

RESEARCH / MANAGEMENT FINDINGS

"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

— ALDO LEOPOLD



D. LUCERO

Accommodating Objectors to Aerial Spraying: Trends and Issues Related to the 2004 Gypsy Moth Suppression Program

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INTRODUCTION

The Wisconsin Department of Natural Resources (DNR) retains responsibility for managing the state's Gypsy Moth Suppression Program. This program enables Wisconsin communities experiencing significant gypsy moth activity and meeting certain criteria to qualify for treatment of gypsy moths. Treatment consists of aerial application of *Bacillus thuringiensis* var. *kurstakii* (Btk), a bacterial insecticide that occurs naturally in soil. Btk is applied to affected trees from mid-May to early June while the insect is in its larval stage and is ultimately fatal causing the caterpillar to stop eating. The goal of the suppression program is to reduce gypsy moth populations below a level causing heavy defoliation. Cost sharing for spraying is part of the state suppression program; the federal government funding for the program requires that suppression treatments be voluntary.

Since community residents participate in the suppression program voluntarily, residents may opt out of aerial treatment. Individuals who opt out of the program (referred to here as "objectors") can impact neighboring landowners. To ensure an objector's property is not treated with Btk, a 250-foot buffer is plotted around the objector's property.

This width of buffer minimizes drift of Btk onto a property and gives the pilot time to avoid spraying objectors' property. Properties that fall within the 250-foot buffer zone are also not treated for gypsy moths. DNR's Forestry Division has been interested in understanding the implications for residents who have been dropped from the treatment program as a result of objectors.

METHODS

With direction from the Forestry Division, I focused on areas containing significant gypsy moth activity in the northeastern and southeastern portions of the state. I conducted 10 structured telephone interviews with county and municipal coordinators to assess the present situation including the number of objectors, overall gypsy moth activity, and the general state of satisfaction with the suppression program. I also conducted more in-depth, face-to-face interviews with a subset of 3 county and municipal coordinators.

I interviewed 28 residents of participating communities, primarily from the city of Glendale (18 residents), who had been dropped from aerial treatment. Resident interviews revealed what, if any, actions residents intended to take on their own to treat gypsy moths. They were asked about observed gypsy moth activity in 2003 and 2004, and were given the opportunity to share additional comments regarding the suppression program and its administration.

Rainy conditions in the spring of 2004 resulted in significant natural mortality of gypsy moths. This affected the scope of research insofar as observed gypsy moth activity and residents' willingness to participate in interviews. I was able to distill trends (recurring themes) and issues (points to consider) from the first- and second-hand accounts gathered.



D. LUCERO

TRENDS RELATED TO THE GYPSY MOTH SUPPRESSION PROGRAM

Trends highlighted here represent recurring findings in the interviews and are reasonable conclusions DNR staff may draw about the suppression program specifically. These trends may also be instructive to other programs seeking to suppress an invasive species with noxious characteristics.

There appears to be minimal objection to spraying.

Considering the low percentage of residents objecting to treatment, it is reasonable to conclude a general tacit approval exists for strategies employed in the Gypsy Moth Suppression Program. One county coordinator confirmed this trend when discussing the increasing amount of area treated for gypsy moths. He said, "I thought we would have a lot of problems with objectors this year and we really didn't. I don't think the objector number went up proportionally to the acre number. I think it was actually less." The city of Glendale experienced the highest number of objectors in 2004, with a total of 8 residents objecting to treatment. It was largely considered an anomaly by the Milwaukee County coordinator who has been involved in the suppression program since its inception.

The objections that do occur derive from two sources: rejection of Btk application and nonpayment. Apprehension toward Btk application generally originates from medical or environmental concerns. One objector cited concerns about personal health effects; another feared effects of Btk on other wildlife and vegetation. For communities requiring residents to contribute money to participate in the treatment program, nonpayment can result in residents being omitted from gypsy moth treatment. Impacts to neighbors of objectors could be reduced if objections due to refusal to pay could be separated out from those with health or environmental concerns. Objectors to paying could be persuaded to retract their objection if other landowners in the spray block were willing to cover their costs. This option might be most useful in urban or suburban areas where individual properties are small and many homeowners would be impacted by the objector. Alternatively, where a financial objector's property were large enough to be excluded from aerial spray without the addition of the 250-foot buffer, it could be possible to avoid impacting neighbors who are willing to pay for treatment by dropping the buffer since pesticide drift is not a concern for a financial objector.



D. LUCERO

Residents (who are nonobjectors) dropped from the aerial spray program are extremely dissatisfied.

