survey Dates (Starting-Ending)</b>	<b>Number of Sites</b>	<b>Number of Traps/Visual surveys</b>	<b>Total Number of Collections</b>
<i>Sirex noctilio</i>	Late March – September	25-40	1/site	300
<i>Agrilus planipennis</i> <i>Anoplophora glabripennis</i> <i>Callidiellum rufipenne</i> <i>Chlorophorus annularis</i> <i>Dendrolimus sibiricus</i> <i>Hesperophanes</i> <i>(Trichoferus) campestris</i> <i>Hylurgops (Hylurgus) palliates</i> <i>Hylurgus ligniperda</i> <i>Ips sexdentatus</i> <i>Ips typographus</i> <i>Monochamus alternatus</i> <i>Orthotomicus erosus</i> <i>Pityogenes halcographus</i> <i>Tetropium castaneum</i> <i>Tetropium fuscum</i> <i>Tomicus minor</i> <i>Tomicus piniperda</i> <i>Trypodendron domesticum</i> <i>Xyleborus spp</i> <i>Xylotrechus spp</i>	Late March – September	25-40	At least 3/site	900 - 1680