United States Department of Agriculture

Marketing and Regulatory Programs

Animal and Plant Health Inspection Service

Gypsy Moth Cooperative Eradication Program in Dakota, Scott, and Washington Counties, Minnesota

Environmental Assessment, April 2019

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I. Introduction

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), in cooperation with the Minnesota Department of Agriculture (MDA), is proposing to conduct a program to eradicate the gypsy moth (GM) (*Lymantria dispar* L.) at two locations in Dakota/Scott and Washington Counties. The GM is one of the most destructive pests of trees and shrubs in the United States. There are two types of GM—the European (also known as North American) and the Asian. The North American GM was imported into Massachusetts from Europe in 1869 for silk production experiments. However, some moths were released accidentally and became established. The GM infestation spread relentlessly and now covers the entire northeastern part of the United States, from Maine south to North Carolina, and west to Michigan and parts of Minnesota. The North American GM has a host range of over 300 species of trees and shrubs; however, they prefer oaks and aspen. GM hosts are located throughout most of the continental United States.

APHIS, in cooperation with the U.S. Forest Service (FS) has established a national program to help slow the spread of the current North American GM population, and eradicate any new populations of GM that may exist outside this area. This program is an effective Federal/State partnership that prevents the establishment of GM in areas of the United States that are not contiguous to current regulated States and counties. APHIS assists States to eradicate isolated infestations of GM on 640 acres or less, while FS assists when areas exceed 640 acres.

The GM life cycle begins in the early spring with the hatching of first instar larvae from eggs laid the previous summer. Newly hatched larvae hang by silk threads and are caught by the wind and, thereby, are dispersed to other trees. Small larvae begin feeding on leaves. GM larvae go through five or six feeding stages. Between stages, the GM larvae molt by shedding their skin. Larvae typically feed at night and rest in bark crevices during the day. In areas with high caterpillar densities feeding may occur all day.

Pupation generally occurs about eight weeks after egg hatch. Once they emerge as adults, the female GM emits a pheromone that the males can detect through their antennae. The males locate the females and mate. After mating, the female lays eggs in a single mass on any solid object, such as tree trunks, shrubs, nursery stock, vehicles, camping equipment, and outdoor household articles.

Heavy infestations of GM can alter ecosystems and disrupt people’s lives. The larval life stage can cause defoliation and, in extreme cases, can cause tree mortality. Defoliated trees are vulnerable to other insects and diseases. Repeated or widespread defoliation events from larval feeding can alter wildlife habitat, change water quality, reduce property and esthetic value, and reduce the recreational and timber value of forested areas. When present in large numbers, GM caterpillars can be a nuisance, as well as a hazard to health and safety (USDA, 1995).

II. Purpose and Need

APHIS, in cooperation with the MDA, proposes to eradicate GM populations at two locations in Dakota/Scott and Washington Counties (see appendix A for maps of each area). The alternatives being considered have been analyzed in detail in the 1995 final environmental impact statement (EIS) for GM management in the United States and a recent supplemental EIS (USDA, 1995; 2012). The findings of that EIS regarding the alternatives being considered will be summarized and incorporated by reference into this environmental assessment (EA). The need for this proposed action is based on the potential adverse ecological and economic impacts of GM infestations on the infested and surrounding areas. APHIS proposes eradication because of the isolated nature of the infestation and the potential adverse ecological and economic impacts of GM on the infested and surrounding areas.

GM egg masses and pupae have been known to attach to items that people bring with them when they enter and leave Minnesota. Therefore, if GM were to become established and allowed to spread throughout these areas, it could potentially spread to other areas within Minnesota, as well as other parts of the country, including the surrounding States. In the absence of timely eradication action, the associated damage, defoliation, and mortality of host plants from such an occurrence could be devastating.

This EA is tiered to USDA's 1995 final EIS and 2012 supplemental EIS for GM management in the United States. Eradication is being proposed because of the isolated nature of these infestations and the threat that a reproducing population of GM would pose to the vegetation resources of this area.

This site-specific EA is designed to examine the environmental consequences in the proposed treatment areas when using a range of treatment options analyzed in the 1995 final EIS and 2012 supplemental EIS for GM management in the United States that may accomplish the program's goals. The goal of this project is to eliminate GM from the identified areas in Dakota/Scott and Washington Counties, Minnesota.

The preparation of this EA is consistent with National Environmental Policy Act of 1969 (NEPA) (42 United States Code (U.S.C.) § 4231 et seq.), the Council of Environmental Quality NEPA regulations (40 Code of Federal Regulations (CFR) part 1500 et seq.), APHIS' NEPA implementing regulations (7 CFR part 372), and USDA Forest Service NEPA implementing regulations (36 CFR part 220) for the purpose of evaluating how the proposed action and alternative described in the following sections, if implemented, may affect the quality of the human environment.

A. Public Outreach

The Minnesota Department of Agriculture (MDA) used the US Forest Service Slow-the-Spread (USFS-STS) decision algorithm along with annual survey data and past knowledge to assist in identifying potential problem areas. Potential problem areas were determined in consultation with the USFS-STS at the STS road show on October 29, 2018. Following consultation with USDA-APHIS State Plant Health Director and the Slow-the-spread program manager the 2019 proposed gypsy moth treatment boundaries were determined. The MDA presented 2019 proposed gypsy moth treatments to the Gypsy Moth Program Advisory Committee for their concurrence on November 1, 2018. This committee, which is comprised federal and state agency cooperators, approved the treatment proposal.

