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Gypsy Moth Cooperative Eradication Program in Hennepin County, Minnesota

Final Environmental Assessment, April 2020

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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 eradicate a gypsy moth (GM) infestation at one location in the City of Minneapolis, Hennepin County, Minnesota (MN). The GM (*Lymantria dispar* L.) 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 and now covers the entire northeastern part of the United States, from Maine south to North Carolina, and west to Wisconsin 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 and 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 aesthetic 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 one location in Hennepin County (within the City of Minneapolis), MN (see appendix A for map of the 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 area in Hennepin County, Minnesota.

The preparation of this EA is consistent with the 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 FS 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 proposed Nokomis treatment block is in Ward 11 of the City of Minneapolis. The MDA met with Council Member Jeremy Schroeder on December 18, 2019, to provide information regarding the proposed gypsy moth treatment. In the meeting, the council member recommended that the MDA connect with the Nokomis East

Neighborhood Association (NENA) for insights on the diverse community. The NENA suggested the following approaches to better connect with the community:

- Translating informational bulletins into Spanish and Somali to break potential language barriers;
- Holding the public open houses within walking distance of the proposed treatment area; and
- Posting fliers in the neighborhood to advertise the public open houses.

Informational bulletins will be mailed to all residents within the proposed treatment block. These bulletins provide information to residents on GM, proposed treatment methods, and advertise the public open houses. The informational bulletins will be received at least a week prior to the open houses to encourage residents to attend them. The bulletins and translations will be made available to the public on MDA's website. Printed copies of the translated bulletin will be available at the open houses. Fliers advertising the open houses will be translated into Spanish and Somali.

Public open houses were held so citizens can 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 advertised a notice of availability for the draft EA in the Star Tribune on February 25, 2020. During the 30-day public comment period APHIS and the MDA received no comments on the draft EA.

An open house for the Nokomis treatment block was held on February 26, 2020 at the Crosstown Covenant Church (5540 30th Av S, Minneapolis, MN 55417) from 9-11 a.m. A second open house was held on February 27, 2020 at the Keewaydin Recreation Center (3030 E 53rd St, Minneapolis, MN 55417) from 6:30-8 p.m.

The MDA compiled a contact list for local leaders in each proposed treatment block. An email was sent to the local leaders' listserv to inform them of upcoming outreach activities. Printed materials are attached to these emails to provide them with the necessary information to answer questions about the proposed treatments.

The MDA has several existing outreach strategies that will be applied to the proposed GM treatments such as websites, telephone hotlines, text message and email updates, and social media posts. Citizens can receive information regarding the proposed treatments on MDA's website (www.mda.state.mn.us/gmtreatments). The MDA has a telephone hotline for citizens to call and report potential threats to Minnesota's forests and crops. This telephone hotline has a section for GM treatments that is updated regularly to include information on public open houses, proposed treatment dates, and when the treatments are completed. The MDA also has a text-to-subscribe service for residents to receive text message or email updates about the proposed treatments. Citizens can text "MDA NOKOMIS" to 468311 to receive text updates or "MDA NOKOMIS [your email address here]" to 468311 to receive email updates. Press releases will be distributed to local media to advertise the public open houses. Additional press releases will be distributed to announce the proposed treatment dates. The MDA will make social media posts to advertise

outreach opportunities. The MDA will also connect with the neighborhood association and the city to make social media posts on their accounts.

The MDA will send a reminder postcard to residents within the proposed treatment block as the treatment date approaches. The postcard will remind residents that the GM treatments are approaching and that there will be low-flying aircraft on the treatment dates.

