

Accomplishment Report – Emerald Ash Borer

State Maryland

Year 2010

Is this a quarterly, semi annual or final report? **Annual**

List dates covered by this report: January - December

Cooperator: Maryland Department of Agriculture

Cooperators Project Coordinator:

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- A. Compare actual accomplishments to objectives established for the period as indicated in the work plan. When the output of the project can be quantified, a computation of cost per unit of output is required when useful.*

The objectives of this work plan include continued execution of inventory and delimiting surveys, education and outreach, and management of EAB in MD.

During 2010 the following was accomplished:

- Inventory and delimiting surveys ongoing
- Interviewed and hired contractual labor force
- Participated in the periodic conference calls
- MDA Website was updated and outreach activities were conducted targeting industry and practitioners
- Traps were set out and monitored
- Assisted Methods Development with a trap trial
- Biological control releases of three available parasitoids made
- Provided material to collect larvae or rear adults
- Extracted larvae for the biocontrol effort
- Set up a rearing room at the Cheltenham facility to collect emerged adults
- Assisted in collecting biocontrol emergence field data
- Homeowner visits to inspect reported EAB infested trees
- All data has been submitted to the national program for inclusion in the EAB database.

- B. If appropriate, explain why objectives were not met.*

All objectives were met for the Maryland Emerald Ash Borer Project.

- C. Where appropriate, explain any cost overruns.*

There were no cost overruns.

If the program is survey in nature add the following information:

- A. Survey Methodology (trapping protocol)
 - Inventory ash using a 1/16 mile grid (2.5 acres, 330'x330') beginning in the buffer that lies ½ mile outside of the Eradication Zone.
 - The remaining 1 ½ -2" dbh green ash trees of the 500 pairs (1,000 total) planted in 2009 as trap trees in and around the ash free zone to attract any EAB that might remain in the area that were treated with Safari in 2009 have been retreated with Safari and any untreated trap trees were treated with whatever treatment its paired tree was treated with to kill any EAB that may feed on the leaves (Safari or Tree-age).
 - Selectively treat or cut natural and landscape ash trees in the project area, but outside of the ash free zone,
 - Participate in the USDA EAB Targeted Trapping Survey.
 - Participate in the biocontrol release and monitoring activities.
 - Document, monitor and release biological control agents.
 - Visited homeowners to inspect reported EAB infested trees.
- B. Rationale underlying survey methodology
Survey guidelines followed as directed and/or approved by National Program
- C. Survey dates
January - December
- D. Taxonomic services
Samples will be screened by Gaye Williams of the MDA PP& WM Section. First county occurrence of suspect positives will be expedited to James Zablontny, APHIS identifier. Crew chiefs will verify positive detections during the delimiting survey.
- E. Benefits and results of survey
Continued intensive survey of the area will provide data needed by the EAB Science Advisory Panel to determine the final eradication scope and methodology.
Participation in the USDA national survey will help to provide support for national mitigation activities to reduce the impact and spread of EAB.

Detail of activities:

Inventory and Delimiting Survey

One hundred and ninety nine trees were delimited in 121 2.5 acre grids from the 687 grids inventoried. During the inventory phase, 6,432 trees were identified and marked. In Prince George's County 6,220 trees were identified on 1,660 acres and 212 trees identified on 57.5 acres in Charles County.

All material (removed infested trees, harvested trap trees, delimiting material, etc.) that were brought to the marshaling yard was double ground by April 27 before spring emergence (May 3, 2010) by McKnew Chipping, Inc.

We examined 65 trees using the recently acquired boom lift. Although no new detections have been made using the lift, the level of confidence in visual survey is greatly improved.

Trapping

Survey has been done and will continue in the immediate vicinity around outlier positive traps. Sources (mother tree(s)) of the beetles are major focus.

A trap trial was set up at 10 sites (30 traps) to support PPQ Methods Development efforts around the known infested area using purple and green traps and lures of 80/20 blend of manuka oil/phoebe oil or (Z)-3-hexenal. Three traps/site were serviced biweekly throughout the trapping season. There were 2 green and 1 purple trap (1 purple & 1 green trap had the blended lure and the other green had the (Z)-3-hexenal) at each site.

