

## COOPERATIVE AGRICULTURAL PEST SURVEY – Annual Report

YEAR Calendar Year 2005

STATE Illinois

AGENCY Illinois Natural History Survey (Illinois Department of Natural Resources) and Board of Trustees of the University of Illinois

INTRODUCTION: This annual report outlines exotic pest detection activities conducted according to guidelines issued by the Eastern Region Cooperative Agricultural Pest Survey from January 1, 2005 through December 31, 2005. The document format will basically follow the outline provided in Appendix H - Annual Report Form. The approved Illinois Calendar Year 2005 CAPS Work Plan consisted of a core program that outlined specific state activities including target pest surveys and maintenance of the CAPS network. Part II of the 2005 program focused on exotic woodborer/bark beetle surveys at high-risk sites in Illinois as part of the National Exotic Woodboring/Bark Beetle Survey. The original workplan was revised on June 29, 2005 to reflect an additional \$25,000 award for the Soybean Rust Early Detection Project. Results of these funded surveys and other survey activities not requiring support are included in this report.

### I. Core Level Funding Activities

A. State Survey Coordinator: Name: Charles Helm

Agency: Illinois Natural History Survey

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B. Member name, if applicable, of National CAPS Committee: N/A

C. State CAPS Committee Narrative:

The Committee is composed of individuals from USDA/APHIS/PPQ, Illinois Natural History Survey, University of Illinois (including plant pathology and the UI Plant Clinic), and the Illinois Department of Agriculture. Some significant changes occurred during 2005; namely, the retirement of ADP Brewer in February 2005 and SSC Helm on June 30, 2005. Also, former Committee Chair Rob Wiedenmann resigned to take a position as Chair of the Department of Entomology, University of Arkansas-Fayetteville. Both ADP Brewer and SSC Helm have been acting in interim roles to ensure continuity of the Illinois program while a search for a new SSC is completed. The State Survey Committee is currently structured as follows:

State Survey Committee Members:

Name	Organization	Discipline
Charles Helm, acting SSC	INHS-CEE	Entomology
Leellen Solter, acting, Chair	INHS-CEE	Entomology
Stephen Knight, SPHD	USDA-APHIS-PPQ	Federal Regulatory
Jeffrey Coath, PSS	USDA-APHIS-PPQ	Federal Regulatory
Mark Cinnamon, SPRO	IDOA	State Regulatory
Warren Goetsch	IDOA	State Regulatory
Scott Frank	IDOA	State Regulatory
Ellen Brewer, acting ADP	INHS-CEE	Data Processing
Nancy Pataky	U of I, Plant Clinic	Plant Pathology

SSC -- State Survey Coordinator

INHS-CEE -- Illinois Natural History Survey, Center for Economic Entomology

USDA-APHIS-PPQ -- United States Department of Agriculture, Animal Plant Health Inspection Service, Plant Protection and Quarantine

SPHD -- State Plant Health Director

PSS -- Pest Survey Specialist

SPRO -- State Plant Regulatory Official

IDOA -- Illinois Department of Agriculture

ADP -- Automated Data Processor

U of I -- University of Illinois

State CAPS Committee Meetings

1. CAPS Planning Committee Meeting, Champaign, IL, January 7, 2005. Illinois SPHD Knight, SSC Helm, Committee Chair Wiedenmann, Domestic Officer Laura Khan, UI Plant Clinic Director Pataky, and IDOA representatives Warren Goetsch and Mark Cinnamon met in Champaign, IL to discuss the transition of the CAPS program administration into the Illinois Department of Agriculture. SPHD Knight offered perspective on the APHIS/Cooperator interface and novel approaches to engaging the entire state in the business of exotic pest detection. Further issues addressed included: the pending retirement of SSC Helm, the departure of Chair Wiedenmann, the roles of IDOA and INHS in the “new” CAPS program, increased involvement of the UI Plant Clinic in CAPS survey activities, the role of the PSS in CAPS, and the re-invigoration of the State CAPS Committee in light of all the changes in personnel and administration in 2005.

2. CAPS Cooperative agreement training session, Springfield, IL, May 5, 2005. USDA-APHIS-PPQ Agreements Specialist Margaret Crabtree and Grants Specialist Linda Schepers offered a full-day training session on Cooperative Agreements to SPHD Knight, SSC Helm and IDOA representatives Cinnamon, Goetsch, and Frank. All aspects of Cooperative Agreement development, reporting, and financial statements were addressed during this session in order to help in the transition of administrative responsibility to the Illinois Department of Agriculture.

3. Pest Survey Specialist interviews, Des Plaines, IL, May 24, 2005. SSC Helm met in the office of SPHD Knight to interview candidates for the Illinois PSS position.

4. CAPS Planning Meeting, Springfield, IL, June 16, 2005. Illinois SSC Helm and acting Committee Chair Solter traveled to Springfield, IL for discussions with IDOA representatives Goetsch, Cinnamon, and Frank regarding workplan development and processing of related documents for the 2006 Illinois CAPS program. SSC Helm agreed to continue in an acting role as SSC in order to ensure completion of the 2005 agreement, including final reporting, and development of documents for the 2006 work plan. IDOA, as the state plant regulatory agency, will be the lead state agency in all Pest Detection Survey Projects described in the 2006 work plan. It was agreed that through an intergovernmental agreement, the Illinois Natural History Survey will coordinate and conduct the survey activities.

### CAPS National Meeting

Illinois SPHD Knight and IDOA representatives Cinnamon and Frank participated in the CAPS National Meeting in Nashville, TN, December 5-9, 2005.

### CAPS Networking, Training, and Related Activities

1. Exotic bark beetle training session, CenterPoint Distribution Center, BNSF rail yard, Elwood, IL, 4/27/05. SSC Helm met with PPQ officers Rick Gammons, Scott Saiki, and Jeff Davidson to demonstrate exotic bark beetle trapping strategies.
2. CAPS Cooperative agreement training session, Springfield, IL, May 5, 2005. (see CAPS Committee Meeting above)
3. Pest Survey Specialist interviews, Des Plaines, IL, May 24, 2005. SSC Helm met in the office of SPHD Knight to interview candidates for the Illinois PSS position.

### Publications

1. Appleby, J.E., P. Nixon, C. Helm, S. Knight, M. Cinnamon, and E. Makra. Firewood Warning poster for emerald ash borer awareness.