Local law enforcement, emergency care facilities, poison control, and the 911 system will be notified 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 block for GM eradication is 298 acres for the Nokomis, Minneapolis 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 block identified in Hennepin County?
- 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:

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E. Other Gypsy Moth Work

In addition to the proposed treatment (two applications spaced approximately 7-10 days apart) at the Nokomis site there are two proposed treatments at the Oak Center and Hokah sites in Wabasha and Houston Counties, respectively, MN (see maps in Appendix A). The Oak Center proposed treatment area is 1,421 acres located in Gillford Township, Wabasha County, MN. The estimated actual treatment area is approximately 500 acres after excluding agricultural lands. The Hokah proposed treatment area is 1,618 acres in Mound Prairie and Union Townships, Houston County, MN. There are 58 parcels within the proposed treatment area, the majority of which are rural agricultural land surrounded by wooded bluffs. The estimated actual treat area is approximately 1,400 acres after excluding agricultural lands. Root River Wildlife Management Area and Mound Prairie Scientific and Natural Areas are located along the northern border of the proposed Hokah treatment block. The Mound Prairie Scientific and Natural Area will be excluded from the Hokah proposed treatment site to limit potential non-target impacts on the sensitive ecosystems contained within. MDA will obtain the appropriate permits from the

Minnesota Department of Natural Resources prior to treatment. The Oak Center and Hokah sites are approximately 50 and 100 miles respectively southeast of the Nokomis, Minneapolis treatment site. They are part of the Slow the Spread (STS) action areas that will be conducted by MDA in cooperation with FS funding via the STS foundation.

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 1995 EIS, six treatment options were analyzed 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 releases 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. Diflubenzuron is an insect growth regulator that has a broader nontarget host range than Btk, and can kill other insects in addition to moths and butterfly caterpillars. Its use may adversely affect other insect populations and, therefore, was not selected.

The remaining treatment options were not selected due to availability, or environmental or efficacy concerns. Similar types of impacts as diflubenzuron 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 immature life stages that are not affected by this method. 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 the identified area within Hennepin County using Btk (see map 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 treatment at the Nokomis site (298 ac) located in the Wenonah/Keewaydin neighborhoods of Minneapolis, Hennepin County, MN (Appendix A). MDA would apply Btk (Foray[®] 48B) at a rate of 64 fluid ounces (fl oz.) (or 1/2-gallon) of product per acre using low-flying aircraft for the treatment (approximately 50 feet above the treetop). Btk is a water-based organic biopesticide that breaks down rapidly in ultraviolet light. Two applications will be made in the treatment block with an approximately 7-day (5–10 days) interval between applications. The application of this product is timed just as the insects are emerging from eggs. The MDA estimates these applications will occur in late April to May 2020. 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.

During the treatment, product application will be tracked electronically via software in the application aircraft. Monitors will be present in the treatment block to monitor weather conditions, to provide outreach to the public, and to monitor the deposition of the treatment product.

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 that 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 the treatment block.

Nokomis, Minneapolis Treatment Area

The proposed treatment area is 298 acres (located in Hennepin County within the City of Minneapolis, just north of the Minneapolis/St. Paul International airport). The scoping boundary is 313 acres, and was drawn by buffering the proposed 298 acre treatment block by 300 feet on all sides. The majority of the proposed treatment block is in the Wenonah neighborhood. The northern edge of the proposed treatment block extends into the Keewaydin neighborhood. The following neighborhood roads comprise the treatment block boundaries: East 53 Street (north), S 43th Av (east), Highway 62 (south), and 24th Av S (west). The proposed treatment block is characterized as a high density urban area. There are approximately 1,655 parcels (predominately residential and some light commercial properties) located within the treatment block.

Bossen Field Park is located within the proposed treatment block near the southern boundary. Bossen Field Park is a neighborhood park (Wenonah) with baseball and soccer fields, basketball courts, a playground, and a wading pool. The wading pool is open seasonally from May 31 to Labor Day. The Minneapolis Park & Recreation Board manages the park. A portion of Keewaydin Park and Keewaydin field are in the proposed scoping area. Lake Nokomis is northwest of and adjacent to the proposed treatment block. Ara's Daycare and Hiawatha Leadership Academy - Morris Park public charter elementary school are located within the proposed treatment block. Wenonah elementary school, is within the scoping boundary, but is adjacent to the proposed treatment boundary. Keewaydin elementary school is just outside of the proposed scoping area. There are no health care clinics, or hospitals identified in the proposed treatment area. There are no Federal or State lands located within the proposed treatment area. The proposed treatment area is located in tribal ceded land (Sioux (Wahpeton and Sisseton Bands), 1784-1894).