The Gypsy Moth Suppression Program enables property owners to treat the invasive species at little to no cost or effort required on the property owners' part. Understandably, these conditions make treatment easy and feasible for most residents. At the heart of the matter is the residents' concern for their trees, their property, and their property value. One resident expressed his feelings simply. "I want to be sprayed," he said. "My property is a big time investment. I want to retire up here." For this resident, whose property is adjacent a state forest, the trees hold essential value. I heard from many residents dropped from the program who felt they had been treated unfairly—resentment that one person can impact so many others. Another sentiment widely expressed was that there should be some sort of democratic element to participation (i.e. if the majority of residents in a spray block wish to participate then the block cannot be dropped from treatment). One resident I spoke with said she was very angry when she learned her property would not be sprayed. She said her anger had turned to disappointment, "that one family can be allowed to remove so many others from the treatment program." Another resident expressed similar feelings of frustration. She asked, "If the majority of us want it, shouldn't it happen?"

The fact that one objecting resident can exclude other willing residents brings up feelings of anger and being treated unfairly. This matter of principle when coupled with the potential for financial loss (i.e. decline in property value) raises serious concerns. Considering the voluntary nature of the suppression program, this will continue to be an issue for both affected residents and for those who administer the program.

Residents and coordinators appear to be satisfied with the program.

Coordinators and residents appear to be satisfied with the Gypsy Moth Suppression Program, and expressed these sentiments during the 2004 season. Coordinators cited the effectiveness of the Btk application and the helpfulness of DNR staff as the primary points of satisfaction. One coordinator described the suppression program as worthwhile and as "one of the best programs DNR has going." They also related high levels of resident satisfaction with the aerial treatment and insect reduction. A different coordinator described past success with the program stating, "[we] had a good kill rate in there this year and we've had no complaints from that spray block from 2003."

A significant percentage of property owners did not notice past gypsy moth activity.

While the implications of this trend are not altogether clear, the resounding majority of residents interviewed did not notice gypsy moth activity on their property in 2003 or 2004. This trend is especially complex since the majority of interviews took place in areas with increasing gypsy moth populations in 2003.

Coordinators appear to be satisfied with the DNR's handling of the program.

During the course of this project, I spoke to county and municipal coordinators, and without exception they were all very satisfied with the manner in which the DNR handles the suppression program. One coordinator said, "Overall, I'd have to say the DNR's cooperation with us in this has been just outstanding. We've had nothing but compliments for [the staff]... So, my hat goes off the DNR for their help." Coordinators also attributed the DNR with increasing public awareness of gypsy moth issues.

ISSUES RELATED TO THE GYPSY MOTH SUPPRESSION PROGRAM

Issues presented below represent coalescing attitudes about the Gypsy Moth Suppression Program. They underscore nascent problems or obstacles to successful program implementation that the DNR should be aware of. They advance potential solutions or means to mitigate those problems and they suggest areas or topics of further investigation. Again, these issues are reasonable conclusions DNR staff may draw from these interviews about the suppression program specifically and may be indicative of other programs seeking to eradicate invasive species with noxious characteristics.

Methods of decreasing objections.

A primary obstacle to achieving the goals of the Gypsy Moth Suppression Program is that some residents object to treatment—a reality that can lead to the nullification of aerial treatment in areas with intensive gypsy moth activity. As long as the suppression program remains voluntary, finding means of reducing objections is a chief strategy in the suppression of this invasive and destructive species. In the process of gathering information for this report, I learned of several strategies that were employed in different areas of the state.

- **Provide a way to notify residents of when to expect aerial treatment.** Residents were dissuaded from objecting to treatment on the condition that they could be notified when spraying is to take place. This is perhaps the single most effective and feasible strategy to reduce objections. Given the broad scope of this topic, it emerges as a discrete issue and is described later.
- **Alert objectors that their objection status is public information and can be accessed by community residents.** Knowing that they may be publicly culpable for their neighbors being excluded from treatment may be enough to discourage tentative objectors.
- **Close interaction between residents and program coordinators.** When coordinators were able to interact closely with nervous or reluctant residents there was a demonstrable decrease in the number of objections within a community. For residents that are not categorically opposed to treatment, the primary issue may be trust—trust that the treatment is both necessary and benign. When coordinators are able to show residents that they are concerned about their comfort and safety, uncertainty fades and objections are withdrawn.
- **Distribute educational material to all residents included in treatment communities.** Objections can stem from residents' trepidation about aerial pesticide application or their uncertainty about the likely effects of gypsy moth infestation (e.g., defoliation, tree mortality, and the noxious properties of the insects). Uniform distribution of educational material may reduce objections effectively.

Short-term notification of spraying.

During this study, I collected evidence suggesting that residents were willing to withdraw their objections if given notice of when aerial application of Btk would take place. Coordinators related instances where residents consented to treatment if they were given 24-hour notice of spraying.

