

**COOPERATIVE AGRICULTURAL PEST SURVEY
ANNUAL ACCOMPLISHMENT REPORT
Cooperative Agreement Number 07-8209-0327**

Year 2007
 State Connecticut
 Agency The Connecticut Agricultural Experiment Station (CAES)

I. Core Level Funding Activities (Contributed by Victoria Smith, Donna Ellis, Chris Maier, and Sharon Douglas)

A. State Survey Coordinator Donna Ellis
 Agency The University of Connecticut (UConn)
 Address Department of Plant Science, Unit 4163, Storrs, CT 06269
 Phone (860) 486-6448
 Fax (860) 486-0534
 Email donna.ellis@uconn.edu

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

C. **Compare actual accomplishments to objectives established for the period:**
 Progress made toward accomplishment of Calendar Year 2007 work plan objectives during the period January 1, 2007 through June 30, 2007. Individual surveys will be addressed in the next section.

Priority Pest List and Pest Risk and Pathway Analysis

The CAPS State Survey Committee developed the following State Pest List of insects, mollusks, noxious weeds/invasive plants, and pathogens:

State Pest List – Pests of State Concern

Common Name	Scientific Name
<i>Insects</i>	
Apple Tortrix	<i>Archips fuscocupreanus</i>
Emerald Ash Borer	<i>Agrilus planipennis</i>
Fruit Tree Tortrix	<i>Archips podana</i>
Pine Shoot Beetle	<i>Tomicus piniperda</i>
Sirex Woodwasp	<i>Sirex noctilio</i>
Small Hive Beetle	<i>Aethina tumida</i>
Summer Fruit Tortrix	<i>Adoxophyes orana</i>
Viburnum Leaf Beetle	<i>Pyrrhalta viburnii</i>
<i>Mollusks</i>	
Giant African Snail	<i>Achatina fulica</i>

<i>Noxious Weeds/Invasive Plants</i>	
Giant Hogweed	<i>Heracleum mantegazzianum</i>
Giant Salvinia	<i>Salvinia molesta</i>
Hydrilla	<i>Hydrilla verticillata</i>
Mile-a-minute Vine	<i>Polygonum perfoliatum</i>
Purple Loosestrife	<i>Lythrum salicaria</i>
<i>Pathogens</i>	
Chrysanthemum White Rust	<i>Puccinia horiana</i>

Educational Outreach Activities

1. Donna Ellis, State Survey Coordinator (University of Connecticut)

Note: Outreach activities were conducted for several of the CAPS exotic pest targets described in this report.

Teaching

Master Gardener Training Program: February 28, March 1, 12, 23, and 27, 2007; taught five full-day classes on invasive exotic species to the 2007 class of Master Gardeners at five Cooperative Extension System locations in Connecticut.

Ornamental and Turf Short Course, West Hartford, CT, February 22, 2007. Invited speaker to teach entomology and Integrated Pest Management to students preparing for Pesticide Applicator licenses. Information on exotic pests, including Asian longhorned beetle, emerald ash borer, and *Phytophthora ramorum* was included.

Connecticut Green Prep School, West Hartford, CT, February 22, 2007. Taught one of the 8 classes in the Green Prep School, a new collaborative program between the University of Connecticut and the Connecticut Green Industry. Course material included information on non-native, exotic insects, weeds, and diseases.

Conferences, Symposia and Workshops Planned and Presented

Farm City 2007, Jones Family Farm, Shelton, CT, May 16-17, 2007. Eight workshops on IPM were conducted for 4th grade students, teachers, and parents. The IPM subject matter included information on exotic pests.

Two 1/2-day workshops were developed and presented (with C. Kusmer) on the Integrated Pest Management (IPM) curriculum for grades K-1 and 2-3, Staffordville, CT, April 24, 2007. The IPM curriculum includes lessons on exotic species, including invasive plants.

Two workshops were developed and presented (with C. Kusmer) on the Integrated Pest Management (IPM) curriculum in Jefferson, MA on April 11 and 26, 2007. The IPM curriculum includes lessons on exotic species, including invasive plants.

Connecticut Outdoor and Environmental Education Association Annual Meeting, Hamden, CT, March 30, 2007. Presented an Integrated Pest Management (IPM) curriculum workshop (with C. Kusmer). The IPM curriculum includes lessons on exotic species, including invasive plants.

Ag in the Classroom Eastern Regional Meeting, Amherst, MA, March 15, 2007. Invited presenter (with C. Kusmer) to conduct a workshop on the Integrated Pest Management (IPM) curriculum. The IPM curriculum includes lessons on exotic species, including invasive plants.

University of Connecticut Garden Conference, Storrs, CT, March 9, 2007. Served as a member of the Ornamental Plant Extension Team to plan and present the annual conference, which was attended by approximately 380 garden enthusiasts. Conference topics included invasive exotic species. I presented an exhibit and distributed handouts on invasive plants and non-native alternative species at the conference.

