Management Of Invasive Insects

Top 7 most hazardous species to agriculture and forestry

Based on information available in 2025

Focused on the most pressing species located within ASA's service area;

Washington and Rensselaer counties

Please Read: *This document aims to provide information on invasive species management as a starting point for landowners. It is not all inclusive and requires outside resources if you want guidance on potentially removing them yourself.*

Resources on who to contact to discuss removal are located at the end of this document*. This is for educational purposes and to provide general information.*

The USGS (United States Geological Survey) definition of an invasive species is as follows;

"An invasive species is an **introduced**, **nonnative organism (disease, parasite, plant, or animal)** that begins to **spread** or expand its range from the site of its original introduction and that has the **potential to cause harm** to the environment, the economy, or to human health."

Remember, not all non-native organisms are invasive however. This depends on if they spread aggressively and pose a threat in some way.

Environmental Impacts;

- Biodiversity loss
- Habitat degradation
- Forest degradation
- Disease transmission, bites/stings, possible allergies to humans/animals

Economic Impacts;

- Decreased crop yields & crop damage
- Reduces timber harvests/timber quality
- Decreased land values
- Cost of treatment

The listed species are either prohibited or regulated by the NY DEC.

-Biocontrols are available for certain invasive species, however, professionals and the DEC are the only personnel allowed to implement these controls

-For all pesticide applications, you must follow label instructions and comply with state regulations.

-Some of the suggested pesticides are for professional applicators only. Depending on the situation, professionals must be the applicators.

-Check the EPA's RUP (Restricted Use Products) list on their website before attempting to purchase and apply certain pesticides which may be regulated in some states/areas. Link to EPA's RUP list is below.

https://www.epa.gov/pesticide-worker-safety/restricted-use-products-rup-report

Emerald Ash Borer

Prevention
-Know where you're getting your firewood, pallets, wood chips, mulch, construction wood etc, since it may be infested with Emerald Ash Borers if it is untreated wood

Eradication/Containment depending on the infestation size	Effective Pesticide
The Emerald Ash Borer infestations are not being managed currently by the DEC and are being monitored for Ash trees that are resistant to the EAB which may aid in the restoration of Ash trees in the future through the collection of their seeds. -Ash trees can be treated to prevent or treat Ash trees on landowner's properties but not done at a widespread scale. Efforts aim at slowing the spread.	-For homeowners; Imidacloprid is an insecticide that can be applied by homeowners. It is a soil drench and is most effective for smaller trees and requires annual applications. -For professionals; Emamectin benzoate provides long term protection and is applied through trunk injection by professionals.

Extra Info
If you have an Ash tree that is infected by the EAB, you do not need to take it down unless it is a hazard to your home, etc. -Reports can be made to better track where infestations are taking place

Emerald Ash Borer Photos

Figure 1: Benjamin Smith from United States, via Wikimedia Commons

Figure 2: Judygva, via Wikimedia Commons

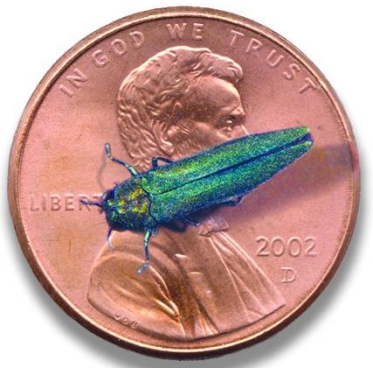

Figure 3: Howard Russell, Michigan State University, Bugwood.org, via Wikimedia Commons

Asian Longhorned Beetle

Prevention	
-Take care when moving plants, logs and mulch from an infested area as these can spread the ALB. Cargo ships are inspected as well. -Report any sightings or infestations immediately	
Eradication/Containment depending on the infestation size	**Effective Pesticide**
-Destroy infested trees. Only way to eliminate the pest currently.	-Insecticides are not solutions due to the burrowing of the beetle. Removal of the tree is the most effective way of getting rid of infestations.

