Finding of No Significant Impact
Asian Longhorned Beetle Cooperative Eradication Program
in
Essex, Norfolk and Suffolk Counties, Massachusetts
Environmental Assessment
March 2011

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), has prepared an environmental assessment (EA) for eradication of Asian longhorned beetle (ALB) from a recently discovered infested site near Faulkner Hospital, and any additional future finds in Essex, Norfolk, and Suffolk Counties, Massachusetts. The EA is incorporated into this Finding of No Significant Impact (FONSI) by reference. It is available online at http://www.aphis.usda.gov/plant_health/ea and from—

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The EA analyzed two alternatives: (1) no action by APHIS to treat new infestations of ALB and, (2) the preferred alternative, to eradicate ALB from Essex, Norfolk, and Suffolk Counties should ALB be confirmed there. The eradication program includes the removal of infested trees and ALB host trees, followed by chipping or burning; chemical injections into the soil or trunk of uninfested host trees; and use of an herbicide on cut trees to prevent regrowth. The eradication program also includes maintaining the current ALB quarantine and adding new areas to the quarantine if additional ALB-infested areas are discovered.

The preferred alternative consists of a cooperative effort among APHIS, the U.S. Forest Service (FS), State cooperators, impacted municipalities, and local residents. APHIS and its cooperators share responsibility for survey, regulatory action, tree removal and destruction, chemical applications, replanting, and public outreach. APHIS and the Massachusetts Department of Conservation and Recreation (DCR) have the lead responsibility in the areas of survey, regulatory action, chemical control, environmental monitoring, data management, public outreach, and technology enhancement. FS helps communities recover from tree loss with replanting efforts; it works with APHIS on technology enhancement issues and public outreach, and helps APHIS with surveys.

APHIS considered the potential environmental consequences of each alternative in the EA. The no action alternative could result in the spread of ALB throughout the area and across the country, thereby causing considerable damage to host plants and associated habitats and industries, including the hardwood lumber and maple sugaring industries that occur within Massachusetts and surrounding States. Successful implementation of the preferred alternative would result in negligible local impacts to wildlife habitat and an aesthetic impact to humans because of the cutting of host trees. Cutting is restricted to relatively small areas and only host trees, not all trees, are affected. Further, any impacts will be mitigated to the extent that USDA and the other cooperators replant trees. Impacts from the use of triclopyr or imidacloprid will be

negligible. Imidacloprid will either be directly injected into host trees, thus effectivelyeliminating environmental exposure, or injected into the soil at the base of the tree where it will rapidly be taken into the tree and, thus, unavailable to nontarget organisms. These methods of application eliminate the potential for drift and, in the case of tree injections, eliminate the probability of off-site transport via runoff. There is a potential for subsurface transport of imidacloprid to aquatic habitats from applications made directly into soil. This type of exposure will be minimized by making applications only where the ground water table is not in proximity to the zone of injection, and avoiding soils that have a high leaching potential. Any aquatic residues that could occur would be below effect levels for aquatic biota due to the low probability of off-site transport and environmental fate for imidacloprid. Impacts from triclopyr are also expected to be negligible. The potential for off-site movement via drift or runoff is very small as it would only be applied by hand sprayer or painted directly on the stumps of cut host material.

Based on the preferred alternative, cumulative effects are not anticipated. Effects from the quarantine, cutting, and chemical treatments are short-lived. Both triclopyr and imidacloprid are commonly used pesticides. The site-specific use of triclopyr in the proposed ALB program will be characterized by a lack of drift and runoff potential, and low toxicity to organisms other than terrestrial plants. The proposed use of imidacloprid will result in little opportunity for off-site movement because it is injected directly into the host tree or into soil at the base of the tree where it is quickly absorbed through the roots. Because there is little or no environmental exposure other than inside the targeted tree, little to no environmental loading or cumulative impact is anticipated from the proposed use of imidacloprid in the ALB program.

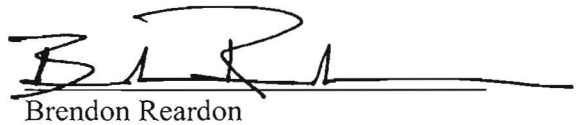
APHIS determined that with the implementation of certain protection measures, the program may affect, but is not likely to adversely affect, the small whorled pogonia or piping plover. APHIS submitted the biological assessment to the U.S. Fish and Wildlife Service, New England Field Office, and received a letter of concurrence dated March 17, 2011.