The MDA held initial meetings with the Local Government Units to begin the initial treatment planning on January 4, 2019. Presentations were made at City council meetings to inform city management of the proposed treatments and outreach activities that will be conducted. The City council presentations were on the following dates: February 4, 2019 in Lakeville, and February 5, 2019 in Stillwater.

Informational bulletins were mailed directly to residents within the proposed treatment block and within the surrounding area. These bulletins provide information to residents on gypsy moth, proposed treatment methods, and advertised the public open houses. The informational bulletins were mailed on February 8, 2019. Public open houses were held so citizens could have their questions answered directly and to receive additional information regarding the proposed treatments. Public open houses were advertised with press releases, on the MDA website, and on the MDA's social media account.

The MDA published the notice of availability in the legal classified section of the newspapers of record for each of the affected communities. The notice of availability was published on February 22, 2019 in the Sun Thisweek Lakeville and the Stillwater Gazette, starting the 30 day public comment period. APHIS and MDA received 15 comments regarding the proposed program. Some of the comments expressed concern about human health and non-target fish and wildlife risks from the use of Btk. The potential for these impacts to occur were evaluated in the EA either directly, or incorporated by reference from the 2012 Gypsy Moth Supplemental Final EIS.

An open house at Lakeville was held on March 6, 2019 at the Lakeville Water Treatment Facility (18400 Ipava Avenue Lakeville, MN 55044). This open house was not attended by any community members. This was expected given the small number of citizens within the proposed treatment block. This open house was hosted at the request of the City Council Members as a way to connect with the residents within the proposed treatment block.

A second open house was held in Stillwater on February 26, 2019 at Stillwater City Hall (216 4th St N, Stillwater, MN 55082). This open house was attended by 23

people. The large attendance was attributed to the proposed treatment block being centered over a suburban community and the interest from a local interest group located in Stillwater. The local interest group is called Pollinator Friendly Alliance and their mission is "to protect and restore pollinators to improve the environment and sustain our food supply." The questions and comments from the Stillwater open house centered on the non-target impacts including general impacts to honey bees, other pollinators, and song birds. Some specific concerns that arose were potential impacts on monarch caterpillars, public health implications, and the cost of the proposed treatments. Concerned citizens were provided information regarding their specific concerns and were told that all of these concerns have been addressed in the site specific Environmental Assessment (EA). Moreover, the MDA provided information on how to view the EA online and offered to email the document directly to concerned individuals.

The MDA contacted local agency partners including the Minnesota Department of Natural Resources and county park managers near the proposed block so that they may direct citizens to the appropriate information. Other scoping activities include press releases, as well as information on the MDA and partner city and neighborhood association websites. This year the MDA has implemented a text message notification system. Residents can quickly sign up for email or text message updates by sending a specified text to the subscription number.

The MDA will continue to inform local leaders and affected residents with press releases, legal notices, email blasts, and other outreach opportunities. Additional postings, contacts, and media releases are planned to inform (and remind) the public approximately two weeks before treatments begin. The MDA will send a reminder postcard to residents and businesses within the proposed treatment block approximately two weeks prior to application. The postcard will include an informational hotline number and direct residents to the MDA website to sign up for email or text message notifications to receive the most current information prior to and during applications. The MDA gypsy moth program hotline, Arrest the Pest Hotline (888) 545-6684, will be updated frequently to alert the public of actual treatment dates, while email and social media sites, including Facebook and Twitter, will also be used for notification. During the treatment period, the MDA GM program staff will monitor the hotline and online comments.

Local law enforcement, emergency care facilities, poison control and the 911 system will be notified weeks prior to application.

B. Authorizing Laws

1. USDA Authorities

Authorization to conduct treatments for GM infestations is given in the Plant Protection Act of 2000 (7 U.S.C. section 7701), and the cooperation with State agencies in Administration and Enforcement of Certain Federal Laws (7 U.S.C. section 450). The Cooperative Forestry Assistance Act of 1978 (Public Law (P.L.)

95–313) provides the authority for Federal and State cooperation in managing forest insects and diseases. The 1990 Farm Bill (P.L. 101–624) reauthorizes the basic charter of the Cooperative Forestry Assistance Act. The NEPA of 1969 requires detailed environmental analysis of any proposed Federal action that may affect the human environment. The Federal Insecticide, Fungicide and Rodenticide Act of 1947, as amended, known as FIFRA, requires insecticides used within the United States be registered by the U.S. Environmental Protection Agency (EPA). Section 7 of the Endangered Species Act prohibits Federal actions from jeopardizing the continued existence of federally listed threatened, endangered, or candidate species or adversely affecting critical habitat of such species. Section 106 of the National Historical Preservation Act and 36 CFR part 800: Protection of Historic Properties requires consultation with the State Historic Preservation Officer regarding the proposed activities.

2. State Authorities

The Minnesota State Statutes Chapter 18G, Plant Protection and Export Certification, authorizes MDA to conduct detection and eradication projects for plant pests. MDA's Pesticide Control Law Chapter 18B provides the State statutes governing pesticide application.

C. Decisions to be Made

Two agencies within the USDA support GM eradication work. Each agency has different roles and responsibilities in GM management. Per the revised memorandum of understanding between APHIS and the FS, signed in 2009, APHIS is responsible for eradication work of 640 acres or less, while the FS' State and Private Forestry is the lead agency for treatment areas larger than 640 acres. The proposed treatment blocks for GM eradication are 133 acres for the Lakeville treatment block and 633 acres for the Stillwater treatment block.

