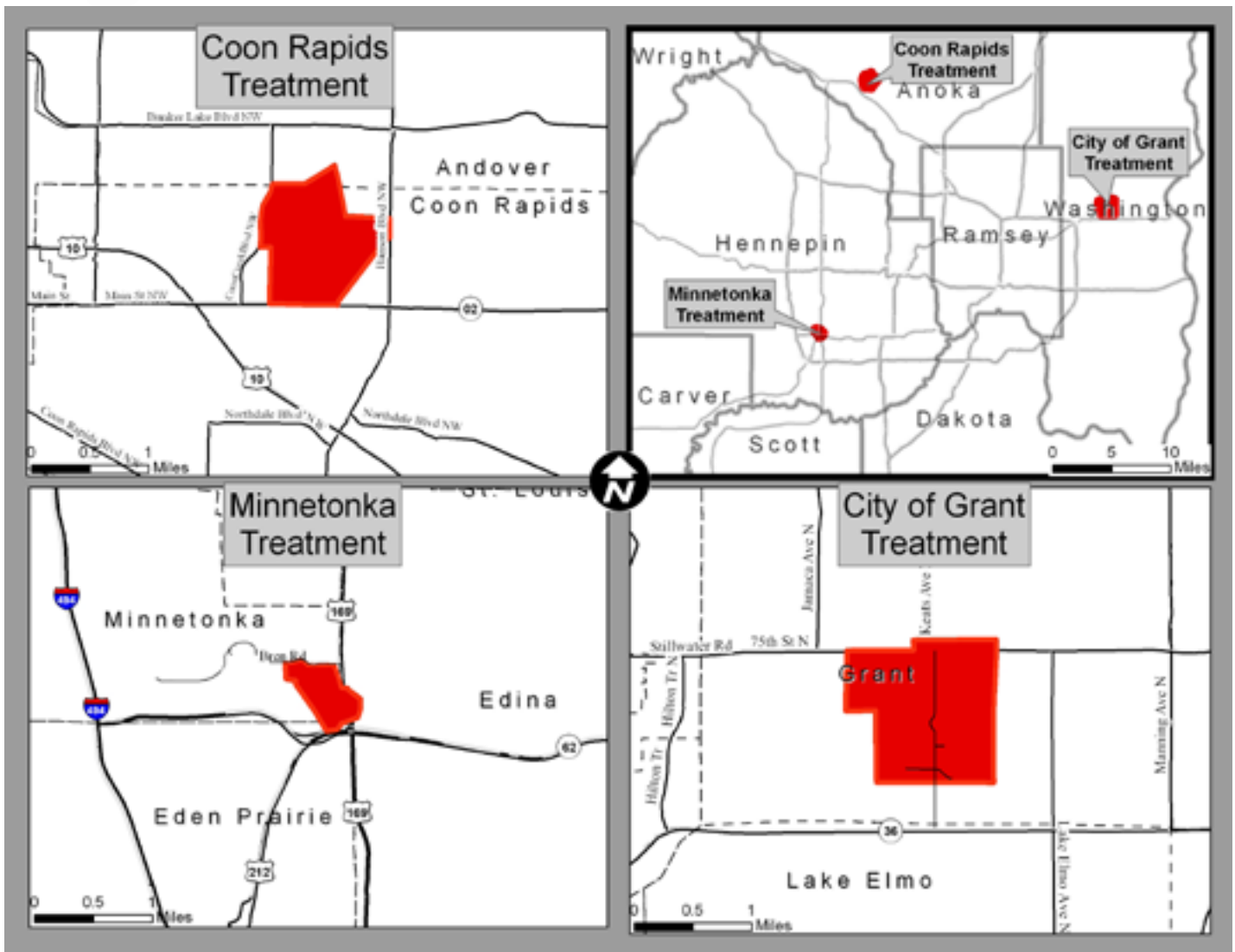




# Proposal for Gypsy Moth Management

Twin City Metro Areas, Minnesota, February 2011



The Minnesota Department of Agriculture (MDA), in collaboration with federal, state, and local partners, is proposing to eradicate gypsy moth populations in Hennepin, Washington, and Anoka counties in the St. Paul/Minneapolis metropolitan area. Surveys in 2010 revealed small pockets where monitoring traps caught extremely high numbers of moths. These results, combined with the trap records of previous years, prompted MDA, the USDA's Animal Plant Health Inspection Service, USDA's Forest Service and local officials to develop a proposed treatment project for 2011.