### TV, Radio, News Releases

1. 1/10/05 – Interview with Alma Gaul, Quad-City Times, “ Exotic, invasive plants in Illinois” (SSC Helm)
2. 1/30/05 – Interview with Chris Young, Springfield Journal-Register, “Emerald ash borer threat in Illinois” (SSC Helm)
3. 1/31/05 – Interview with Gary Scott, WLDS radio Jacksonville “ Emerald ash borer threat in Illinois” (SSC Helm)
4. 4/29/05 – University of Illinois News Bureau release, Jim Barlow, “Scientists issue warning about dangers beetle poses to Illinois ash trees” (J. Appleby and SSC Helm)

5. 5/6/05 – Interview with Jonathan Bilyk, Ottawa Daily Times, “Emerald ash borer threat in Illinois” (SSC Helm)

D. NAPIS Database Submissions:

Cooperative Agricultural Pest Survey - NAPIS Summary Report - ILLINOIS

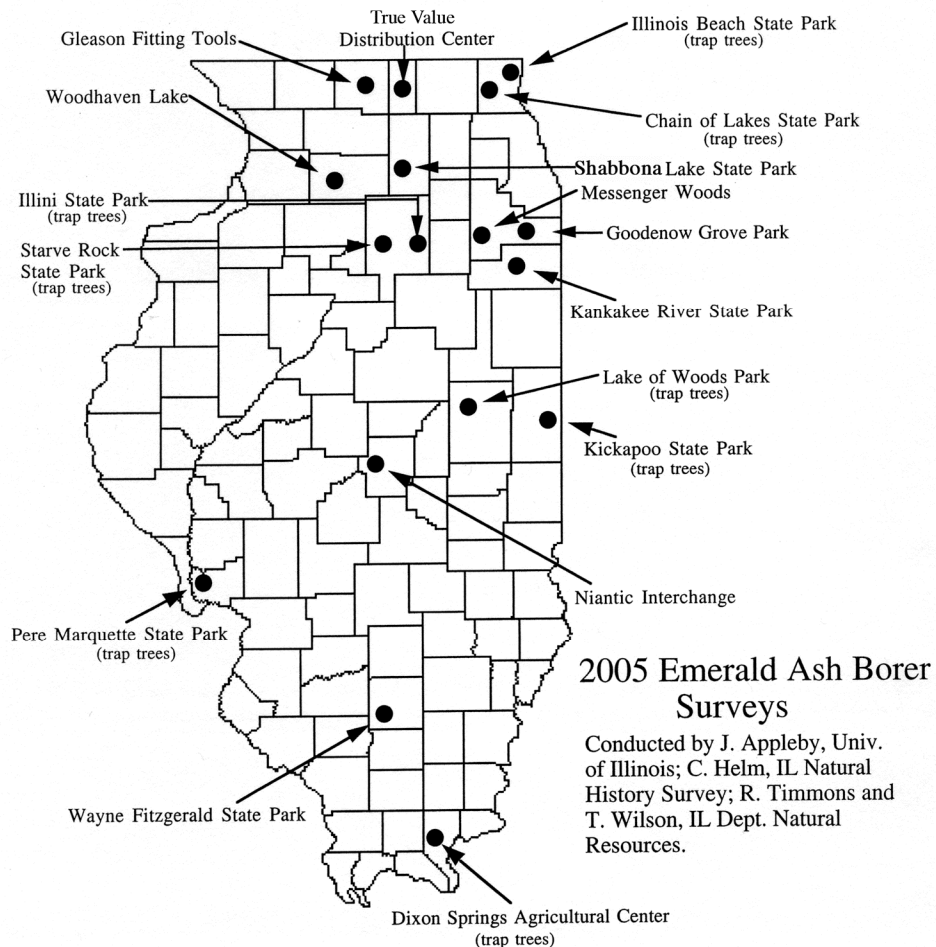
Target Pest		
Common Name	Scientific Name	Process Date
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Emerald ash borer	<i>Agrilus planipennis</i>	20060221
Asian longhorned beetle	<i>Anoplophora chinensis</i>	20060221
A longhorned beetle	<i>Anoplophora glabripennis</i>	20060221
Japanese cedar longhorned beetle	<i>Callidiellum rufipenne</i>	20060221
Bamboo longhorned beetle	<i>Chlorophorus annularis</i>	20060221
Longhorned beetle	<i>Hesperophanes campestris</i>	20060221
A bark beetle	<i>Hylurgops palliatus</i>	20060221
Red-haired pine bark beetle	<i>Hylurgus ligniperda</i>	20060221
Sixtoothed bark beetle	<i>Ips sexdentatus</i>	20060221
Spruce bark beetle	<i>Ips typographus</i>	20060221
Gypsy moth	<i>Lymantria dispar</i>	20050831
		20060206
		20060222
A sawyer beetle	<i>Monochamus alternatus</i>	20060221
Cereal leaf beetle	<i>Oulema melanopus</i>	20050613
		20060201
Sudden oak death	<i>Phytophthora ramorum</i>	20050125
		20060303
Sixtoothed spruce bark beetle	<i>Pityogenes chalcographus</i>	20060221
Japanese beetle	<i>Popillia japonica</i>	20051004
		20060206
Banded elm bark beetle	<i>Scolytus schevyrewi</i>	20060221
Steel-blue wood wasp	<i>Sirex noctilio</i>	20060221
A longhorned beetle	<i>Tetropium castaneum</i>	20060221
Brown spruce longhorned beetle	<i>Tetropium fuscum</i>	20060221
Karnal bunt	<i>Tilletia indica</i>	20050705
Lesser pine shoot beetle	<i>Tomicus minor</i>	20060221
Pine shoot beetle	<i>Tomicus piniperda</i>	20050511
		20050701
		20060129
		20060221
Khapra beetle	<i>Trogoderma granarium</i>	20060221
An exotic bark beetle	<i>Trypodendron domesticum</i>	20060221
A scolytid beetle	<i>Xyleborus</i> spp.	20060221
A longhorned beetle	<i>Xylotrechus</i> spp.	20060221

## II. CAPS Survey Activities

### Core CAPS Pest Surveys

1. Emerald ash borer: A committee chaired by the Morton Arboretum continues to ensure state readiness and public awareness of the threat of emerald ash borer. The recent discovery of emerald ash borer in new locations in Indiana has heightened our concerns for the likely detection of emerald ash borer in Illinois. Dr. Jim Appleby, UI Dept. of Natural Resources and Environmental Sciences, coordinated visual tree and firewood surveys in 14 Illinois counties during 2005 (Figure1).

Figure 1. Emerald ash borer survey sites, Illinois 2005.



These survey sites included stands of ash previously identified as under stress from ash yellows disease and state or private forests with accompanying campgrounds. Following USFS guidelines, we also included trap tree surveys at 8 separate locations in 6 of these counties in conjunction with our visual survey efforts (Figure 1). Tom Wilson and Randy Timmons, Illinois Department of Natural Resources, provided valuable assistance in this

portion of the survey. We did not detect emerald ash borer at any survey site during 2005; likewise, all trap tree dissections were negative.