There were 2,601 prism traps operational statewide deployed in either the national grid , high risk, or the trap trial. There were 5 sites that had ‘double decker’ traps. These were set at high profile locations, such as campgrounds, that didn’t have ash trees readily available or a high profile was desired. The campgrounds were provided with outreach material to provide to interested campers. All traps were serviced on a biweekly schedule. No new counties were detected. Gaye Williams examined 825 submitted samples from the prism traps.

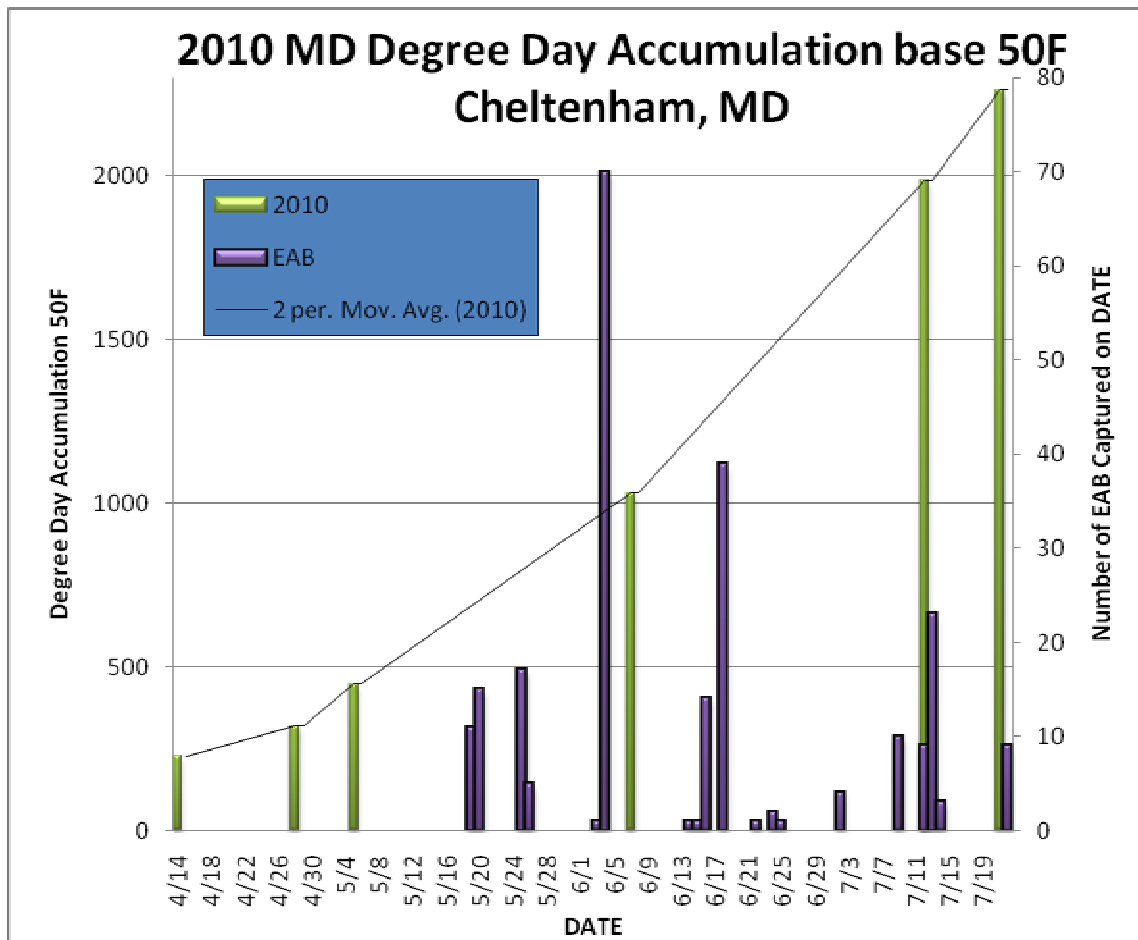
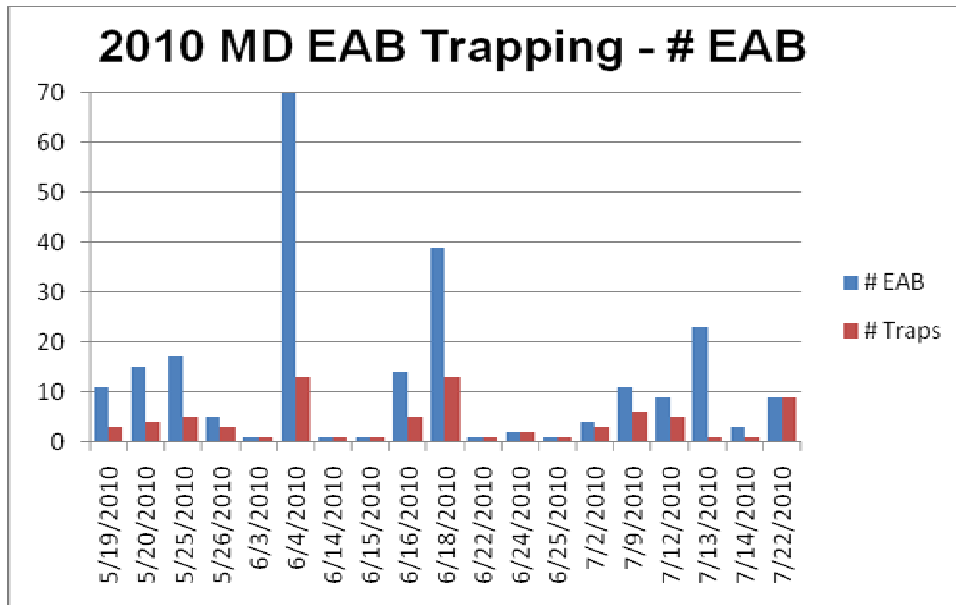
2010 EAB Trapping Statistics