All activities in the proposed treatment blocks will be conducted on established roads and trails; there will be no soil disturbance associated with the proposed gypsy moth treatments.

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; 2012). This EA incorporates the EIS evaluation by reference from the material discussed in both of the EIS documents. A summary of human health and ecological effects is provided below.

1. Human Health

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 (butterflies, moths, and skippers) (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 a March 2017 EA and those results are incorporated in this EA by reference as well as results from the EIS and supplemental EIS (USDA, 1995; 2012). MDA would apply Btk (Foray[®] 48B) at an approximately seven-day (5-10 days) interval and a rate of 64 fl oz. (or 1/2-gallon) of product per acre using low-flying aircraft for the treatment (approximately 50 feet above the treetops). Two applications will cover the entire areas identified within the treatment area boundaries identified on each map (see Appendix A). A summary of human health and ecological effects is provided below.

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 Ltd, 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, 2020 at the Crosstown Covenant Church and February 27, 2020 at the Keewaydin Recreation Center. Additional public outreach and education (such as information bulletins in both Spanish and Somali, and postcards to remind residents of the treatment dates) will continue for 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 and supplemental 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 block may occur; however, the effects are minimized due to the size of the block 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 affected. Btk is not effective against adult Lepidoptera and is less effective against later instar larvae thereby 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 block suggest that risk to native Lepidoptera would be short term and these areas would 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 GM. 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. There is no cumulative impacts from the one proposed APHIS funded treatment block. There are two other proposed GM treatment areas (the Oak Center and Hokah sites) in Minnesota that are located in Wabasha and Houston Counties, respectively. The Oak Center proposed area (1,421 polygon acres) and the Hokah proposed area (1,618 polygon acres) are being treated with Btk by MDA in cooperation with the FS as a Slow-the-Spread application. The Oak Center and Hokah sites are approximately 50 miles and 100 miles, respectively southeast of the Nokomis 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 for organic and inorganic crops 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 Hennepin County.

There are two federally listed species within the proposed treatment area to consider: the threatened northern long-eared bat (*Myotis septentrionalis*) and the endangered rusty patched bumble bee (*Bombus affinis*). Three mussel species including snuffbox mussel (*Epioblasma triquetra*), winged mapleleaf (*Quadrula fragosa*) and Higgins eye pearlymussel (*Lampsilis higginsii*) are also included in the species list for the proposed treatment area, but no habitat for these species occurs within the block. No critical habitat occurs in the proposed treatment area.

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

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

APHIS prepared a biological assessment and submitted it to the U.S. Fish and Wildlife Service (FWS), Twin Cities Ecological Services field office on February 14, 2020. APHIS received concurrence from the FWS on April 20, 2020.

MDA made a determination of “no effect” for the 2020 GM treatment proposal, which includes the Nokomis treatment blocks, on state listed threatened and endangered species. MDA submitted a letter to the Minnesota’s Department of Natural Resources (MNDNR) on February 5, 2020. MDA received concurrence from MDA on April 24, 2020.

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. APHIS has determined that no historical properties are present within the proposed treatment boundary. APHIS has contacted the MN State Historical Preservation Office (SHPO) and will continue to coordinate with the SHPO regarding potential impacts to national historic properties.

The proposed treatment block is located within the tribal ceded land of the Sioux tribe (Wahpeton and Sisseton Bands, 1784-1894). The proposed action will not disturb the ground, alter views, or alter the landscape. Therefore, APHIS believes the proposed action is unlikely to affect Native American sites and artifacts. APHIS contacted the present-day tribe, Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota (USDA, 2020; American Memory, Library of Congress, 2020) to inform them of the proposed treatments.

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. Btk poses a very low risk to the human population, including children. The children in the proposed treatment area are not expected to be adversely affected disproportionately more than adults from the proposed program actions. Bossen Field Park (with ball fields and a playground), a daycare, and an elementary school are located within the proposed treatment block, and a school is located in the buffer area. Notification will be provided to the public prior to the proposed spray. On treatment day, applications will be timed to minimize exposure to children waiting at school bus stops. Notification and timed application measures as well as the low risk of adverse impacts from Btk will ensure protection of this group of the human population.