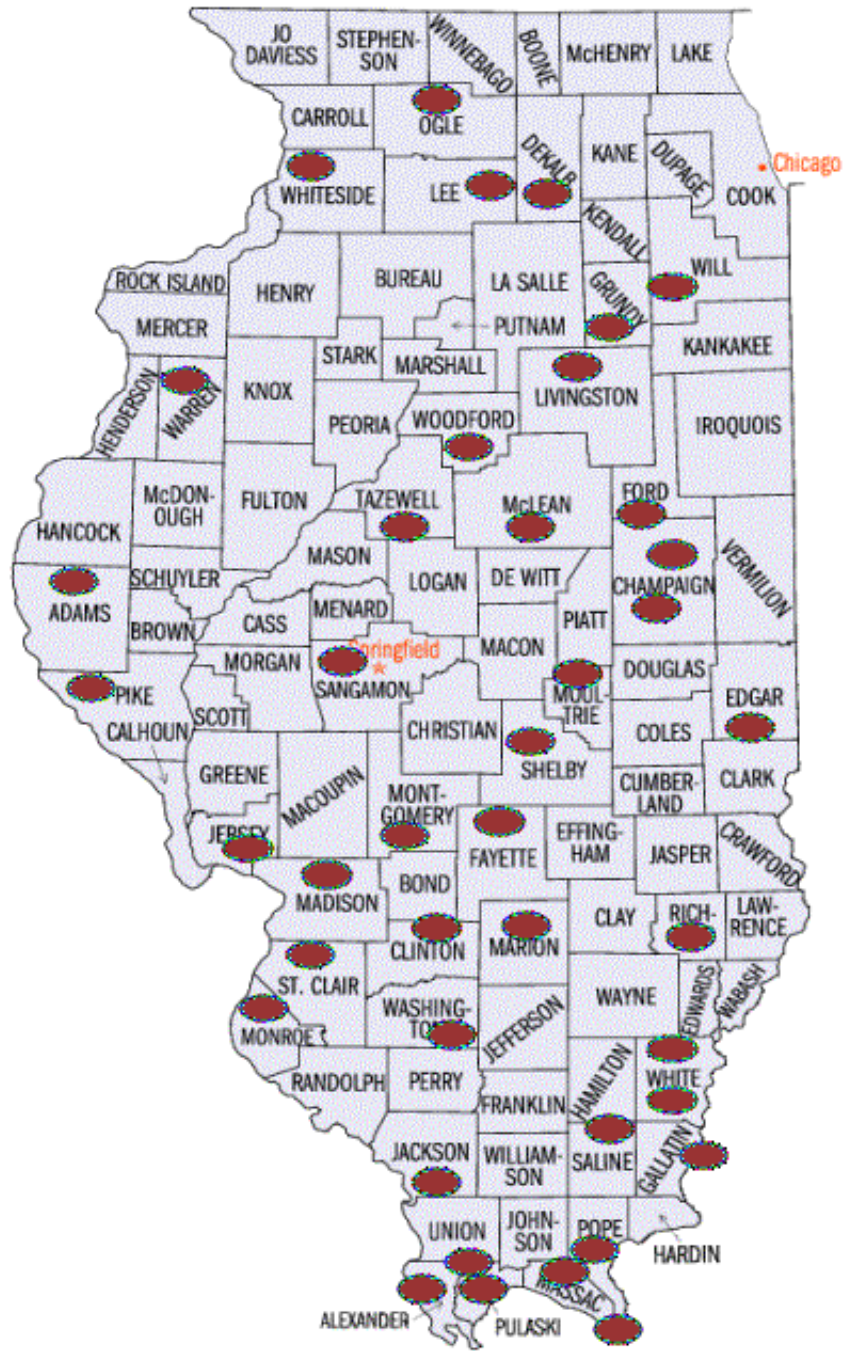
The Morton Arboretum also cooperated with USDA-APHIS-PPQ and the US Forest Service to detect the possible presence of the emerald ash borer in northeastern Illinois. This broad, comprehensive survey is underway to find the borer as early as possible to minimize tree loss. Sites selected for survey include: firewood wholesalers, retailers, and distributors; commercial developments with new plantings of ash; logistics centers; shipping container distribution facilities; commercial wood product and utilization firms; high use recreational and campground sites; and forest preserves and state and local parks. Also included is an outreach component to educate individuals and industries on the importance, proper identification, and detection of emerald ash borer while stressing the hazards and consequences of transportation and importation of ash firewood and other wood products from infested areas of Michigan, Ohio and Indiana into Illinois. It is expected that annual surveying will be necessary given the proximity of existing EAB infestations in Michigan and Indiana.

2. Soybean rust: Dr. Linda Kull, National Soybean Research Laboratory, University of Illinois, coordinated the 2005 Soybean Rust Early Detection Project. USDA-APHIS-PPQ provided \$25,000 as an addendum to the 2005 CAPS workplan to support the establishment of 10 sentinel plots in accordance with protocols established by the Soybean Rust Coordinated Framework. An additional 31 sentinel plots were also established with the combined support of the North Central Soybean Research Program (NCRSP), state check-off funds, and the Illinois Department of Agriculture. Thirty-eight of the 41 plots were soybean, two were kudzu, and a single plot was planted to peas. Locations of the 41 sentinel plots are highlighted in Figure 2. Geographic locations of the 10 USDA-sponsored sentinel plots (including nearest community within the county) are described in the following table:

<b>Location</b> (nearest town)	<b>County</b>
Tamms	Alexander
Urbana	Champaign
Brownstown	Fayette
Carbondale	Jackson
Perry	Pike
Dixon Springs	Pope
Belleville	St. Clair
Monmouth	Warren
Nashville	Washington
Erie	Whiteside

Local extension specialists, personnel at Southern Illinois University and the University of Illinois, and USDA staff monitored plots throughout the season. Frequency of scouting varied from weekly in most plots to bi-weekly in others to monthly in a very few. Scouting frequency was increased during two-week periods following the passage of storm systems.

Figure 2. Soybean rust sentinel plots, Illinois 2005.



Leaf samples were collected bi-weekly in approximately 30% of the soybean plots. Leaves were collected weekly from the single kudzu site from the start of the season through October. There were no infected plants found in any of the sentinel plots

throughout the state. About 10% of the experimental spore trap slides had “rust” spores detected on them based on the Syngenta/University of Arkansas data set. Ten suspect samples were submitted to the University of Illinois Plant Disease Clinic for a definitive diagnosis; these all proved negative.

Other diseases and insect pests observed during the scouting of the sentinel plots included: bacterial pustule, brown spot, charcoal rot, downy mildew, sudden death syndrome, and soybean mites and aphids.

3. Soybean pod borer: There were no reports of soybean pod borer activity reported during screening activities within the 41 soybean rust sentinel plots. Likewise, no suspect specimens of soybean pod borer were reported during routine scouting activities for a complex of soybean insect pests, including bean leaf beetle, Japanese beetle, and western corn rootworm by UI Extension personnel. At this time, Illinois is considered to be free of soybean pod borer.

