



PPQ 2024 Annual Report

Optimizing Pest Management: Tree and Wood Pests

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Introduction

The Tree and Wood Pests (TWP) program protects forests, private working lands, and natural resources from the Asian longhorned beetle (ALB), emerald ash borer (EAB), and spongy moth. Numerous native hardwood tree species that are common throughout the United States are vulnerable to these pests. The U.S. Department of Agriculture’s Plant Protection and Quarantine (PPQ) program cooperates with Federal, State, Tribal, and local agencies, organizations, and institutions to conduct survey, regulatory, control, and outreach activities in 48 States to manage or, in some cases, eradicate these pests.

Conserving forests enhances the economic vitality of rural communities by supporting forest-related industries, recreation and tourism, and the overall livability of communities. The value of forest products that PPQ protects is over \$200 billion (U.S. Forest Service, 2024). In addition, trees in residential areas lower cooling bills, filter pollutants from the air, decrease runoff, and improve residents’ quality of life (U.S. Environmental Protection Agency).

Asian Longhorned Beetle

The ALB threatens forest resources nationwide, as roughly 30 percent of U.S. trees are potential ALB hosts. The Council of Tree and Landscape Appraisers determined the potential value loss of forested areas from ALB as greater than \$2 trillion nationwide. In the eastern United States alone, 4 million jobs depend on forests vulnerable to ALB. The program's ALB eradication activities prevent multi-billion-dollar losses to the maple syrup, timber, tree nursery, trade, and tourism industries.

PPQ's eradication strategy for ALB includes surveys, regulatory inspections, quarantine restrictions, removal of infested and high-risk trees, and chemical treatment applications. PPQ conducts several cycles of surveys to determine the scope of infestation, establish a quarantine area, identify trees to remove or treat, determine if the pest has spread outside of the established quarantine area, and determine when to release an area from quarantine. A survey cycle, which is the time it takes to complete a survey of a given area, can take several years depending on the size of the area, the density and type of trees in the area, and type of landscape or land use.

PPQ can declare eradication in a given area after a minimum of 4 years of not finding ALB between the last detection of the pest and the completed final survey cycle. PPQ provides ongoing support to evaluate new methods and protocols to combat ALB and tailors project responses to site-specific conditions, resulting in a more efficient program. Currently, each regulated area is at a different stage of eradication and faces unique, local conditions.

ALB was first detected in Brooklyn, New York, in August 1996, and was later found in other States. The program has successfully eradicated ALB from Chicago, Illinois; Boston, Massachusetts; Batavia, Stonelick, Jersey City, Middlesex County, and Union County, New Jersey; Islip, Staten Island,

Brooklyn, Queens, and Manhattan, New York; and Monroe Township, Ohio. In FY 2024, the program conducted activities in regulated areas of Massachusetts, New York, Ohio, and South Carolina. In 2024, the program surveyed a total of 531,454 trees across the 4 regulated areas.

More specifically, in 2024 the program continued ongoing survey efforts in Worcester County, Massachusetts, surveying 182,884 trees in densely wooded, hard-to-access areas. Over the program's lifetime, the program has surveyed more than 10.8 million trees and removed 36,263 high-risk host and infested trees. In FY 2024, no new infested trees in Massachusetts were found. In the Long Island, New York quarantine, 33,905 trees were surveyed and found 16 new infested trees were found. All infested trees in New York were removed, and 399 non-infested host trees within a quarter mile of the infested trees were treated as a preventative to protect them from infestation.

To date, the program has surveyed a cumulative 1.9 million trees in Long Island over the program's existence and removed more than 8,482 trees. In Tate Township, Ohio, the program surveyed over 179,956 trees, found 126 new infested trees, and removed 268 infested and high-risk host trees in 2024. Surveying and infested tree removal efforts continued in the remaining 49 square miles of the Ohio quarantine area. The program has surveyed a cumulative 4.8 million trees in Ohio and removed approximately 118,000 since the initial detection in 2011. Efforts in South Carolina focused on ALB surveys in the southern and eastern parts of the quarantine area and the removal of infested and high-risk host trees in the core area of the infestation. This regulated area includes forested and wetland areas, making access for surveys and tree removals challenging. In FY 2024, 140,000 trees were surveyed and 880 trees removed. In South Carolina, the program has surveyed 448,821 trees since 2020 and removed approximately 9,400 infested and high-risk host trees.