University of Connecticut Perennial Plant Conference, Storrs, CT, March 8, 2007. Served as a member of the Ornamental Plant Extension Team to plan and present the annual conference, which was attended by approximately 400 professional horticulturists. Conference topics included invasive exotic species. I presented an exhibit and distributed handouts on invasive plants and non-native alternative species at the conference.

New England Grows, Boston, MA, February 6-8, 2007. Served as a member of the 2007 Education Committee to plan the regional event, moderated several sessions during the three-day educational conference and trade show. 15,000 attendees. Conference topics included invasive exotic species. I distributed handouts on invasive plants and non-native alternative species at the conference.

Connecticut Nursery & Landscape Association Winter Symposium and Expo, Wallingford, CT, January 3-4, 2007. Served as a member of the Education Committee to plan the event, moderated several sessions, and participated as a conference exhibitor, with a display on invasive exotic pests. 500 attendees.

Presentations

Hamden High School, Hamden, CT, June 13, 2007. Invited speaker for high school biology class program and poster session on invasive species.

Legislative Reception at the State Capitol Building, Hartford, CT, May 24, 2007. Staffed IPM exhibits, including the new Integrated Pest Management (IPM) curriculum and invasive species, and answered questions from legislators, legislative aides, lobbyists, and the public.

Massachusetts Invasive Plant Meeting, Northampton, MA, April 30, 2007. Served as facilitator for statewide meeting to discuss invasive plant issues.

High School Counselors Program, Storrs, CT, April 25, 2007. Presentation and display on Integrated Pest Management, including exotic pests, to high school counselors visiting the University of Connecticut from across the U.S.

North Stonington Garden Club, North Stonington, CT, March 20, 2007. Presentation entitled, "Invasive Plants."

Southeast School, Mansfield, CT, February 27, 2007. Invited presenter to speak to gifted and talented elementary school students regarding invasive plant management and the use of alternative replacement plants.

Connecticut Flower and Garden Show, Hartford, CT, February 22-25, 2007. Presented an invasive plant display and participated in question-and-answer sessions for the 4-day exhibition. 35,000 attendees.

Connecticut Invasive Plant Working Group semi-annual meeting, Windsor, CT, February 15, 2007 (D. Ellis, Co-Chairperson). Organized and conducted meeting for the general membership.

University of Connecticut College of Agriculture and Natural Resources (CANR) Faculty and Staff Program Workshop, Storrs, CT, February 2, 2007. Invited speaker for presentation entitled, "CANR Impact on the World: Invasive Plants." Also presented an exhibit with the IPM team.

Connecticut Grounds Keepers Association Annual Meeting, Hartford, CT, February 1, 2007. Invited speaker for presentation entitled, "Invasive Plants in Connecticut Update for 2007."

Conference Moderator

New England Grows, Boston, MA, February 6-8, 2007.

Connecticut Nursery & Landscape Association Winter Symposium and Expo, Wallingford, CT, January 3-4, 2007.

2. Chris Maier (The Connecticut Agricultural Experiment Station)

Please see Section C. Survey for the Exotic Wood Wasps, *Sirex noctilio* and *Urocerus gigas*, Potential Pests of Conifers in the United States (Part II).

3. Victoria Lynn Smith (The Connecticut Agricultural Experiment Station)

Presentation: 3 & 4 January 2007: participated in the CT Nursery and Landscape Winter Symposium and Expo, held at Mountainside Resort in Wallingford (approximately 200 attendees), by manning the CAES table and with the presentation of 4 talks including one titled: Disease highlights of 2006 *Phytophthora ramorum*: Program Updates and New Findings

Information Table: 18 January 2007: participated in the CT Tree Protective Association Winter meeting, held at the Aqua-Turf in Southington, by organizing the CAES speakers; table included information with handouts on pests and diseases such as Emerald Ash borer and Ramorum blight.

Information dissemination: 6 February 2007: participated in a meeting of the CAPS-Early Detection & Rapid Response team, held at the Urban Forestry Center in Portsmouth, NH; approximately 30 participants

Presentations: 22 February 2007: organized the annual Forest Health Workshop, held in the Jones Auditorium, and presented two talks including one titled “*P. ramorum* Survey Activity for 2006 and 2007”; approximately 30 participants

Presentation: 9 March 2007: presented at talk at the CT Conference on Natural Resources, held at UConn-Storrs, titled “Ramorum Blight: A Potential New Threat to Connecticut Forests”; approx. 40 attendees at the talk and approx. 150 participants at the meeting

Training: 17-19 April 2007: participated in a training workshop for aquatic sampling for *P. ramorum*, conducted by the US Forest Service and held at Soldiers Delight Natural Environment Area, part of Patapsco Valley State Park, Owings Mills, MD; approximately 15 participants.