4. Leek moth: Due to the June 30 retirement of SSC Helm, the leek moth trapping program was very limited in 2005. Only 10 leek moth traps (rather than the 20 suggested in the 2005 workplan) were placed in leek, chives, and onion fields. All pheromone traps were again placed in Kankakee County according to leek moth survey protocols. Trap placement was completed on July 14; trap bottoms and lures were replaced July 29 and traps were retrieved from fields on August 24. None of the traps had suspect moths in 2005.

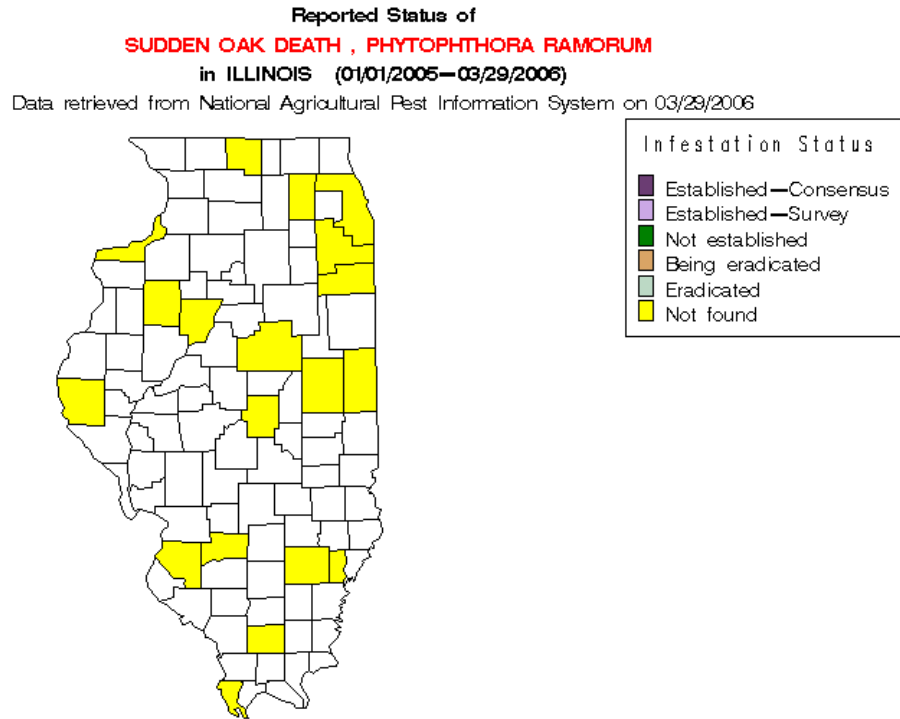
5. *Monacha cartusiana*: Several sites were surveyed for the presence of exotic snails during routine trap-tending for the National Exotic Woodborer/Bark Beetle Survey (see section B, Part II surveys). Locations included the Union Pacific Global III Intermodal Facility in Ogle County, Huber Pallets and DriveLine Systems in Winnebago County, Paltech Pallets in Boone County, and True Value Distribution Center in McHenry County. At each site, we examined the exterior of containers, beneath wooden pallets, and surrounding vegetation for the presence of snails. Surveys were conducted on June 29, July 25, and August 9. This portion of the state was extremely dry during 2005 and no snails or slugs of any kind were found at any of the locations during the course of these surveys. USDA-APHIS-PPQ also conducted a visual survey of the Canadian Pacific Rail Yard in Schiller Park (Cook county) and the surrounding area for snails in the spring of 2005. This area previously had an active infestation of *Monacha cartusiana* and was treated. No snails were found in the 2005 survey.

5. Sudden oak death: Illinois Department of Agriculture nursery inspectors submitted a total of 148 sudden oak death samples to the UI Plant Clinic as part of the National Nursery Survey Program. Samples came from 22 nurseries in 18 counties. USDA-APHIS-PPQ Domestic Officers Laura Khan and Elizabeth Burns also submitted SOD Trace Forward/Back samples to the UI Plant Clinic from 3 counties, including one county not sampled by IDOA. This brought the total number of counties included in the 2005 survey to 19 (Figure 3). Three symptomatic samples were forwarded by the UI Plant Clinic for PCR analysis at the Levy lab in Beltsville, MD, according to National



Survey protocols. All samples from all locations were negative in the SOD nursery and trace forward/back survey in 2005.

Figure 3. Sudden oak death nursery survey, Illinois 2005



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Negative data spans over last 3 years only.

### Exotic Pest Surveys Not Requiring Additional Funding

1. Soybean aphid: Consensus opinion is the entire state is infested with soybean aphid. We continued to operate a suction trap network throughout Illinois from the middle of May through mid-October. Fourteen species of aphids considered of economic importance were counted and the data circulated to all cooperators and extension personnel. The 2004 fall flight of soybean aphids was the highest seen in the four years of operation of this network in Illinois. This high autumn count suggested that 2005 might be a year in which soybean aphids reached or exceeded established economic thresholds. However, soybean aphid populations never reached the levels seen in the 2003 outbreak year and, when threshold levels were reached in 2005, it was primarily in the northern third of the state. Based on our previous experience with this insect, we surmise several reasons for this spotty occurrence. While our collection data and field observations certainly suggest that soybean aphid is capable of successfully overwintering on buckthorn in at least the southern third of Illinois, in 2005 spring planting of much of the soybean crop was significantly delayed. Thus, soybean aphids leaving buckthorn were

unable to find soybeans to colonize, thereby limiting early season infestations. High temperatures and drought conditions in northern and western portions of the state led to scattered outbreaks of spider mites in these areas. Pesticides used to control threshold levels of spider mites can also kill soybean aphids; thus, areas receiving extensive mid-summer spider mite treatments likely had significant reductions in soybean aphids. Trap catches in the fall of 2005 were considerably lower than 2004 fall catches; however, in spite of low numbers during the 2005 growing season, these counts are still considerably higher than those observed in either 2001 or 2003. While the 2005 fall counts suggest that a significant number of soybean aphids entered into overwintering, we are beginning to better understand the importance of natural enemies on winter hosts, spring weather, and planting time as factors influencing population in successive years.

2. *Batrachedra pinicolella*, a needle miner of spruce---new State record:  
*Batrachedra pinicolella* (Zeller, 1839), a Palearctic needleminer of spruce (*Picea* spp.), was discovered for the first time in North America in Litchfield, New Haven and Tolland Counties of Connecticut. Besides spruce, this Lepidopteran pest also attacks fir trees (*Abies* spp.) and on rare occasions can be found on pines (*Pinus* spp.). Widely spread throughout Europe and occurring in eastern Russia, larval *B. pinicolella* will mine needles of spruce trees causing needle loss and discoloration. We placed pheromone traps in several counties (Champaign, LaSalle, Winnebago) in central and northern Illinois as part of a national survey to determine the current distribution of spruce needle miner in the US. Dr. Chris Maier, Connecticut Ag. Experiment Station, coordinated this survey and provided pheromones and traps to participant. Trap bottoms were submitted to Dr. Maier for screening according to survey protocols. Specimens tentatively identified as *B. pinicolella* were collected at all trapping locations in Illinois; however, we are awaiting final confirmation based on genitalia examination. While of interest, this insect does not appear to be a pest of concern at this time.

