# Survey Plan For Emerald Ash Borer and Spotted Lanternfly

NJARNG & NJDMAVA Facilities 2019



"Emerald Ash Borer" (CC BY 2.0) by agriculturede

### Prepared By:

Greg Fischer and John Hallagan
Stockton University Environmental Internship Program





#### Introduction

The goal of this project is to determine emerald ash borer (EAB) and spotted lanternfly (SLF) presence and subsequently recommend action at the XX NJARNG and XX NJDMAVA facilities listed below. EAB is an invasive beetle that has the potential to damage and/or kill all ash tree species, as well as the white fringetree. SLF is an invasive planthopper that has the potential to damage over 70 plant species, although it appears to need the tree-of-heaven to complete its life cycle. Fieldwork will begin in the spring of 2019, coinciding with EAB larvae and SLF nymph emergence that takes place from late April to late May, and continue into the summer/fall. Signs of EAB infestation that will be identified during fieldwork include adult/larva EAB presence, D-shaped exit holes, S-shaped galleries, epicormic shoots, crown dieback, split bark, unhealthy foliage, eaten leaves, and woodpecker damage. Signs of SLF infestation that will be identified during fieldwork include egg/nymph/adult presence, weeping wounds, honeydew buildup, sooty mold, and elevated bee/wasp/hornet/ant activity.

Both insects have the potential to impact safety at these facilities (e.g. falling trees, attraction of stinging insects). This survey plan identifies NJARNG and NJDMAVA facilities that are at high, medium, and low risk for EAB and SLF, describes methods to survey the high priority facilities, and provides potential action plans to be implemented based on the data collected. It also contains risk maps and tables for both EAB (*Figure 1* and *Table 1*) and SLF (*Figure 2* and *Table 2*).

There are eight risk levels (Rx) for both EAB and SLF. These risk levels have been determined using NJDEP, NJDMAVA, and NYSIPM data.

- 1. Sites with host tree in counties with confirmed target insect presence
- 2. Sites with host tree in counties without confirmed target insect presence
- 3. Forested (or partially forested) sites in counties with confirmed target insect presence
- 4. Sites with trees in counties with confirmed target insect presence
- 5. Forested (or partially forested) sites in counties without confirmed target insect presence
- 6. Sites with trees in counties without confirmed target insect presence
- 7. Sites with no trees
- 8. Closed sites or future site use is unknown

Sites at risk level 1 are assumed to be infested in the near future if not already infested, and therefore will not be trapped as heavily as others. Trapping will instead be focused on high & medium risk level sites in counties without confirmed EAB or SLF presence.

#### **Emerald Ash Borer**

#### **High Risk Facilities**

The sites below have been placed at "Risk Level 1" (R1) or "Risk Level 2" (R2). R1 indicates that at least one ash tree is present on-site and that the site is in a county with confirmed EAB infestations. R2 indicates that at least one ash tree is present on-site and that the site is not in a county with confirmed EAB infestations. According to the <a href="New Jersey Department of Agriculture">New Jersey Department of Agriculture</a>, all ash trees in the state should be considered at "high risk" for EAB.

- Bordentown Armory (R1)
- Cherry Hill Armory (R1)
- Dover Armory (R1)
- Flemington Armory (R1)
- Franklin Armory (R1)
- Hackettstown Armory (R1)
- Lawrenceville Armory (R1)
- Morristown Armory (R1)
- West Orange Armory (R1)
- Westfield Armory (R2)

#### Medium Risk Facilities

The sites below have been placed at "Risk Level 3" (R3), "Risk Level 4" (R4), "Risk Level 5" (R5), or "Risk Level 6" (R6). R3 indicates that the site is at least partially forested and in a county with confirmed EAB infestations. R4 indicates that the site contains at least one tree and is in a county with confirmed EAB infestations. R5 indicates that the site is at least partially forested and in a county without confirmed EAB infestations. R6 indicates that the site contains at least one tree and is in a county without confirmed EAB infestations.

- BG Doyle Veterans' Cemetery (R3)
- Fort Dix (R3)
- Menlo Park Veterans' Home (R3)
- Paramus Veterans' Home (R3)
- Picatinny Arsenal (R3)
- Somerset Armory (R3)
- Vietnam War Memorial (R3)
- Washington Armory (R3)
- Freehold Armory (R4)
- Lodi Armory (R4)
- Mount Holly Armory (R4)
- Riverdale Armory (R4)
- Sea Girt MTA NJ NGTC (R4)

- Teaneck Armory (R4)
- Veterans' Haven South (R4)
- Woodbridge Armory (R4)
- Cape May Armory (R5)
- Hammonton Armory (R5)
- Lakehurst AASF (R5)
- Lakehurst CLTF (R5)
- Toms River Facility (R5)
- Vineland Armory (R5)
- Woodstown Armory (R5)
- Atlantic City Armory (R6)
- Vineland Veterans' Home (R6)
- Woodbury Armory (R6)

#### Low Risk Facilities

The sites below have been placed at "Risk Level 7" (R7). R7 indicates that the site has no trees. R8 indicates that at least one ash tree may be present on-site, but the facility is considered low risk because of its likelihood of being demolished or unloaded.