Information dissemination: 16 May 2007: participated in the Cooperative Program Review, with a presentation on Station research in cooperation with DEP; presented at DEP Headquarters in Hartford; 15 participants

Information dissemination: 24 May 2007: participated in the Twilight Meeting of the CT Pomological Society, held at March Farms in Bethlehem; approximately 50 participants

Information dissemination: 21 June 2007: participated in a twilight meeting of the CT Pomological Society, held at Woodstock Orchards in Woodstock CT; approximately 60 participants.

Information dissemination: 11 July 2007: attended the CT Nursery and Landscape Association Summer meeting, held at VanWilgen’s Garden Center in North Branford

D. If appropriate, explain why objectives were not met.

We met all objectives for the Core activities except for the WWBBB Survey. Individual surveys will be addressed separately in the next section.

E. Where appropriate, explain any cost overruns.

No cost overruns occurred.

F. State CAPS Committee Narrative

The State CAPS Committee meeting was held at the Connecticut Agricultural

Experiment Station, Valley Laboratory, Windsor, Connecticut on 1 June 2007. Jude Boucher, Nichole Campbell, Patty Douglass, Rob Durgy, Donna Ellis, Tracy Magellan, Chris Maier, Les Mehrhoff, Todd Mervosh, Jane O'Donnell, Tom Rathier, Ralph Scarpino, Vicki Smith, Kirby Stafford, and Kim Stoner attended the meeting.

Donna Ellis [University of Connecticut (UConn)], Nichole Campbell [USDA APHIS Plant Protection and Quarantine (PPQ)], and Vicki Smith [Connecticut Agricultural Experiment Station (CAES)] led a discussion of results from 2006 CAPS Core surveys for wood boring/bark beetles, *Phytophthora ramorum*, winter moth larval survey, brown marmorated stink bug, and Swede midge; Part II surveys for giant African snail, summer fruit tortrix moth and fruit tree tortrix moth; Part III surveys for chrysanthemum white rust, pine shoot beetle, and small hive beetle, and PPQ surveys for pine shoot beetle, exotic Siricids, and wood boring/bark beetles.

A new state record for Swede midge was collected by Kim Stoner (CAES) in New Haven County during the pheromone trapping survey. One positive *Phytophthora ramorum* sample was confirmed from a nursery survey conducted by Vicki Smith and staff at CAES. A new state record for pine shoot beetle was collected in Windham County by Eric Chamberlain (PPQ). Two winter moth larvae collected by Donna Ellis in New London County were confirmed [This survey was conducted by Donna and Lorraine Los (UConn)]. All other surveys were negative for the target pests.

Two additional new state records occurred in Connecticut. Khapra beetle was confirmed by PPQ in Hartford County on May 4, 2006. Hosta X Virus (from an August 2005 specimen) was confirmed in New London County in 2006 by Sharon Douglas.

Donna discussed results from the noxious weeds survey for giant hogweed. Giant hogweed was confirmed at two new locations in towns where it had been previously reported from Hartford and Litchfield Counties. Eradication efforts are underway at all sites in the state where this noxious weed has been found. Elizabeth Corrigan (UConn) and Todd Mervosh (CAES) assisted with the giant hogweed survey and outreach project. Donna also provided a summary of biological control activities for purple loosestrife and the Beetle Farmer program, where volunteers learn how to rear and introduce biological control agents for this invasive plant. More than 1 million *Galerucella* beetles, purple loosestrife biological control agents, have been introduced into Connecticut wetlands since the program began in 1996.

Semi-annual and annual accomplishment reports for the 2006 survey and educational outreach activities are posted on the CAPS website, in the Special Features section of the CAES website (<http://www.caes.state.ct.us/CAPS/CAPS.htm>).

The current CAPS survey and educational outreach projects for 2007 were discussed. The following projects, followed by project coordinators and collaborators, will be conducted by The Connecticut Agricultural Experiment Station, the University of Connecticut, and USDA APHIS PPQ. Survey work plans will be posted on the CAPS website:

- Wood boring/bark beetle surveys – Vicki Smith (CAES), Nichole Campbell (PPQ)
- *Phytophthora ramorum* – Vicki Smith, Sharon Douglas (CAES)
- Exotic Siricids – Chris Maier (CAES), Donna Ellis (UConn)
- Sirex grid survey - Nichole Campbell
- Swede midge – Kim Stoner (CAES)
- Summer fruit tortrix moth, fruit tree tortrix moth – Chris Maier
- Chrysanthemum white rust – Vicki Smith, Sharon Douglas
- Pine shoot beetle – Vicki Smith, Eric Chamberlain (PPQ)
- Asian gypsy moth port survey – Nichole Campbell
- Siberian silk moth – Nichole Campbell