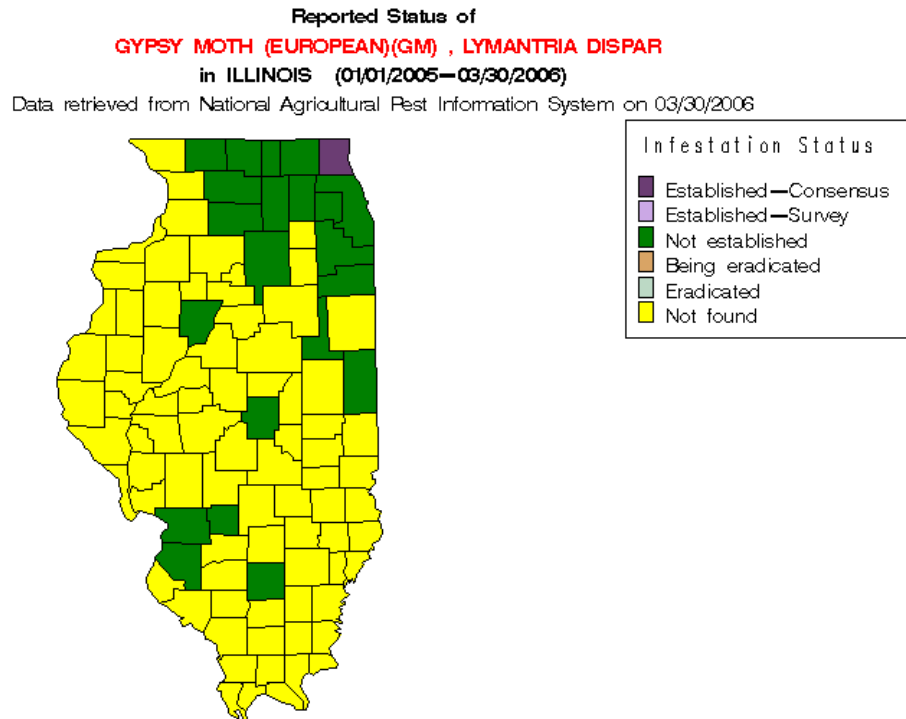
3. Gypsy moth: The following table summarizes gypsy moth activities in Illinois in 2005. Since Illinois has established populations, the state is generally divided into 3 zones. The “quarantine area” is the portion where gypsy moth is considered established. The “STS Action zone” is the portion of the state where treatment activities are undertaken to limit moth population, and thus “slow the spread” of gypsy moth. The remainder of the state is considered uninfested, and actions may be taken to eradicate any infestations that are found in those areas.

Quarantine Area	Slow-The-Spread (STS) Actions	Counties with STS treatments	STS trapping results	Trapping trends outside quarantine and STS area
One county (Lake) is generally infested and is under APHIS quarantine.	26,400 acres treated with mating disruption 3563 acres treated with Btk	Cook, DuPage, Kane, and Winnebago	13668 moths captured in the 6492 traps set in the 20 county STS trapping area	6,195 traps were set by APHIS in 85 counties in central and southern IL. A total of eight gypsy moths were caught, one in each of eight counties.

The gypsy moth trapping program in Illinois is a cooperative effort between the Illinois Department of Agriculture (IDOA), USDA-APHIS-PPQ and the USDA Forest Service. Trapping and treatments in the Slow the Spread area are conducted by the

IDOA. Detection trapping in the remainder of the state is the responsibility of PPQ and the Forest Service. Results of the 2005 gypsy moth trapping program are summarized in Figure 4.

Figure 4. Gypsy moth trapping and status, Illinois 2005

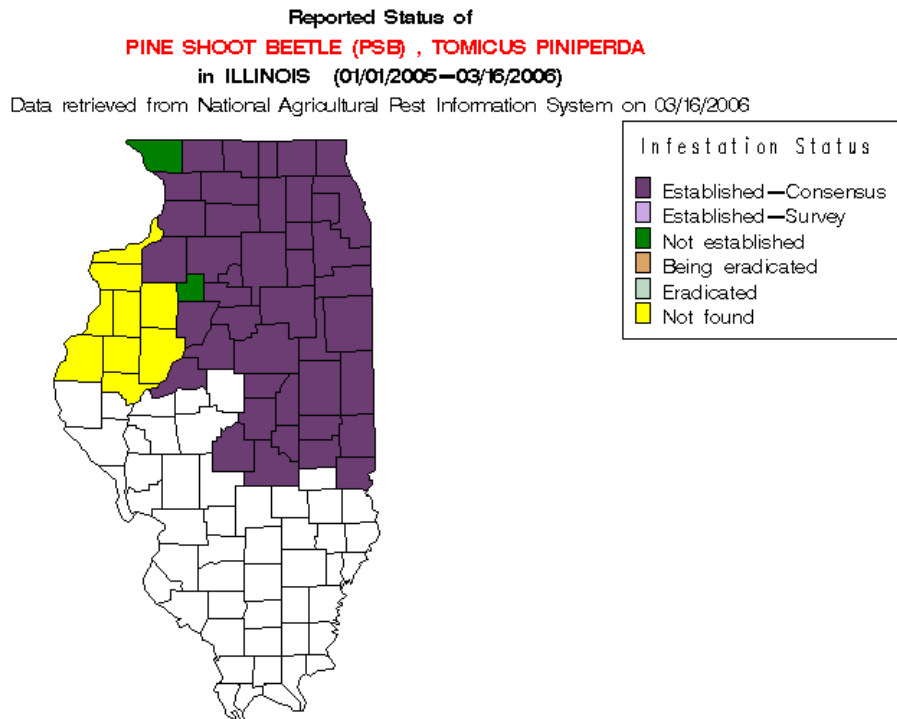


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Negative data spans over last 3 years only.

A total of 12,687 traps were placed throughout the state in 2005. USDA-APHIS-PPQ placed 6195 Delta traps in the 85 counties outside the slow-the-spread area. Eight of these counties were positive for gypsy moth, although each county had only a single catch. Within the 20-county slow-the-spread zone, IDOA traps (Delta and milk carton) collected 13,668 moths (732 positive traps, 514 multiple captures). Lake County remains the only Illinois county currently under quarantine for gypsy moth.