- Jersey City Armory (R7)
- Korean War Memorial (R7)
- Newark Armory (R7)
- Bridgeton Armory (R8)
- Burlington Armory (R8)
- Lakehurst Buildings 129 & 608 (R8)

- Mercer Armory (R8)
- New Egypt Armory (R8)
- Newton Armory (R8)
- Princeton Warehouse (R8)
- Tuckerton Armory (R8)

#### **Sampling Order**

We are assuming that ash trees at R1 sites are already infested or will become infested in the near future, due to nearby EAB presence. They will be inspected first, and other sites will be inspected in order of risk level.

#### **Sampling Materials**

Materials required for sampling include:

- DBH tape or calipers
- Camera/phone
- GPS
- Bark stripper/knife
- Tree tags and nails
  - \$9.25 for ~575 nails (1 lb box)
- Rangefinder or Measuring Reel
- Step-ladder
- Tree ID guides (see Google Drive)
- Hand lens/magnifying glass
- Green funnel traps
  - o 6 eight-funnel trap: \$55 each
  - Shipping: \$50 (estimate from distributor)
- Scent lures
  - o 12 sixty-day scent lure: \$23 each
  - Shipping: would be shipped with traps (included in \$50)
- EAB Field Inspection Sheet (see Google Drive)
- Clipboard
- Pen/Pencil

#### Sampling Methods

- 1. Identify ash species located on-site, if any. Inspect within 200 feet of the property boundary, buildings, fences, and parking lots. If a large forest is present, create and walk transects to identify trees of interest.
- 2. Identify white fringetrees located on-site, if any. Inspect within 200 feet of the property boundary, buildings, fences, and parking lots. If a large forest is present, create and walk transects to identify trees of interest.
- 3. For each ash or fringetree, record diameter at breast height (DBH). If possible, tag the tree and record its location using GPS. If more than 6 ash/fringetree are present in a cluster, create a polygon encompassing the target trees. If 6 or less ash/fringetree are present, take a GPS point of each individual.
- 4. Inspect the ash and/or fringetrees for EAB presence. EAB indicators include adult/larva EAB presence, D-shaped exit holes, S-shaped galleries, epicormic shoots, crown dieback, split bark, unhealthy foliage, eaten leaves, and woodpecker damage. Note this evidence and usage of photos.
  - a. If a tree has indicators of EAB presence, strip away a small portion of bark and attempt to locate S-shaped galleries if they are not already visible.
- 5. Determine the expected level of damage from falling ash or fringetrees. Provide details such as tree proximity to buildings and vehicles.
- 6. Note all EAB indicators in the summary box on the front of the data sheet.
- 7. Determine the likelihood of EAB infestation.
- 8. Provide a summary of the photos taken on the front of the data sheet.
- 9. Tally the total number of infested trees, if any.
- 10. From late April to August, install green funnel traps at select sites in counties that do not have confirmed EAB sightings. Traps should be deployed before larvae begin to emerge in late April and remain deployed throughout August. Traps should be placed on a branch at least 5 feet above the ground on the side of the tree that receives the most sunlight. Manuka oil and/or cis-3-hexanol can be used as lures to bait the traps for better results.
- 11. Revisit the site after 30 days to inspect the traps for EAB capture.
- 12. Move the trap to the next highest priority site. Repeat step 11, replacing the lure after 60 days.

#### **Trapping Protocol**

Green funnel traps should be deployed before larvae begin to emerge in late April and remain deployed throughout August. If EAB infestations are not detected until after emergence, traps should be deployed as soon as possible. Traps are not effective for treatment/eradication. The only purpose of EAB traps is to confirm EAB presence. Exact trap placement will be determined on-site depending on ash/fringetree density and/or signs of suspected infestation. Lures should be replaced every 60 days. Traps should be checked before they moved to a different site, when lures are replaced, and at the end of the trapping period. Once EAB is identified at a site, continued trapping is unnecessary. More trapping information can be found in the USDA EAB trapping protocol.

### **Spotted Lanternfly**

#### **High Risk Facilities**

The sites below have been placed at "Risk Level 1" (R1) or "Risk Level 2" (R2). R1 indicates that at least one tree-of-heaven is present on-site and that the site is in a county with confirmed SLF infestations. R2 indicates that at least one tree-of-heaven is present on-site and that the site is not in a county with confirmed SLF infestations. Although quarantines are in place, SLF is easily transported and has the potential to spread throughout the state.