Asian Longhorned Beetle Photos

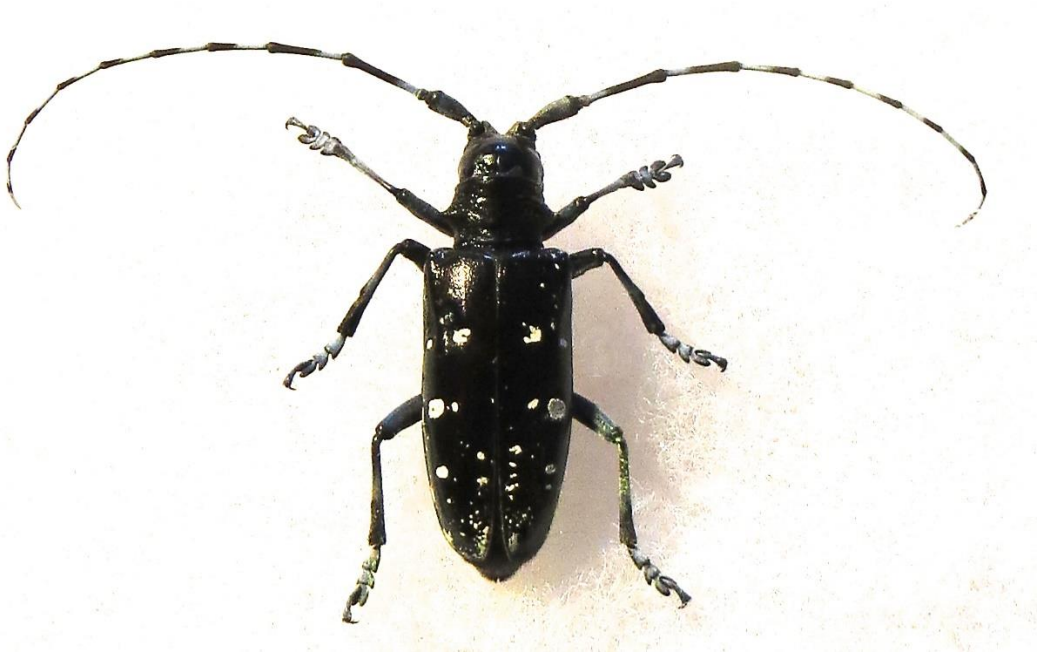

Figure 4: New York State Integrated Pest Management Program, via Wikimedia Commons

Hemlock Woolly Adelgid

Prevention	
-Take care when moving plants, logs and mulch from an infested area as these can spread the HWA	
Eradication/Containment depending on the infestation size	**Effective Pesticide**
-Chemical insecticides applied to individual trees -Owners can reduce Hemlock tree stress by watering during drought conditions and pruning dead or dying branches. Do not use nitrogen fertilizers on infested hemlocks as this can increase HWA populations. Move bird feeders away from Hemlock trees, this can help reduce spread.	-Soil drenches, injection into soil below organic soil layer or basal bark spray can provide multiple years of protection from a single treatment. -Imidacloprid and dinotefuran are two insecticides that are commonly used by applying to the bark near base of tree. Must be applied by professional however. Applying both insecticides at same time will allow for fast acting killing of the HWA by Dinotefuran and the long term protection of the Imidacloprid which can "leave the tree adelgid free for up to 7 years" -For smaller trees, homeowners can spray foliage with properly labeled horticultural oils and insecticidal soaps.
Extra Info	
-Report to DEC if you see the HWA. -Make sure to accurately ID the HWA as many things can look similar such as spider egg sacks, Spittle Bugs, and others. Easiest to ID in winter months.	

Hemlock Woolly Adelgid Photos

Figure 5: Connecticut Agricultural Experiment Station Archive, Connecticut Agricultural Experiment Station / © Bugwood.org

Figure 6: Nicholas A. Tonelli from Northeast Pennsylvania, USA, Wikimedia Commons

Figure 7: Nicholas A. Tonelli from Northeast Pennsylvania, USA, via Wikimedia Commons

Beech Bark Disease
(Interaction between Beech Scale and Canker fungus)

Prevention	
-Promote resistant trees -Destroy or treat infected trees	
Eradication/Containment depending on the infestation size	**Effective Pesticide**
-Remove and destroy infected trees -Insecticides can be used. -In forest stands, there isn't a practical control option	-Insecticides that are used to target the scale which is one of the factors in the disease can be applied as a soil drench or to the lower trunk. -Phosphites can be applied to the lower trunk or soil in both spring and fall -Dinotefuran can be applied as a lower trunk or soil drench which prevents the scale from feeding on the tree Contact professional for more information.