Additional surveys and educational outreach will occur for the following exotic plants:

- a. Noxious weeds (giant hogweed) – Donna Ellis, Elizabeth Corrigan (UConn), Todd Mervosh (CAES)
- b. Biological control (purple loosestrife) – Donna Ellis

The meeting continued with a discussion on the major changes for the CAPS program in 2008, as outlined in the CAPS national guidelines. The changes include greater flexibility to select plant pests for survey in Connecticut, revised roles and responsibilities between PPQ and state cooperators, allocation of Core CAPS funding to maintain the infrastructure needed by the State Survey Coordinator position, and designation of funds specifically earmarked for surveys of national concern and state regulatory concern. CAPS funding for Connecticut will remain the same for 2008 as it was in 2007.

State Survey Committee members discussed options for selection of a) surveys of national and b) surveys of state regulatory concern for calendar year 2008 in Connecticut. The following pest programs are appropriate for conducting a national survey:

- Commodity-based surveys (Citrus Grove, Soybeans, and Oak)
- Exotic Bark Beetle/ Wood Boring Beetle (EBB/WBB) survey
- Plum Pox Virus (PPV)
- *Phytophthora ramorum*
- Nematodes of regulatory concern
- Emerald Ash Borer (EAB)

Of the pest programs on the above list, the committee ranked *Phytophthora ramorum* and the Exotic Bark Beetle/ Wood Boring Beetle (EBB/WBB) survey as the top two pests of concern for Connecticut. The summer fruit tortrix moth, fruit tree tortrix moth, and pear leaf blister moth were discussed as potential surveys of state regulatory concern. Please provide your suggestions and comments by July 16 to Vicki Smith, Kirby Stafford, or Donna Ellis regarding selection of exotic pest survey targets.

Reporting deadlines, including accomplishment reports and data for entry into NAPIS,

were emphasized. New state and county records for CAPS survey pests must be submitted to NAPIS within 48 hours of confirmation by a qualified identifier. All other non-critical data must be submitted to Donna Ellis two weeks following the confirmation of data quality, and no later than November 1. All appropriate data obtained by the CSREES network will be entered into NAPIS. 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. All pest occurrence data (positive or negative) should be forwarded to Donna for data entry. Donna provided meeting attendees a template to use for generating spreadsheets of survey results for NAPIS data entry.

The deadline to submit information to Donna for the CAPS Semi-annual Accomplishment Report (covering the period 1/1/07-6/30/07), is July 9, 2007. For the CAPS Annual Accomplishment Report (covering the period 1/1/07-12/31/07), the deadline is January 31, 2008.

The next State CAPS Committee meeting will be scheduled in the fall. Please contact Donna if you have any questions or comments (phone 860-486-6448; email donna.ellis@uconn.edu)

G. NAPIS Database Submissions: CAPS program pest and date of submission
Please see Attachment 1, NAPIS data for pest occurrences submitted from 1 January through 30 June 2007.

Target Pest (Common Name if Available)	Date of Submission
Pine shoot beetle	6/18/07 (2007 CAES trapping survey); 6/4/07 (2006 CAES visual survey)
Swede midge	6/04/07

II. CAPS Survey Activities (Contributed by Sharon Douglas, Donna Ellis, Chris Maier, Victoria Smith, and Kimberly Stoner)

A. Wood Boring/Bark Beetle Survey (Core). Reported by Victoria Smith (The Connecticut Agricultural Experiment Station).

Survey Methodology (trapping protocol): Warehouses within CT were surveyed from May 8, 2007 through July 25, 2007 (data through June 30th is included in this revised semi-annual report). In cooperation with PPQ, warehouses have been identified, based on the origin and type of stored commodities, and those most likely to have shipped in SWP have received highest priority. Warehouses are located in ports, airports, and businesses active in the movement of international goods in seven of eight counties of CT. Twenty-five Lindgren funnel traps each baited with UHR alpha-pinene and UHR ethanol were placed at 13 sites (warehouses) with 26 traps (2 each).

The survey period was shifted one month from the April – June period to May – July in large part due to beetle biology and early spring weather conditions. The spring of 2007 was cold and wet early, drying in May with above average temperatures. The early cool spring temperatures in 2007 forced an extended dormancy of most wood boring beetles in Connecticut. April had over 9 inches of rain and the lowest accumulated growing degree day’s temperatures in three years. We believe April was too cold (growing degree days for April 2007 was 119.06 vs. 181.94 in 2006 and 139.92 in 2005) and wet (rainfall for April 2007 was 9.10 inches vs. 7.13 for 2006 and 6.39 for 2005) for suitable reproductive flight. The data provided is for Lockwood Farm and may not necessarily reflect other ecological zones in the state. However, this did impact staff time going into the summer.