The proposed action alternative in this document proposes a multiagency approach between APHIS and MDA. The responsible officials must decide the following:

- Should there be a cooperative treatment program in the treatment blocks identified in Dakota/Scott and Washington Counties?

- Is implementation of the proposed action likely to have any significant impacts requiring further analysis in an EIS?

D. Responsible Officials

The responsible official for APHIS is:

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The official responsible for implementation for MDA is:

Kimberly Thielen Cremers
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Minnesota Department of Agriculture
Plant Protection Division
625 Robert Street North
St. Paul, MN 55155

E. Other Gypsy Moth Work

In addition to the proposed Btk treatments at the Lakeville and Stillwater sites there is a proposed treatment in St. Louis County, MN. The proposed treatment area is 135 acres and is located east of Longyear Lake in the eastern portion of the City of Chisholm. There are 237 parcels within the proposed treatment area, the majority of which are single family residential homes. The Chisholm site is approximately 200 miles north of the Lakeville treatment site and is part of the Slow-the- Spread treatments that will be conducted by MDA in cooperation with the FS.

III. Alternatives

This EA is tiered to the USDA's 1995 Final EIS and 2012 supplemental EIS for GM Management in the United States. The preferred alternative in the 1995 EIS is alternative 6: Suppression, Eradication, and Slow the Spread. This alternative was proposed because of the isolated nature of GM infestations in Minnesota. This site-specific EA is designed to examine the environmental consequences of a range of treatment options listed under the EIS preferred alternative (alternative 6) that may accomplish the program's goal.

Under alternative 6 of the EIS, six treatment options were analyzed in the 1995 EIS with an additional treatment option analyzed in the 2012 supplemental EIS:

1) Btk—a biological insecticide containing the bacterium *Bacillus thuringiensis* var *kurstaki* (Btk). The insecticide is specifically effective against caterpillars of many species of moths and butterflies, including GM.

2) Diflubenzuron (Dimilin®)—an insect growth regulator that interferes with the growth of some immature insects.

3) GM Virus (Gypcheck®)—a nucleopolyhedrosis virus which occurs naturally and is specific to GM. Gypcheck is an insecticide product made from the GM nucleopolyhedrosis virus.

4) Mass Trapping—a treatment that consists of large numbers of pheromone traps used to attract the male GM thus preventing them from mating with females and, thereby, causing a population reduction.

5) Mating Disruption—a treatment that consists of a carrier (i.e., tiny plastic flakes, beads, etc.) that release disparlure, a synthetic GM sex pheromone. The pheromone confuses male moths and prevents them from locating and mating with females.

6) Sterile Insect Technology—a treatment that consists of an aerial release of a large number of sterile male GM. This reduces the chance that female moths will mate with fertile males, which results in progressively fewer and fewer fertile egg masses being produced, and eventual elimination of the population.

7) Tebufenozide—an insecticide that controls molting in various insects and other invertebrates.

Of the treatment options listed above, Btk and diflubenzuron have proven to be the most effective eradication tools for use with small populations of GM, such as the area being proposed in this site-specific EA.

The remaining treatment options were not selected due to availability, or environmental or efficacy concerns. Diflubenzuron is an insect growth regulator that has a broader nontarget host range than Btk, and can kill many other insects in addition to moths and butterfly caterpillars. Its use may adversely affect other insect populations and, therefore, was not selected. Similar types of impacts would be expected with the use of tebufenozide. GM virus (Gypcheck®) is very host-specific, but is not widely available in the market; therefore, it was not selected. Mating disruption was not selected due to the presence of alternate life stages. Sterile insect release experiments show variable results for eradication programs and, consequently, sterile insect technology was not selected.

This EA analyzes the potential environmental consequences associated with two alternatives: A) no action and B) the proposed action to eradicate GM populations from identified areas within Dakota/Scott and Washington Counties (see maps in appendix A).

A. No Action

Under the no action alternative, APHIS would not participate in the GM eradication program. Other Federal and non-federal entities, including the State of Minnesota, could take control measures; however, APHIS would not assist in either the control or funding of these measures.

B. Proposed Action

Under the proposed action alternative, APHIS would provide funding for GM eradication treatments at the Lakeville (133 ac) and Stillwater (633 ac) sites that are located in Dakota/Scott, and Washington Counties, respectively (Appendix A). MDA would apply Btk (Foray® 48B) at a rate of 64 fluid ounces (fl oz. or ½-gallon) of product per acre using low flying aircraft. Two applications will be made within each treatment block with a 5- to 10-day interval between applications. The MDA estimates these applications to occur in mid-May 2019. The exact dates of application will coincide with the early larval stages when GM caterpillars hatch from their eggs and are most susceptible to treatments.

The program will survey the treatment block for two years after treatment using pheromone-baited GM traps to ensure that the treatment was effective. Traps are baited with disparlure, a synthetically produced sex pheromone that mimics the natural pheromone female GM use to attract the male GM. Trapping density will be as high as one trap per 250 square meters in each treatment block.

IV. Affected Environment

A map of the scoping boundary and treatment block is in appendix A. The scoping boundary extends beyond the treatment block boundary with the intent to expand public outreach about the proposed GM program. Below is a description of each treatment block.

Lakeville Treatment Area

The proposed treatment area of 133 acres is located along the western border of the City of Lakeville and straddles Judicial Road (the county boundary). The majority of the proposed treatment block (106 acres) is located in the City of Lakeville, Dakota County. The western edge of the proposed treatment block extends approximately 150 yards west of Judicial Road, resulting in 27 acres of the proposed treatment block being located in Credit River Township, Scott County.

