

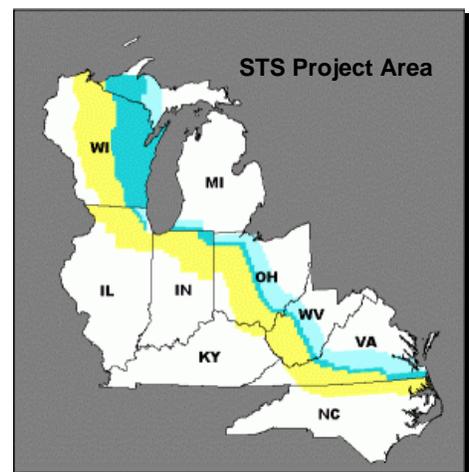


2003 Accomplishments In Slowing the Spread of the Gypsy Moth



Overview: Congress funded full implementation of the gypsy moth slow the spread strategy (STS) in fiscal year 2000. Integrating STS into the USDA's national strategy to manage the gypsy moth has reduced spread of this exotic pest at least 50% from historical averages of 13 miles per year. The USDA Forest Service (FS) and Animal and Plant Health Inspection Service (APHIS) along with state partners located along the leading edge of gypsy moth populations cooperatively implement STS. The states of Michigan, Wisconsin, Illinois, Indiana, Ohio, West Virginia, Kentucky, Virginia and North Carolina are actively involved in STS. Minnesota and Iowa will likely join the program in the near future. The nonprofit STS Foundation, which manages the STS program, provides the states with a formal framework for cooperation and ensures that federal funds are targeted where biologically needed. Key highlights from the 2003 season follow.

A band totaling approximately 60 million acres (yellow shaded area on map) was comprehensively managed during 2003, with an additional 34 million acres (blue shaded areas on map) monitored less intensively to measure the program's effect on spread. STS program partners detected and delineated 180 distinct gypsy moth colonies within the STS area in 2002. Treatments subsequently occurred on almost 640,000 acres during the spring and summer of 2003. The total area treated was about 1% of the project area.



| STATE | # OF COLONIES MANAGED | ACRES OF TREATMENT | |
|--------------|-----------------------|----------------------------------|-------------------|
| | | Larvicides (Btk, dfb or GypChek) | Mating Disruption |
| NC | 7 | 16,285 | 0 |
| VA | 28 | 2,995 | 116,594 |
| WV | 4 | 0 | 115,555 |
| OH | 13 | 817 | 16,767 |
| IN | 25 | 688 | 16,704 |
| IL | 54 | 4,620 | 26,291 |
| WI | 49 | 51,511 | 268,239 |
| TOTAL | 180 | 76,916 | 560,150 |

Treatment evaluations indicate that about 80% of the blocks treated with Btk were successful in 2003. Failures occurred primarily in the smallest blocks near the back of the action zone. Previous year mating disruption blocks were successful more than 90% of the time. Mating disruption will continue to be a major part of STS because it is effective, inexpensive and target specific.

STS partners deployed traps at more than 96% of the 76,000 planned trap sites during 2003. Data from these traps are used to measure spread, evaluate treatment efficacy and to detect or delineate newly established infestations that may require treatment next year. The total cost of monitoring was approximately \$4.3 million or an average of about \$58 per trap.



STS partners contracted individually for the aerial application of Btk, Dimilin or Gypchek but mating disruption treatments were implemented using a Forest Service contract that will continue to service the STS project area until 2005. Average cost for all treatments in 2003 was about \$12.00 per acre.

Centralized data management, GIS, decision support and evaluation for the STS project cost approximately \$550,000. In addition to routine duties associated with project implementation, accomplishments this past year include revamping the website, initiating an STS Newsletter, continued development and testing of the trapper gadget and various tools to streamline data handling.



Spread rates in the southern and central areas of the project remain quite low (<5 miles per year) but spread rates in the northern part of the project continue to be alarmingly high. The technical committee accomplished the following during 2003 relative to this problem

- Data from the STS treatment evaluations were scrutinized to determine if there were patterns of differences between the northern project area and the rest of STS. Although the success rates of various treatments were about the same across all project areas, a trend emerged showing that successes in Wisconsin were often the result of major population increases outside of the treatment block rather than reductions in the treated population. This difference implies that the potential for population persistence and growth is much greater in the northern project area than elsewhere in STS.
- Asian genotype (i.e. flying females) were eliminated as a cause of the problem
- Mating success of females relative to trap catch was assessed for the 2nd time and found to be consistent with results from Virginia. However, females may live longer in the northern areas, possibly because of less ant predation.
- Trap efficiency under different temperature regimes is being evaluated. Preliminary results indicate that temperature is an important factor in the proportion of marked males that are recaptured. However, this implies that males would also be less successful in finding and mating with females, which conflicts with what we see in the northern part of the project area.
- Release of pheromone from trap lures and Disrupt II (flakes) under different temperature regimes was assessed.

The STS Foundation and states improved the process for grant tracking and compliance in 2003. Additionally, the Foundation now administers the trapping contract for the state of North Carolina.

APHIS funds totaling \$270,000 were used to staff regulatory positions in support of STS.

The STS project requested and received \$8 million in base funding and \$1.826 million in supplemental funding from the Forest Service to deal with the increased acreage recommended for treatment. During 2003 STS partner contributions collectively totaled:

| | |
|--------------------|-------------------|
| Forest Service | \$ 9,826,000 |
| STS State Partners | \$ 2,459,170 |
| APHIS | <u>\$ 270,000</u> |
| TOTAL | \$12,555,170 |

