

Annual Accomplishment Report
Maryland Emerald Ash Borer Eradication Project
09-8224-0408-CA

Year: 2009

State: Maryland

Agency: Maryland Department of Agriculture

Introduction and Overview:

The emerald ash borer, (*Agrilus planipennis*) (EAB), is an exotic, devastating insect pest that is responsible for the deaths of more than 25 million ash trees in the Midwestern United States. Trees infested with EAB larvae were illegally shipped from within a quarantined area in Michigan to a Prince Georges County, Maryland, nursery in April of 2003. In an attempt to eradicate EAB, Maryland completed the removal of ~1,100 ash trees on 500 acres in and around the nursery by March, 2004. Sentinel ash trees have been used each year to monitor for the presence of EAB that may have escaped eradication efforts. In August, 2006, MDA rediscovered EAB on sentinel ash trees. State and federal quarantine orders were issued for all of Prince George's County in 2006 and revised in 2007, and in 2008 to include Charles County.

To date ~42,000 ash trees have been removed on nearly 17,000 acres. In 2009, Maryland determined that new EAB detections have shown an "edge effect" suggesting that cutting has been somewhat effective, but not enough to stop EAB completely. With guidance from the National EAB Science panel, the state has directed efforts away from eradication through wholesale removal of ash resource, and now focuses on survey, insecticide treatments, and releases of natural enemies in the project area in order to reduce populations and prevent the spread of EAB. The final eradication zone was 18.3 square miles. The project area is now 44.7 square miles.

In the 2009 cooperative agreement (C.A.), not all of the funding that was budgeted for contractual expenses related to tree removal (logging, chipping) was expended, because these activities were discontinued. We obtained approval to redirect some of the remaining balance to purchase a 50 ft. trailer boom lift, utility trailer, two six-passenger ½ ton crew cab pickup trucks, a Kubota RTV utility vehicle, and ten Toughbook field computers in support of survey activities.

Objectives of this agreement included continued execution of inventory and delimiting surveys, education and outreach, and eradication and containment of EAB in Maryland. During this reporting period, **survey**, **management**, **regulatory**, and **outreach** activities were ongoing and continuous, and in many cases overlapped. Each category is detailed in this report.

Survey:

The MDA cooperated with a Canadian researcher for locating and utilizing colonies of a native, solitary, ground-nesting wasp *Cerceris fumipennis* (Say), to search for the emerald ash borer. *C. fumipennis*, includes the EAB as prey when provisioning its nests. By observing what the

wasps bring back to their nests, we may be able to detect EAB earlier than by using current survey methods.

Ash inventory was conducted using teams with GPS units to identify all the ash in each grid, mark each tree and record the sizes using 5 size classes (<1", 1-10", 11-17", 18-23", and 24" and larger). The GPS units (Trimble Geo XM, Magellan (Thales) Mobile Mapper CE, and Topcon GMS-2) are able to display the grid layer and are used to define the edges and middle of the grid and to record the collected data. Paper data sheets were also filled out for each grid. After the grids were inventoried, up to 10% of the trees found in each grid were to be destructively sampled.

Survey results for 2009:

- A total of 2,454 purple prism traps were deployed in 18 counties as part of the USDA EAB targeted survey. The highest density (16/sq. mi.) was in the infested areas of Prince and Charles Counties (1,119 traps), with lower densities farther out from the core area and in targeted areas around the state. All traps were serviced per federal protocols.
- 1,010 sentinel trap trees were deployed in and around the project area.
 - 280 were treated with bark applications of Safari™ 20SG
 - 365 were treated with trunk injections of Tree-äge™
 - 52 were utilized for a University of Maryland research project
 - 313 were left untreated
 - 17 treated trees (9 Safari™ and 8 Tree-äge™) and 230 untreated trees were harvested and debarked.
- 936 grids were surveyed for ash trees on 2,340 acres in 2009. 2,511 ash trees identified in 208 grids were visually inspected for signs of EAB.
- The MDA responded with site visits or phone calls to 81 homeowner calls/reports submitted from 9 counties in 2009.
- Seven untreated trap trees and 18 purple traps were positive for EAB in and around the perimeter of the eradication zone (Attachment A.)