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
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
Riverdale, MD 20737

U.S. Fish and Wildlife Service
Twin Cities Ecological Services Field Office
4101 American Blvd East
Bloomington, MN 55425-1665

Minnesota Department of Natural Resources
Division of Ecological and Water Resources
500 Lafayette Rd.
St. Paul, MN 55155

Minnesota Department of Administration State Historic Preservation Office
Environmental Review Program
Administration Building #203 50 Sherburne Ave.
St. Paul, MN 55155

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

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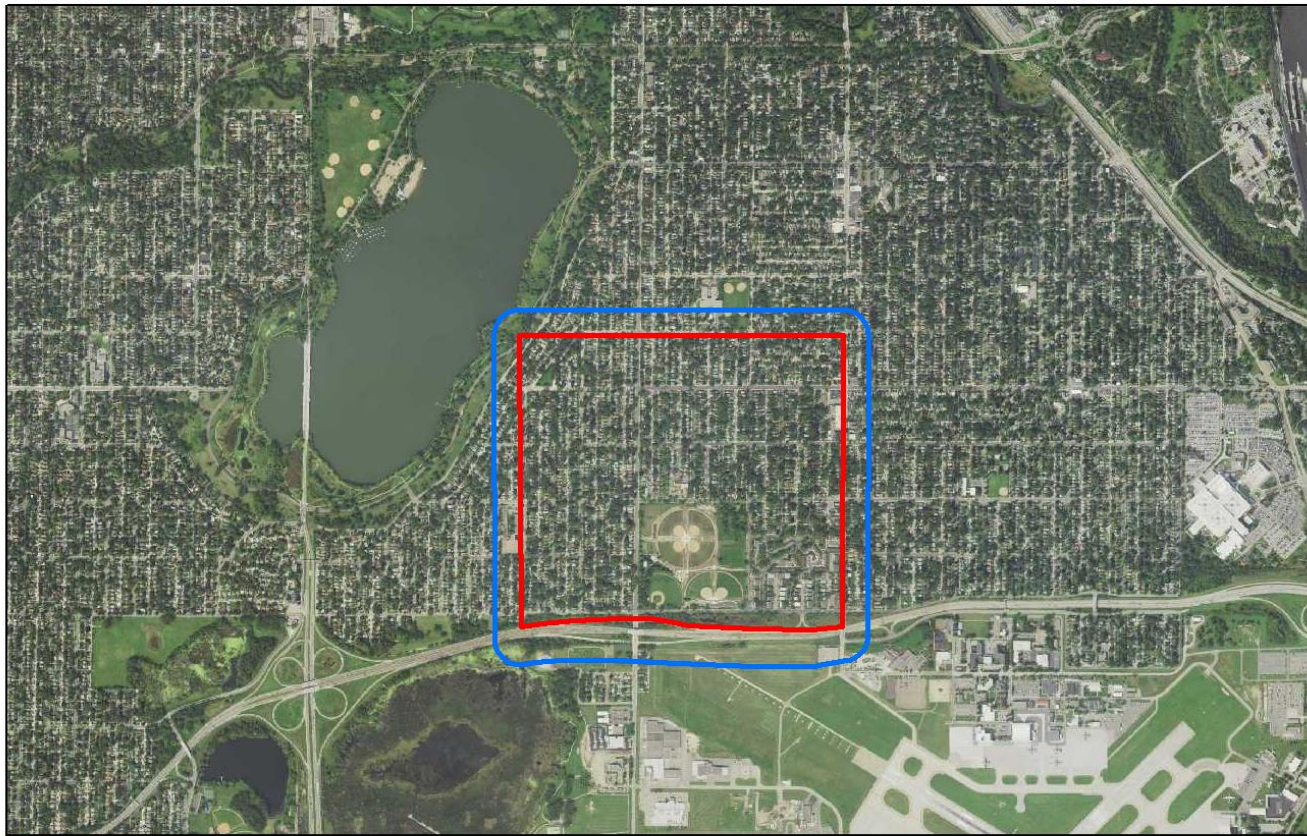
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WHO—See World Health Organization

