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GYPSY MOTH
SITE SPECIFIC ENVIRONMENTAL ASSESSMENT DOCUMENT
1988 MINNESOTA ERADICATION PROGRAM

MARCH 9, 1988

Submitted to: U.S.D.A., Animal & Plant Health
Inspection Service (APHIS) in accordance with Section 102(C) of NEPA
and the Final Environmental Impact Statement as Supplemented - 1985.

SB
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Saint Paul, Minnesota 55155

MINNESOTA GYPSY MOTH
SITE SPECIFIC ENVIRONMENTAL ASSESSMENT

March, 1988

I. Purpose and Need for Action

The gypsy moth (Lymantria dispar, L.) is not considered established in Minnesota. From 1983 to 1986, a number of isolated infestations have been identified and eradicated. In 1987, two new infestations were detected close to the St. Paul / Minneapolis metropolitan area. Both were undoubtedly introduced through the movement of household property from infested areas in the eastern United States. Based on the recommendations of his staff, the Commissioner of the Minnesota Department of Agriculture (MDA) has authorized an eradication program for both sites. (Appendix 1 - a & b).

The largest of the two infestations is in Oak Grove Township, Anoka County. The treatment area includes a total of 85 acres, predominantly wooded residential, that includes approximately 15 acres of open, grassy field. The smaller site is located in Franklin Township, Wright County, about one mile south of the city of Delano. The treatment area there includes only one property with mixed wood and shrub, and is less than 2 acres in size. Maps and detailed descriptions are attached in Appendix 2 - a & b.

There are four alternatives when considering a gypsy moth eradication project:

- (1) No action.
- (2) Chemical insecticides, including Carbaryl, Acephate, Diflubenzuron, and Trichlorfon.
- (3) Biological insecticides, including Bacillus thuringiensis (B.t.) and the gypsy moth nucleopolyhedrosis virus (NPV).
- (4) Integrated pest management (IPM) which combines the use of chemical and biological insecticides with mass trapping and/or other cultural techniques.

The Federal Environmental Impact Statement (FEIS) provides a detailed description of the four alternatives on pages 32-76.

II. Proposed Project

A. Project Description.

During the spring of 1988, MDA, in cooperation with USDA-APHIS and local units of government, will conduct spray projects for the complete eradication of gypsy moth at both sites. The locations were selected for eradication based on pheromone trapping and egg mass survey data. The treatment alternatives selected for the sites are as follows:

- (1) The IPM alternative was selected for the Oak Grove Township site. Three aerial applications of B.t. will be made at the rate of 16 BIU's per acre. The spray area is 85 acres. A "core" area of 6 acres will also receive

two ground applications of Dimilin (diflubenzuron) at the rate of 2 ounces per acre.

- (2) On the Delano infestation, the chemical insecticide alternative was chosen because only one property is being treated. Two applications of Dimilin will be made with a hydraulic sprayer at the rate of 2 ounces per acre. The total treatment area will be 2 acres.
- (3) Mass trapping to disrupt mating will follow treatment in both areas.

B. Biological Monitoring.

Following treatment, both sites will be intensively monitored with pheromone traps. This will determine the effectiveness of the program and any need for further treatments. During the aerial applications, spray cards will be used to determine whether adequate distribution was achieved.

C. Benefit / Cost.

It is not possible to calculate a precise monetary benefit. However, there is plenty of evidence that the gypsy moth can survive in Minnesota, and many parts of the state offer an adequate food source. If left untreated, these isolated infestations could build up to the point where defoliation is evident and spread to other locations is likely. Drawing from the experiences of other states, the cost of this project (see Appendix 1 - b) is minimal compared to the cost of suppression and the loss of value in recreation and timber production.

D. Safety Plan.

The MDA will develop a project safety plan including safety specifications for aerial and ground application. The plan will include provisions for insecticide spill, helicopter emergency landing procedure, insecticide emergency drop zone, and precautions against human exposure. The local fire departments, county sheriffs, hospitals, the Minnesota Pollution Control Agency, and MDA - Agronomy Services will be alerted before spraying. In case of emergency, the appropriate agencies will be notified immediately.

III. Issues and Concerns

Public meetings were held on February 8 and February 29 in Oak Grove Township. The meeting agendas and minutes are attached in Appendix 3 - a & b. The questions raised by the area residents centered on the safety and effectiveness of the program. Oak Grove Township residents and board members were generally very cooperative and supportive. The nature and environmental impact of each material was carefully reviewed. No major concerns were expressed.

Because treatment of the infestation south of Delano involves only one property, no public meeting was held. The property owner and the current resident have been contacted by telephone and by mail (Appendix 4 - a & b). They are also cooperative in this effort.

Additional meetings will be scheduled if necessary as plans progress.

IV. Affected Environment

Both of the infested sites are primarily rural and sparsely populated. Oak Grove Township offers an abundant supply of preferred gypsy moth host plants (oaks), while the area around the Delano infestation is not as heavily wooded. Detailed descriptions of the sites are included in Appendix 2 - a & b. Also attached are clearance notices from the U. S. Fish and Wildlife Service and the Minnesota Department of Natural Resources (DNR) concerning the presence of any rare or endangered plant or animal species in the treatment areas (Appendix 5 - a & b).