County	# of traps	Trap Color	Double Decker	Double Decker	Positive Traps
		Green	Green/Purple	Purple/Purple	
AA	269				
AL	38				
BA	188	25			
BC	22				
CE	97				
CH	277	9		1	2
CL	124				
CR	46				
CV	221	4			
DR	99				
FR	15				
GR	112				
HF	164				
HW	43				
KT	92	1			
MG	39				
PG	371	34		1	31
QA	122		1		
SM	59	16			
SO	0				
TA	163				
WA	38				
WI	0				

WO	2		2		
Total	2601	89	3	2	33

2010 MD EAB Trapping and other Survey Methods Summary

Total # traps	2601	
# counties surveyed + BCity	22	
# sample records	16,046	(18,674 includes
# samples submitted	825	setup)
# positive samples	73	
# beetles trapped	237	
# positive traps	33	
# positive traps PG Co	31	
# positive traps CH Co	2	
Earliest date of emergence	5/1/2010	
Earliest date of capture	5/19/2010	
Latest date of capture	7/22/2010	
Peak capture	6/4/2010	
Length of capture period	~10 weeks	
# Purple traps	2507	
# Green traps	89	
# double decker traps P/P	2	
# double decker traps G/P	3	
Survey period - start	4/27 - 5/27	4/6 - 7/15
Survey period - end	8/17 - 9/21	5/11 - 10/8
Planted trap trees untreated	16	still in field 12/10
Planted trap trees treated Safari	305	still in field 12/10
Planted trap trees treated Tree-age	346	still in field 12/10
Natural girdled trap trees set	86	Fall 2010
Natural girdled trap trees	27	sampled fall '10
Natural girdled trap trees	4	positive
Destructive sampling # trees	404	sampled
Destructive sampling # trees	17	positive
# grids inventoried	687	PG 664 grids CH 23
# trees ID'd	6,432	PG 6220 trees CH 212
# grids resurveyed	113	25 trees id'd



Biocontrol

Sampled 2009 biocontrol release site for overwintering survival – all three species successfully overwintered. Dr. Jian Duan has submitted a paper with the details.

Set up a rearing room with emergence barrels and collected material each work day.

Collected 1,219 EAB larvae and 924 adults (55% of emerged beetles) for biocontrol program propagation activities. The larvae were extracted from 1,682 branches. The adults emerged from 180 pieces of wood cut from 3 trees. Thirty three larvae were found to be parasitized.

Recovery of other endemic parasitoids includes *Atanycolis sp*, *Spathius floridanus*, and *Balcha indica*. Parasitism by these agents is low but persistent throughout the sampling area.

A walk-in cooler was delivered from USDA ARS Newark, DE and set up. It has been filled with infested ash material for later larval extraction or adult emergence.