For the entire project, the trapping period lasted 6 to 8 weeks and inspections were done every 10 days to two weeks for a total of 82 samples with insects caught and 27 negative findings (empty or vandalized traps)(73 samples, 60 with insect through June 30, 2007). No target or exotic insects were detected. A complete list of the insects species captured and identified in the traps will be tabulated for the final report.

Rationale underlying survey methodology: The standard protocol developed by APHIS for the target pests was used in this survey.

Survey dates: May 21, 2007 through June 30, 2007. A summary of survey activity is below.

Survey Period 2007	# of Nurseries/ Sites Inspected	# of Samples Collected (with insects)*	# of Suspect Specimens	# of Confirmed Positives	Comments	Data entered into NAPIS? Yes or No
January					Not started	
February					Not started	
March					Not started	
April					Not started	
May	7	14 (12)	0	0	Started 21 May 2007	no
June	30	59 (48)	0	0		no
July	See final report	See final				
Total	37	73 (60)	0	0		

* # samples collected includes negative samples; many contained no specimens.

Taxonomic services: provided by Gale Ridge, CAES for entire project (33 hours site visits [5.5 hours x 6 days]; 286 hours identification on 344 species (est. 10 min./specimen for entire sample including those to be compiled for the final report); 14 hours administration [letters, paperwork, phone, etc.]. A complete list of species identified will be provided in the final report.

Benefits and results of survey: Results of the survey will enhance the ability of CT and APHIS to conduct early detection and rapid response for new pests. The information will assist in making regulatory decisions about these insects, the pathways by which they may be introduced,

whether they has been introduced in CT, and if so, through distribution, and to determine possible control options.

Compare actual accomplishments to objectives established for the period: While the original plan called for a sample interval of 7-10 days, increasing the number of samples to 225, this proved to be difficult with existing staff later in the season. Given the original planned timing for the survey, there was no additional seasonal summer employee in the work plan for the WBBB survey. The Research Assistant III listed for the WBBB survey was not meant for an additional hire. Jeff Fengler, Research Assistant III, and Inspector Stephen Sandrey assisted with trap collections. Consequently, the trapping interval ended up on a two week calendar rather than a weekly collection schedule planned and this reduced the planned number of total trap recoveries to that similar for 2006.

If appropriate, explain why objectives were not met: See above

Where appropriate, explain any cost overruns: No cost overruns.

NAPIS database submissions: CAPS program pest and date of submission: No data have been submitted to NAPIS.

B. National Nursery Survey for *Phytophthora ramorum* (Core). Reported by Victoria Smith and Sharon Douglas (The Connecticut Agricultural Experiment Station).

Survey Methodology (trapping protocol): Nurseries will be surveyed for *P. ramorum* from June through September 2007. In cooperation with PPQ, nurseries have been identified, based on presence of Hosts and Associated Host Plants, which may be likely to harbor *P. ramorum*. Twenty nurseries have been selected for intensive survey. Nurseries are located in all eight counties of CT. Visual surveys will be conducted by trained personnel, and all symptomatic tissue will be collected. Samples will be tested by ELISA and culturing, and presence of *P. ramorum* in DNA samples will be confirmed by an approved nursery.

Rationale underlying survey methodology: The standard protocol developed by APHIS for *P. ramorum* is being used in this survey.

Survey dates: June through September 2007. Below is a summary of inspection and laboratory activity through 22 June 2007:

Survey Period 2007	# of Nurseries /Sites Inspected	# of Samples Collected	# of Suspect Specimens	# of Confirmed Positives	Comments	Data entered into NAPIS? Yes or No
January						
February						
March						
April	3	0	0	0		no
May	32	0	0	0		no
June	8	222	60	0	as of 22 June 07 (ELISA only)	no

July					
August					
September					
October					
November					
December					
TOTAL	43	222	60	0	running total will fill automatically

Taxonomic services: provided by Dr. Sharon Douglas and Dr. Robert Marra, CAES

Benefits and results of survey: Results of the survey will enhance the ability of CT and APHIS to conduct early detection and rapid response for new pests. The information will assist in making regulatory decisions about *P. ramorum*, the pathways by which this disease may be introduced, whether this pathogen has been introduced in CT, and if so, its distribution, and to determine possible control options.

Compare actual accomplishments to objectives established for the period: Survey and inspection goals are on target for completion by the end of September 2007.

If appropriate, explain why objectives were not met: N/A

Where appropriate, explain any cost overruns: No cost overruns occurred.

NAPIS database submissions: CAPS program pest and date of submission: none to date.

C. Survey for the Exotic Wood Wasps, *Sirex noctilio* and *Urocerus gigas*, Potential Pests of Conifers in the United States (Part II). Reported by Chris Maier [The Connecticut Agricultural Experiment Station (CAES)] and Donna Ellis [The University of Connecticut (UConn)].