The Lakeville treatment block is characterized as having rural residential development. There are 24 parcels located within the treatment block, 10 of which are located in Scott County. The land cover of the proposed treatment block is approximately 50% grassland/cropland, approximately 25% covered in deciduous species, approximately 20% residential development, and approximately 5% water

resources. The water resources located in this treatment block are primarily small lakes and ponds- all known water bodies will be excluded from the proposed treatment.

The northeastern corner of the Lakeville proposed treatment block has four acres that intersect Ritter Farm Park, which is managed by the City of Lakeville. The City of Lakeville also owns two parcels, with a combined total of approximately 10 acres, along the southern border of the proposed treatment block.

There are no known schools, daycare providers, or medical clinics within the proposed treatment block.

There are two intersections in the proposed treatment block- Judicial Road and 195th Street East, as well as Judicial Road and 197th Street West. The northern boundary of the proposed treatment area is located approximately one mile south of the intersection of 185th Street West (County Rd 60) and Judicial Road. The southern boundary is located approximately a half mile north from the intersection of Judicial Road. Interstate 35 is located approximately one mile to the east of the proposed treatment block.

Stillwater Treatment Area

The proposed treatment block is 633 acres located in the southwestern quadrant of the City of Stillwater and is characterized by suburban development. Approximately 70% of the proposed treatment block is developed. There are 1,015 parcels within the proposed treatment block, the majority of which are private single family homes.

There are multiple aquatic habitats located in the proposed treatment block, including Long Lake and several unnamed lakes and ponds. All aquatic habitat will be excluded when the treatment product is applied. Along the northern border of the proposed treatment block is the Jackson Wildlife Management area. This 33 acre site was donated to the Minnesota Department of Natural Resources, but was sold in 2010. The land is now in private ownership, except for three acres that were donated to the City of Stillwater as a buffer for an existing housing development.

There are several sensitive areas to be aware of in the Stillwater proposed treatment block. There are several in-home daycare providers located within the proposed treatment block. Rutherford Elementary School is located just outside of the northwestern corner of proposed treatment block, and Lilly Lake Elementary is located approximately 0.2 miles east of the eastern boundary of the proposed treatment area. There is a medical clinic (HealthEast Clinic) located 0.4 miles south of the southern boundary

The proposed Stillwater treatment block is comprised mainly of neighborhood roads. Highway MN-36 is located approximately 0.5 miles south of the southern boundary. Manning Ave N and 75th Street N parallel the western and northern boundaries, respectively.

V. Environmental Impacts

Both alternatives result in potential environmental consequences. APHIS examined the risks associated with ecological and human impacts under both alternatives.

A. No Action

Selection of the no action alternative would likely result in the establishment of GM populations in the counties identified in this EA which could lead to commensurate damage to trees relative to the level of infestation. The majority of the trees in the eradication and surrounding area are susceptible to damage from GM larvae. The no action alternative would allow GM to flourish in the existing area, and continue to spread into surrounding areas. With the establishment of GM, the environmental concerns discussed below would likely occur. The ecological and human health effects associated with GM were examined in the 1995 final EIS and the 2012 supplemental EIS for GM management in the United States (USDA, 1995; USDA, 2012). This EA incorporates the EIS evaluation by reference from the material discussed in both of the EIS documents. An ecological and human health effects summary is provided below.

1. Human Health

In addition to environmental effects, some people have been shown to be allergic to the tiny hairs on GM caterpillars. These people could suffer minor allergic reactions (primarily rashes) if GM were allowed to become established. Also, irritation to eyes and throat are common reactions with increased GM infestations (USDA, 1995). In heavily infested areas, large numbers of caterpillars limit enjoyment of the outdoors for some people due to GM larval droppings and defoliation (USDA, 1995).

2. Ecological Resources

Most of the environmental impacts associated with GM are caused by the larval stage. This stage of GM is the feeding stage which can lead to changes in forest stand composition (USDA, 1995). In areas where GM populations are high, trees can be defoliated, leading to stress (USDA, 1995). Trees that are stressed are more susceptible to diseases and other plant pests (USDA, 1995). In circumstances where high populations are sustained over several years, GM feeding damage can cause tree mortality (USDA, 1995). GM-related defoliation of trees can also result in negative impacts to native Lepidoptera (Manderino et al., 2014).

The areas of infestation, as well as surrounding areas, contain many host trees that would be threatened by GM defoliation. GM larval feeding can lead to changes in forest stand composition and nesting sites, and cover for birds and other animals could be reduced (USDA, 1995). If GM were to spread to other areas,

changes in water quality and effects to aquatic organisms could occur (USDA, 1995). The loss of vegetation in the affected areas could lead to increased erosion of soil and loss of moisture retention (USDA, 1995).

B. Proposed Action

The proposed action alternative is the aerial application of Btk and placement of pheromone-baited traps using disparlure to evaluate treatment success. The human health and ecological impacts of these program activities were analyzed in the March 2017 EA and those results are incorporated in this EA by reference as well as results from the supplemental EIS (USDA, 2015; USDA, 2017). MDA would apply applications of Btk (Foray® 48B) at five- to ten-day intervals at a rate of 64 fluid ounces (fl oz. or ½-gallon) of product per acre. Two applications will cover the entire areas identified within the treatment area boundaries identified on each map (see Appendix A).