Management

Trees to be cut as determined by survey were marked with orange paint. Urban residents received additional information on a door hanger if their property was scheduled for tree removal. Logging and chipping/grinding conducted in January – March, 2009 was partially supported by CY 2008 Cooperative Agreement funding. In 2009, a total of 6,150 trees were removed by loggers, 173 by arborist, and 743 $\geq 1"$ by MDA staff. In wooded areas, stumps were treated with triclopyr herbicide to prevent re-sprouting. In residential areas, the stumps were ground to below the soil line, and chips and/or soil were used to fill the hole. Additionally, MDA staff removed small trees encountered while surveying the EZ. Harvested trees were taken to the marshaling yard at Cheltenham where they were ground to less than 1" pieces to destroy any EAB larvae that may be present.

Two insecticides, Tree-äge™ (under a Maryland 24(c) Special Local Needs label) and Safari™ 20SG, were applied in the management area in 2009. Within the project area but outside of the ash free zone, 570 natural and landscape ash trees were treated with insecticide (187 Safari and 383 Tree-äge™).

A USDA permit for release of three species of EAB parasitoids in Maryland was approved in 2009. Releases were conducted in the project area in cooperation with USDA APHIS, Agricultural Research Service (ARS) and USDA Forest Service (FS).

Individuals released:

- 364 *Oobius agrili*
- 4,104 *Tetrastichus planipennis*
- 2,414 *Spathius agrili*

T. planipennis were recovered in follow up monitoring of the release sites.

Regulatory:

As of September 1, 2009, provision 6. (g) of the Maryland EAB Quarantine was no longer in effect. This is the provision: "Except as directed by the Secretary, the movement and planting of all ash nursery stock within the Infested Area is prohibited until September 1, 2009." This means that nursery stock may be moved freely within the Infested Area, approximately the northern half of Charles and southern half of Prince George's Counties, although we strongly discourage it. This sunset provision has served its purpose and we do not plan to renew it. This is in compliance with the federal quarantine, and consistent with other state quarantines. The remainder of the quarantine is still in effect indefinitely.

The USDA and MDA executed a compliance agreement to allow the chipping grinding contractor to ship the finished mulch from the marshaling yard to a buyer in West Virginia. The MDA maintained control of the product in the yard and ensured that the final product met the required specification before leaving the yard.

Our approach to compliance has been through outreach and education. A regulatory fact sheet outlining quarantine restrictions and penalties was developed and distributed widely to practitioners and local governments. MDA staff responded to possible violations of the state quarantine. Most were firewood related. In one case of ash trees planted in the EZ, the planting specifications pre-dated our quarantine and the installer was not aware of the quarantine situation and the situation was remedied voluntarily.

Outreach:

Outreach continued to be a high priority and was primarily handled by the MDA PIO and her staff.

- Publications and materials included a revised quarantine schematic and FAQ, firewood posters and postcard mailers, MD EAB t-shirts and jackets.
- Activities included public meetings, press releases, public service announcements, exhibits and advertising.
- Governor Martin O'Malley provided a proclamation for Emerald Ash Borer Week in late May and the PIO tied special news releases and outreach to the week.
- Information was mailed to hunting, fishing licensing locations across Maryland as well as to land owners, tree care and green industry professionals, and others.
- The program contracted with Maryland Public Television as a sponsor of Chesapeake Bay Week in April with 15 second ads, an ad in the printed program and hyperlink on the station's website.
- A contract with the Bowie Baysox, a minor league baseball team in Prince George's County, included a billboard in the stadium, space in the scorecard, 10 game t-shirt

tosses, and staffed concourse marketing tables during four games at Prince George's Stadium in Bowie.