Research indicates diflubenzuron may have a negative effect on some aquatic organisms (see FEIS, pp. 61-64). For that reason, Dimilin will not be used within 400 feet of an existing body of water. Research on B.t. shows it is completely safe for non-target organisms. While honeybees should not be affected by either material, MDA Apiary Supervisor Richard Hyser has no record of any beekeepers in either area.

V. Environmental Consequences

The most beneficial effect will be the eradication of these infestations. No adverse effects are expected under the current plan. Both materials will be applied according to label specifications with at least a 400 foot buffer surrounding the treatment areas. Dimilin will not be applied within 400 feet of wetlands or open water. All possible toxicological considerations have been reviewed as set out in the FEIS for B.t. (pp. 68-72) and Dimilin (pp. 61-64).

VI. Risk to Human Health

Appendix F of the FEIS provides a detailed analysis of the hazards involved with using Dimilin. The text and the attached tables contain specifics on the health risks to humans as well as the probability of accidental exposure. The planned application rate of Dimilin is well below both the Allowable Daily Intake and the No Observable Effect Level as listed in the FEIS. The risk to human health is virtually nonexistent with B.t. (FEIS, pp. 68-72).

VII. Administrative Requirements and Constraints

Local participation has been an integral part of all actions. Control measures are implemented under the pest control mandates and statutory authority of Minnesota State Law.

VIII. Irreversible or Irretrievable Commitment of Resources

Eradication efforts of these isolated and well-defined populations will require considerable expenditure of resources in a brief and well-defined period of vulnerability determined by the combined interaction of weather and insect development.

To accomplish the eradication objective, there are no equivalent alternatives to the program detailed above. No other related control opportunities or monies will be lost or sacrificed for this program.

IX. Precautionary Measures

All applications will be made during the early morning hours to minimize drift and potential exposure of residents. The county sheriff will be asked to assist with traffic control wherever necessary.

Buffer zones of 400 feet will be maintained around each of the spray areas. For the aerial applications, corners of the spray area and buffer zone will be marked with helium balloons. MDA and USDA-APHIS personnel will be on site to monitor the project and maintain contact with the applicator. Personnel from the DNR will also be on hand.

All residents in the spray area and buffer zone will receive notification of the target spray date along with alternate dates if weather conditions are unsuitable for spraying. Residents will be advised of additional precautions that can be taken to minimize their exposure.

DEPARTMENT : AGRICULTURE

STATE OF MINNESOTA

Office Memorandum

DATE : February 5, 1988

TO : Jim Nichols, Commissioner

FROM : Arthur H. Mason, Director
Plant Industry Division

PHONE : (612) 296-8578

SUBJECT : 1988 Gypsy Moth Recommendation

During 1987, two small gypsy moth infestations were detected in Minnesota. For over 100 years, this insect has been a significant forest pest, and it has now become generally established in states as far west as Michigan. The natural spread of the gypsy moth has been greatly accelerated through the unintentional human transport of gypsy moth life stages. All of Minnesota's infestations to date started in this manner. The most expedient policy continues to be the prompt eradication of each infestation before it can become permanently established.

Our gypsy moth eradication efforts have been successful in previous years. Carbaryl was used in 1983 and Bacillus thuringiensis (B.t.), combined with mass trapping, was used in 1984-86. The benefits from this program far exceed the costs. With improved detection efforts and effective eradication treatments, Minnesota can avoid significant environmental and economic damage. The Commissioner has the authority under the Minnesota Plant Pest Act (M.S. 18.44-18.61) to protect Minnesota from plant pests, their introduction, propagation, and dissemination within the state, and to provide for their suppression and control.

The largest of the two infestations is in Oak Grove Township in northern Anoka County. The area has been thoroughly delimited using larval traps, adult pheromone traps, and egg mass surveys. I recommend an eradication treatment on eighty-five (85) acres using three aerial applications of B.t., followed by mass trapping. As an additional control measure, I recommend two ground applications of Dimilin to the six acre "core area" within the larger treatment area.

The smaller infestation is located south of Delano in eastern Wright County. This infestation was detected when it was less than one year old. It may be possible to eradicate it before it spreads beyond one property. I recommend two ground applications of Dimilin on two (2) acres.

This will be the first time Dimilin (an insect growth regulator) has been used in Minnesota. It is a chemical insecticide that has been widely and successfully used to suppress gypsy moth populations in the eastern United States. Research data indicate that Dimilin (diflubenzuron) is more host specific with even less environmental impact than Carbaryl.

We must continue to assume the financial commitment for the gypsy moth detection and eradication program. Federal cost sharing is always uncertain. Estimated costs for the eradication and detection survey programs, along with projected federal contributions, are attached.

AHM:slh

Attachment

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

St. Paul, Minnesota

MINNESOTA GYPSY MOTH SITUATION
EVALUATION AND DECISION

March 3, 1988

In 1988, we are again faced with the decision to eradicate gypsy moth infestations in Minnesota. Two new infestations were detected in 1987, and staff from the Plant Industry Division have recommended that they be treated for eradication. As in the past, both of these introductions can be traced to the movement of household property from infested areas in the northeastern United States. The larger of the two sites is in Oak Grove Township, Anoka County, and probably originated in 1980. The other site is in Wright County south of Delano and has been present for only one growing season.