- Hackettstown Armory (R1)
- Lawrenceville Armory (R1)
- Washington Armory (R1)
- Bordentown Armory (R2)
- Bordentown Warrior Transition Center (R2)
- Franklin Armory (R2)
- Hammonton Armory (R2)
- Morristown Armory (R2)
- Sea Girt MTA NJ NGTC (R2)
- Somerset Armory (R2)
- Vineland Armory (R2)
- West Orange Armory (R2)

#### Medium Risk Facilities

The sites below have been placed at "Risk Level 3" (R3), "Risk Level 4" (R4), "Risk Level 5" (R5), or "Risk Level 6" (R6). R3 indicates that the site is at least partially forested and in a county with confirmed SLF infestations. R4 indicates that the site contains at least one tree and is in a county with confirmed SLF infestations. R5 indicates that the site is at least partially forested and in a county without confirmed SLF infestations. R6 indicates that the site contains at least one tree and is in a county without confirmed SLF infestations.

- Flemington Armory (R3)
- Veteran's Haven North (R4)
- BG Doyle Veterans' Cemetery (R5)
- Cape May Armory (R5)
- Cherry Hill Armory (R5)
- Dover Armory (R5)
- Fort Dix (R5)
- Lakehurst AASF (R5)
- Lakehurst CLTF (R5)
- Menlo Park Veterans' Home (R5)
- Paramus Veteran's Home (R5)
- Picatinny Arsenal (R5)
- Toms River Facility (R5)
- Vietnam War Memorial (R5)

- Westfield Armory (R5)
- Woodstown Armory (R5)
- Atlantic City Armory (R6)
- Freehold Armory (R6)
- Lakehurst Buildings 129 & 608 (R6)
- Lodi Armory (R6)
- Mount Holly Armory (R6)
- Riverdale Armory (R6)
- Teaneck Armory (R6)
- Veteran's Haven South (R6)
- Vineland Veterans' Home (R6)
- Woodbridge Armory (R6)
- Woodbury Armory (R6)

#### Low Risk Facilities

The sites below have been placed at "Risk Level 7" (R7). R7 indicates that the site has no trees. R8 indicates that at least one tree-of-heaven may be present on-site, but the facility is considered low risk because of its likelihood of being demolished or unloaded.

- Jersey City Armory (R7)
- Korean War Memorial (R7)
- Newark Armory (R7)
- Bridgeton Armory (R8)
- Burlington Armory (R8)
- Lakehurst Buildings 129 & 608 (R8)

- Mercer Armory (R8)
- New Egypt Armory (R8)
- Newton Armory (R8)
- Princeton Warehouse (R8)
- Tuckerton Armory (R8)

#### **Sampling Order**

We are assuming that tree-of-heaven at R1 sites are already infested or will become infested in the near future, due to nearby SLF presence. They will be inspected first, and other sites will be inspected in order of risk level.

#### **Sampling Materials**

Materials required for sampling include:

- DBH tape or calipers
- Camera
- GPS
- Tree tags and nails
  - \$9.25 for ~575 nails (1 lb box)
- Rangefinder or Measuring Reel
- Tree ID guide (see Google Drive)
- Hand lens/magnifying glass
- Tree band tape or duct tape
  - \$11.99 for <u>60 yards duct tape</u>
  - \$59.99 for <u>5 lbs Petroleum Jelly</u> or chicken wire
  - \$27.00 for 4 in x 50 ft double-sided insect tape
- Pushpins
- SLF Field Inspection Sheet (see Google Drive)
- Clipboard
- Pen/Pencil

#### Sampling Methods

- 1. Identify tree-of-heaven on-site, if any. Inspect within 50 feet of the property boundary, buildings, fences, and parking lots. If a large forest is present, inspect forest edges.
- 2. For each tree-of-heaven cluster, record diameter at breast height (DBH) and height of the largest tree. If possible, tag the largest tree and record its location. Take a GPS point of the cluster.
- 3. Inspect the trees for signs of SLF presence. SLF indicators include adult/nymph SLF presence, SLF egg mass presence, weeping wounds, honeydew, sooty mold, and increased wasp, bee, hornet, and ant presence.
- 4. Determine the impact of increased stinging insect presence near and around the tree. Provide details such as tree proximity to buildings and vehicles.
- 5. Note all SLF indicators in the summary box on the front of the data sheet.
- 6. Determine the likelihood of SLF infestation.
- 7. Provide a summary of the photos taken on the front of the data sheet.
- 8. Tally the total number of infested trees, if any.
- 9. Install double-sided insect tape or duct tape on tree-of-heaven trees to confirm SLF presence. Traps should be placed approximately 4 feet from the bottom of the tree and secured with a pushpin. Cover the tape with chicken wire or petroleum jelly to reduce bycatch of beneficial insects, birds, and mammals.
- 10. Revisit the site and inspect the tape for SLF capture. If SLF is captured, notify New Jersey Department of Agriculture (NJDA) by phone (1-833-223-2840) or email (plantindustry@ag.nj.gov) of confirmed SLF presence.