Three biocontrol programmatic release sites have been established: Waldorf, Rhodenda Ave and Kirby Rd. Other release sites include Livingston Road, Temple Hills Road, and Sybaris Rd. Programmatic release sites received approximately 200 parasitoids of a species every two weeks when they were available. There were a few occasions when additional material became available and this was distributed to outlying sites listed as ‘other release sites’.

Two experimental sites were started in 2009, South Hill Road and Mardella Avenue. In 2010, no releases were made at the Mardella Avenue site due to the declining health of the trees. These were removed in the fall and material larger than 2.5” was sampled for parasitism rates.

Parasitoid releases for EAB biocontrol in Maryland - 2010

Total Number Released (F)	# releases	# sites	
Oobius	726	5	2
Spathius	11,634	45	5
Tetrastichus	21,521	57	7
33,881	107		

Parasitoid releases for EAB biocontrol in Maryland - 2010

Species	Site ID	Total females released	Number of Releases
Oobius	Rhodenda Ave	169	2
	Waldorf	557	3
Spathius	KirbyRd	416	2
	Rhodenda Ave	3,222	12
	South Hill	3,511	13
	Temple Hills	1,994	6
	Waldorf	2,491	12
Tetrastichus	Kirby Rd	648	3
	Livingston Rd	800	2
	Rhodenda Ave	3,694	14
	South Hill	9,058	18
	Sybarus	353	1
	Temple Hills	4,161	10
	Waldorf	2,807	9
		33,881	107

Chemical Control

Ash to the east of the project area in Rosaryville State Park have been set up as ‘Islands of Attraction’ with a girdled tree in the center of a cluster of Treeage treated trees (See map 2)

Retreated 2009 planted trap trees that had been treated with Safari and those in urban or natural settings. 2009 Treeage treated trees will not need to be retreated until at least 2012.

2010 Treated Trees (January 1 through December 31, 2010)

	Planted	Natural	Amount used
Treeage	24	92	4,339.5 ml
Safari	292	28	12.66 gal
	316	120	

Of these treated trees, 91 were at Rosaryville State Park where 3,963.5 ml of Treeage was applied.

Personnel

Hired (or wrote new contracts for) 9 Ag Inspectors and 8 Field Technicians. Two Forest Pest Management staff also assisted in trapping in Baltimore City, Baltimore and Harford Counties.

Outreach

Radio and TV Stats for EAB Promise Campaign (Sharon Lucik, USDA/APHIS 7/1/2010)							
Radio							
Station	Hertz	City	State	Market	Airings	Audience	
WRQX FM	107.3		DC	DC	100	3,200,000	
WVRX FM			DC	DC	100	340,000	
WMAL AM	630		DC	DC	100	2,900,000	
WESM FM	91.3	Princess Anne	MD	Salisbury	100	20,000	
Television							
Station	Channel	Network	City	State	Market	Airings	Audience
WMAR	2	ABC	Baltimore	MD	Baltimore	75	8,550,000
WBFF	45	FOX	Baltimore	MD	Baltimore	60	3,780,000

There were at least 4 newspaper, one radio, and 2 TV interviews of MDA staff. 10,000 copies of ‘The Emerald Ash Borer Fun Activity Book’ from Purdue University were adapted for MD and printed. 5,000 were provided to DNR Park Service for distribution. The MDA participated in EAB Week with press releases, PSAs and a feature in the MDA Newsletter. Program ads, t-shirt tosses, exhibits, outfield banners, and screen ads with loudspeaker announcements were ongoing through the summer months at the Bowie Baysox and Southern Maryland Blue Crabs minor league baseball games. Presentations were provided at 1st Detectors Training Workshop in MD & Rutgers, MAC-ISA, and the Western MD Forest Pests Update. Bus wraps were purchased to run in 2011 in Charles County. Staff responded to >40 homeowner calls to inspect potentially EAB infested trees.

F. NAPIS database submissions: Program pest and date of submission NOTE: All data are submitted to the national program for inclusion in the EAB database.