In March APHIS posted the EA on its Web site and in early April placed announcements in local newspapers about its availability for public comment. The public comment period ended on May 7, 2011. Several comments were received; a response to comments document has been prepared and is attached to this FONSI.

I have determined that there would be no significant impact on the quality of the human environment from the implementation of the preferred alternative. APHIS' finding of no significant impact from the preferred alternative is based on past experience with ALB eradication efforts in Chicago, the New York metropolitan area (including New Jersey and Staten Island), and Worcester County, Massachusetts, the application of standard operating procedures for the applications, and the expected environmental consequences, as analyzed in the EA.

Further, I find the preferred alternative of expanding the quarantine area, removal and chipping or burning of host trees, and chemically treating host trees with either a soil injection or trunk injection to be consistent with the principles of environmental justice as expressed in Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Families." Implementation of the preferred alternative will not result in any

disproportionately high adverse human health or environmental effects on any minority populations or low-income populations. In addition, the preferred alternative is consistent with Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks." There will be no disproportionate effects to the environmental health and safety of children with the implementation of this program. Lastly, because I have not found evidence of significant environmental impacts associated with the proposed program, I further find that an environmental impact statement does not need to be prepared and that the program may proceed.



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MAY 20, 2011
Date

RESPONSES TO COMMENTS RECEIVED ON ASIAN LONGHORNED BEETLE PROGRAM FOR ESSEX, NORFOLK, AND SUFFOLK COUNTIES, MASSACHUSETTS

The environmental assessment (EA) was made available for public comment on March 28, 2011. The comment period closed May 7, 2011. In addition, two public meetings were held—one in Jamaica Plain on April 28, and one in Franklin Park on April 30. As a result of the meetings and release of the EA, several comments were received from the public. The comments are summarized below along with the program response to the comment.

Comment: Research has shown trunk injection to be the most effective treatment for protecting trees from beetles. There is still much educating to be done to help the average homeowner realize that cutting down their trees and replacing them is not their only option.

Response: The mission of the Asian Longhorned Beetle (ALB) Cooperative Eradication Program is to eradicate this invasive insect from Massachusetts and the United States. The ALB program uses an integrated science-based approach to develop an area-wide eradication strategy to eliminate ALB populations. The strategy includes regulation, survey, removal of infested host trees, chemical treatments, outreach, and research. The control actions used by the ALB program are the removal of infested trees and chemical treatments of noninfested host trees in proximity to infestations. These actions significantly reduce ALB populations by targeting the area into which the pest is most likely to naturally disperse from an outbreak site.

Because of the variability in survey and pest detection, detecting small populations of ALB is difficult as the symptoms of infestation in lightly infested trees are difficult to observe. If a tree is infested, the only control option is removal. Chemical treatment applications are applied to host trees immediately surrounding the infestation to further reduce beetle populations in the infested area that could have been overlooked by visual inspections.

Comment: Multiple studies have shown the class of neonicotinoid chemicals, including imidacloprid and its metabolites, to be highly toxic and lethal to honey bees. Subchronic toxicity is also a factor in adult bee orientation and death, and stalled brood development and mortality. Lethal presence of the neurotoxin molecule, or its metabolites, has been shown repeatedly in pollen, nectar, and plant exudates collected by honey bees and brought back to the hives.

Response: The Animal and Plant Health Inspection Service (APHIS) is aware of the concerns regarding the neonicotinoid insecticide class, which includes imidacloprid, and the potential impacts to honey bees and other pollinators. Due to some of these concerns, certain uses of these types of insecticides, such as seed treatment, have been restricted in some countries. However, to date, APHIS is not aware of a restriction in use for the proposed application method in the ALB program based on concerns regarding honey bees. Imidacloprid is an effective and registered insecticide against ALB.