1. Human Health

The impacts to human health from applications of Btk under this proposed alternative do not differ from those described in previous NEPA documents prepared for MN and information provided in the EIS (USDA, 1995; 2012; 2017). APHIS expects the human health risks to be minimal from both Btk applications based on its long-term safety demonstrated through laboratory and monitoring studies (Aer'Aqua Medicine, 2001; Siegel, 2001; Noble et al., 1992; Pearce et al., 2002; Parks Canada, 2003; USDA, 2004; Otvos et al., 2005). Btk has low acute mammalian oral, dermal, and inhalation toxicity and pathogenicity (McClintock et al., 1995; EPA, 1998; WHO, 1999; Siegel, 2001; USDA, 2004). APHIS acknowledges aerial treatments can cause people stress.The MDA has scheduled public open houses regarding the gypsy moth eradication program for February 26, 2019 in Stillwater and March 6, 2019 in Lakeville. Additional public outreach and education will continue with local citizens (see the public outreach section). A continuation of local outreach and education will minimize anxiety and health concerns associated with these treatments.

Human health risks are expected to be minimal from using pheromone-baited traps in this program based on disparlure's long-term safety and the fact that it would be unlikely that humans would be exposed to the pheromone in the traps. The potential for exposure is greatest to workers who handle the concentrated product; however, following label requirements will minimize exposure.

2. Ecological Resources

The impacts to ecological resources from applications of Btk under the proposed alternative do not differ from those described in previous NEPA documents prepared for MN and information provided in the EIS (USDA, 1995; 2012; 2017). There will be minimal risk to most non-target terrestrial and aquatic organisms due to limited exposure and low toxicity (EPA, 1998; WHO, 1999; USDA, 2004).

Impacts to some native lepidopteran larvae within the treatment blocks may occur; however, the effects are minimized due to the size of the blocks and specificity of Btk to the larval stage of the insect. The proposed Btk applications are timed to coincide with the early larval stages of GM, increasing the efficacy of treatments to GM. Timing applications to coincide with the most sensitive life stage of GM reduces the need for applications beyond the number proposed in this project further reducing the risks to non-target Lepidoptera. Non-target Lepidoptera present in the spray block as early larval stages may be impacted however there is variability in the sensitivity of moth and butterfly species to Btk so not all non-target lepidopteran species would be impacted. Btk is not effective against adult Lepidoptera and is less effective against later instar larvae therefore further reducing the risk to non-target Lepidoptera that may be present during treatment. Native Lepidoptera sensitive to Btk and present in spray blocks during treatment as early larval stages could be impacted, however these impacts would be restricted to areas within and adjacent to each treatment block. The short half-life of Btk and relatively small treatment blocks suggest that risk to native Lepidoptera would be short term and these areas would be recolonize quickly. Native Lepidoptera may be impacted in cases where no Btk treatments are made. GM populations would increase without any treatments and compete with native Lepidoptera for resources, alter native flora, and increase the resident predator and parasitoid populations that could impact native Lepidoptera populations (Scriber, 2004). Btk has low toxicity to other pollinators such as honeybees and is expected to have low risk to this pollinator group.

Although no direct effects to birds and wild mammals are expected, there is the possibility of indirect effects through the loss of invertebrate prey items, which may serve as a temporal input into their diet. Based on the available data, indirect effects have not been noted in studies with wild mammals (Innes and Bendell, 1989; Belloco et al., 1992) or birds (USDA, 2004). In general, due to Btk's unique mode of action, toxicity to pollinators and beneficial insects are considered low based on laboratory and field studies testing honey bees, as well as other beneficial insects (USDA, 2004; EPA, 1998; Sterk et al., 2002; Bailey et al., 2005; Duan et al, 2008). Label requirements and other restrictions, where appropriate, will further reduce exposure risk to sensitive organisms.

The traps used to monitor for GM after Btk treatment will be a minimal risk to most non-target terrestrial and aquatic organisms due to limited exposure and low toxicity. The traps are baited with a pheromone specific to the male gypsy moth. There may be incidental capture of non-target insects, but the number of non-targets affected would be very small.

VI. Other Issues

A. Cumulative Impacts

Based on the analysis in the environmental consequences section, the proposed GM eradication program has limited impacts to lepidopteran and other non-target species

in the affected area. These limited impacts are not expected to have measurable cumulative impacts with past, present, or future projects in the area due to the low risk of the proposed treatments to human health and the environment. The Stillwater and Lakeville site are separated by 45 miles. There are no cumulative impacts expected from these two proposed APHIS funded treatment blocks. There is another proposed GM treatment area in Minnesota that is located in St. Louis County in the City of Chisholm. The proposed 135 acre area is being treated with Btk by MDA in cooperation with the FS as a Slow-the-Spread application. The Chisholm site is greater than 200 miles north of the Stillwater site. The low risk of Btk to non-target species and human health, and the lack of proximity of the three treatment sites to each other suggests that any Btk cumulative impacts from additional GM treatments would not be anticipated.

Btk has other uses including organic and inorganic crop, and home and garden uses. The amount of Btk currently used in each of the treatment blocks is unknown; however, there would be an expected increase in environmental loading of Btk with the proposed treatments. However, the cumulative impacts from additional Btk use, relative to other stressors are expected to be incrementally negligible to human health and the environment due to the very low risk of Btk and its favorable environmental fate characteristics.