4. Pine shoot beetle: USDA-APHIS-PPQ Domestic Officer Laura Khan coordinated trapping activities for pine shoot beetle, while the Illinois Department of Agriculture continues to focus on nursery inspections. The USDA-APHIS-PPQ trapping program concentrated on northwestern Illinois in 2005. Lindgren 8 funnel traps baited with alpha-pinene lure were placed at various sites in 11 Illinois counties. Typical locations included Christmas tree farms, nurseries, saw mills, state parks, and old pine groves. A total of 70 traps were placed in this survey, resulting in 2 new counties positive for pine shoot beetle (Jo Davies and Stark, Figure 5).

Figure 5. Pine shoot beetle trapping and status, Illinois 2005.

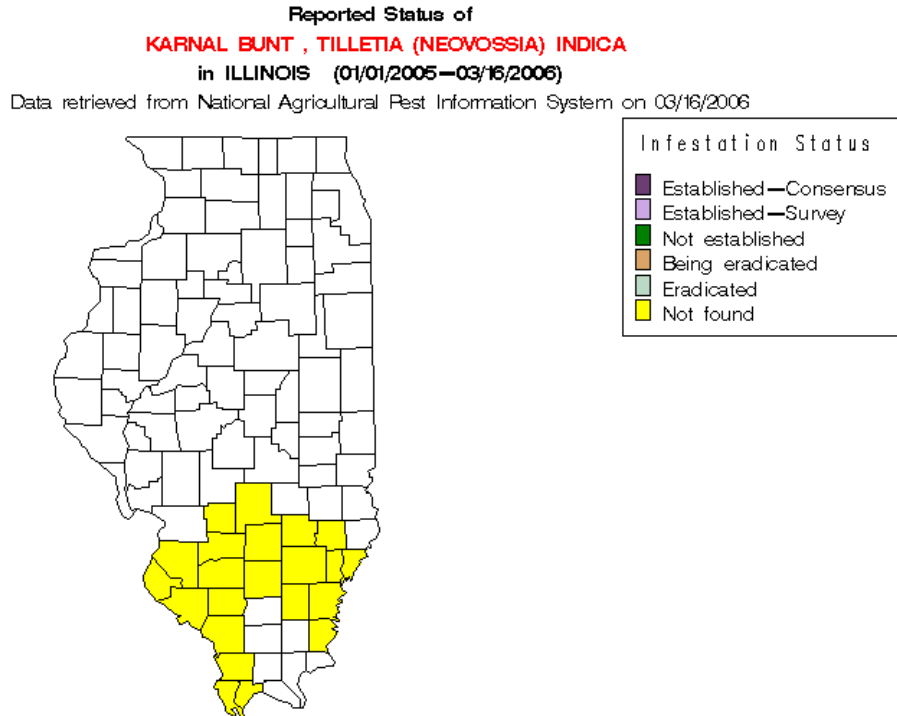


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5. Asian longhorned beetle: This spring, eight years after Asian longhorned beetle was first detected in Chicago, officials were able to lift the quarantine in Ravenswood, the core area of infestation. Smaller infestations in Summit and DuPage County were declared pest-free last year and quarantines were the first to be lifted. The Asian longhorned beetle is thought to have been introduced into these areas in wood pallets carrying Chinese-made goods sometime in the early 1990's. By the time it was first detected in 1998, it had infested hundreds of trees and would have caused significant damage without prompt, drastic control measures. Over 1500 trees were removed and replaced with non-susceptible varieties in efforts to eradicate Asian longhorned beetle. No infested trees or beetles were discovered in 2005, which suggests we may well have beaten this beetle in Chicago. However, restrictions still remain for a 9-square-mile area around Oz Park in Chicago, where signs of beetles were found in three trees almost two years ago. As a precautionary measure, approximately 4,000 trees in this neighborhood were treated with a systemic insecticide in the spring, well down from nearly 90,000 trees treated in 2004. Likewise, surveillance efforts will continue for another two years in Ravenswood and in the other areas where quarantines have been lifted.

6. Karnal bunt: USDA-APHIS-PPQ collected wheat samples from grain elevators in the southern third of Illinois to fulfill the requirements of the National Karnal Bunt Survey. Sampling was carried out by the gypsy moth trapping technicians. A total of 77 samples were collected from 22 Illinois counties (Figure 6). All samples were shipped to the USDA Karnal Bunt Facility in Olney, Texas for optical scan. All samples were negative for karnal bunt in 2005.

Figure 6. Karnal bunt survey, Illinois 2005



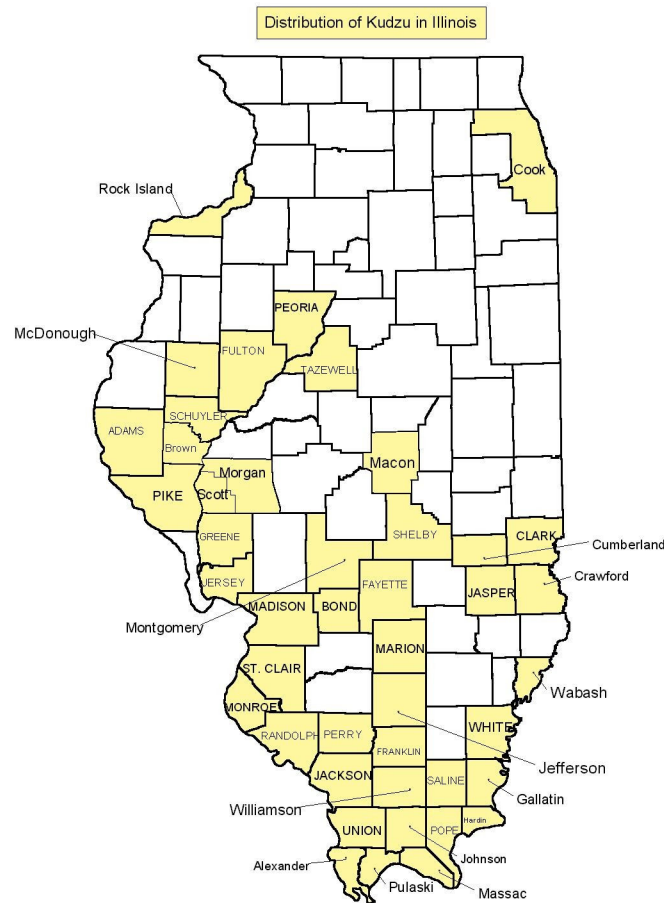
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7. Kudzu survey and eradication program: Dr. George Czapar, extension educator at the University of Illinois Extension Center in Springfield, and Jody Shimp, Illinois Department of Natural Resources, are coordinating a program to monitor and slow the spread of kudzu in Illinois. Although kudzu populations remain fairly small, more than 30 Illinois counties are currently affected (Figure 7). Kudzu infestations are most severe in the southeastern portion of the state, but there is growing concern that the weed may continue to aggressively spread into more areas. Surveys completed in 2003 found nearly 100 locations with at least small patches of kudzu totaling 410 acres. The northernmost location of kudzu is a one-acre site along a commuter rail line in Cook County. The possibility of kudzu spreading into even more portions of the state is of particular concern since the weed is a relative of soybeans and is also able to harbor spores of soybean rust.