Given the destructive potential of the gypsy moth, the permanent establishment of this pest would be a significant threat to the well being of our state's citizens and trees. Our evaluation and decision is based on information from these major sources:

- (1) The recommendation of our Plant Industry Division staff based on its investigation of the sites and review of current technical and scientific literature.
- (2) Contacts with cooperators at the United States Department of Agriculture (USDA), Animal & Plant Health Inspection Service (APHIS), Plant Protection & Quarantine Program (PPQ), who are involved in gypsy moth regulatory programs across the country.
- (3) Public informational meetings held in Oak Grove Township on February 8 and February 29, 1988.
- (4) Consultations with and/or review of reports by officials of other states with similar, isolated gypsy moth infestations.
- (5) Input from representatives of the infested municipality, University of Minnesota, U. S. Forest Service, and Minnesota Department of Natural Resources.

PLANT INDUSTRY DIVISION STAFF RECOMMENDATION

The Plant Industry Division staff plan and conduct extensive annual surveys throughout the state, review and evaluate the latest developments in detection and control technology and have gained considerable mastery of field techniques as demonstrated by the successful elimination of eight previous gypsy moth infestations during the period 1983 to 1986.

Plant Industry Division staff carefully monitored the Oak Grove infestation from the larval stage through egg laying. The data collected clearly defines the infested area. The staff have recommended using Bacillus thuringiensis (B.t.) in three applications, applied by helicopter over approximately 85 acres. As an additional measure of control, they have recommended two ground applications of the insect growth regulator Dimilin (diflubenzuron) to six acres at the infestation center within the larger treatment area.

The smaller infestation south of Delano is not as clearly defined, however there is a reasonable chance that the gypsy moth has not yet spread beyond the property where it was introduced. Plant Industry Division staff have recommended this site receive two ground applications of Dimilin on an area less than two acres.

INFORMATION FROM USDA

The cooperative working relationship between the Minnesota Department of Agriculture (MDA) and USDA will continue in 1988. The USDA has provided considerable technical support to our program, and has cooperated extensively in the detection and delimiting of gypsy moth infestations. State control efforts will be fully compatible with the Final Environmental Impact Statement prepared and submitted by USDA to comply with the National Environmental Policy Act.

PUBLIC INFORMATIONAL MEETINGS

Public meetings were held in Oak Grove Township on February 8 and February 29, 1988. Minutes of these meetings are included in the Sites Specific Environmental Assessment Document. In general, area residents were in favor of the plan after being briefed on the damage caused by the insect and the various control alternatives. The township board has also been fully supportive.

CONTACTS WITH OTHER STATES

In addition to newsletters, electronic mail and personal working relationships with gypsy moth workers in other states, Plant Industry Division staff attended the National Gypsy Moth Management Board's Annual Review Meetings in December 1987. Consultations with research and industry experts helped to refine and validate our current strategies for eradication.

CONTACTS WITH OTHER AGENCIES

Representatives from other agencies within Minnesota have reviewed and critiqued the proposed spray project through the Gypsy Moth Ad Hoc Committee.

CONCLUSION

We have followed a carefully reasoned approach in making our evaluation and decision. As Commissioner of Agriculture, I am responsible to all residents of the state, and to all aesthetic, recreational, and commercial interests of the state. Mindful of that, I have made the following conclusions under the provisions of the Minnesota Plant Pest Act, Chapter 18, Sections 44-61:

- (1) That the gypsy moth is recognized as the most serious defoliator of trees in the United States. If this pest became established in Minnesota, it could seriously endanger state recreational, agricultural, horticultural and forestry interests. That the multi-million dollar losses of the eastern states could be repeated in Minnesota makes the potential gravity of the gypsy moth infestations unquestionable.
- (2) Eradication programs in Minnesota and other states have been successful in eliminating isolated infestations.
- (3) After careful examination of the infestation sites, our staff has recommended:

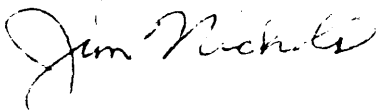
- (a) Three treatments of B.t. at 16 B.I.U.'s per acre in Oak Grove Township, combined with the limited use of Dimilin.
- (b) Two treatments with Dimilin on a single property in Wright County south of Delano.

I concur with my staff's assessment and recommendations for 1988.

DECISION

The above summarizes our evaluation of all the available information. It is my decision that the Plant Industry Division implement the eradication project as proposed and develop the following work plan:




- (1) Dates and times for aerial application of B.t. and ground application of Dimilin should be determined. Written notice should be given to all residents in the area by the best practical means. Any residents of whom the Department is aware with special sensitivities to B.t. or Dimilin, or other disabling problems, should receive notification by personal delivery or certified mail. The notice should include dates and times of application, the type of equipment used, suggested procedures to minimize human exposure, and contact persons at MDA.
- (2) The materials, methods, and times of application should also be given to all local law enforcement agencies, public health agencies, the medical community, and schools located near the treatment areas.
- (3) Local news media should be utilized to advise residents of relevant program information.
- (4) The pesticide applicator contract must provide for services in accordance with the product label instructions and precautions.
- (5) After follow-up monitoring, the staff should determine what further procedures are necessary and advise me accordingly.