The proposed treatments at each of the three sites will result in cumulative impacts related to the protection of vulnerable GM host trees in the proposed treatment areas as well as other areas in the state if GM were allowed to expand. In the event that the GM population is not eradicated from these areas, future treatments may be required. Treatment with Btk in the same area over several years may lead to an increase in effects to lepidopteran species, thus limiting their chances to reestablish in the proposed treatment area. However, if future treatments are needed, a subsequent EA will be prepared and risks will be evaluated further.

B. Threatened and Endangered Species

Section 7 of the Endangered Species Act (ESA) and ESA's implementing regulations require Federal agencies to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat. APHIS has considered the impacts of the proposed program regarding listed species in Dakota, Scott, and Washington Counties.

At the Stillwater site, there are five federally listed species to consider: Higgins eye pearlymussel (*Lampsilis higginsi*), spectaclecase (*Cumberlandia monodonta*), winged mapleleaf (*Quadrula fragosa*), snuffbox (*Epioblasma triquetra*), and the northern long-eared bat (*Myotis septentrionalis*). No critical habitat occurs in the proposed treatment area.

At the Lakeville site, there are three listed species within the proposed treatment area to consider: prairie bush-clover (*Lespedeza leptostachya*), rusty patched bumble bee (*Bombus affinis*), and the northern long-eared bat (*Myotis*

septentrionalis). No critical habitat occurs in the proposed treatment area.

APHIS has determined that the proposed gypsy moth program will have no effect on the Higgins eye pearlymussel, snuffbox, winged mapleleaf, spectacle case mussels and their designated critical habitats.

APHIS has determined that the proposed gypsy moth program may affect, but is not likely to adversely affect the northern long-eared bat, rusty patched bumble bee, or prairie bush-clover.

APHIS prepared a biological assessment and submitted it to the U.S. Fish and Wildlife Service, Twin Cities Ecological Services field office on February 11, 2019. APHIS received a concurrence letter from the U.S Fish and Wildlife Service on March 15, 2019.

MDA made a determination of "no effect" for the 2019 GM treatment proposal, which includes the Lakeville and Stillwater treatment blocks, on state listed threatened and endangered species. MDA submitted a letter to the Minnesota's Department of Natural Resources (MDNR) on February 4, 2019 and received concurrence from MDNR on February 6, 2019.

C. Historical Preservation

Consistent with the National Historic Preservation Act of 1966, APHIS has examined the proposed action in light of its impacts to national historical properties. MDA submitted requests to review State historical sites to the Minnesota Historical Society on February 4, 2019. MDA received a letter on March 7, 2019 stating that no historical properties would be impacted by the proposed program.

D. Executive Orders

Consistent with Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," APHIS considered the potential for disproportionately high and adverse human health or environmental effects on any minority or low-income populations. The proposed treatment block is based on GM finds in the area. The proposed treatment itself will have minimal effects to those that live in this area, and will not have disproportionate effects to any minority or low-income population.

Consistent with EO 13045, "Protection of Children from Environmental Health Risks and Safety Risks," APHIS considered the potential for disproportionately high or adverse environmental health and safety risks to children. The children in the proposed treatment areas are not expected to be adversely affected disproportionately more than adults from the proposed program actions. Btk poses a very low risk to the human population, including children. No schools are located within the proposed treatment blocks. School bussing routes within the proposed treatment blocks will be obtained. On treatment day, applications will be timed to minimize exposure to children waiting at school bus stops.

VII. Listing of Agencies and Persons Consulted

Minnesota Department of Agriculture
Plant Protection Division
625 Robert Street North
St. Paul, MN 55155

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Plant Health Programs
4700 River Road, Unit 134
Riverdale, MD 20737

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
900 American Blvd East, Suite 204
Bloomington, MN 55420

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Policy and Program Development
Environmental and Risk Analysis Services
4700 River Road, Unit 149
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U.S. Fish and Wildlife Service
Twin Cities Ecological Services Field Office
4101 American Blvd East
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500 Lafayette Rd.
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Minnesota Historical Society
Manager of Government Programs and Compliance
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St. Paul, MN 55102

Minnesota Department of Health
Environmental Health Division
625 Robert Street N
St. Paul MN 55164

