Exotic Wood Borer/Bark Beetle Work Plan
January 1, 2016 – December 31, 2016

Cooperator:	Kansas Department of Agriculture			
State:	Kansas			
Project:	Exotic Wood Borer/Bark Beetle Survey			
Project funding source:	CAPS- Pest Detection Survey			
Project Coordinator:	Laurinda Ramonda			
Agreement Number	16-8420-____-CA			
Contact Information:	**Address:**	Plant Protection and Weed Control 6531 SE Forbes Avenue, Suite B, Topeka, Kansas 66619		
	Phone:	785-564-6698	**Fax:**	785-564-6779
	Email Address:	laurinda.ramonda@kda.ks.gov		

This Work Plan reflects a cooperative relationship between the Kansas Department of Agriculture (KDA) (the Cooperator) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ). It outlines the mission-related goals, objectives, and anticipated accomplishments as well as the approach for conducting an Exotic Wood Borer/Bark Beetle Survey and the related roles and responsibilities of the Kansas Department of Agriculture and USDA-APHIS-PPQ as negotiated.

I) OBJECTIVES AND NEED FOR ASSISTANCE

There are 475 known established invasive forest pests in the United States. More than 360 species of nonnative insects have become established; approximately 30% of those becoming major pests. This threat is of high concern to Kansas forests and urban trees. This survey allows for the potential detection of exotic pests that may become established in Kansas' trees, both in natural areas as well as in residential neighborhoods. There are many introduced pests that could become established in Kansas and would not only threaten the diversity of our natural areas and alter our community landscapes, but could also dramatically impact our forest product industry and nursery trade.

Many new threats to forests have entered through firewood and other means which can damage or destroy many different species of hardwoods. Of these potential pest threats, several are at high risk for establishment, spread, economic damage, and environmental damage. For instance, oak splendour beetle, gold spotted oak borer and European oak borer are closely related to the emerald ash borer, which has killed millions of trees in infested

areas. In addition to the potential to kill trees, these nonnative phloem-feeding pests could impact the quality of timber, pulp, and other forest products, and may predispose trees to attack by secondary insects and pathogens. Other tree pests targeted in this survey include the Japanese pine sawyer, oak ambrosia beetle, European hardwood ambrosia beetle and the black spruce beetle.

II) RESULTS OR BENEFITS EXPECTED

The Cooperator seeks to conduct a program which is expected to result in:

1. Early detection and containment of the targeted pests if found.
2. Identification of pathways.
3. Better knowledge to assist with exports and industry.
4. Provide the Kansas Department of Agriculture, USDA-APHIS-PPQ, and surrounding states with information regarding the status of these pests.
5. Additional geographic assessment from data gathered.

III) APPROACH

What is the plan of action or approach to the work (for bundled survey work plans please include a separate paragraph for each survey detailing survey type, targets, and number of locations)?

Twenty-five sites are planned to be trapped and visually surveyed for cerceris colonies. Traps will be placed in forests, lumber processing facilities and parks for 2 months (May and June). Funnel traps, cross-vane panel traps and biosurveillance will be utilized. Biosurveillance for cerceris wasp colonies will occur at ball fields at schools, parks and townships.