### **Survey Results**

#### **Bordentown Armory**

Green ash is expected to be present (2019 Rare Species Report). Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### **Bordentown Warrior Transition Center**

Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### Cape May

The site was surveyed on May 24, 2019 by Greg Fischer and Ethan Freeman. No ash or tree-of-heaven were identified in the ~822 meter property boundary and forest edge inspection. If these trees remain absent, it is highly unlikely this site will become infested by EAB or SLF.

#### **Cherry Hill Armory**

Green ash is expected to be present (2013 Wetlands Report).

#### **Dover Armory**

Green ash is expected to be present (2019 Rare Species Report).

#### Flemington Armory

White ash is expected to be present (2019 Rare Species Report).

#### Franklin Armory

Green ash is expected to be present (2019 Rare Species Report). Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### **Hackettstown Armory**

Green ash is expected to be present (2013 Wetlands Report). Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### Hammonton

The site was surveyed on May 9, 2019 by Greg Fischer, Bill McBride, Tait Chirenje, Ethan Freeman, Emily Gilligan, Danielle Napier, and Nick Cordivari. No ash trees were identified in the ~930 meter property boundary and forest edge inspection. However, 62 tree-of-heaven were identified in 9 clusters. These tree-of-heaven have the potential to be infested by SLF. Future site visits to inspect for SLF presence are recommended.

#### **Lawrenceville Armory**

One or more ash species is expected to be present (based on previous site visits). Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### **Morristown Armory**

Green ash is expected to be present (2013 Wetlands Report). Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### Sea Girt MTA NJ NGTC

The site was surveyed on May 30, 2019 by Greg Fischer, John Hallagan, Ali Petrosh, Danielle Napier, and Nick Cordivari. No ash trees were identified in the ~3200 meter property boundary and tree inspection. However, 20 tree-of-heaven were identified in one cluster. These tree-of-heaven have the potential to be infested by SLF. Future site visits to inspect for SLF presence are recommended.

#### **Somerset Armory**

Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### **Vineland Armory**

The site was surveyed on May 9, 2019 by Greg Fischer, John Hallagan, Emily Gilligan, Nick Cordivari, and Nick Gamarro. No ash trees were identified in the ~2400 meter property boundary and forest edge inspection. However, 20 tree-of-heaven were identified in 7 clusters. These tree-of-heaven have the potential to be infested by SLF. Future site visits to inspect for SLF presence are recommended.

#### **Washington Armory**

Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### **West Orange Armory**

One or more ash species is expected to be present (based on previous site visits). Tree-of-heaven may be present (2005 Invasive Plant Survey).

#### **Westfield Armory**

One or more ash species is expected to be present (based on previous site visits). There is a small unsurveyed wetland at this site. The EAB and wetlands surveys can be conducted on the same visit.