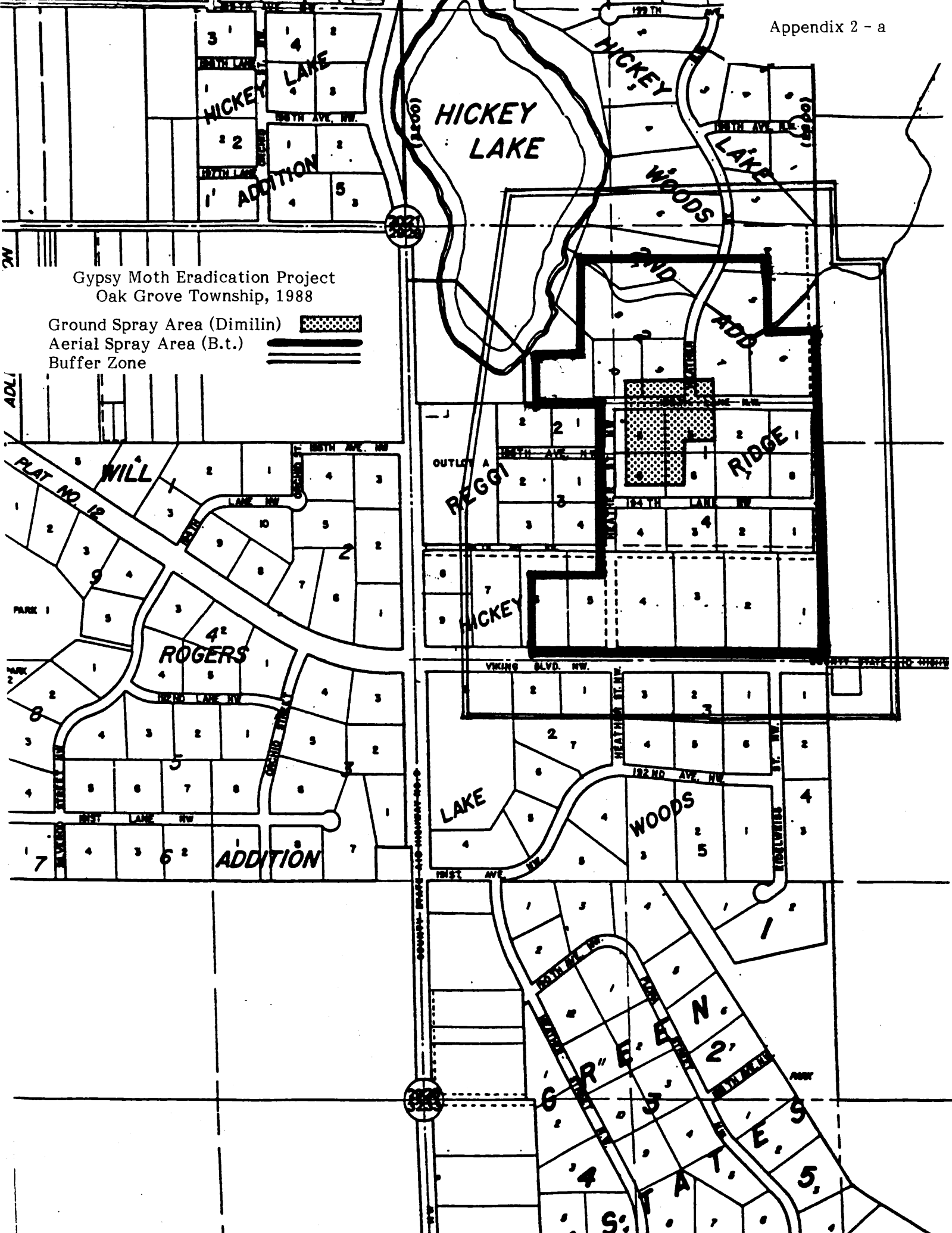


Jim Nichols
Commissioner



March 3, 1988

Gypsy Moth Eradication Project
Oak Grove Township, 1988

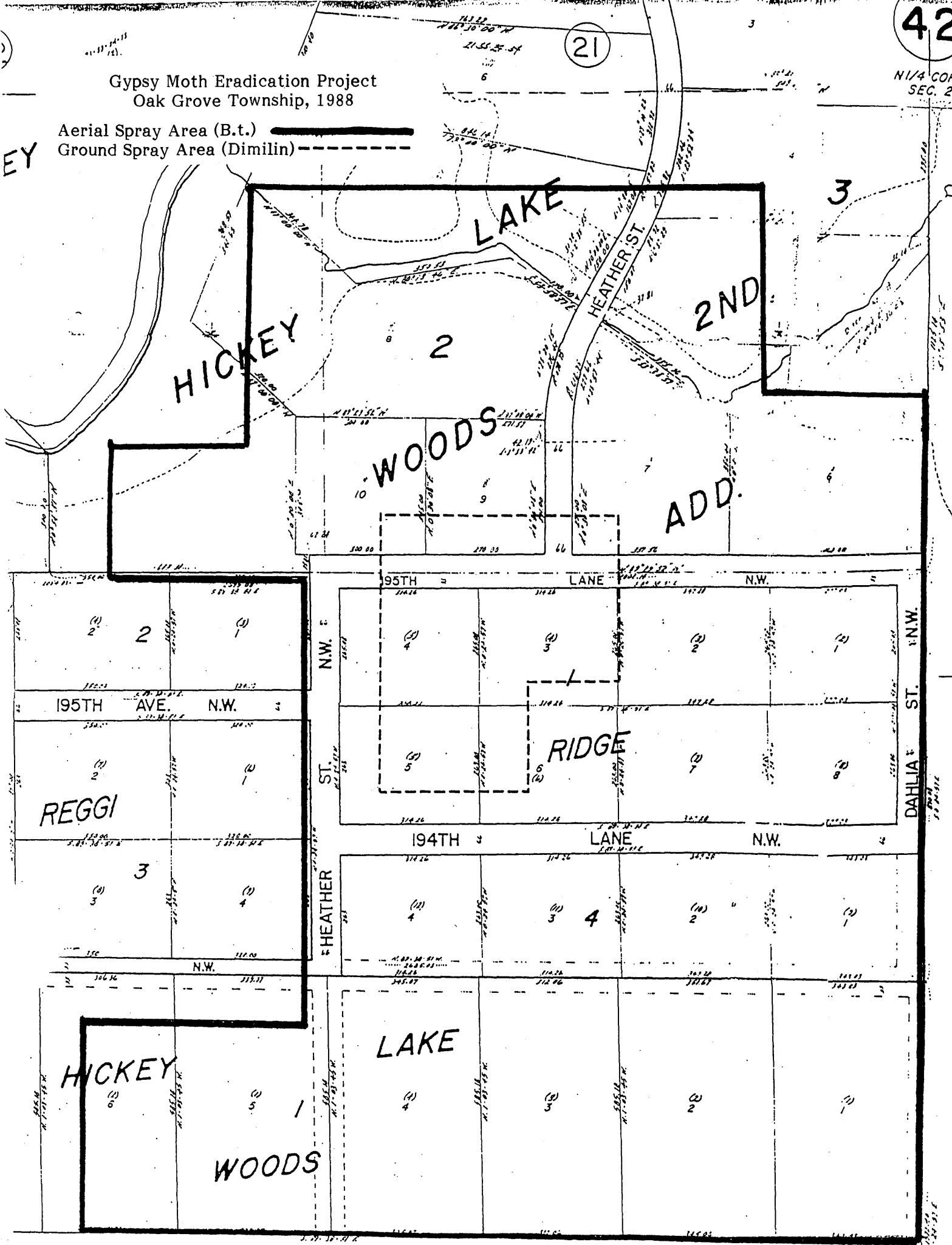
Ground Spray Area (Dimilin) 
Aerial Spray Area (B.t.) 
Buffer Zone 



Gypsy Moth Eradication Project
Oak Grove Township, 1988

Aerial Spray Area (B.t.) 
Ground Spray Area (Dimilin) 

EY



Gypsy Moth Eradication Project

Site Description

Oak Grove Township, Anoka County

Legal Description

NW $\frac{1}{4}$, S28, T33N, R24W.

Topography

Relatively flat with 0-2% slopes.

Soil Type

Loamy sands in the Nymore series; excessively well drained with a water table depth of 6 feet or greater.

Surface Water

Hickey Lake, in the northwest corner of the section, borders on the spray area. It is a shallow, marshy body of water. A small drainage ditch connects the lake to a large slough in the northeast corner of the section.