Beech Bark Disease Photos

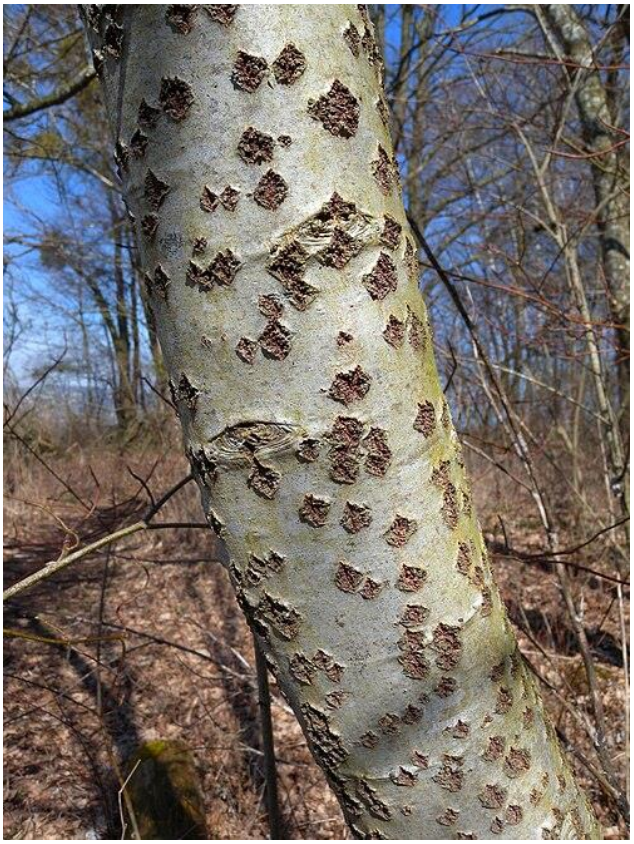

Figure 8: MurielBendel, via Wikimedia Commons

Spotted Lanternfly

Prevention
-Report any sightings immediately to DEC, PRISM or other invasive species management organization -Check vehicles, firewood, outdoor furniture and stone which they lay their eggs on and could potentially be transported to new areas.

Eradication/Containment depending on the infestation size	Effective Pesticide
-So far, infestations are contained to parts of Pennsylvania so there aren't widespread treatments occurring yet. Early detection is key. -If small number is detected, scrape egg sacs off tree and soak in alcohol and throw away. -Bark spray, trunk injections or root drenches are used to get insecticide into tree. -SLF normally targets fruit trees or grape vines -Traps can take out large numbers on an infested tree	-Homemade organic insecticides can be made -Refer to Cornell's integrated pest management page on the Spotted Lanternfly for a full list of insecticides that can be used on various types of trees or in different settings. There is a link on the mentioned website https://cals.cornell.edu/integrated-pest-management/outreach-education/whats-bugging-you/spotted-lanternfly/spotted-lanternfly-management#insecticides