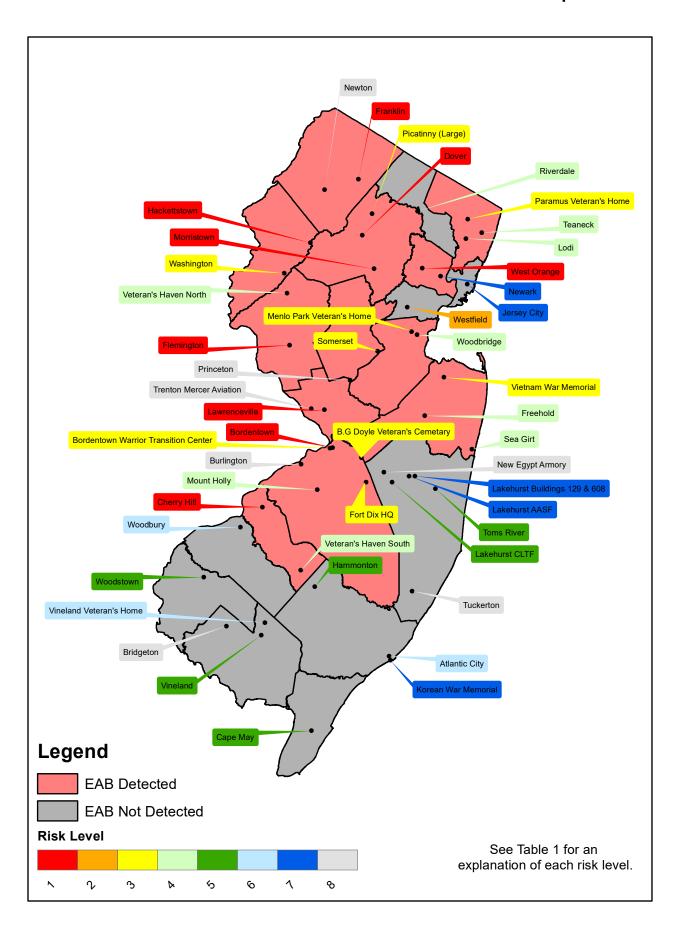
#### Woodstown

The site was surveyed on May 23, 2019 by Greg Fischer and Emily Gilligan. No ash or tree-of-heaven were identified in the ~1150 meter property boundary and forest edge inspection. If these trees remain absent, it is highly unlikely this site will become infested by EAB or SLF.