Survey Cooperator: Chris T. Maier, Department of Entomology, Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven, CT 06504; Phone: (203) 974-8476; Fax: (203) 974-8502; e-mail: Chris.Maier@po.state.ct.us.

Survey Methodology: To locate infestations of the targeted wood wasps, *Sirex noctilio* and *Urocerus gigas*, CAES Survey Assistants will check baited 12-funnel Lindgren traps deployed in pine stands at 10 locations in Fairfield, Hartford, and New Haven Counties (10 sites/county), Connecticut, every 2 weeks. Traps will be monitored on a biweekly basis, and lures will be replaced in the middle of the survey period (after 6 weeks). The traps with an ultra high-release lure containing a blend of alpha- and beta-pinene (Phero Tech) and hung with the collection cup at 2 meters above ground should attract a wide range of wood wasps that will be killed by the low-toxicity anti-freeze in the collection cup at the bottom of each trap. The traps will be deployed in stands of mainly hard pines (pines with 2-3 needles/bundle), which are the preferred hosts of the targeted wood wasps.

The UConn trapping survey for *Sirex noctilio* will occur in New London, Tolland, and Windham County, Connecticut. Donna Ellis (UConn) will place 15 traps in the eastern counties, approximately five traps per county. The traps, lures, and survey methodology are the same as described above for CAES, with the exception that lures will be changed on a monthly basis.

Rationale Underlying Survey Methodology: The 12-funnel Lindgren traps baited with alpha- and beta-pinene are recommended by USDA Forest Service personnel, who effectively have captured *Sirex noctilio* with their trapping procedure. Captured specimens remain in good condition in low-toxicity anti-freeze if they are removed from traps every 2 weeks.

Survey Dates: Survey for the targeted insects began on 25 June 2007 will continue until September 6, 2007. The first collection of trapped insects will be in July.

Taxonomic Services: (CAES) The Survey Cooperator will screen trapped siricids for the target species. The Survey Cooperator will use a collection of native and exotic wood wasps and the “Guide to the Siricid Woodwasps of North America” to screen samples. If found, suspect specimens will be submitted to an APHIS-designated identifier.

(UConn) Initial screening of trapped siricids will be conducted by Donna Ellis. Suspect positive exotic siricids will be forwarded to a USDA identifier for confirmation.

Benefits and Results of the Survey: Educational materials on the two wood wasps were compiled between January and June 2007 and will be disseminated throughout the project period. Main recipients of this outreach material will be foresters, landscapers, homeowners, cooperative extension specialists, researchers, and others. Distributional data obtained from the survey will provide APHIS and foresters in the state with relevant information about the range of these potentially new exotic pests in Connecticut. Survey results may help APHIS and the Connecticut Agricultural Experiment Station in decision-making processes about regulation of these exotic pests.

The Survey Cooperator distributed fact sheets on exotic insects, spoke about alien insects, or displayed posters on them at the Annual Meeting of the Connecticut Tree Protective Association (January), at a Forest Health Monitoring Workshop with state foresters and other interested parties (February), at a Tree and Landscape Management Seminar of Bartlett Tree Company (March), at the Connecticut Conference on Natural Resources (March), at a meeting of the Naugatuck Valley Audubon Society (March), at a meeting of the Connecticut Entomological Society (March), at two meetings of the Connecticut Pomological Society (May and June), and at a CAPS meeting (June).

(CAES) Summer Assistants and full-time staff deployed the 30 traps (10 traps/county) during the last week of June, beginning on June 25, 2007. Twenty-nine of the 30 trapping sites have species of hard pines. Over the 10-week trapping period, each trap will be inspected five times (30 traps x 5 inspections = 150 total inspections of traps). (UConn) Donna Ellis placed 15 traps (5 traps/county), beginning June 29, 2007 in stands of 2- and 3-needled hard pines or white pine. Traps will be serviced biweekly five times through early September (15 traps x 5 inspections = 75 total trap inspections).

Comparison of Actual Accomplishments to Objectives Established for January 1-June 30, 2007. The Lindgren traps intended for Litchfield County were deployed in New Haven County, and the Lindgren traps were not baited with lures of ethyl alcohol. Thus, allowing for these two changes, the objectives stated in the proposal were met. Specific accomplishments are given above.

If appropriate, explain why objectives were not met. The State Plant Health Officer requested that trapping in Litchfield County be moved to New Haven County to accommodate the APHIS delimiting survey for *Sirex noctilio*. Traps were not baited with ethyl alcohol because this procedure was not part of the recommended procedure of the USDA Forest Service.

Where appropriate, explain any cost overruns. N/A

NAPIS Database Submissions: None – the survey has just begun.

D. Survey for the Fruit Tree Tortrix and the Summer Fruit Tortrix, Two Potential Pests of Fruit Species Grown in the United States (Part II).