A complete description of the treatments as proposed will be available on MDA's website, [www.mda.state.mn.us/gypsymoth](http://www.mda.state.mn.us/gypsymoth). Paper copies will also be available from MDA, USDA APHIS' Plant Pest Quarantine office, or mailed upon request.

## Are gypsy moths similar to forest tent caterpillars (FTC)?

Similar to FTC, gypsy moth often defoliate extensive areas, feeding on many of the same species, including quaking aspen, birch, oak, and basswood. However, FTC is a native insect and has effective and abundant natural enemies to keep populations in check. FTC outbreaks in the Lake States are cyclical and typically last for 3-5 years then subside for 8-12 years.

In oak-dominated stands, the gypsy moth outbreaks last 2-5 years or more. Defoliation by gypsy moth larvae starts and ends a little later in the season than FTC defoliation, possibly extending into mid July. In aspen-dominated stands, gypsy moth outbreaks may build and decline faster than in oak stands, according to observations in Michigan. Gypsy moths, unlike FTC, will feed on and defoliate some conifers, especially if they are growing alongside a favored host such as oaks and aspen. Young conifers do not survive complete defoliation events.

FTC caterpillars appear earlier in the spring than gypsy moth and have two parallel blue stripes down their backs with a pattern of white “footprints” or “keyholes” running between them.



## What is a gypsy moth?

The European gypsy moth (*Lymantria dispar L.*) is not native to the United States. After being introduced in Massachusetts in the late 1800s, gypsy moth has continuously moved westward and southward and is now established as close as central Wisconsin. It is a serious defoliator of forest, shade, fruit and ornamental trees across much of the Northeast. Gypsy moth caterpillars are voracious eaters and can strip trees of their leaves, stressing the trees



Photo Credit: University of Minnesota  
Department of Entomology

sometimes to the point of death. The preferred host species include oaks, aspen, paper birch, basswood and willow, which are all very common trees in Minnesota.

High numbers of gypsy moth caterpillars can cause a substantial public nuisance, a reduction in tree growth, branch dieback and tree death. This damage to forests diminishes environmental quality and

may affect human health and local economies. Widespread gypsy moth outbreaks can alter water quality, wildlife habitat, microclimate, and soil fertility.

---

## How do we manage gypsy moth?

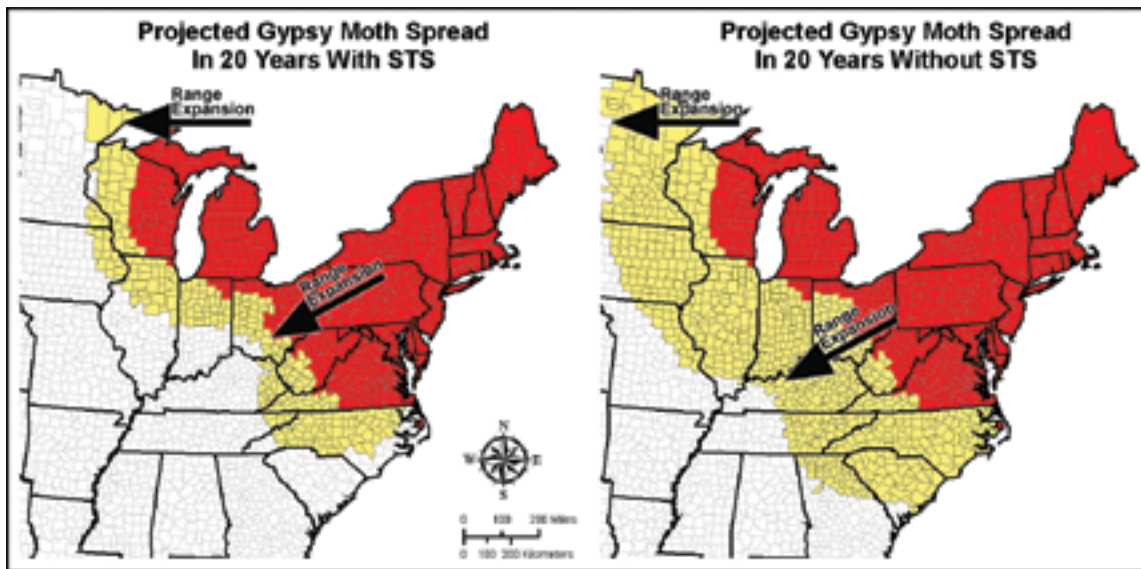
In order to reduce current populations of gypsy moths and slow the growth of future generations of this forest pest, MDA proposes to treat a total of about 1500 acres of land with a biological insecticide called *Bacillus thuringiensis* var. *kurstaki*, or Btk. Three treatment blocks have been identified and named for the municipality that contains them: Minnetonka, City of Grant, and Coon Rapids (see map on page 1). Forests in the proposed treatment areas include many of the trees species considered susceptible to gypsy moth defoliation.