Alternative means of treatment once dropped from the aerial spray program.

Phone interviews conducted during the course of this study indicate that most people fail to take any alternative actions once dropped from the program. It should be noted that 2004 was an anomalous year, with a particularly high natural gypsy moth mortality rate, which may have affected these results.

Size of buffer zone and/or spray blocks.

To ensure an objector's property is not treated with Btk, a 250-foot buffer is plotted around the objector's property. Naturally, those homes that fall within the buffer zone are also not treated for gypsy moths. Coordinators suggested that the buffer size could be reduced or redefined, especially in dense urban environments. Any reduction in the size of the buffer zone would result in more properties treated for gypsy moths and more effective elimination of the insect.

Independent discretion of county coordinators' methods of handling program administration versus statewide consistency.

County and municipal coordinators are given independent discretion in administering the treatment program. I learned that this autonomy results in both demonstrated positive and negative outcomes, as described below.

- **Who pays for treatment?** As the program exists now, municipalities may choose to absorb the cost of aerial treatment, or may choose to pass the cost on to residents within the spray blocks. This current set up allows for maximum flexibility for municipalities; if fiscally capable of covering the cost of treatment they minimize administrative processes. For municipalities unable to cover the cost of treatment for affected properties, coordinators are entitled to ask property owners to pay for their own share. In communities where payment is required, additional objections can occur solely due to nonpayment, thus reducing the amount of property treated for gypsy moths.
- **Distribution of educational materials.** A uniform approach to public education about gypsy moths, the damage they can impose, and the aerial spray program may be an effective way to reduce objections. Distributing printed materials to all residents in affected communities that qualify for the suppression program (especially those unwilling or unable to review Internet materials) would ensure that all residents are using the same information, at minimum, to make the decision whether or not to participate in the program. A consistent approach to public education may prove a valuable investment in managing the gypsy moth in Wisconsin.
- **Public notification of objector's identity.** Most municipal coordinators opt to leave the names and addresses of objectors out of letters notifying the owners of property excluded from treatments. This may minimize harassment of objectors. Wisconsin's Open Records Law, however, requires municipal coordinators to make objectors' names and addresses available when requested. A local process that allows concerned landowners to obtain this additional information within the deadlines for defining the treatment blocks would give the coordinator an opportunity to provide gypsy moth and treatment-related information and suggest constructive means of engaging their neighbors.
- **Alerting residents of their exclusion status.** Among the decisions coordinators made, not all coordinators notified residents of their exclusion status. In a year with intense gypsy moth activity, public attitude may shift unfavorably toward the DNR if residents falsely believe their properties were treated. The recent revision of the rule governing this program requires notification of excluded residents by coordinators.





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IMPLICATIONS

Assessing the feedback I collected during the 2004 season, the following implications can be used to further refine the Gypsy Moth Suppression Program. Additionally, these pertinent themes can inform other programs managing noxious invasive species.

Satisfaction with the treatment program.

The methods and attention given to dealing with coordinators and residents involved with the Gypsy Moth Suppression Program meet with high levels of satisfaction. The DNR should take note of the methods applied (i.e. personal phone calls, providing materials, consistency, etc.). These methods should remain the hallmark of the suppression program, regardless of other changes that evolve over time.

Techniques to accommodate objectors.

There are several proven steps the DNR can recommend to coordinators to accommodate objectors and have them withdraw their objection to treatment.

1. Offering a way to have short-term notification of when the aerial application will take place appears to pacify most residents who otherwise may be reluctant to have their property treated.
2. Public education in the form of uniformly distributed printed material would ensure all communities participating in the treatment program receive the same quality information. This material should address the two primary concerns prompting objections. First, material should address medical and health effects of Btk, demonstrating the safety of the bacteria for human health. It should also address the other prominent concern heard, Btk's effect on other wildlife and environmental systems.
3. Where individuals pay for treatment, payment can be a reason for objection. In these situations, it is important for coordinators to discuss this potential issue with spray block organizers or those requesting treatment so they develop a means of collecting payment that will cover residents who don't want to or can't pay. In this case it is also important that coordinators determine the reason for objection and communicate financial objections to the block organizers.

Uniform administrative procedures.

There are tangible benefits and limitations to permitting coordinators' autonomy in administration of the treatment program. Coordinators appreciate the present flexibility. There are a few points, however, where the state may want to consider uniformity in administration. For instance, the state could prohibit coordinators from including objectors' names in the letter to residents dropped from treatment, though information on making an open records request could be included. The DNR has already acted to require notification of residents who are dropped from treatment in order to prevent the false impression that their property had been treated. These guidelines would ensure that on some essential points, all residents receive the same considerations.

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