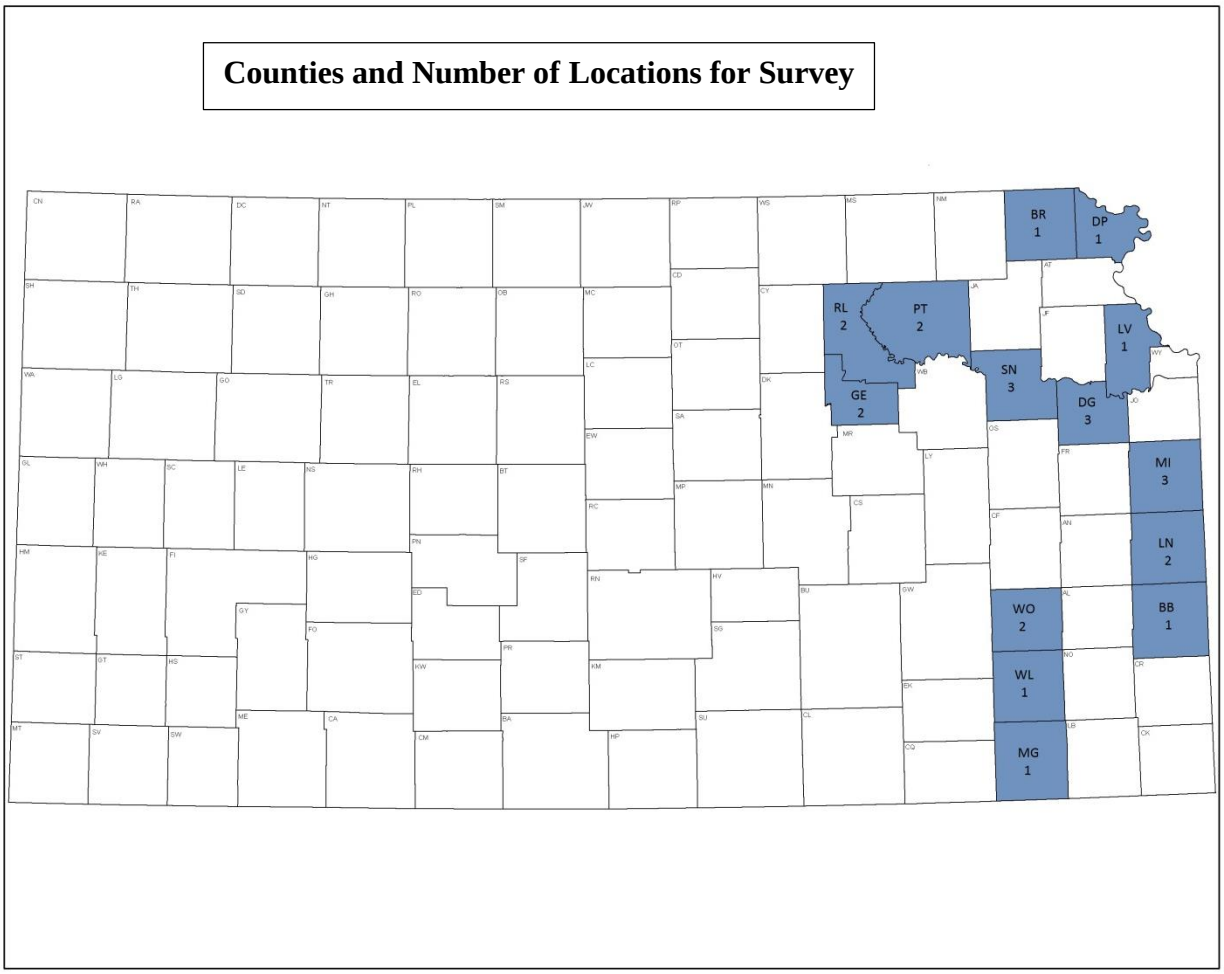
Trapping for the Japanese pine sawyer (*Monochamus alternatus*) – trapping from May and June using a wet cup (propylene glycol) funnel trap with monochamol, ethanol, and ultra-high release alpha-pinene lure. Lure is effective for 4 week. Host: Spruce, fir, maple, beech, ginkgo, apple, larch, juniper, pine.

Trapping for oak ambrosia beetle (*Platypus quercivorus*) – trapping from May and June using a wet cup (propylene glycol) funnel trap with quercivoral lure. Lure is effective for 4 weeks. Host: oak, Japanese cedar, Chinese holly, spice bush.

Trapping for the European hardwood ambrosia beetle (*Trypodendron domesticum*) – trapping from May and June using a wet cup (propylene glycol) funnel trap with lineatin lure. Lure is effective for 12 weeks. Host: alder, birch, maple and cherry (place hardwoods away from pine-lure will interact).

Trapping for the black spruce beetle (*Tetropium castaneum*) – trapping from May and June using a cross-vane panel trap with a spruce blend, geranyl acetol and ethanol lure. Lure is effective for 8 weeks. Host: fir, spruce, pine, larch, walnut, juniper, oak.

Visual survey during May and June for goldspotted oak borer (*Agrilus auroguttatus*), Oak Splendor Beetle (*Agrilus biguttatus*), European Oak Borer (*Agrilus sulcollis*), Emerald Ash Borer (*Agrilus planipennis*) – utilize survey for cerceris wasp colonies. Host: oak, ash



A. The Cooperator will:

- Identify parks, schools, lumber yards, and forested areas to trap in Bourbon, Brown, Doniphan, Douglas, Geary, Leavenworth, Linn, Miami, Montgomery, Pottawatomie, Riley, Shawnee, Wilson, Woodson counties.
- Document GPS coordinates of sites.
- Maintain equipment used in this survey upon completion of project.
- Survey at high risk areas that are susceptible to the introduction and establishment of targeted pests from May and June 2016.
- Hire one temporary/seasonal staff person through a hiring agency that has a contract with the state to perform survey.
- Supply GPS equipment.
- Help train seasonal staff and handle samples taken from the field.