Aggressive spot treatments with herbicides, mowing, and a public awareness campaign are helping to eliminate and limit the spread infestations of kudzu in Illinois.

The Illinois Department of Agriculture, Illinois Department of Transportation, U.S. Forest Service (Shawnee National Forest), U.S. Fish and Wildlife Service (Crab Orchard National Wildlife Refuge, Cypress Creek National Wildlife Refuge) and the Natural Resources Conservation Service are also part of the team developing strategies to eradicate Illinois kudzu populations.

Figure 7. Kudzu distribution, Illinois 2005.



8. Khapra beetle: USDA-APHIS-PPQ conducted a khapra beetle survey from June through September of 2005. Khapra beetle wall mount traps were placed in eleven facilities that handle South/ Southeast Asian or Middle East foodstuffs. Eleven facilities in three counties were surveyed; none of the 47 traps were positive for khapra beetle.

9. Japanese Beetle: USDA-APHIS-PPQ monitored 14 traps around the perimeter of O'Hare and Midway International Airports. The number of Japanese beetles caught was significantly reduced (down about 40%) due to the drought conditions in Illinois. Neither O'Hare nor Midway airport was regulated. No live beetles were found on airplanes originating from or transiting Illinois although there were some instances of dead beetles found on planes that transited O'Hare International Airport.

## II. CAPS Survey Activity

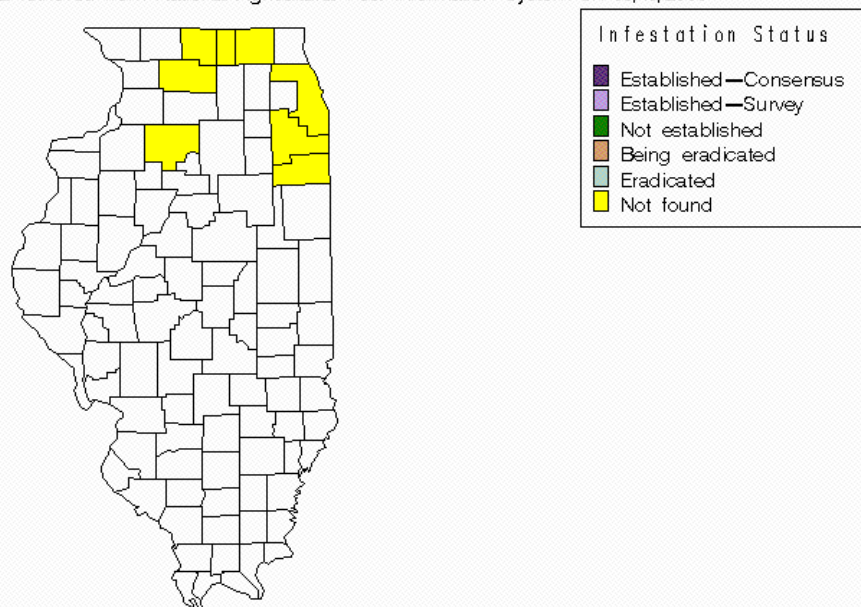
### National Exotic Woodboring/Bark Beetle Survey

#### A. Survey Methodology (trapping protocol):

As part of the Illinois Cooperative Agricultural Pest Survey (CAPS) program funded by USDA-APHIS-PPQ, we conducted trapping activities for a complex of exotic bark beetles and wood-borers at 26 high-risk locations in 7 Illinois counties in the north-central and northeastern quadrant of the state. (Figure 8 and Table 1).

Figure 8. Exotic woodborer/bark beetle survey, Illinois 2005.

Data retrieved from National Agricultural Pest Information System on 03/15/2006



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Negative data spans over last 3 years only.

Site selection was based on the USDA-APHIS-PPQ Hot Zone Trapping Program concept. Primary Hot Zone risk points included locations with a history of PPQ Emergency Action Notifications documenting solid wood packing material (SWPM) violations or the presence of wood borers or bark beetles; locations receiving cargo from high-risk foreign sources; and intermodal facilities and associated warehouses and industrial parks. Secondary Hot Zone risk points included lower risk locations such as pallet and green waste recycling centers and state parks with campgrounds and firewood concessions near major metropolitan areas. Many of these sites were near Kankakee and Rockford or in smaller communities between these two cities and the Chicago suburbs (Table 1).

Table 1. Exotic bark beetle/wood-borer trapping sites, Illinois 2005.

County	Location	Site characteristics
Boone	Bach Timber & Pallet	SWPM location; saw-mill
	Paltech Enterprises	SWPM location
Bureau	Ace Hardware Retail Support Center	SWPM EAN; importer, shipping point, distribution center, warehouse
Kankakee	Pallet Recycling & Disposal	SWPM location
	LM Pallets Plus	SWPM location
	Universal Pallets	SWPM location
	Enterprise Pallets	SWPM location
	Momence Pallets	SWPM location
	K-Mart Manteno Distribution	Importer, shipping point, distribution center, warehouse
	Kankakee River State Park	State forest campground Chippewa; firewood
McHenry	True-Value Distribution Center	Importer; shipping point; distribution center; warehouse; SWPM location
	Northwest Wood Products	SWPM location; saw-mill
	Cleary Sales	SWPM location
	B&H Pallets	SWPM location
Ogle	Union Pacific Global III Intermodal Center	Railroad distribution center; SWPM location
Will	Kankakee River State Park	State forest campground Potawatomi; firewood
	Prairie View Disposal & Recycling	Deep-burial landfill; SWPM location
	Midewin Tallgrass Prairie	National Park; adjacent to SWPM site
	CenterPoint Distribution	Railroad distribution center; SWPM site
	Des Plaines Fish & Wildlife Area	State park, campground, picnic area, firewood; adjacent to distribution center
Winnebago	Tree Care Enterprises	Green waste site; firewood
	City of Rockford Landscape Recycling	Green waste site; firewood
	Forest City Pallet	SWPM location
	Huber Pallet Company	SWPM location
	Drive Line Systems	Importer; shipping point, SWPM location
	Rock Cut State Park	State park campground; firewood

A minimum of three 8-funnel Lindgren traps was placed at each location. Protocols for the exotic bark beetle/wood-borer survey called for the following baiting scheme at each site: 1) ultra-high release (UHR) alpha-pinene in combination with UHR ethanol; 2) UHR ethanol alone; and 3) a 3-component exotic bark beetle lure (ipsdienol, methyl butenol, and cis-verbenol). Phero-Tech, Inc., Delta, BC, supplied all materials.