Vegetative Cover Type

Large, dense blocks of even-aged northern red oak with an understory of dogwood, hazel, gooseberry, and raspberry. In many areas oak wilt and home construction have opened the stand and allowed the underbrush to flourish; also several large, grassy fields.

Endangered Species

No rare or endangered species are known to occupy this area.

Land Use

Wooded residential.

Human Population

All homes are single family units with lot size running 2.5 to 4 acres. Several of the lots remain undeveloped.

Major Roads

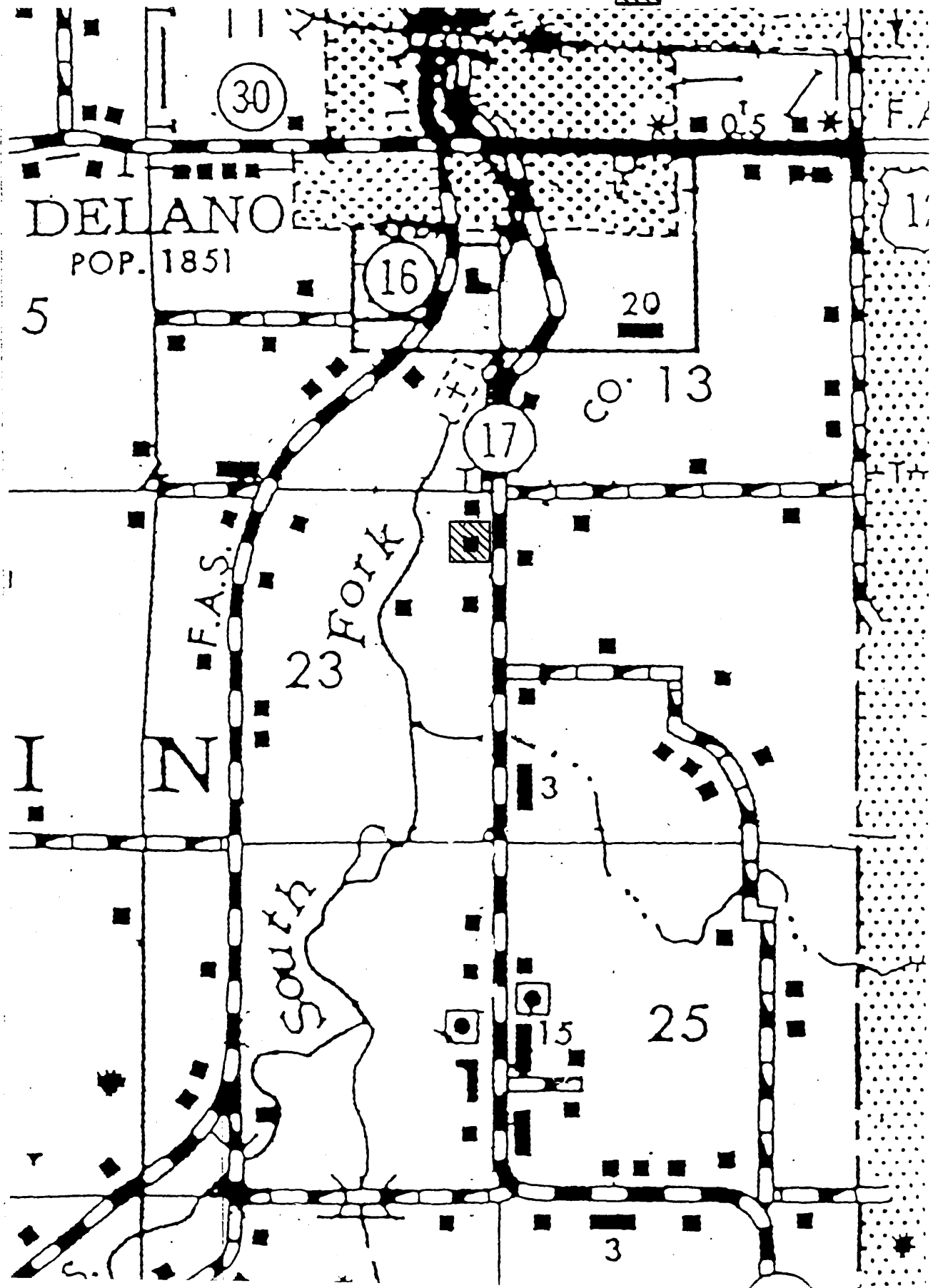
Viking Boulevard (County Highway 22) forms the southern boundary of the aerial spray zone. Lake George Boulevard (County Highway 9) intersects approximately 600 feet to the west of the spray area.