- Supply a rental vehicle and fuel for travel for conducting survey and collecting data from funds received through this project.

1. **By function, what work is to be accomplished?**
   - A list of parks, schools, lumber yards and forested areas will be compiled.
   - Survey will be performed by one temporary/seasonal person.
   - Temp employees will be trained and monitored by the State Survey Entomologist and State Survey Coordinator.
   - Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
   - GPS coordinates will be included with surveys.
   - Screening for target specimens will be performed by KDA.
   - Suspect specimens in traps will be sent to a qualified identifier.

2. **What is the quantitative projection of accomplishments to be achieved?**

   a. **By activity or function, what are the anticipated accomplishments by month, quarter, or other specified intervals?**

      - Trapping will occur from May and June.
      - Traps checked at least every 2 weeks.
      - Visual surveys for cerceris wasp colonies to look for buprestid drops only no monitoring of the trap.
      - Fact sheets, webpage, resources, and pest reporting will be continually updated as new information becomes available.
      - Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
      - GPS coordinates will be included with surveys.
      - Survey and identification of any targeted pests.
      - Suspect specimens will be forwarded to a qualified identifier

   b. **What criteria will be used to evaluate the project? What are the anticipated results and successes?**

      - Pest detection survey activities completed.
      - All data collected from the pest detection survey is entered into the NAPIS database.
      - SPHD, SPRO, PSS, SSC meetings to keep updated on issues, if needed.
      - Presence or absence of targeted pests.
      - Better knowledge of the pathways that are at high risk for the introduction of the targeted pests.

3. **What numbers and types of personnel will be needed and what will they be doing?**

- A temporary/seasonal person to conduct survey.
- KDA permanent staff to help train seasonal employee and screen and ship target specimens.
- Data acquired will be entered into the NAPIS database by the State Survey Coordinator or KDA staff.
- KDA staff will screen target specimens.
- Qualified identifier for specimen identification (APHIS Identifier).

4. **What equipment will be needed to perform the work?** Include major items of equipment with a value of $5,000 or more.

   a. **What equipment will be provided by the cooperator?**
      - Computers
      - Microscopes and similar lab equipment

   b. **What equipment will be requested from APHIS on loan?** N/A

   c. **What equipment will be purchased in whole or in part with APHIS funds?** N/A

   d. **How will the equipment be used?**

      - Data entry, documentation, and analysis
      - Screening and identification of pests

   e. **What is the proposed method of disposition of the equipment upon termination of the agreement/project?** N/A

5. **Identify information technology equipment, e.g., computers, and their ancillary components.**
   Provided by KDA, office space with associated services and utilities, computers and other office equipment for the use of Cooperator personnel. These include GPS unit and computer with internet service.

6. **What supplies will be needed to perform the work?**

   - Specimen storage facilities
   - Hand lenses
   - Hand tools (pruners)
   - Ziploc bags
   - Ethyl alcohol
   - Alcohol proof pens, pens, tape, etc. (office supplies)
   - GPS units
   - Traps – funnel, cross-vane panel

- Lure – 1. monochamol, ethanol, and ultra-high release alpha-pinene, 2. Quercivoral, 3. Lineatin, 4. spruce blend, geranyl acetol and ethanol
- Insect pins
- Shipping boxes
- Fuel for rental vehicle
- Twine
- Flagging tape
- Propylene glycol for funnel and cross-vane panel traps.
- Insect repellent
- Metal poles for hanging traps

a. What supplies will be provided by the Cooperator?

- Specimen storage facilities
- Hand lenses
- Hand tools (pruners)
- GPS units
- Funnel traps
- Metal poles for hanging traps

b. What supplies will be requested from APHIS (list supplies)?

- Cross-vane panel traps
- Lure

c. What supplies will be purchased in whole or in part with APHIS funds?

- Ziploc bags
- Ethyl alcohol
- Alcohol proof pens, pens, tape, etc. (office supplies)
- Insect pins
- Shipping boxes
- Fuel for rental vehicle
- Twine
- Flagging tape
- Propylene glycol for funnel and cross-vane panel traps.
- Insect repellent

d. How will the supplies be used?