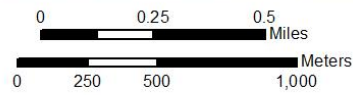
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Appendix A. Maps of Proposed Treatment Areas

Nokomis, Minneapolis Proposed Treatment Scoping Area

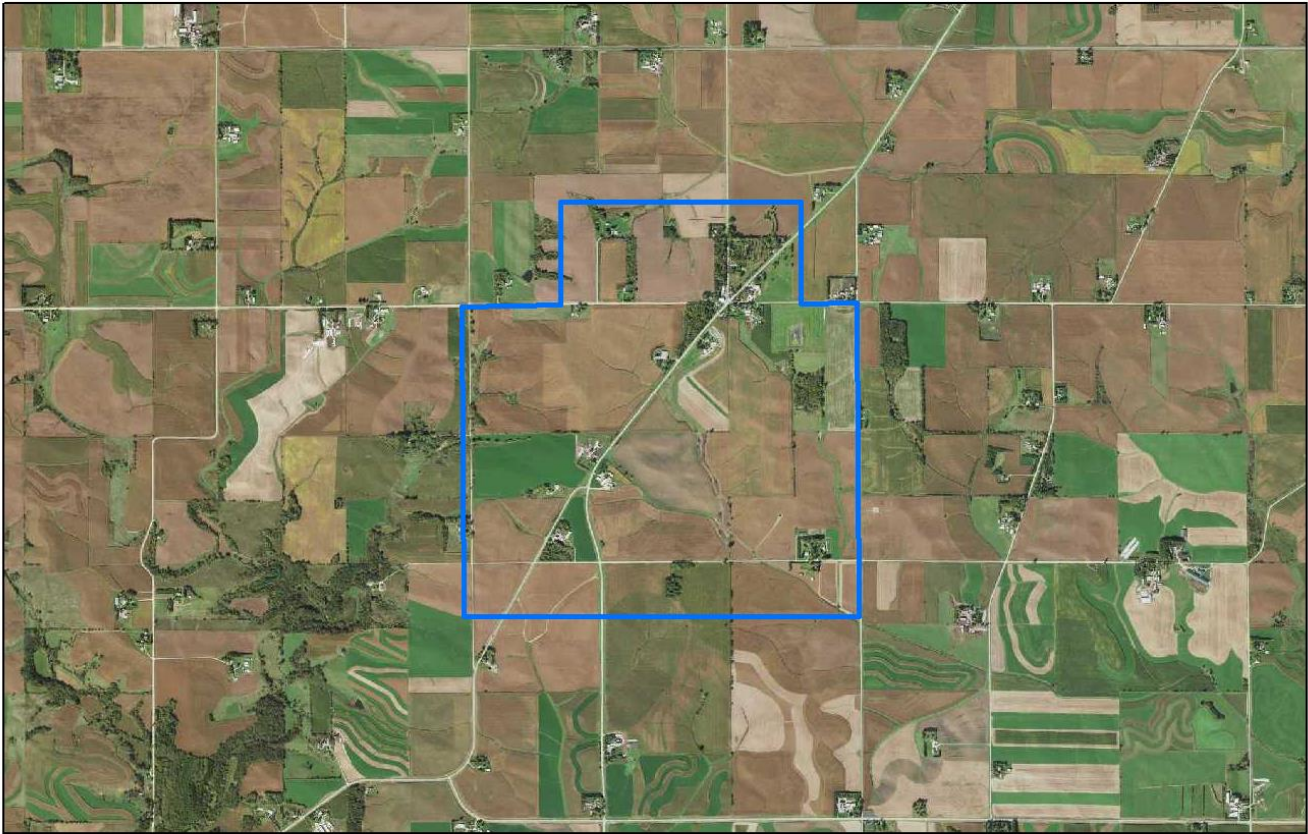



-  Proposed Nokomis Treatment - 298 acres
-  Proposed treatment scoping area

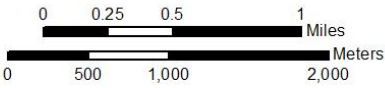


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Oak Center Proposed Treatment Area