Survey Cooperator: Chris T. Maier, Department of Entomology, Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven, CT 06504; Phone: (203) 974-8476; Fax: (203) 974-8502; e-mail: Chris.Maier@po.state.ct.us.

Survey Methodology: To search for infestations of the fruit tree tortrix and the summer fruit tortrix, Survey Assistants checked pheromone-baited wing traps placed in apple or crabapple trees at 10 sites in Hartford County and 10 sites in Litchfield County, Connecticut, every 6-8 days between June 4 and 25. Each site had one pheromone trap for the summer fruit tortrix and one for the fruit tree tortrix.

Rationale Underlying Survey Methodology: The pheromone-baited wing traps, manufactured commercially by Trécé (Adair, OK), effectively capture male moths and require relatively little labor to service.

Survey Dates: Survey for the targets began on 29 May and will continue until the end of August.

Taxonomic Services: The Survey Cooperator screened trapped moths for the targets. If found, suspect specimens will be submitted to an APHIS-designated identifier.

Benefits and Results of the Survey: Educational materials on the two alien tortrix moths were compiled between January and May 2007 and will be disseminated throughout the project period. Main recipients of this outreach material will be fruit-growers, landscapers, homeowners, Integrated Pest Management specialists, cooperative extension specialists, researchers, and others. Distributional data obtained from the survey will provide APHIS and agricultural producers in the state with relevant information about the range of these potentially

new exotic pests in Connecticut. Survey results may help APHIS in decision-making processes about regulation of these exotic pests.

The Survey Cooperator distributed fact sheets on exotic insects, spoke about alien insects, or displayed posters on them at the Annual Meeting of the Connecticut Tree Protective Association (January), at a Forest Health Monitoring Workshop with state foresters and other interested parties (February), at a Tree and Landscape Management Seminar of Bartlett Tree Company (March), at the Connecticut Conference on Natural Resources (March), at a meeting of the Naugatuck Valley Audubon Society (March), at a meeting of the Connecticut Entomological Society (March), and at two meetings of the Connecticut Pomological Society (May and June), at a CAPS meeting (June).

Summer Assistants and full-time staff did not find any target moths in pheromone traps through June 25, 2006. They have checked the pheromone traps every 6-8 days since June 4 (apple tree tortrix: 1 trap x 4 inspections x 20 sites = 80 total inspections; summer fruit tortrix: 1 trap x 4 inspections x 20 sites = 80 total inspections of traps).

Comparison of Actual Accomplishments to Objectives Established for January 1-June 30, 2007: All the objectives stated in the proposal were met. Specific accomplishments are given above.

If appropriate, explain why objectives were not met. N/A

Where appropriate, explain any cost overruns. N/A

NAPIS Database Submissions: None

E. Chrysanthemum White Rust Survey (Part III). Reported by Victoria Smith and Sharon Douglas (The Connecticut Agricultural Experiment Station).

Survey Methodology (trapping protocol): Each year, during the course of regular nursery inspections, registered nurseries and nursery dealers are inspected for presence of pests and diseases on the stock on hand and in production. Plants are examined visually by trained inspectors, and signs and symptoms of infection are noted. When warranted, samples are transported to the PDIO for further examination by a trained and experienced plant pathologist. If necessary, plant samples will be incubated to encourage growth and sporulation of diseases, to aid in identification of the causal agent.

In addition, plants are delivered to the PDIO by hobbyist gardeners. These plant samples will be examined as above, and, when warranted, will be incubated to encourage growth and sporulation.

Rationale underlying survey methodology: Visual surveys by trained inspectors are an effective method of detecting this disease.

Survey dates: This survey is ongoing. Nursery inspections began in 2007 in February. Submissions to the PDIO occur throughout the year. Below is a summary of inspection activity as of June 18, 2007:

Survey Period 2007	# of Nurseries/Sites Inspected	# of Samples Collected	# of Suspect Specimens	# of Confirmed Positives	Comments
January	0	0	0	0	not started yet
February	2	0	0	0	
March	36	0	0	0	
April	46	0	0	0	
May	1	0	0	0	
June	0	0	0	0	

Taxonomic services: Provided by Dr. Sharon Douglas, CAES

Benefits and results of survey: Data on the presence or absence of this non-native disease in Connecticut

Compare actual accomplishments to objectives established for the period: Survey and inspection goals are on target for achievement by the end of 2007.

If appropriate, explain why objectives were not met: N/A

Where appropriate, explain any cost overruns: No cost overruns occurred.

NAPIS database submissions: CAPS program pest and date of submission: None to date.