Spotted Lanternfly Photos

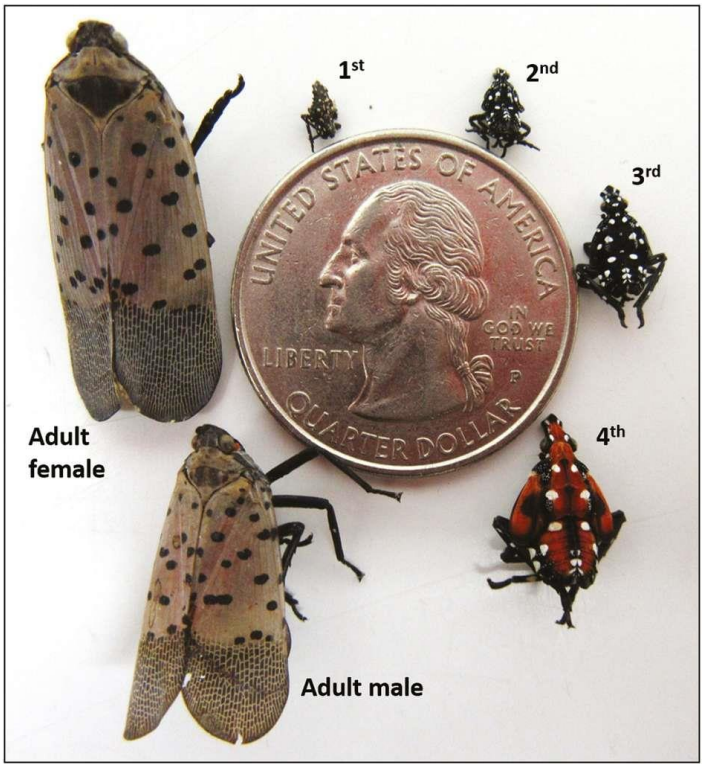

Figure 9: This is in the public domain in the US and was created by a US government employee

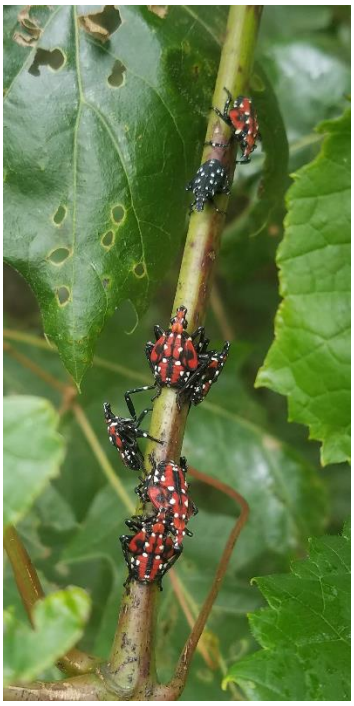

Figure10: Rkillcrazy, via Wikimedia Commons

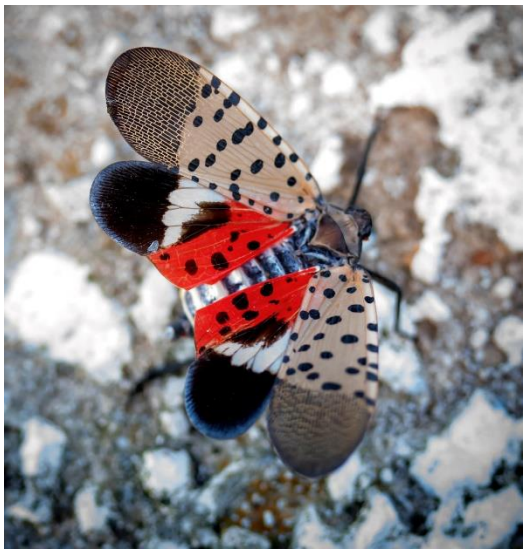

Figure11: WanderingMogwai, via Wikimedia Commons

Spongy Moth
(Common name Gypsy Moth)

Prevention	
-Report sightings -Destroy egg masses	
Eradication/Containment depending on the infestation size	**Effective Pesticide**
-Burlap cloth flap trap; encircle trees with foot wide length of burlap, tied with twine in the middle and pull the top portion over lower portion. Caterpillars can't turn around so they will accumulate and they can be removed periodically -Squish caterpillars or moths if found in small numbers -Chemical controls through spraying	-Biological sprays are used on caterpillars; Bacillus thuringiensis kurtaki (BtK)

Spongy Moth Photos

Figure12: Ryan Hodnett, via Wikimedia Commons

Figure 13: Ilia Ustyantsev, via Wikimedia Commons

Japanese Beetle

Prevention	
-Plant resistant plants -Grow plants that naturally deter them from an area (see companion planting tips as well which can help with deterring pests)	
Eradication/Containment depending on the infestation size	**Effective Pesticide**
-Insecticide application -Row covers -Plant beetle deterring plants (Geraniums attract them and they feed on them, becoming "drunk" or paralyzed and you can dispose of them once they fall off the plant) -Traps can be purchased but place them away from your garden as they attract the beetles so you want to draw them away from your plants	-Neem oil; repeat applications necessary however -Bacillus thuringiensis galleriae (BtG) can control Japanese beetle grubs -Pyrethrin based insecticides can be used as well to repel them -Don't use Seven or other brands of insecticides which are very harsh and kills beneficial insects like the Honeybee