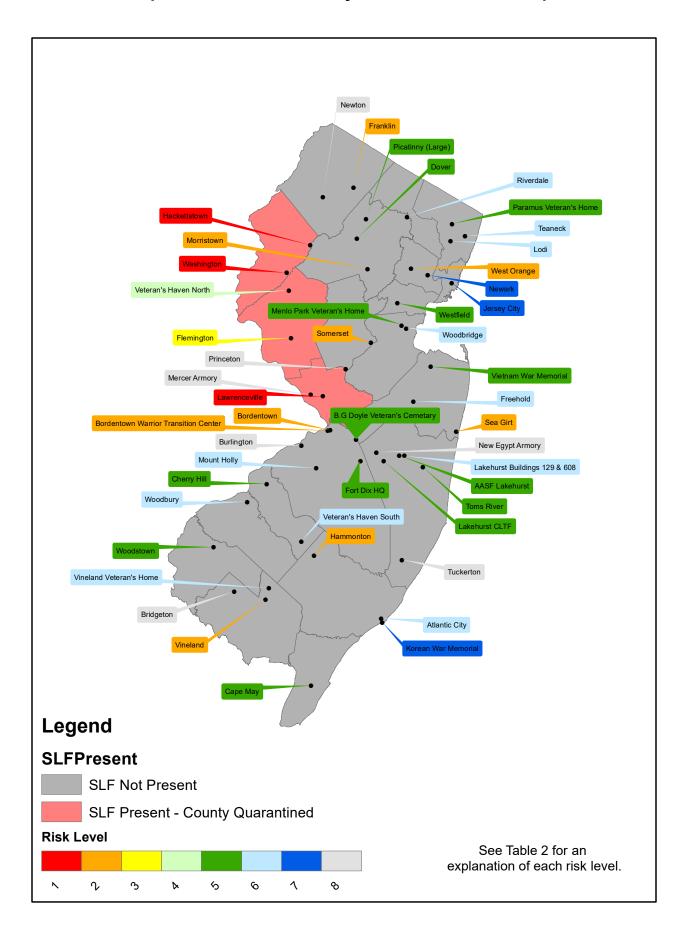
Abbreviation	Facility Name	County	Trees? (At least 1 tree on site)	Forest?	Approximate Total Forested Area (ac)	Ash Species Present?	Source	Notes	Risk Level
ВТ	Bordentown Armory	Burlington	Yes	Yes	7.15	Green Ash	2019 Rare Species Report	Trees adjacent to parking lots and buildings	1
CH	Cherry Hill Armory	Camden	Yes	Yes	7.47	Green Ash	2013 Wetlands Report	Trees adjacent to water	1
DO	Dover Armory	Morris	Yes	Yes	9.2	Green Ash	2019 Rare Species Report	Trees adjacent to parking lots and roads	1
FL	Flemington Armory	Hunterdon	Yes	Yes	8.7	White Ash	2019 Rare Species Report	Trees adjacent to parking lots, roads, and buildings	1
FK	Franklin Armory	Sussex	Yes	Yes	6.5	Green Ash	2019 Rare Species Report	Trees adjacent to parking lots and buildings	1
HK	Hackettstown Armory	Warren	Yes	Yes	13	Green Ash	2013 Wetlands Report	Trees adjacent to parking lots and buildings	1
LV	Lawrenceville Armory	Mercer	Yes	Yes	27.46	Ash Present - Bill		Trees adjacent to parking lots and buildings	1
MO	Morristown Armory	Morris	Yes	Yes	26.4	Green Ash	2013 Wetlands Report	Trees adjacent to parking lots and buildings	1
WO	West Orange Armory	Essex	Yes	Yes	29.19	Ash Present - Bill		Trees adjacent to parking lots and roads	1
WF	Westfield Armory	Union	Yes	Yes	6.76	Ash Present - Bill		Trees adjacent to parking lots and buildings	2
BG	BG Doyle Veterans' Cemetery	Burlington	Yes	Yes	148.89	Unknown		Trees adjacent to buildings and roads	3
BW	Bordentown Warrior Transition Center	Burlington	Yes	Yes	4.26	Unknown		Trees adjacent to parking lots	3
FD	Fort Dix HQ	Burlington	Yes	Yes	14.48	None		3 · · ·	3
ME	Menlo Park Veteran's Home	Middlesex	Yes	Yes	16.42	Unknown		Trees adjacent to parking lots and roads	3
PV			Yes	Yes	5.23			· · · · · ·	3
	Paramus Veteran's Home	Bergen		1		Unknown		Trees adjacent to buildings and roads	_
PI	Picatinny Arsenal	Morris	Yes	Yes	1.54	None			3
so	Somerset Armory	Somerset	Yes	Yes	17.54	Unknown		Trees adjacent to parking lots and buildings	3
VW	Vietnam War Memorial	Monmouth	Yes	Yes	1.17	Unknown		Trees adjacent to buildings and roads	3
WA	Washington Armory	Warren	Yes	Yes	12.2	None			3
FH	Freehold Armory	Monmouth	Yes	No	0	Unknown		Trees adjacent to parking lots and buildings	4
LO	Lodi Armory	Bergen	Yes	No	0	Unknown		Trees adjacent to parking lots and buildings	4
MH	Mount Holly Armory	Burlington	Yes	No	0	Unknown		Trees along field edges - white fringetree?	4
RD	Riverdale Armory	Morris	Yes	No	0	Unknown		Trees adjacent to buildings	4
SG	Sea Girt MTA NJ NGTC	Monmouth	Yes	No	0	Unknown		Trees adjacent to parking lots and buildings	4
TN	Teaneck Armory	Bergen	Yes	No	0	Unknown		Trees adjacent to parking lots and buildings	4
VN	Veteran's Haven North	Hunterdon	Yes	No	0	Unknown			4
VS	Veteran's Haven South	Camden	Yes	No	0	Unknown		Trees adjacent to buildings and roads	4
WB	Woodbridge Armory	Middlesex	Yes	No	0	Unknown		Trees adjacent to parking lots and buildings	4
CM	Cape May Armory	Cape May	Yes	Yes	5.5	None			5
HA	Hammonton Armory	Atlantic	Yes	Yes	5.26	None			5
LH	Lakehurst AASF	Ocean	Yes	Yes	TBD On-Site	Unknown		Shapefile Incorrect	5
LC	Lakehurst CLTF	Ocean	Yes	Yes	40.7	Unknown			5
TR	Toms River Facility	Ocean	Yes	Yes	22.5	None			5
VL	Vineland Armory	Cumberland	Yes	Yes	29.2	None			5
WT	Woodstown Armory	Salem	Yes	Yes	0.46	Unknown		Trees adjacent to parking lots	5
AC	Atlantic City Armory	Atlantic	Yes	No	0	Unknown		Just a few trees scattered around	6
VT	Vineland Veterans' Home	Cumberland	Yes	No	0	Unknown		Trees adjacent to roads	6
WY	Woodbury Armory	Gloucester	Yes	No	0	Unknown		Trees adjacent to parking lots and buildings	6
JC	Jersey City Armory	Hudson	No	No	0	None			7
KW	Korean War Memorial	Atlantic	No	No	0	None			7
NW	Newark Armory	Essex	No	No	0	None			7
BR	Bridgeton Armory	Cumberland	Yes	Yes	19.66	White Ash	2019 Rare Species Report	Talk of demo and unloading	8
BU	Burlington Armory	Burlington	Yes	No	0	Unknown		Trees adjacent to buildings	8
LB	Lakehurst Buildings 129 & 608	Ocean	Yes	No	0	Unknown		Per Bill	8
ME	Mercer Armory	Mercer	Yes	Yes	2.04	White Ash	2019 Rare Species Report	Talk of unloading	8
NE	New Egypt Armory	Ocean	Yes	Yes	9.14	None		Per Bill	8
NT	Newton Armory	Sussex	Yes	Yes	5.79	Unknown		Demolished Building - new plans?	8
PR	Princeton Warehouse	Mercer	Yes	Yes	6.2	Green Ash	2019 Rare Species Report	Talk of unloading	8
TU	Tuckerton Armory	Ocean	Yes	Yes	14.41	None		Talk of unloading	8