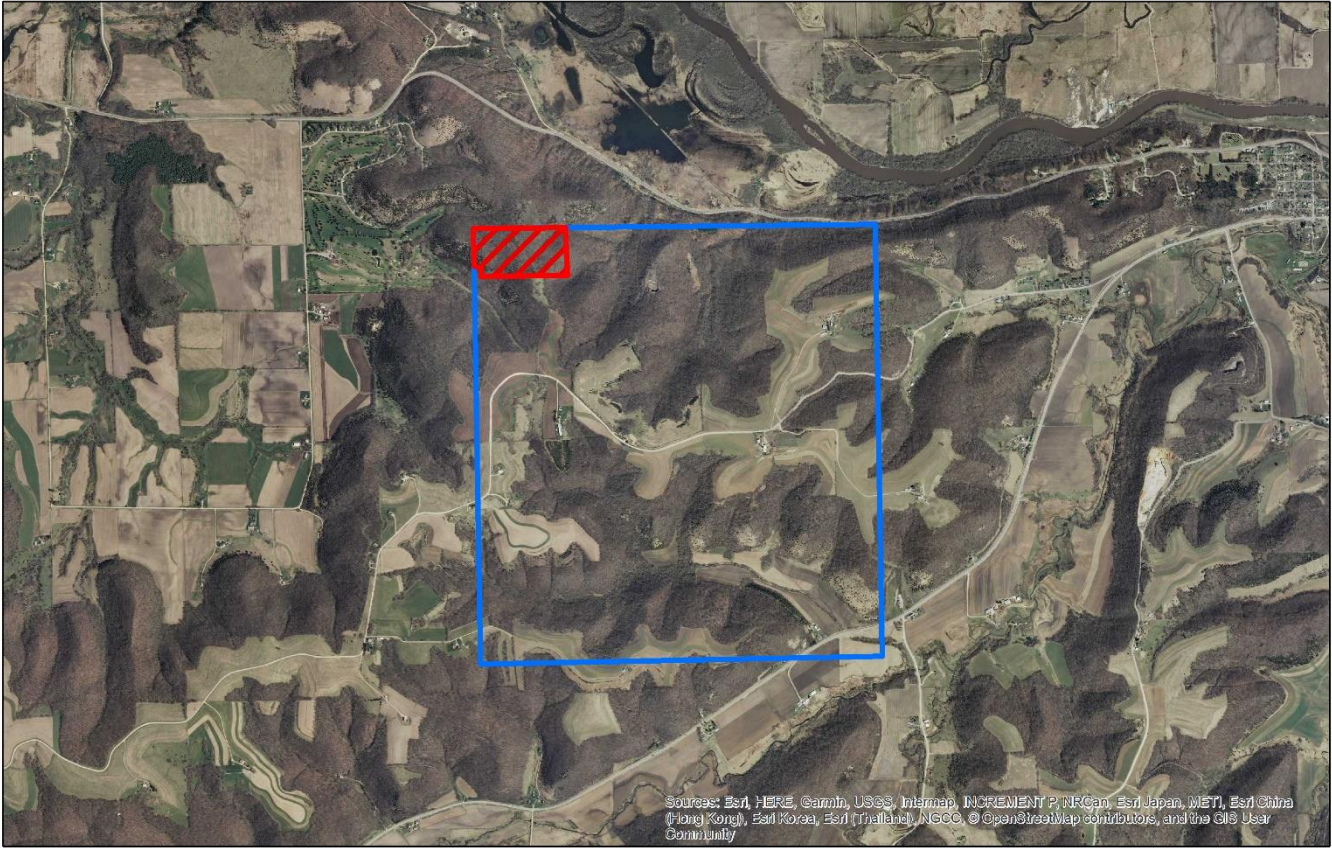




 Proposed treatment area
1421 acres

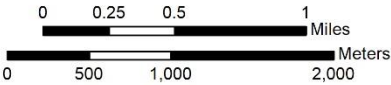


 DEPARTMENT OF
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Hokah Proposed Treatment Area