Eradication Treatment Plan

Three applications of B.t. will be made by helicopter at 16 BIU's per acre to a spray area of approximately 85 acres. Within that area is a 6 acre "core area" that will also receive two applications of Dimilin (diflubenzuron) applied from the ground with a hydraulic sprayer.

Gypsy Moth Eradication Project
Franklin Township, 1988

Ground Spray Area (Dimilin)



Gypsy Moth Eradication Project

Site Description

Franklin Township, Wright County

Legal Description

NE $\frac{1}{4}$, NE $\frac{1}{4}$, S23, T118N, R25W (1 mile south of the city of Delano).

Topography

Rolling hills, 2-6% slope.

Soil Type

Deep, moderately well drained clay loam in the LeSueur series; originally supporting prairie grasses and northern hardwoods. Treatment area is immediately adjacent to a Salida series gravelly sandy loam with 12-20% slope.

Surface Water

The south fork of the Crow River flows $\frac{1}{4}$ mile to the west of the infestation site.

Vegative Cover Type

The area is primarily grassy / agricultural with scattered clusters of cottonwood and poplar, boxelder, silver maple and green ash. There are a number of high quality maple / basswood woodlots within a one mile radius of the infestation point of introduction.

Endangered Species

No rare or endangered plant or animal species are known to occupy this area.

Land Use

Primarily agricultural (small grains, row crops, alfalfa, grass pastures).

Human Population

Sparsely populated with scattered farms.

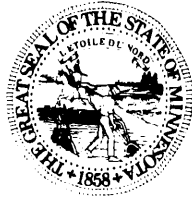
Major Roads

County Highway 17 forms the east boundary of the treatment area.

Eradication Treatment Plan

Two applications of Dimilin will be made to an area of approximately two acres using a hydraulic sprayer.

03/07/88



LAND OF QUALITY FOODS

90 W. PLATO BOULEVARD
SAINT PAUL, MN 55107

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

1988 GYPSY MOTH PROGRAM

Preliminary Meeting
Oak Grove Township

February 8, 1988
6:30 p.m. / Township Hall

A G E N D A

- I. Resident: Overview
 - A. Treatment Area(s)
 - B. Materials / Schedule
 - C. Notification

- II. Township: Cooperative Agenda
 - A. FAA / Letter of Approval
 - B. Notice to residents
 - C. Chemical Delivery Depot
 - 1. Water Source
 - 2. Flight Strip
 - D. School Bus Schedules
 - E. Emergency Plans
 - 1. Fire Department
 - 2. Sheriff
 - 3. Nearest Hospital



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Gypsy Moth Public Information Meeting

Oak Grove Township

Meeting was held at Oak Grove Township Hall, February 8, 1988, at 6:30 p.m.

Attending the meeting were: John Hayward - USDA-APHIS-PPQ; Dwight Robinson and Don Mueller - Pest Control Services - Minnesota Department of Agriculture (MDA); Russel Dunlop, Robert Preuss, Ronald Braastad, Bonnie Acker and Nancy Collins, Board Members - Oak Grove Township Board; Sue Boyum, Township Administrative Assistant; Mr. & Mrs. Burling, Mr. Dennis Sackreiter, Mr. Jenkinson, Mr. Robert Beck, Mr. Rick Latsch, all residents within the spray area.

Because of bad weather the meeting opened late with John Hayward explaining what was proposed for the control of gypsy moth in Oak Grove. All of these residents had been contacted personally one or more times throughout 1987, so all were familiar with the situation. When Robinson and Mueller arrived, they provided a summary of the data collected to delimit the infestation and explained the life cycle of the insect.