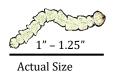
Abbreviation	Facility Name	County	SLF Confirmed in County?	County Quarantined?	Trees? (At least 1 tree on site)	Forest?	Approximate Total Forested Area (ac)	Tree of Heaven Present?	Source	% Cover (if known)	Notes	Risk Level
LV	Lawrenceville Armory	Mercer	Yes	Yes	Yes	Yes	27.46	Yes	2005 Invasive Plant Survey	Low	Trees adjacent to parking lots and buildings	1
HK	Hackettstown Armory	Warren	Yes	Yes	Yes	Yes	13	Yes	2005 Invasive Plant Survey	Low	Trees adjacent to parking lots and buildings	1
WA	Washington Armory	Warren	Yes	Yes	Yes	Yes	12.2	Yes	2005 Invasive Plant Survey	Low		1
HA	Hammonton Armory	Atlantic	No	No	Yes	Yes	5.26	Yes	2005 Invasive Plant Survey	Medium		2
BT	Bordentown Armory	Burlington	No	No	Yes	Yes	7.15	Yes	2005 Invasive Plant Survey	High	Trees adjacent to parking lots and buildings	2
BW	Bordentown Warrior Transition Cente	r Burlington	No	No	Yes	Yes	4.26	Yes	2005 Invasive Plant Survey	Low		2
VL	Vineland Armory	Cumberland	No	No	Yes	Yes	29.2	Yes	2005 Invasive Plant Survey	Low		2
WO	West Orange Armory	Essex	No	No	Yes	Yes	29.19	Yes	2005 Invasive Plant Survey	Low	Trees adjacent to parking lots and roads	2
MO	Morristown Armory	Morris	No	No	Yes	Yes	26.4	Yes	2005 Invasive Plant Survey	Low	Trees adjacent to parking lots and buildings	2
SO	Somerset Armory	Somerset	No	No	Yes	Yes	17.54	Yes	2005 Invasive Plant Survey	Low	Trees adjacent to parking lots and buildings	2
FK	Franklin Armory	Sussex	No	No	Yes	Yes	6.5	Yes	2005 Invasive Plant Survey	Low	Trees adjacent to parking lots and buildings	2
SG	Sea Girt MTA NJ NGTC	Monmouth	No	No	Yes	No	0	Unknown	-		Trees adjacent to parking lots and buildings	2
FL	Flemington Armory	Hunterdon	Yes	Yes	Yes	Yes	8.7	Unknown			Trees adjacent to parking lots, roads, and buildin	igs 3
VN	Veteran's Haven North	Hunterdon	Yes	Yes	Yes	No	0	Unknown				4
PV	Paramus Veteran's Home	Bergen	No	No	Yes	Yes	5.23	Unknown			Trees adjacent to buildings and roads	5
BG	BG Doyle Veterans' Cemetery	Burlington	No	No	Yes	Yes	148.89	Unknown			Trees adjacent to buildings and roads	5
FD	Fort Dix HQ	Burlington	No	No	Yes	Yes	14.48	Unknown			-	5
СН	Cherry Hill Armory	Camden	No	No	Yes	Yes	7.47	Unknown			Trees adjacent to water	5
CM	Cape May Armory	Cape May	No	No	Yes	Yes	5.5	Unknown			-	5
ME	Menlo Park Veterans' Home	Middlesex	No	No	Yes	Yes	16.42	Unknown			Trees adjacent to parking lots and roads	5
VW	Vietnam War Memorial	Monmouth	No	No	Yes	Yes	1.17	Unknown			Trees adjacent to buildings and roads	5
DO	Dover Armory	Morris	No	No	Yes	Yes	9.2	Unknown			Trees adjacent to parking lots and roads	5
PI	Picatinny Arsenal	Morris	No	No	Yes	Yes	1.54	Unknown				5
LH	Lakehurst AASF	Ocean	No	No	Yes	Yes	TBD On-Site	Unknown			Shapefile Incorrect	5
LC	Lakehurst CLTF	Ocean	No	No	Yes	Yes	40.7	Unknown			·	5
TR	Toms River Facility	Ocean	No	No	Yes	Yes	22.5	Unknown				5
WT	Woodstown Armory	Salem	No	No	Yes	Yes	0.46	Unknown			Trees adjacent to parking lots	5
WF	Westfield Armory	Union	No	No	Yes	Yes	6.76	Unknown			Trees adjacent to parking lots and buildings	5
AC	Atlantic City Armory	Atlantic	No	No	Yes	No	0	Unknown			Just a few trees scattered around	6
LO	Lodi Armory	Bergen	No	No	Yes	No	0	Unknown			Trees adjacent to parking lots and buildings	6
TN	Teaneck Armory	Bergen	No	No	Yes	No	0	Unknown			Trees adjacent to parking lots and buildings	6
MH	Mount Holly Armory	Burlington	No	No	Yes	No	0	Unknown			Trees along field edges - white fringetree?	6
VH	Veterans' Haven South	Camden	No	No	Yes	No	0	Unknown			Trees adjacent to buildings and roads	6
VT	Vineland Veterans' Home	Cumberland	No	No	Yes	No	0	Unknown			Trees adjacent to roads	6
WY	Woodbury Armory	Gloucester	No	No	Yes	No	0	Unknown			Trees adjacent to parking lots and buildings	6
WB	Woodbridge Armory	Middlesex	No	No	Yes	No	0	Unknown			Trees adjacent to parking lots and buildings	6
FH	Freehold Armory	Monmouth	No	No	Yes	No	0	Unknown			Trees adjacent to parking lots and buildings	6
RD	Riverdale Armory	Morris	No	No	Yes	No	0	Unknown			Trees adjacent to buildings	6
LB	Lakehurst Buildings 129 & 608	Ocean	No	No	Yes	No	0	Unknown			-	6
KW	Korean War Memorial	Atlantic	No	No	No	No	0	Unknown				7
NW	Newark Armory	Essex	No	No	No	No	0	Unknown				7
JC	Jersey City Armory	Hudson	No	No	No	No	0	Unknown				7
BU	Burlington Armory	Burlington	No	No	Yes	No	0	Yes	Field Notes?		Trees adjacent to buildings	8
BR	Bridgeton Armory	Cumberland	No	No	Yes	Yes	19.66	Yes	2019 Rare Species Report		Talk of demo and unloading	8
ME	Mercer Armory	Mercer	Yes	Yes	Yes	Yes	2.04	Unknown			Talk of unloading	8
PR	Princeton Warehouse	Mercer	Yes	Yes	Yes	Yes	6.2	Yes	2005 Invasive Plant Survey	Low	Talk of unloading	8
NE	New Egypt Armory	Ocean	No	No	Yes	Yes	9.14	Unknown	,		, , , , , , , , , , , , , , , , , , ,	8
TU	Tuckerton Armory	Ocean	No	No	Yes	Yes	14.41	Yes	2005 Invasive Plant Survey	Medium	Talk of unloading	8
NT	Newton Armory	Sussex	No	No	Yes	Yes	5.79	Unknown			Demolished Building - new plans?	8