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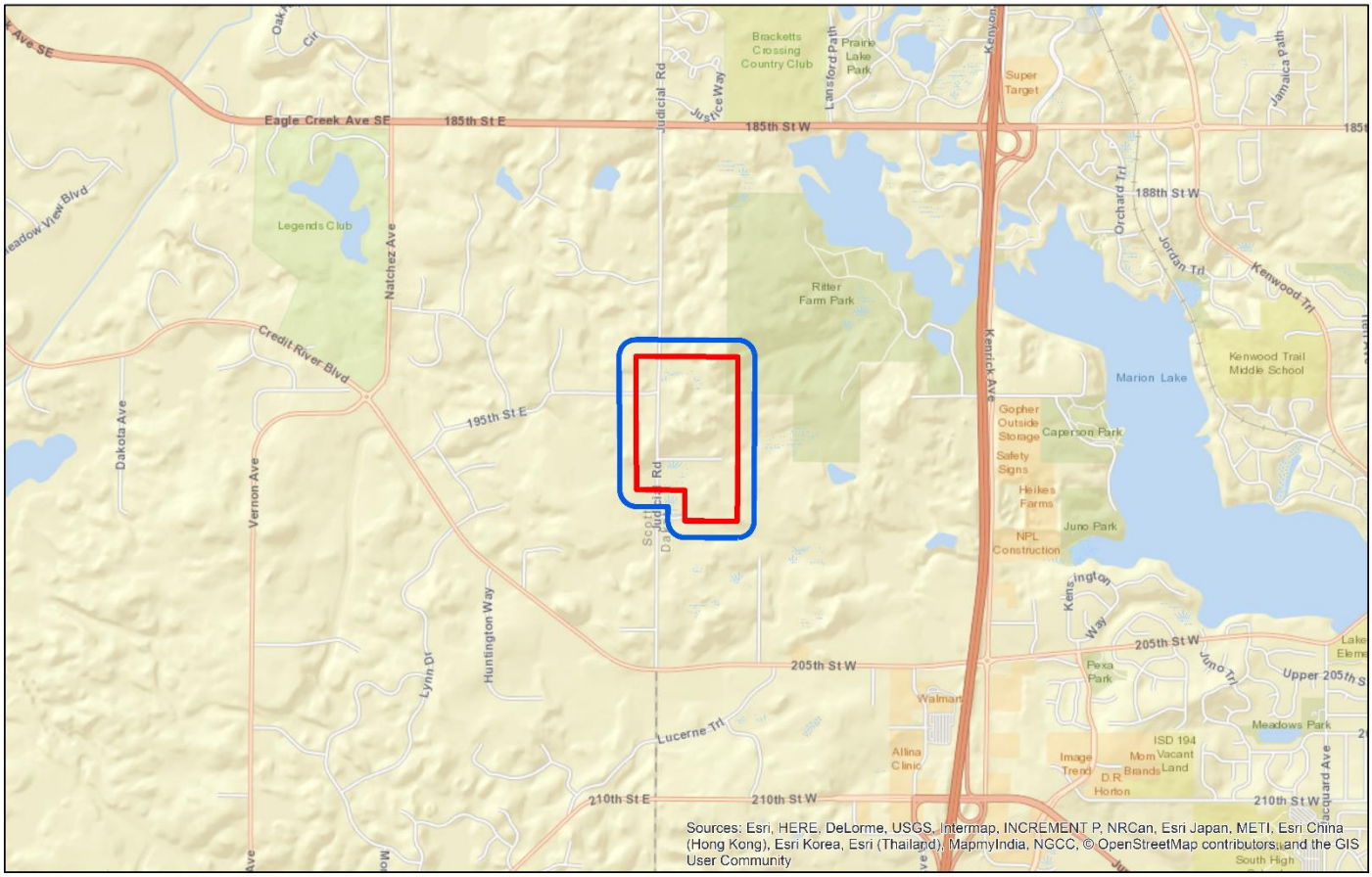
Appendix A. Maps of Proposed Treatment Areas