The possibility of a traffic control problem was raised by the residents. Many people leave for work very early in the morning. It was suggested that MDA contact the Anoka County Sheriff for assistance. The question of the best means of notifying residents of the date and time of spraying was not settled. That will be coordinated with the township as the date approaches.

The Township Board agreed to the use of the Township Fire Station for storage of insecticide and will serve as the location of the heliport. The Fire Department will be notified as well as the nearest medical facility, Mercy Hospital in Coon Rapids.

Mr. Burling questioned the effects of Dimilin on automobile paint. John Hayward will investigate the situation. Mr. Burling also stated that the ground application of Dimilin would probably be more time consuming than previously estimated.

One of the residents asked when it would be safe to transport outdoor items out of the area. Things such as boat trailers and firewood were mentioned. Robinson requested that nothing be removed from the area until complete eradication is achieved. Both MDA and USDA offered to inspect any items that would be transported to another area.



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SAINT PAUL, MN 55107

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

1988 GYPSY MOTH PROGRAM

Public Meeting
Oak Grove Township

February 29, 1988
6:30 p.m./Township Hall

A G E N D A

- I. Introduction
 - A. Film: "Gypsy Moth: A Dilemma"
 - B. Gypsy moth biology
- II. The Present Situation/1987
 - A. Trapping
 - B. Egg mass surveys
 - C. Defining the infestation
- III. Options/Action Plan
 - A. Do nothing
 - B. Use organophosphates
 - C. Use biological insecticides
 - D. Full IPM (Integrated Pest Management)
- IV. Questions and Answers

CONTACTS

STATE

Dwight P. Robinson
Minnesota Department of Agriculture
90 West Plato Boulevard
St. Paul, MN 55107
(612) 296-8578

FEDERAL

John T. Hayward
U.S. Department of Agriculture
110 South Fourth Street, Room 472
Minneapolis, MN 55401
(612) 349-3705

OAK GROVE TOWNSHIP

Sue Borgum/Jill Meyer
Oak Grove Town Hall
19900 Nightingale Street Northwest
Cedar, MN 55011
(612) 753-1420



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AN EQUAL OPPORTUNITY EMPLOYER

Gypsy Moth Public Information Meeting

Oak Grove Township

Meeting was held at Oak Grove Township Hall, February 29, 1988, at 6:30 p.m.

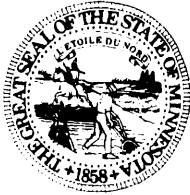
Attending the meeting were: Dwight Robinson and Don Mueller - Pest Control Services - Minnesota Department of Agriculture (MDA); Bonnie Acker, Chairperson - Oak Grove Township Board; Ronald Braastad, Vice-chair - Oak Grove Township Board; Russel Dunlop and Nancy Collins, Board Members - Oak Grove Township Board; Sue Boyum, Township Administrative Assistant; Shirley Roepke, Township Clerk; Neil Tardy, Anoka Union Newspaper; and seven Oak Grove Township residents.

Dwight Robinson opened the meeting with the film "Gypsy Moth: A Dilemma". Following the film, he explained the life cycle of the gypsy moth and how it could impact the residents of Oak Grove Township. He also explained the role of the state and federal agencies involved in the detection and eradication program.

Don Mueller reported on the field work done during the summer of 1987. Larval and adult trapping procedures were explained and he summarized the data used to define the infested area.

Dwight Robinson returned to discuss the various treatment options available and explain why the proposed alternative was selected over the others. Using maps, he pointed out the core area to be treated with Dimilin, the aerial spray area, and the buffer zone. Mr. Robinson provided information on the effects of the chemical and biological insecticides and why these particular materials were chosen.

Finally, the floor was opened for questions. Some of the questions were very basic, being asked by residents that arrived after the presentation had started. Residents and members of the Township Board were generally supportive of the proposed eradication project.



LAND OF QUALITY FOODS

90 W. PLATO BOULEVARD
SAINT PAUL, MN 55107

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

February 10, 1988

(612) 296-8578

Mr. & Mrs. Ernest Barfknecht
Rural Route 2, Box 100
Delano, MN 55328

Dear Mr. & Mrs. Barfknecht:

As you are aware, gypsy moth detection traps located near your property by the U. S. Department of Agriculture collected a number of moths last summer. Through follow-up inspections, old gypsy moth egg masses were located on the underside of your camper. The egg mass survey in October produced five new egg masses on the trees around your residence, so we can be sure some gypsy moths became established near the camper last summer.

There is no fine or other liability on your part. However, we expect your full cooperation in eradicating this pest before it can become permanently established. The cost of the eradication program will be covered by the Minnesota Department of Agriculture and the U. S. Department of Agriculture.

Since the gypsy moth has been present in the area for only one full growing season, there is a reasonable chance that it has not yet spread beyond your property. We plan to make two applications of Dimilin, an insect growth regulator, in the spring. The exact dates of the spraying will be determined by weather conditions, but we will give you as much advance notice as possible.

Dimilin is a synthetic copy of an insect hormone that will prevent the gypsy moth caterpillars from shedding their skin as they grow. The caterpillars die within a few days. Dimilin has been very effective in the eastern U. S. for suppression of established gypsy moth populations, and research data indicate that it is quite safe for humans and animals.