## Emerald Ash Borer Risk Level Map



## Spotted Lanternfly Risk Level Map





## EAB Field Inspection Sheet NJARNG Facilities



Site & County Name	Date					
	Conducted by					
Ash Species Identified (Check all that a	apply)					
Green Ash □ White Ash I	□ Other □ None □					
Count: (from reverse side)						
White Fringetree Presence	<b>Expected Damage from Falling Trees</b>					
Present □ Not Present □	High □ Low □ None □					
Count:(from reverse side)	Notes					
EAB Presence and Indicators (Check a	all that apply)					
<ul> <li>□ Adult or Larva EAB Presence</li> <li>□ D-Shaped Exit Holes</li> <li>□ S-Shaped Galleries</li> <li>□ Epicormic Shoots</li> <li>□ Crown Dieback</li> </ul>	☐ Split Bark ☐ Yellow, thin, or wilted foliage ☐ Eaten Leaves ☐ Woodpecker Damage ☐ None					
Likelihood of EAB Infestation  ☐ Confirmed (Adult or Larva Present, Department) ☐ Probable (5+ Indicators)	Shaped Exit Holes)  Photos Taken File Content ——————————————————————————————————					
☐ Possible (2-4 Indicators) ☐ Unlikely (0-1 Indicators)						
Notes	Infested Tree Tally					

Species	DBH (in)	Height (ft)	Core (age)	Tag Number	Distance to Activity (ft)	GPS Data Taken?	GPS File	GPS Point Name	Photo(s) Taken?	EAB Evidence ?
										1
									Name           Image: Control of the control of	Name



## SLF Field Inspection Sheet NJARNG Facilities



1" Actual Size

Site & County Name	Date				
	Conducted by				
Tree-of-heaven Presence					
Present □ Not Present □ <b>Clust</b>	ter Count: Tree Count: (from reverse side)				
Expected Damage from Infested Trees					
High □ Low □ None □					
	Notes				
SLF Presence and Indicators (Check a	ll that apply)				
☐ Adult or Nymph SLF Presence	☐ Weeping Wounds				
☐ Egg Mass Presence	□ Sooty Mold				
☐ Honeydew	☐ Increased wasp, bee, hornet, and ant presence				
Likelihood of SLF Infestation	Photos Taken				
☐ Confirmed (Adult or Nymph Present, Egg	Mass Present) File Content				
☐ Probable (3+ Indicators)					
☐ Possible (2 Indicators)					
☐ Unlikely (0-1 Indicators)					
Notes	Infested Tree Tally				

Cluster Number	# of Trees in Cluster	DBH of Largest Tree in Cluster (in)	Height of Largest Tree in Cluster (ft)	Tag Number	GPS Data Taken?	GPS File	GPS Point Name	Photo(s) Taken?	SLF Evidence?	Core (age)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										