F. Pine Shoot Beetle (Part III). Reported by Victoria Smith (The Connecticut Agricultural Experiment Station).

Survey Methodology (trapping protocol): Each year, during the course of regular nursery inspections, registered nurseries and nursery dealers are inspected for presence of pests and diseases on the stock on hand and in production. Plants are examined visually by trained inspectors, and signs of infestation are noted. When warranted, samples are transported to the Connecticut Agricultural Experiment Station for further examination by a trained and experienced diagnostic entomologist.

Shipments of Christmas trees arriving from out-of-state will be inspected for presence of PSB, by examination of a sample of at least 10 % of the trees in the shipment. Experienced inspectors will visually examine the trees, and if warranted, take samples for further examination.

Lindgren traps baited with ethanol lures were located in all counties of the state, with 5 traps per county. Since the geographic area is small, 5 traps will be sufficient to cover the state. Traps were monitored bi-weekly and insects identified to species. Experiment Station personnel

monitored traps in Fairfield, Litchfield, and Hartford counties, and PPQ personnel monitored traps in the remaining 5 counties..

Rationale underlying survey methodology: The standard protocol developed by APHIS for Pine Shoot beetle is being used in this survey.

Survey dates: January 2007 through June 2007. Trapping activity is summarized below.

Survey Period 2007	# of Nurseries/Sites Inspected	# of Samples Collected	# of Suspect Specimens	# of Confirmed Positives	Comments	Data entered into NAPIS? Yes or No
January	36	0	0	0	traps set up in late January	
February	36	0	0	0		
March	36	1	0	0		
April	36	13	0	0		
May	36	28	0	0		
June	36	14	0	0	last trap collected June 14	Yes, June 18, 07

Taxonomic services: Provided by Gale Ridge, CAES

Benefits and results of survey: Data on the presence or absence of this non-native pest in Connecticut.

Compare actual accomplishments to objectives established for the period: Trapping objectives were met. Nursery inspections are ongoing, and Christmas tree inspections have not begun.

If appropriate, explain why objectives were not met: N/A

Where appropriate, explain any cost overruns: No cost overruns.

NAPIS database submissions: CAPS program pest and date of submission: Pine shoot beetle; June 18, 2007.

G. Swede Midge Survey (Core). Reported by Kimberly Stoner (The Connecticut Agricultural Experiment Station). Please see update in the New State Records and NAPIS Data Submissions sections.

Survey Methodology (trapping protocol): Pheromone trapping using Jackson trap, supplemented as needed by visual surveys.

Rationale underlying survey methodology: Best method for this pest.

Survey dates: Standard survey has not yet begun – planned to begin in July. We have begun a delimiting survey, with a trap at the farm where the pest was found in 2006, and another trap at the nearest farm growing Brassicas (about 1 mile away).

Taxonomic services: Screening provided by Kimberly Stoner. Suspects will be forwarded to a USDA identifier.

Benefits and results of survey: Outreach activities:

Presentation “Organic Management of Pests of Brassicas” at the NOFA-NY Conference, January 26, 2007. Syracuse, NY. 50 people. Included 10 Powerpoint slides on swede midge.

Slide presentation “Swede Midge Update” at the Brassica School, Sturbridge, Mass., March 6, 2007. about 25 people. Slide presentation ran continuously on a laptop during the breaks, lunch, and the hands-on session for people to look at insect pests and information.

Compare actual accomplishments to objectives established for the period: As organic Brassica growers plant their fall crops outdoors and out from under row covers, we will set up 20 pheromone traps at 10 farms in five counties. This will accomplish our stated objectives.

If appropriate, explain why objectives were not met: N/A

Where appropriate, explain any cost overruns: No cost overruns.

NAPIS database submissions: CAPS program pest and date of submission: The survey has not yet begun.

III. New State Records

A new state record for Swede midge (*Contarinia nasturtii* Kieffer) was confirmed on 27 July 2006 from an organic farm in New Haven County, Connecticut. A single adult Swede midge was captured by Kimberly Stoner (Connecticut Agricultural Experiment Station) in a Jackson trap placed in a field of mixed cruciferous vegetable crops. The specimen was confirmed on 19 January 2007 by Dr. Raymond Gagne, USDA APHIS Systemic Entomology Laboratory, Washington, DC.

IV. Other Data Submitted to NAPIS

NAPIS data were submitted for the following surveys and survey pests during the reporting period:

- Pine Shoot Beetle – Survey results were negative for the 2007 trapping survey, which was conducted by The Connecticut Agricultural Experiment Station.

- Pine Shoot Beetle – Survey results were negative for the 2006 visual survey, conducted by The Connecticut Agricultural Experiment Station.
- Swede midge – a new state record occurred for Swede midge, collected by Kimberly Stoner (The Connecticut Agricultural Experiment Station) in July 2006.

Respectfully submitted,

Kirby C. Stafford III
State Entomologist

For:
Donna Ellis
State Survey Coordinator

Victoria Lynn Smith
Deputy State Entomologist

Revision 24 December 2007