This summer, following the spraying, the entire area will be monitored intensively with gypsy moth pheromone traps. This will help us determine whether or not the spraying was 100% effective, or whether gypsy moths have already spread to neighboring wood lots. Again, we will give you advance notice when our trappers will be in the area to set, check, or remove their traps.



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AN EQUAL OPPORTUNITY EMPLOYER

Mr. & Mrs. Ernest Barfknecht
February 10, 1988
Page 2

Generally speaking, this situation should not have much impact on you or your property. We appreciate your cooperating in getting the problem cleaned up quickly. Please contact me or this office if you have any questions or concerns.

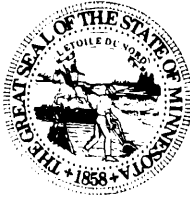
Sincerely,

MINNESOTA DEPARTMENT OF AGRICULTURE

Dwight P. Robinson, Supervisor
Pest Control Services Program
Plant Industry Division

DPR:sln

cc: J. Hayward (USDA)
P. Barfknecht



LAND OF QUALITY FOODS

90 W. PLATO BOULEVARD
SAINT PAUL, MN 55107

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

February 10, 1988

(612) 296-8578

Mr. Phil Barfknecht
9201 County Road 26
Maple Plain, MN 55359

Dear Mr. Barfknecht:

The Department of Agriculture is finalizing plans for two gypsy moth eradication programs this spring. One will include your property along county Highway 17 south of Delano. Gypsy moth egg masses were found on the site, and our surveys strongly suggest this was the point of introduction.

As we discussed in our telephone conversation on 1/20/88, the proposed eradication treatment consists of two applications of Dimilin, a synthetic insect growth regulator. Extensive research has established that Dimilin is very effective against gypsy moth, and quite safe for use around humans and animals. We are planning for the applications to be made from the ground using a hydraulic sprayer.

Spray dates cannot be set as yet because treatment must be timed around leaf development and weather this spring. The first application will probably be made in early to mid-May. The second application will be seven to ten days after the first. We will notify you of the exact spray date a few days in advance this spring.

This eradication treatment is based on the assumption that the gypsy moth has not yet spread beyond your property. This summer, following the treatment, gypsy moth traps will be concentrated in the area to determine whether the spray was completely effective, and whether moths are present on adjacent properties.

There is no cost to you for this project. State and federal funds will cover both the spraying and trapping projects. However, your complete cooperation is essential. Please contact me or this office with any questions and concerns. Thank you.

Sincerely,

MINNESOTA DEPARTMENT OF AGRICULTURE

Dwight P. Robinson, Supervisor
Pest Control Services Program
Plant Industry Division

DPR:sln

cc: J. Hayward (USDA)
E. Barfknecht



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United States Department of the Interior

FISH AND WILDLIFE SERVICE
ST. PAUL FIELD OFFICE, (ES)
50 Park Square Court
400 Sibley Street
St. Paul, Minnesota 55101

IN REPLY REFER TO:

SPFO

January 26, 1988

Mr. John T. Hayward
Officer in Charge
APHIS, Plant Protection and Quarantine Programs
U.S. Department of Agriculture
Room 472, Federal Building
Minneapolis, Minnesota 55401

Dear Mr. Hayward:

This responds to your January 8 request for our review of your agency's planned 1988 gypsy moth control program for Anoka and Wright Counties in Minnesota as it pertains to federally threatened or endangered species.

Based on current information, your proposed control program involving the use of Bacillus thuringiensis and diflubenzuron will not affect federally listed threatened or endangered species. This precludes the need for further action on this program as required under Section 7 of the Endangered Species Act of 1973, as amended. Should this project be modified or should new information indicate that listed species may be affected, you should reinitiate consultation with this office.

Regarding diflubenzuron, particular care should be exercised in its application near temporary and permanent wetlands due to its known high degree of toxicity to daphnia and, presumably, other pond-dwelling invertebrates (the 25% wettable powder formulation has been found to have a 48-hour LC50₁ of 0.015 parts per million for Daphnia magna in static tests). May and early June represent the time of year when waterfowl typically make heavy use of temporary wetlands for feeding purposes.

These comments have been prepared under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and are consistent with the intent of the National Environmental Policy Act of 1969. This project was also examined for its conformance with Executive Order 11990.

Thank you for the opportunity to provide these comments.

Sincerely,

James L. Smith
Acting Field Supervisor

¹LC50 represents the concentration of a toxicant lethal to 50% of the test organisms within a stated time period.

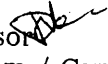
DEPARTMENT : AGRICULTURE

STATE OF MINNESOTA

Office Memorandum

DATE : March 8, 1988

TO : Gypsy Moth Record 1988
Pest Control Services Program
Plant Industry Division

FROM : Dwight P. Robinson, Supervisor 
Pest Control Services Program / Gypsy Moth Activity
Plant Industry Division

PHONE : (612) 296-8578

SUBJECT : Rare or Endangered Species in 1988 Treatment Sites

According to David Olfelt, Data Manager, Minnesota Natural Heritage Program, Minnesota Department of Natural Resources, there are no known occurrences of rare or endangered species near either of the proposed 1988 gypsy moth treatment sites. He will send a letter of confirmation.

For further information, contact: David Olfelt
Minnesota Natural Heritage Program
Box 7, DNR Building
500 Lafayette Road
St. Paul, MN 55155
Telephone: (612) 296-8324

DPR:sln