- Planning, implementation, data collection and data submission of survey.
- Pest detection survey work.
- Shipping of specimens to identifiers or labs.

e. What is the proposed method of disposition of the supplies with a cumulative value over $5,000 upon termination of the agreement/project?

- None planned.

7. What procurements will be made in support of the funded project and what is the method of procurement (e.g., lease, purchase)?

- Supplies used for survey work.
- The Fiscal Department at the Kansas Department of Agriculture will provide most contracts.
- Seasonal employee will be employed by a temporary employment service that has a contract with the state.
- Most procurements will be made by purchase order.
- Some procurements will be made reimbursable personal expense.

8. What are the travel needs for the project?

a. Is there any local travel to daily work sites? Indicate rates and total costs in the Financial Plan.

- Travel will be required to survey sites by use of a rental vehicle (shortage of state vehicles).
- Most procurements will be made by purchase order.
- Some procurements will be made reimbursable personal expense.
- The KDA Plant Protection and Weed Control Plant Program Manager is the approving official.
- Costs are included in the financial plan.

b. What extended or overnight travel will be performed (number of trips, their purpose, and approximate dates)? Indicate rates and total cost in the Financial Plan.

- None planned.

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

a. Narrative accomplishment reports in the frequency and time frame specified in the Notice of Award, Article 4.

b. Federal Financial Reports, SF-425 in the frequency and time frame specified in the Notice of Award, Article 4.

10. Are there any <u>other</u> contributing parties who will be working on the project?

a. If so, list other participating institutions/agencies who will work on the project:

- KDA
- USDA-APHIS-PPQ
- Corp of Engineers
- Kansas Department of Wildlife and Parks
- Kansas Forest Service

b. Describe the nature of their effort:

- KDA – trapping, training, screening, specimen collection, lure and trap maintenance (state entomologist, CAPS coordinator and temporary/seasonal employees)
- USDA-APHIS- PPQ – funding, support and pest identification
- Corp of Engineers – locations for trapping and outreach
- Kansas Department of Wildlife and Parks – locations for trapping and outreach
- Kansas Forest Service - outreach

B. APHIS Will:

1. Outline the Agency's (USDA APHIS PPQ) substantial involvement.

a. Include any significant Agency collaboration and participation

- Provide traps and lure.
- Provide funds to the Cooperator to cover costs outlined in the Financial Plan.
- Make arrangements for Taxonomic support in identification and sorting.

b. Project oversight and performance management

- Review of data results submitted to USDA approved database.
- Review data and submit accomplishment reports to ADODR.
- Provide training, when necessary

c. Provide the equipment requested by the cooperator in 4.b. & c.

- None planned.

d. Provide the supplies requested by the cooperator in 6.b. & c

- Cross-vane panel traps
- Lure
- Ziploc bags
- Ethyl alcohol
- Alcohol proof pens, pens, tape, etc. (office supplies)

- Insect pins
- Shipping boxes
- Fuel for rental vehicle
- Twine
- Flagging tape
- Propylene glycol for funnel and cross-vane panel traps.
- Insect repellent

IV) GEOGRAPHIC LOCATION OF PROJECT

A. Is the project statewide or in specific counties? [List the names of ALL counties and tribal areas that apply (denote counties for each separate survey if this is a bundled survey work plan)].
Twenty- five sites in Bourbon, Brown, Doniphan, Douglas, Geary, Leavenworth, Linn, Miami, Montgomery, Pottawatomie, Riley, Shawnee, Wilson, Woodson counties.

B. What type of terrain (e.g., cropland, rangeland, woodland) will be involved in the project?
Many types of terrain will be involved from forests, to rural, to urban areas.

C. Are there any unusual geographic features which may have an impact on the project? (list all that apply)
Urban and recreational areas might have disruption through human contact.

V) DATA COLLECTION AND MAINTENANCE

Each State is responsible for entering complete, accurate, and timely pest survey data using approved protocol and methodology. All survey data from Pest Detection funded CAPS surveys will be entered into the National Agricultural Pest Information System (NAPIS). NAPIS is the final repository for all Pest Detection survey data.

- First record for the State and/or County will be entered within **48 hours** of confirmation of identification by a qualified identifier.
- All other required records, both positive and negative survey data, must be entered **within two weeks** of confirmation.
- All records are to be entered into the NAPIS database by **December 31st** of the year of survey so these data can be included in the yearly Plant Board Report.