APHIS has evaluated the acute and sublethal honey bee data that has been published, as well as the potential for exposure to occur from ALB-related applications, and determined that the risk to honey bees and other pollinators is low. Available data regarding residues of imidacloprid in

pollen and nectar in most crops suggest that levels are below those where lethal and sublethal impacts have been observed in laboratory studies. Imidacloprid treatments will not be made to all plants in the area, but only to select host trees using either direct trunk or soil injection. This type of application will ensure that other plants do not contain imidacloprid residues in blooming plants that would be available for foraging. In addition, applications for this year will occur after the primary flowering season for ALB host plants; exposure would only be expected to occur next year when imidacloprid levels would be lower. APHIS is working cooperatively with the University of Maryland–Baltimore and the Agricultural Research Service, a research branch of USDA, to determine the potential for exposure to honey bees from these types of applications as a means to supplement the available data regarding honey bee impacts and potential imidacloprid exposure. Preliminary results suggest that these types of applications do not adversely impact honey bees and their hives, and that imidacloprid residue data collected from maple trees is below levels where adverse impacts would be expected to occur. APHIS recognizes the importance of honey bees and the myriad of threats posed to their general health, and will continue to collect data to evaluate the potential for individual and cumulative impacts to honey bee health from ALB eradication activities.

Comment: In Europe, governments have removed this product from distribution due to the strong suspicion that it causes honey bee colony deaths.

Response: As previously stated, certain uses of neonicotinoid insecticides, such as seed treatment, have been restricted in some countries. However, to date, APHIS is not aware of any restriction in use for the proposed application method in the ALB eradication program, based on concerns regarding honey bees.

Comment: It would be better to halt the spread of ALB by inoculating a firewall of susceptible trees in the woods around Worchester.

Response: In order to prevent ALB from spreading through artificial (i.e., inadvertent, human-assisted) movement, a 98-square mile regulated area has been established in central Massachusetts by the Massachusetts Department of Conservation and Recreation (DCR) and APHIS. In addition, chemical treatments will be applied to strategic locations to stop the insect from naturally spreading further from where it already occurs to help reduce and eliminate ALB populations and to protect hardwood forests. The current maps depicting quarantine boundaries, survey progression, and treatment areas can be found online at the following link: http://www.aphis.usda.gov/plant_health/plant_pest_info/asian_lhb/alb_maps.shtml.

Comment: I support using imidacloprid to treat at-risk trees. Treating trees is preferable to removing them as a means to eradicate and control ALB.

Response: As stated above, the mission of the ALB program is to eradicate this invasive insect from Massachusetts and the United States. The ALB program uses an integrated science-based approach to develop an area-wide eradication strategy to eliminate ALB populations. The strategy includes regulation, survey, removal of infested host trees, chemical treatments, outreach, and research. The control actions used by the ALB program are the removal of infested trees and chemical treatments of noninfested host trees in proximity to infestations.

These actions significantly reduce ALB populations by targeting the area into which the pest is most likely to naturally disperse from an outbreak site.

Because of the variability in survey and pest detection, detecting small populations of ALB is difficult as the symptoms of infestation in lightly infested trees are difficult to observe. If a tree is infested, the only control option is removal. Chemical treatment applications are applied to host trees immediately surrounding the infestation to further reduce beetle populations in the infested area that could have been missed through visual inspections.

Comment: I am concerned for the risks to dogs if they chew on sticks from the pesticide-targeted trees.

Response: The risk to pets from exposure to imidacloprid in the proposed program is extremely low. A significant number of mammalian toxicity studies have been conducted to measure a range of acute and chronic effects. Studies ranging in length from just a few days to greater than a year have demonstrated very low toxicity to dogs. Due to the low toxicity in dogs and other mammals, imidacloprid is currently sold in several formulations for the treatment of fleas on cats and dogs. Consumption of twigs or sticks that may contain imidacloprid residues from a treated tree would not be expected to have any impacts to dogs. Maximum imidacloprid concentrations that have been measured in twigs from environmental monitoring studies in previous eradication efforts and the amount of food a dog weighing approximately 35 kg would consume in a day, suggests that a dog of that size would have to eat several times its normal daily ingestion rate in just twigs for a long period of time to reach any sort of adverse effect.

Imidacloprid is an effective and registered insecticide against ALB. The method of application, which includes direct injection of the compound into a tree, or soil injection, will minimize the risk to humans and other nontarget organisms such as pets and wildlife.