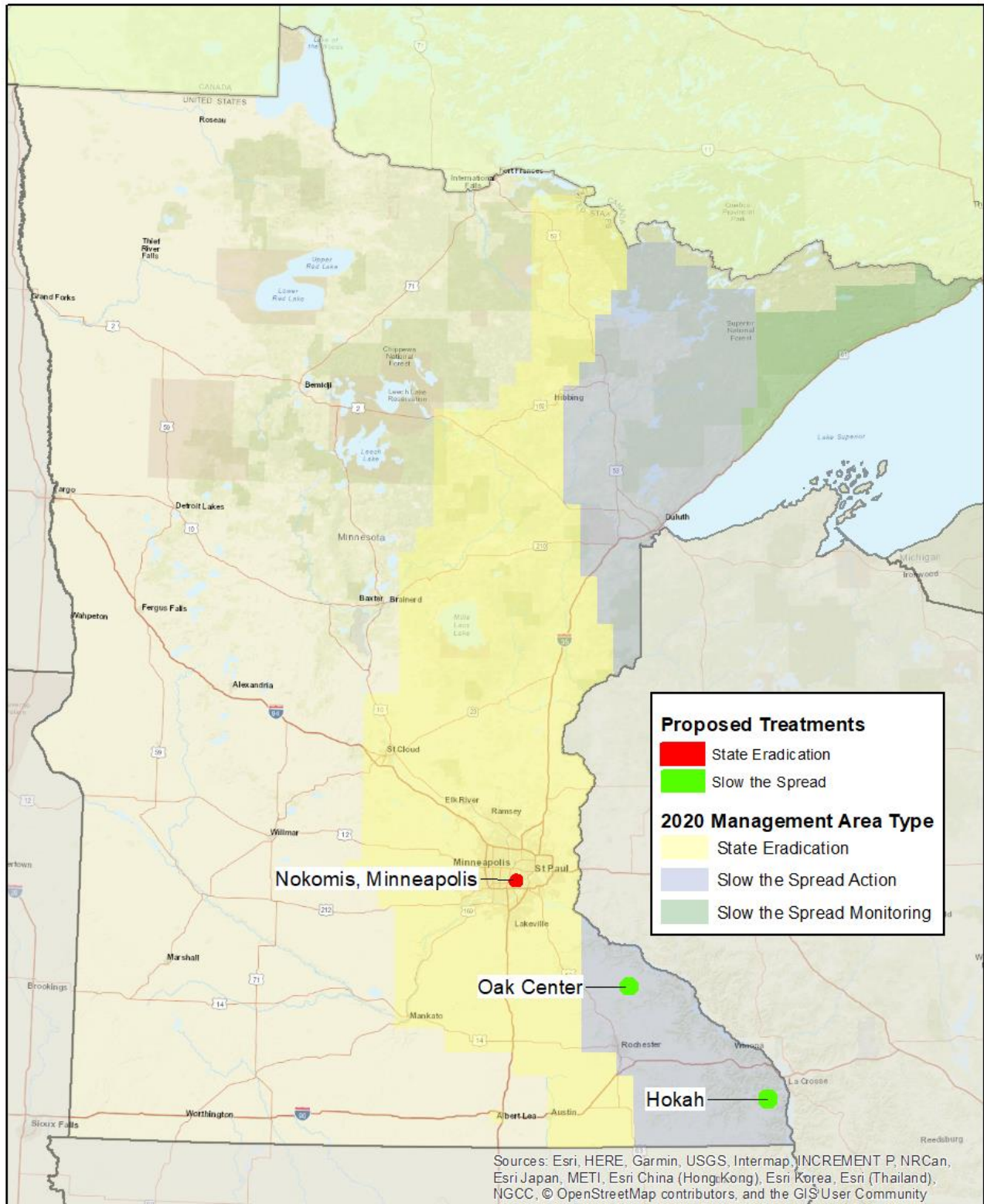


-  Proposed treatment area
1618 acres
-  Mound Prairie Scientific & Natural Area
41 acre exclusion



 DEPARTMENT OF AGRICULTURE

2020 Proposed Gypsy Moth Treatments



0 50 100 Miles
Date: 11/1/2019

Treatment blocks not drawn to scale