---

## How does Eradication work?

Apart from counties in the extreme northeast and southeast portions of the state, Minnesota's gypsy moth infestations are treated as isolated populations subject to eradication. The goal of an eradication program is to completely eliminate gypsy moths from the environment. Two aerial applications of Btk have been shown to significantly reduce the gypsy moth populations. The federal Slow the Spread program has been successful in keeping gypsy moth out of our state for years by treating comparable populations to the east, MDA's annual survey detects and monitors these outlier populations which are often the unintended consequence of human movement. We have benefited greatly by both eradication and slow the spread actions and can help protect our own state as well as those to the west and south of us by implementing the proposed treatments.

Using data collected each summer, MDA tracks the presence of gypsy moth in Minnesota. Based on this monitoring, we determine the extent of gypsy moth populations, and whether and what types of treatments are needed. If left untreated, gypsy moth infestations can build and spread quickly.



*Dark shaded counties are infested as of 2007; light shaded counties will become infested over the next 20 years.*

## **Why continue to try to control gypsy moth?**

Throughout Minnesota, the 2010 gypsy moth survey captured over 4,000 moths, a substantial reduction from years past. These results, combined with the trap records of previous years, prompted MDA, its federal partners, and local officials to develop the proposed treatment project for 2011. Similar treatments have been used extensively in the U.S. to eradicate gypsy moth. Treatments made soon after the discovery of new populations can delay a costly, full-scale infestation and protect the urban forest's health, local property values, and the quality of outdoor recreation activities. Visit the MDA website [www.mda.state.mn.us/gypsymoth](http://www.mda.state.mn.us/gypsymoth) for more details on gypsy moth management.

## **Will I be charged for treatments?**

No. The Minnesota Department of Agriculture will work with federal, state and local officials and residents to carry out these treatments at no cost to homeowners. Funding will be provided by the State of Minnesota and the U.S. Department of Agriculture. Total cost of treatment is about \$30-\$37 per acre for Btk and about \$7-\$15 per acre for mating disruption.

## **Can I provide input on this management proposal?**

The public is invited to submit comments in writing to MDA. Comments received by March 15 will be most useful for identifying any issues and alternatives in the environmental assessment. Contact information for MDA is provided below.

## **What happens next?**

Federal environmental law (the National Environmental Policy Act) requires that an environmental assessment be prepared for this project. An environmental assessment is being completed to assess the potential effects to the environment. One environmental assessment will be written to cover all eradication sites in Minnesota. It will include cumulative effects with references to all sites in analyses and conclusions and will respond to comments received during the scoping period.

MDA is preparing the environmental assessments in cooperation with USDA APHIS and the U.S. Forest Service--State & Private Forestry (S&PF). The agencies will prepare and issue an environmental assessment describing all of the alternative methods considered for controlling gypsy moth in the project area and analysis of associated environmental effects, as well as a decision identifying the selected management action.