- MDA also contracted with the Southern Maryland Blue Crabs minor league baseball team in Charles County. This contract included an ad in the program, an outfield billboard, and one night concourse exhibit.
- MDA purchased billboard ad space on major Southern Maryland roadways and a kiosk ad space in a heavily trafficked shopping mall in Charles County to supplement USDA billboard activity.
- MDA staff and other state cooperators presented EAB updates and information at venues such as stakeholder meetings, pesticide recertification training, environmental and civic group meetings, and professional meetings. Staff attended and participated in the EAB Research Meeting in Pittsburgh in October, and presented a Maryland program overview to the EAB Science Panel.
- Local press covered the purple trap deployment extensively.
- Outreach with offers of educational materials went to the boy scouts of the National Capital chapter.
- An EAB Facebook page was created and posted during the spring outreach campaign.
- MDA included EAB display and outreach materials in its Maryland State Fair exhibit
- Other general EAB media coverage was generated by eradication activities.

The MDNR Forest Service and Park Service continued its policy to prevent campers and other visitors from bringing outside firewood onto all DNR owned or managed properties. The Department notifies campers of the restriction when reservations are made and by notices posted at the properties. Both Park and Forest Service staffs direct visitors to local sources of firewood and require campers to immediately burn any local firewood transported to a DNR property.

Maryland Cooperative Extension also contributed to the program. The Maryland Home and Garden Information Center maintained an informational Website and Web-based reporting form, http://www.hgic.umd.edu/content/emeraldAshBorer_form.cfm. In 2009, the University of Maryland Home and Garden Information Center fielded over 117 calls and answered 33 emails (this seems really low to me) from concerned citizens regarding EAB. In addition, 26 residents utilized the electronic form on the Center's EAB page to report possible infestations. In 2009, a Pest Threats Website was launched, <http://pestthreats.umd.edu/>. This Website's objective is to increase the diagnostic skills of green industry professionals, Cooperative Extension personnel including Master Gardeners, government personnel, and citizens to improve their abilities as first detectors.

The University of Maryland Extension, collaborating with the Maryland Arborist Association, Maryland Nursery and Landscape Association, Landscape Contractor's Association of MD/D.C./VA, Maryland Department of Agriculture, West Virginia University Extension and USDA conducted a two day, intense invasive species training session for arborist, city managers, landscape managers and park's managers in April of 2009. The first day of training was a 7 hour session on invasive. The second day (7 hour training) was on invasive insects including Asian longhorned beetle, **emerald ash borer**, beech bark disease, and ambrosia beetles. Hands on examination of invasive disease and insects were conducted in each of the two sessions. A pre-training exam was administered and a post -training exam conducted with each of the trainees participating. As result, 44 professional horticulturist passed the exam and received national certification as first detectors as part of the National Plant Diagnostic Network program.

The University of Maryland, MDA, and USDA APHIS PPQ CPHST cooperated on a project entitled *Bionomics and Risk Assessment of Emerald Ash Borer in the Mid-Atlantic Region*. The overall goal of the project to better understand the biology, ecology and potential impact of the emerald ash borer in the mid-Atlantic region in support of management efforts. This information will help support public planners, designers, decision-makers, and educators plan activities and prepare budgets to deal more effectively with this invasive pest.

The MDA EAB Website, <http://www.mda.state.md.us/plants-pests/eab/>, was maintained and regularly updated with progress reports, maps, and fact sheets. The site had more than 11,000 hits in 2009.

Results /Benefits of Project Activities:

- Adjustment of program goals and approach based on survey results.
- Prevention of regulated articles from moving outside of the quarantined area.
- Increased likelihood of containment of the infestation.
- Statewide awareness and understanding of the EAB project and quarantine, fostering “ownership” in the outcome.
- Protection of the ash resource in Maryland and neighboring states.
- Data contribution to the National EAB Program.
- Research support for the EAB Research and Development Team

Approved and Signed by:

Cooperator _____

Date _____

ADODR _____

Date _____

Attachment A.