Japanese Beetle Photos

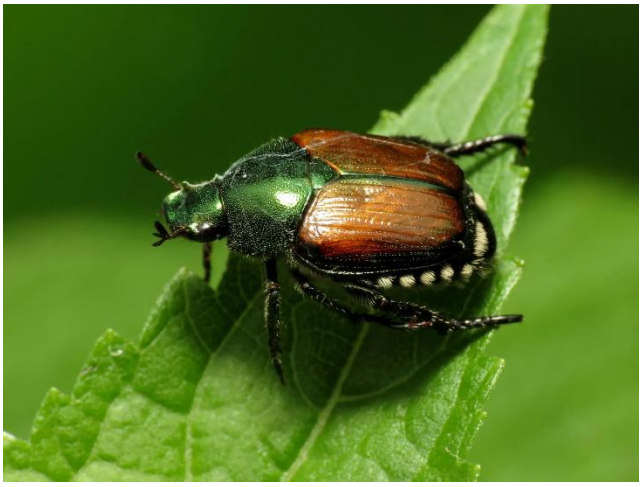

Figure14: Katja Schulz, via Wikimedia Commons

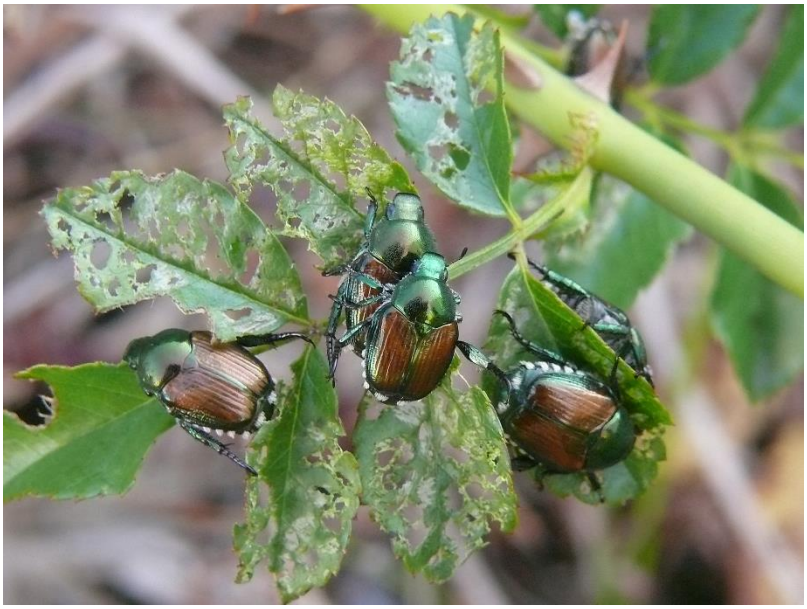

Figure15: Lamba, via Wikimedia Commons

Local Professional Assistance

These are organizations that you can reach out to for specific advice on your project or land management.

Capital Region PRISM Contact Information

(Partnership for Regional Invasive Species Management)

capitalregionprism@cornell.edu

518.885.8995 (ext. 2218)

DEC Invasive Species Department

DLF, Bureau of Invasive Species and Ecosystem Health
625 Broadway
Albany, NY 12233

Phone**: 518-402-9425**

isinfo@dec.ny.gov

USDA Soil and Water for Washington County NY

District manager email: corrina.aldrich@ny.nacdnet.net

Washington County SWCD, USDA Service Center, 2530 St Rt 40, Greenwich, NY 12834
Phone: 518-692-9940 ext.5

USDA Soil and Water for Rensselaer County NY

USDA Service Center
1612 NY-7, Troy, NY 12180
Phone: (518) 271-1740 Extension 3

District manager email: Megan.Myers.RenscoSWCD@gmail.com

References

-NY DEC invasive insects;
https://dec.ny.gov/nature/animals-fish-plants/emerald-ash-borer-eab

-NY DEC;
https://dec.ny.gov/nature/animals-fish-plants/insects-and-other-species/hemlock-woolly-adelgid

-NY Invasive Species Information;
https://nyis.info/species/hemlock-woolly-adelgid/

-Cornell Integrated Pest Management;
https://cals.cornell.edu/integrated-pest-management/outreach-education/whats-bugging-you/spotted-lanternfly/spotted-lanternfly-management#insecticides