A final environmental assessment is expected to be released in April. It will be posted on participating agency websites and will be mailed to those who comment on this proposal. Separate decisions from the S&PF and USDA APHIS will be signed before the treatment project begins.

# Information about Btk



## What is Btk?

A biological insecticide called *Bacillus thuringiensis* var. *kurstaki* (Btk) is proposed for three blocks covering local government-owned and private lands. The active ingredients are crystalline protein toxins formed by naturally-occurring bacteria. The proteins become toxic when eaten by certain susceptible caterpillars like the gypsy moth. When ingested, Btk is broken down and paralyzes the caterpillar. The caterpillar stops feeding and dies within a couple days. Btk is broken down naturally by sunlight so two applications about a week apart are needed to make sure all caterpillars are exposed to the bacteria.

---

## When is Btk applied?

The proposed Btk treatments will take place in May, 2011. For best results, the treatment generally starts very early in the morning. It is possible that you may be awakened by the noise of a low-flying aircraft. We apologize in advance for any inconvenience this may cause, but the aircraft should be over your area for only a brief time. Pets may be spooked by low-flying aircraft noise, so we recommend keeping them indoors during the time when your area is treated.

Exact dates and times depend greatly on weather conditions and insect development. Notification will be made 7-14 days in advance of any treatments through various media outlets including local newspapers, TV and radio. MDA staff will be on-site to oversee the treatment. MDA's Arrest the Pest Hotline (888-545-6684) will be updated with treatment information frequently. You can also find information on treatments by following the MDA on Twitter at [www.twitter.com/mnagriculture](http://www.twitter.com/mnagriculture).

---

## How is Btk applied?

Btk formulations are applied with aircraft operated by licensed applicator pilots. Aerial treatments are at low altitude (~50 feet above the treetops). The aircraft are calibrated to be sure the product is applied at the proper rate and are equipped with the latest available technology, including Global Positioning Systems to help to ensure application accuracy. Non-forested areas such as large fields, stretches of pavement, and open bodies of water, are excluded from the treatments.

## What are the environmental effects of Btk?

Btk is not activated in humans or other mammals; however, it does affect some butterflies and moths, such as the gypsy moth and tent caterpillars. To have any ill-effects, caterpillars must be actively feeding within approximately two weeks of treatment, they must eat the Btk, and they must be susceptible to the bacteria. We work with the Minnesota Department of Natural Resources and the U.S. Fish and Wildlife Service to identify and minimize impacts to any threatened or endangered species that might be affected by these treatments.

Btk is produced from a bacteria found in soils, plants and insects worldwide. It is cultured by fermenting grains and potatoes with fish or cornmeal, a process similar to brewing beer. The final product contains water, the active ingredient (Btk), leftover growth medium, carbohydrates, and other ingredients approved as food additives. The product breaks down quickly in sunlight, but is extremely potent to gypsy moths and can kill nearly 100% in treated areas under proper conditions.

---

## How can I help?

MDA officials and their partners are asking for full cooperation from residents in and around the proposed treatment area. We will need to access private property to set, check, and remove monitoring traps starting in June through September.

Please do not remove trees, tree limbs, firewood, or any other item stored outdoors that may be contaminated with gypsy moth egg masses. A link to a self-inspection checklist of items to look at can be found at [www.mda.state.mn.us/gypsymoth](http://www.mda.state.mn.us/gypsymoth).

If you see signs of gypsy moth infestation outside of the proposed treatment area, please contact MDA with details.



## What are the human effects of Btk?

Numerous studies have documented the low risk of Btk for humans, pets, and other species. Btk is a common product that is readily available and inexpensive. It presents a very low risk to the environment and is approved for use in organic farming. Attempts are made to avoid applying Btk to sites where sensitive, threatened or endangered species of moths and butterflies exist. Evaluations have been made and no known sites of sensitive, threatened or endangered species of moths and butterflies overlap with this year's proposed Btk treatments.