VI) TAXONOMIC SUPPORT

State Entomologist

Kansas Department of Agriculture
Plant Protection and Weed Control
6531 SE Forbes Avenue, Suite B
Topeka, Kansas 66619
(785) 564-6698

OR

B. ☒ Request for taxonomic support.

- Regional APHIS-PPQ identifier (s) for screened samples.

VII) SURVEY SUMMARY FORM

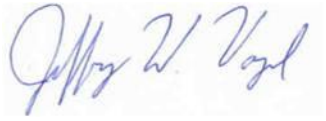
A Survey Summary Form must be completed to summarize all CAPS surveys **funded by the Pest Detection line item.**

Funnel trap with wet cup (propylene glycol):
Japanese pine sawyer (*Monochamus alternatus*)
oak ambrosia beetle (*Platypus quercivorus*)
European hardwood ambrosia beetle (*Trypodendron domesticum*)

Cross-vane panel trap:
black spruce beetle (*Tetropium castaneum*)

Visual:
cerceris wasp colonies
goldspotted oak borer (*Agrilus auroguttatus*)
oak Splendor Beetle (*Agrilus biguttatus*)
European Oak Borer (*Agrilus sulcollis*)
Emerald Ash Borer (*Agrilus planipennis*)

VIII) SIGNATURES



8/12/2015

ROAR	**Date**	**ADODR**	**Date**

Detailed Financial Plan

PROJECT: Exotic Wood Borer/Bark Beetles
COOPERATOR NAME: Kansas Department of Agriculture
AGREEMENT NUMBER: 16-8420-____-CA
TIME PERIOD: January 1, 2016 - December 31, 2016

Financial Plan must match the SF-424A, Section B, Budget Categories

ITEM			APHIS FUNDS	COOPERATOR FUNDS (Show even if zero)	TOTAL
PERSONNEL:	**Hours**	**Salary**			
KDA staff - Paid by Cooperator funds (based on average hourly wage for permanent employees)	15	$25	$0	$375	$375
Subtotal			**$0**	**$375**	**$375**
FRINGE BENEFITS:	**Percent** (enter as decimal not %)				
KDA staff - Paid by APHIS funds - 33%	0.33		$0	$124	$124
Subtotal			**$0**	**$124**	**$124**
TRAVEL:	**Cost**	**Length of time**			
SUV rental for temporary staff for 2 months @ $979/month (shortage in state vehicles) **	$979	2	$1,958	$0	$1,958
Subtotal			**$1,958**	**$0**	**$1,958**
EQUIPMENT:	**Cost**				
			$0	$0	$0
Subtotal			**$0**	**$0**	**$0**
SUPPLIES:	**Cost**	**Length of time**			
Ethyl alcohol, alcohol proof pens, Ziploc bags, shipping supplies, insect repellent, twine, boxes, flagging tape, etc.	$214		$214	$0	$214
Propylene Glycol (10 bottles)	$365		$365		$365
Fuel - 2027 miles/month x $3.25 per gallon/20 mpg x 2	$380	2	$760	$0	$760

months- for rental vehicles**					
Traps and lure provided by USDA	$0		$0	$0	$0
Subtotal			**$1,339**	**$0**	**$1,339**
CONTRACTUAL:	**Cost**	**Length of time**			
Key Staffing (1 temporary staff) $20.00 x 360 hours (includes data entry time and trap prep)	$20	360	$7,200	$0	$7,200
Subtotal			**$7,200**	**$0**	**$7,200**
OTHER:	**Cost**				
Shipping samples to identifier	$100		$100	$0	$100
Subtotal			**$100**	**$0**	**$100**
TOTAL DIRECT COSTS			**$10,597**	**$499**	**$11,096**
INDIRECT COSTS	**Percent** (enter as decimal not %)				
Indirect rate- 20.9%	0.209		**$0**	**$104**	**$104**
TOTAL			**$10,597**	**$603**	**$11,200**
COST SHARE INFORMATION (Percent)			**95%**	**5%**	

***** Kansas' Negotiated Cost Rate (Salary + Fringe Benefits x %=Indirect Cost)

****** There is a shortage of state vehicles. We give the option of renting a vehicle or using personally owned vehicles. If renting we pay for the fuel and if a personal vehicle is used we pay mileage.