Traps were placed in early March and serviced bi-weekly through early September. A total of 120 traps comprised the survey.

B. Rationale underlying survey methodology:

These sites included locations with a history of PPQ Emergency Action Notifications documenting solid wood packing material (SWPM) violations or the presence of wood borers or bark beetles; cargo-handling and container de-stuffing facilities; pallet and green waste recycling centers; and manufacturers or warehouses receiving bulk cargoes of steel, heavy machinery, or automotive components.

Target pests selected by the CAPS committee for the National Exotic Woodborer/Bark Beetle Survey include: *Agrilus planipennis*, *Anoplophora chinensis*, *Anoplophora glabripennis*, *Callidiellum rufipenne*, *Chlorophorous annularis*, *Hesperophanes campestris*, *Hylurgops palliatus*, *Hylurgus ligniperda*, *Ips sexdentatus*, *Ips typographus*, *Monochamus alternatus*, *Pityogenes chalcographus*, *Tetropium castaneum*, *Tetropium fuscum*, *Tomicus minor*, *Tomicus piniperda*, *Trypodendron domesticum*, *Xyloborus* spp., and *Xylotrechus* spp.

We also screened all samples for the presence of *Scolytus schevyrewi* (banded elm bark beetle) and *Sirex noctilio*. The banded elm bark beetle was first detected in Illinois during our 2003 exotic woodborer survey from traps in Madison and St. Clair counties, just across the Mississippi River from St. Louis.

C. Survey dates:

Traps were placed in early March and serviced bi-weekly into early September.

D. Taxonomic services:

All materials collected during this survey were pre-screened by the Illinois SSC. Suspect specimens of *Scolytus schevyrewi* that were new county records were submitted to Dr. Richard Hoebeke, Cornell University, for confirmation. Dr. Dennis Haugen, US Forest Service, provided advice and identification keys for wood wasp determinations.

E. Benefits and results of survey:

Solid wood packing material (SWPM) associated with containerized cargo, including crates, boxes, pallets, and dunnage provides a major pathway for the entry of non-indigenous bark beetles and other woodboring insects. In spite of the best efforts of Federal regulatory agencies, it is clear that pests associated with SWPM are eluding detection at ports of entry and often become established for many years prior to their detection. The tremendous volume of foreign cargo has simply overwhelmed the manpower and resources available to examine incoming shipments containing SWPM. Greater emphasis is now being placed on early detection and rapid response to exotic pests that have eluded front-line detection at ports of entry. We feel this approach provides the best opportunity with limited resources to detect and prevent the widespread establishment of non-native forest pests. Researchers at the Illinois Natural History Survey are collaborating with several Federal agencies in the National Exotic Woodborer/Bark Beetle Survey with the goal of conducting educational activities, inspections, and surveys at high-risk sites within the state to determine if other infestations of non-native forest pests exist.

None of the targeted exotic target pests were detected during this survey; however, several non-target pests of some concern were confirmed in several new counties during this year's survey.

### Non-target trap captures, Illinois 2005

Pine shoot beetle: USDA-APHIS-PPQ trapping results were reported previously (see Exotic Pest Surveys Not Requiring Additional Funding, part 4 above). Jo Davies and Stark County were added to the list of quarantined counties in the 2005 survey. We also detected pine shoot beetle in 4 counties included in our 2005 bark beetle survey efforts (Table 1); however, these counties were already known to have active infestations of this insect.

Table 1. Pine shoot beetle and *Scolytus schevyrewi* detection, Illinois 2005.

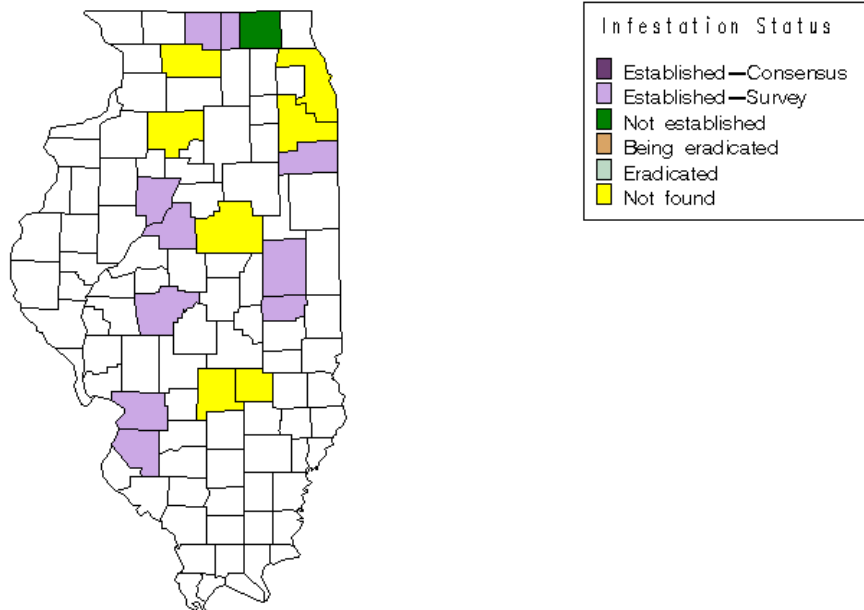
County	Sites	Traps	Pine shoot beetle		<i>S. schevyrewi</i>	
			+/-	# sites	+/-	#sites
Boone	2	9	+	2	+	2
Bureau	1	9	-	0	-	0
Kankakee	7	33	+	1	+	4
McHenry	4	15	+	3	+	1
Ogle	1	6	-	0	-	0
Will	5	24	-	0	-	0
Winnebago	6	24	+	2	+	5
TOTAL	26	120				

*Scolytus schevyrewi* (banded elm bark beetle): We first detected this insect in Illinois during our exotic bark beetle survey program in 2003 in Madison and St. Clair counties, across the Mississippi River from St. Louis, MO. In 2004, we also detected populations in Peoria, Tazewell, Champaign, Douglas, and Sangamon counties in central Illinois. This year, we confirmed its presence at 12 of our 26 trapping sites, representing 4 new county records (Table 1). Most of the locations positive for banded elm bark beetle were again wooden pallet recycling facilities that had high concentrations of Siberian elm within or adjacent to their properties. Overall number of beetles collected in 2005 was far below 2004 counts. Illinois now has 11 counties positive for *S. schevyrewi* (Figure 9).

Figure 9. Known distribution of *Scolytus schevyrewi*, Illinois 2005.

Reported Status of  
**BARK BEETLE , SCOLYTUS SCHEVYREWI**  
in ILLINOIS

Data retrieved from National Agricultural Pest Information System on 03/08/2006



The Center for Environmental and Regulatory Information Systems does not certify the accuracy or completeness of the map.