Comment: There was concern that soil injections would allow the pesticide to spread further into the ecosystem and possibly impact other insect species and other nontarget species.

Response: The soil and trunk injection methods of application eliminate the potential for drift and, in the case of tree injections, eliminates the probability of off-site transport via runoff that may affect aquatic species. There is a potential for subsurface transport of imidacloprid to aquatic habitats for applications made directly into soil; however, this type of exposure will be minimized by only making applications where the ground water table is not in proximity to the zone of injection, and in soil types that would minimize the probability of pesticide transport. Any residues that could reach aquatic environments would be below effect levels for aquatic biota and not pose a significant risk. Based on the proposed method of application and available effects data, exposure and risk to terrestrial vertebrates is expected to be minimal. Imidacloprid exposure to terrestrial invertebrates, including honey bees and beneficial insects, is expected to be minimal based on expected residues from the proposed method of application, the presence of other nontreated flowering plants, and the available acute and chronic honey bee toxicity data for imidacloprid. Appendix A of the EA provides more detail on the potential for risk to nontargets.

Comment: Some residents wanted more notice prior to onset of meetings and felt as though they were not well informed about the program or its potential environmental impacts.

Response: The ALB program announced the availability of the EA at two public meetings and at several stakeholder meetings held since December. The EA was uploaded on March 28th to the APHIS ALB Web site, and the EA legal notice of availability was published in two to four issues of each of the following newspapers beginning in early April—the Boston Herald, the Boston Globe, and the Jamaica Plain Gazette. The EA was announced to local leaders and legislators from Brookline and Boston, the Arnold Arboretum, Massachusetts Department of Agricultural Resources (MDAR), and DCR, and also through the Massachusetts ALB Cooperative Eradication Program media update newsletter, and the State Legislator and Town Administrator Update. Also, the EA was made available through both the APHIS Web site (as previously mentioned) and the Web page for the Massachusetts Introduced Pests Outreach Project, which is a collaborative effort between MDAR and the University of Massachusetts Extension Agriculture and Landscape Program.

Comment: There was some concern that the ALB treatments, when coupled with current uses in the Arboretum, will exceed the pesticide label limitations and require a Section 24(c) Special Local Needs permit.

Response: Currently, the ALB program is not seeking a Section 24(c) Special Local Needs exemption to exceed imidacloprid label rates. Chemical treatments used in the program will not exceed the label rate. Cumulative effects in the potential treatment areas will be avoided as APHIS works with the State, county, city, landowners, and residents to limit duplicative treatments. Specifically, chemical treatments will be coordinated between the Arnold Arboretum and the ALB program to ensure that duplicative treatments are avoided. In addition, the chemical treatments used by the ALB program are made to individual trees, as opposed to a broadcast application, thus limiting any off-site movement.

Comment: There were general concerns expressed regarding the Environmental Protection Agency's (EPA's) request for additional information to meet the FIFRA re-registration requirements for imidacloprid.

Response: APHIS is aware of EPA's registration review of imidacloprid. This is a routine process that EPA conducts in order to review registered pesticides every 15 years to determine whether it continues to meet the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) standard for registration. During this process, over 12,000 comments were received during the public comment period of the review, of which the majority related to potential risks to pollinators. As a result of the comments and review of the scientific literature, EPA is requesting additional data to better estimate potential risk to terrestrial invertebrates. This review does not mean that the ALB-program use of imidacloprid poses an unacceptable risk to bees or other pollinators. APHIS' review of the literature and environmental monitoring data indicates no significant risk to bees. Details of this conclusion are in the appendices of the EA, and are discussed above in previous comments related to bee health.

Comment: Some commenters requested that research be conducted prior to treatment so as to improve many aspects of the program.

Response: The strategy of the ALB program is focused to maximize success according to available information and resources. The ALB program's response to ALB infestations is

dynamic and, based on the best, most current science available. Although the ALB program has realized success in the past (for example in 2008), this destructive pest was declared eradicated in Chicago, Illinois, and Hudson County, New Jersey after the completion of control and regulatory activities. Following several years of negative surveys, the ALB program is actively developing and improving tactics and technologies to better meet the program's mission. The ALB program is working with experts in the Federal, State, and academic sectors to improve many aspects of the program, including survey, control, regulatory, and outreach.