Lakeville Proposed Treatment Area



Proposed treatment scoping area

Proposed treatment area 133 acres

0 0.25 0.5 1 Miles

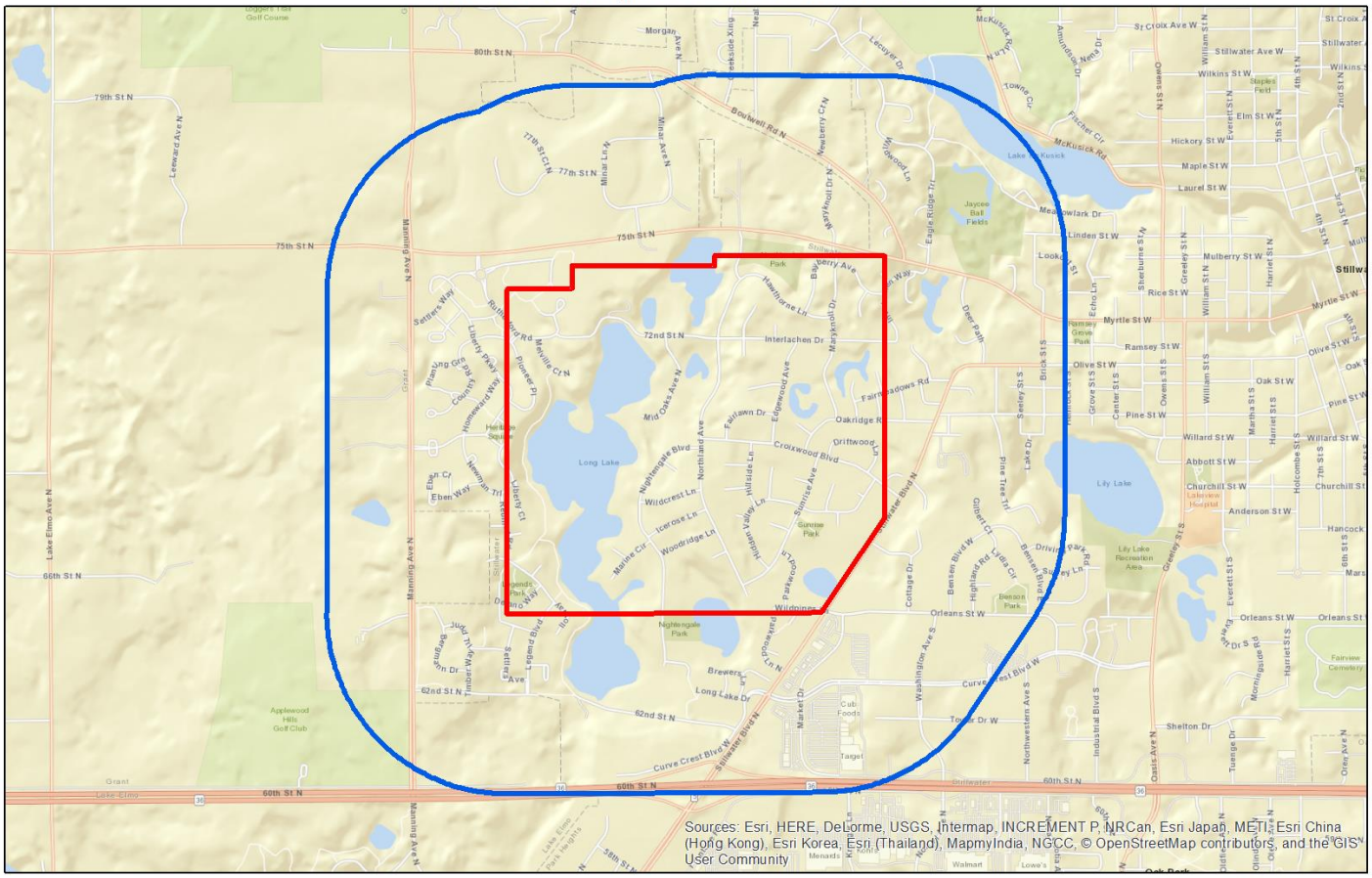
0 500 1,000 2,000 Meters

N

Date: 1/8/2019

DEPARTMENT OF AGRICULTURE

Stillwater Proposed Treatment Area



Date: 1/8/2019

Proposed treatment area 633 acres

Proposed treatment scoping area

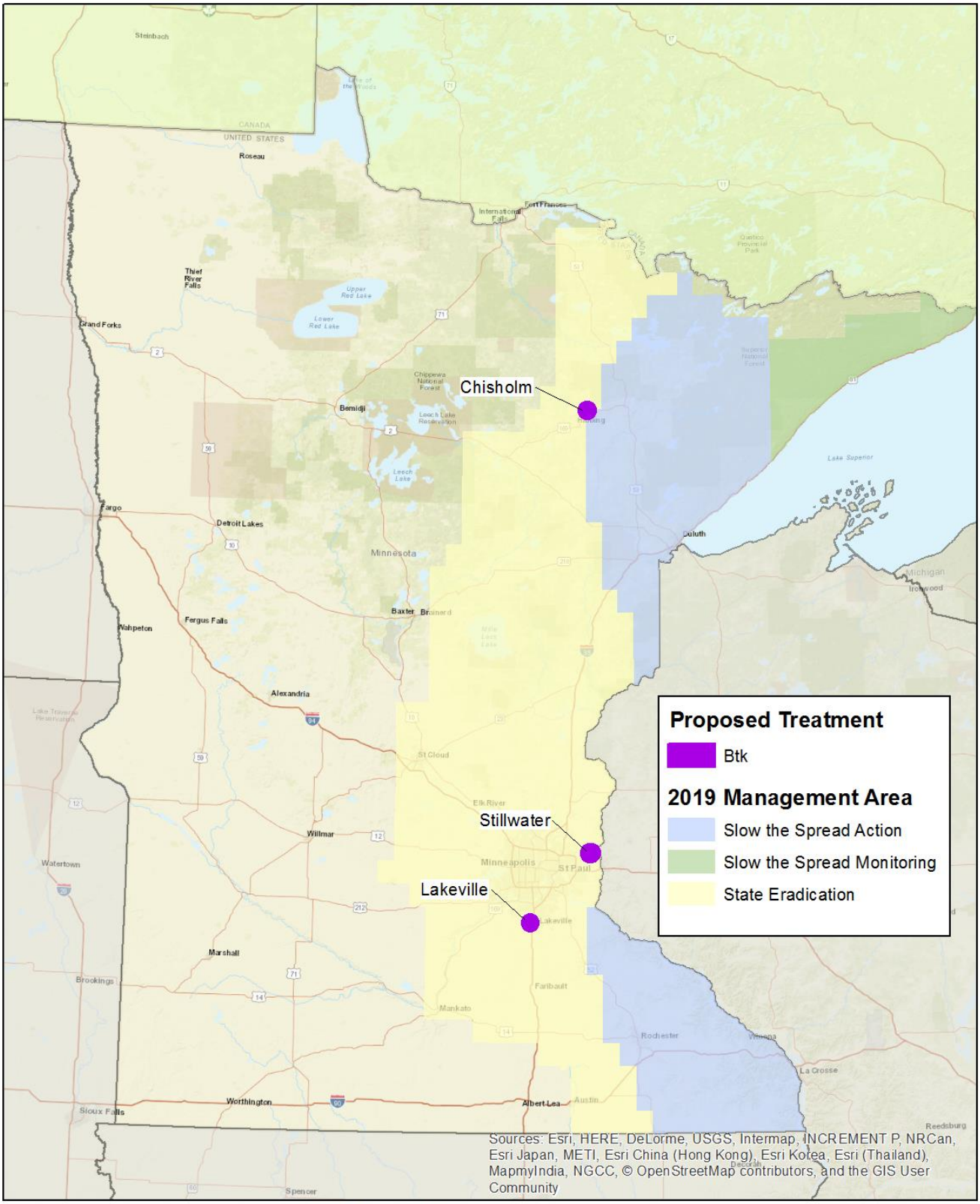
0 0.25 0.5 1 Miles

0 500 1,000 2,000 Meters

N

DEPARTMENT OF AGRICULTURE

2019 Proposed Gypsy Moth Treatments



Treatment blocks not drawn to scale

0 50 100 Miles

Date: 10/31/2018

DEPARTMENT OF AGRICULTURE