The Minnesota Department of Health (MDH) has prepared the following information to answer frequently asked questions about health risks from Btk:

- Btk has been used safely for more than 40 years to control insects in the United States, Canada, and other parts of the world, on agricultural crops and forestry projects, including gypsy moth eradication projects in metropolitan areas such as Chicago and Vancouver.
- Btk is used because it causes a specific, toxic process in caterpillars (i.e. larvae). The process (a protein mechanism) that causes toxicity in caterpillars is not present in humans or other mammals, regardless of age, and exposure to Btk poses a low health risk for humans.
- Btk is a biological control method that is an alternative to chemical pesticides. Unlike a broad-spectrum pesticide, Btk has a very narrow target range so it will not disrupt the balance of nature.
- Research shows that the level of Btk in air decreases to very low levels within 30 to 90 minutes after an aerial application. Two hours after an application, Btk concentrations in the air are typically below measurable levels.

If you have individual health concerns about exposures to Btk, contact your physician or other health care professional. For general questions about health risks or steps to prevent or reduce exposures to Btk, see the MDH website at: [www.health.state.mn.us/divs/eh/pesticide/bt.html](http://www.health.state.mn.us/divs/eh/pesticide/bt.html) or call 651-201-4899.

### How do I avoid exposure to Btk?

Even though Btk is considered low risk for humans, some people may choose to avoid exposures by staying indoors or leaving the area entirely during treatments. MDA will offer advance notification of the time that the treatment will occur.

The treatment product has no known health effects for humans, but there may be a slight misty residue on outdoor objects immediately after the application. The residue will not damage your car's finish, but you may wish to park your car indoors to avoid residue from landing on it.

#### To minimize exposure:

1. Stay indoors during, and for at least 30 minutes after treatments, with windows and doors to your home and vehicles closed to allow droplets to settle out of the air.
2. Wait until the treatment has dried before touching vegetation.
3. Residue from the product may accumulate on your car, house, outdoor play equipment, or lawn articles. Btk is easiest to remove shortly after application so simply spray or hose off the items with water.
4. Wash exposed skin with soap and water if direct contact with the spray droplets occurs. If material gets into your eyes, flush with water for 15 minutes.

OPEN HOUSE SCHEDULE		
<p><b>Tuesday</b> <b>February 08, 2011</b></p>	<p><b>Bunker Hills Activity Center</b> 550 Bunker Lake Blvd. NW, Andover</p>	<p>6 - 8 pm</p>
<p><b>Wednesday</b> <b>February 09, 2011</b></p>	<p><b>Indian Hills Golf Course Clubhouse</b> 6667 Keats Ave. N., Stillwater</p>	<p>6 - 8 pm</p>

*There will be no formal presentation at these locations. We invite you to take advantage of one-on-one time with several experts from participating agencies that will be available to explain the treatment proposal and answer your questions.*

### Where can I find out more?

MDA and its partners are holding open houses to provide information about the gypsy moth, trapping data, and the proposed treatments. Public comments on this proposal are solicited through these open houses or in writing. Comments received by March 15 will be most useful for identifying any issues and alternatives in the Environmental Assessment. The public is encouraged to attend and comment on the treatment proposal, or contact us with questions or comments using our contact information on the back of this bulletin.

---

### Contact Us:

#### Minnesota Department of Agriculture

[www.mda.state.mn.us/gypsymoth](http://www.mda.state.mn.us/gypsymoth),

Email: [gypsy.moth@state.mn.us](mailto:gypsy.moth@state.mn.us)

“Arrest the Pest” Hotline: 651-201-MOTH (6684) or 1-888-545-MOTH (6684)

In Accordance with the Americans With Disabilities Act, an alternative format is available upon request.

TDD: 1-800/627-3529 An Equal Opportunity Employer

---

### Connect with Us:

To track the latest news on gypsy moth treatments, follow the Minnesota Department of Agriculture on Facebook [www.facebook.com/mnagriculture](http://www.facebook.com/mnagriculture) and Twitter [www.twitter.com/mnagriculture](http://www.twitter.com/mnagriculture).





Minnesota Department of Agriculture  
Plant Protection Division  
625 Robert St. N.  
St. Paul, MN 55155-2538