Emerald Ash Borer

EAB was first detected in Michigan in 2002 and has since been detected in 36 additional States and the District of Columbia. EAB spreads beyond what a regulatory program can control. As a result, PPQ published a proposed rule in the Federal Register to remove the EAB Federal domestic quarantine regulations in 2018, which was finalized in 2021. PPQ continues to operate the EAB program as a biological control program to help effectively manage EAB populations. Biocontrol for EAB provides a promising strategy, using four species of parasitic stingless wasps for long-term EAB management. In 2024 PPQ provided parasitoids to 119 sites (2 in Canada and 117 in the United States). Parasitoid releases took place across 22 States and two Provinces.

To date, the EAB program has cumulatively released a total of more than 8.5 million parasitoids to impacted areas. PPQ and cooperators continue to assess the impacts of the parasitic wasps on EAB populations and tree health at release sites and nearby areas. Field evaluations indicate the EAB parasitoid wasps and other EAB natural enemies are protecting sapling ash from EAB.

Spongy Moths

Spongy moth is a destructive pest of North America's most beautiful and popular deciduous trees, including maples, oaks, and elms. This pest is established in all or parts of 20 northeastern, mid-Atlantic, and Midwestern States, as well as the District of Columbia. PPQ and State cooperators conduct regulatory activities in the quarantine area to prevent the human-assisted spread of the pest and establishment of spongy moth populations in non-quarantine areas. These efforts include inspection,

treatment, and certification of regulated articles for movement from quarantine to non-quarantine (non-infested) areas.

The program issues compliance agreements and conducts public outreach to ensure that businesses and residents in infested areas comply with regulations to prevent long-distance spread of the pest. Spongy moth also spreads naturally into areas bordering the quarantined zone. PPQ and State partners monitor the transition zone along the 1,200-mile-long border of the quarantine area to ensure that newly infested areas are inspected through trapping and added to the quarantined zone and regulated effectively.

Working with the U.S. Forest Service and the Slow-the-Spread Foundation, PPQ and cooperators have greatly reduced the rate of spongy moths spread and eradicated isolated populations, preventing this pest from becoming a larger issue.

In 2024, PPQ and State cooperators continued to conduct spongy moth surveys to detect, delimit, and eradicate any isolated populations. PPQ supported 18 states through the spongy moth allocations in the TWP Line for detection, delimitation, and regulatory activities. More specifically, in 2024, the program and its partners began a partial year of precision delimiting surveys in California, Washington, and Oregon for spongy moth detections in 2024. Though the results of the delimitations have not been finalized, PPQ anticipates that these States will have treatment or additional precision delimitation activities in 2025. In addition, in 2024, PPQ, U.S. Forest Service, and State partners began the first year of a post-treatment delimitation response following a spongy moth eradication treatment in Washington State. Results of this first-year delimitation response determined that no moths were detected in the treated area.

Flighted spongy moth complex (FSMC) is a collective term for a species complex consisting of five

taxa, all of which are closely related to the spongy moth. The FSMC is an invasive threat to North American urban and natural forests because of its broad host range, demonstrated damage potential, and its ability to compromise an effective management system that has taken nearly 100 years of research to assemble. The FSMC poses a particular risk to western areas because of its ability to hitchhike on shipping vessels from Asia. PPQ supports the exclusion of FSMC through offshore vessel inspection, certification, and cleaning requirements. PPQ, the U.S. Department of Homeland Security's Customs and Border Protection, and the Canadian Food Inspection Agency conduct continuous joint outreach to the maritime shipping industry.

In 2024, PPQ and State cooperators began a post-treatment delimitation response following an eradication treatment in Washington State to determine if there was a FSMC population present after detections at two sites in 2023. This precision delimitation process includes at least 3 years of surveying to determine if the treatment was successful or to determine the scope of infestation. Results of the first year of delimiting determined that no moths have been detected in the area. Results of three consecutive years of precision delimitations in Washinton after a FSMC detection in 2021 have concluded, and no additional moths have been detected.