*indicates information required per 7 CFR 3016.40 and 7 CFR 3019.51

Approved and signed by

_____ Date: _____

Cooperator

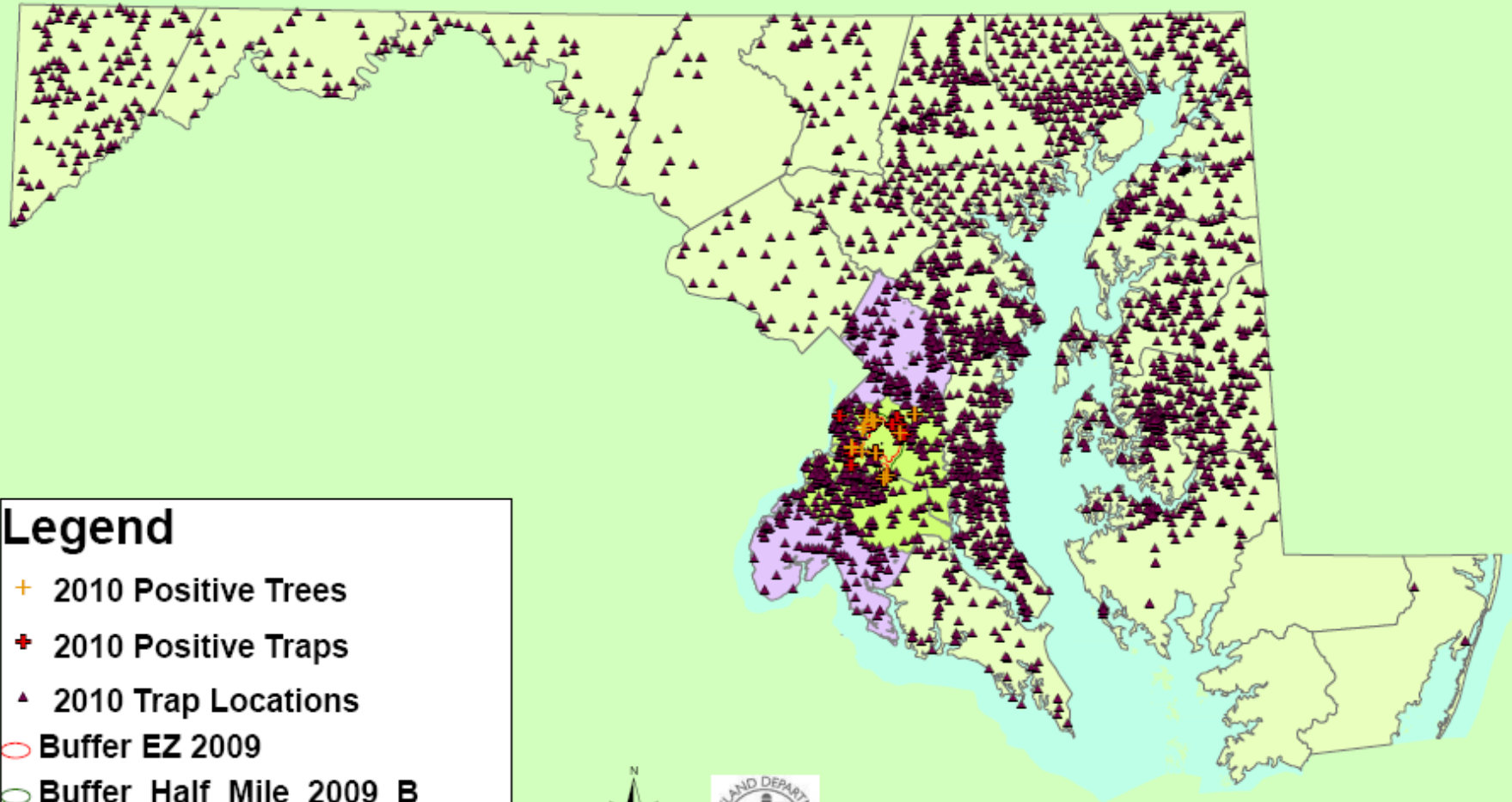
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ADODR

Maryland Emerald Ash Borer Project

2010 EAB Survey & Detection Results

2,601 traps, 21 counties and Baltimore City



Legend

- + 2010 Positive Trees
- + 2010 Positive Traps
- ▲ 2010 Trap Locations
- Buffer EZ 2009
- Buffer_Half_Mile_2009_B
- MD EAB 'Infested' Area
- 2008 MD Quarantined Counties



0 5 10 20 Miles
1:325,000

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