



2004

Accomplishments
In

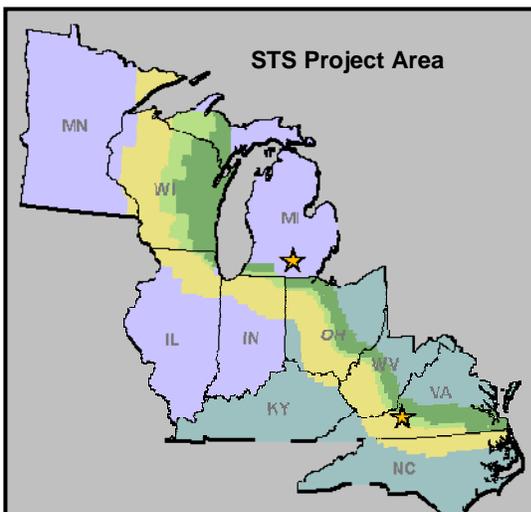
Slowing the Spread of the Gypsy Moth



Ten states located along the leading edge of gypsy moth populations, together with USDA Forest Service (FS) and Animal and Plant Health Inspection Service (APHIS), have been cooperatively implementing a project to slow the spread of the gypsy moth (STS) since Congress funded the strategy in the year 2000. Integrating STS into USDA's strategy to manage the gypsy moth has:

- Reduced spread of this invasive pest by 60% from the historical average of 21 km per year. Without this project, the gypsy moth would be established on about 30 million additional acres across eleven states.
- Unified the partners, increased accountability and promoted action based on biological need rather than availability of matching funds through use of a novel management structure – the STS Foundation.
- Involved the states of Minnesota, Michigan, Wisconsin, Illinois, Indiana, Ohio, West Virginia, Kentucky, Virginia and North Carolina. Tennessee and Iowa will likely join the program in the near future.

A band totaling approximately 51 million acres (yellow shaded area on map) was comprehensively managed during 2004, with an additional 34 million acres (green shaded areas on map) monitored less intensively to measure the program's effect on spread. Minnesota - the newest state member - joined the project in the fall of 2003 when the STS action area moved into the eastern part of their state.



STS partners detected and delineated 210 distinct gypsy moth colonies within the STS area in 2003. Treatments subsequently

occurred on just over 640,000 acres during the spring and summer of 2004.

STATE	# OF COLONIES MANAGED	ACRES OF TREATMENT	
		Larvicides (Btk, dfb or GypChek)	Mating Disruption
NC	15	22,805	21,200
VA	18	0	113,450
WV	5	4,400	10,000
OH	21	2,548	81,710
IN	51	3,969	38,550
IL	27	4,737	17,485
WI	72	94,202	225,525
MN	1	0	225
TOTAL	210	132,609	508,145

Despite rainy weather during the spring spray season, treatments were successful on 79% of the blocks treated with Btk or Gypchek in 2004. Previous year mating disruption treatments were successful on more than 84% of the blocks. 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 81,000 planned trap sites during 2004. Data from these traps were used to



measure spread, evaluate treatment efficacy and to detect or delineate newly established infestations that may require treatment next year.

Michigan State University and Virginia Polytechnical Institute and State University share responsibility for project information management. In addition to routine duties associated with project implementation, accomplishments this past year include

- deployment of the trapper gadget,
- development and implementation of 3 new tools to streamline data handling, and
- integration of Minnesota's trapping data into the STS database.

Gypsy moth populations crashed throughout the generally infested area following the wet, cool spring of 2004 and spread rates were negative across the STS project because there was no population pressure from behind the line. However, single year spread rates are not very useful for evaluating the project's effectiveness because spread is highly

variable in time and space. Instead, the project tracks the rolling, 5 year average rate of spread, which is about 8 km per year since management was initiated in the transition area (pink line in the graph below).

Despite the fact that project wide spread rates are below the target rate of 10.5 km per year, higher spread rates in the upper mid-west continue to be of concern. Also of concern is the decision algorithm's performance in selecting areas for action in Wisconsin. Work has started to identify how components in the decision algorithm might be modified to improve its performance.

The STS project received \$11 million in funding from the Forest Service to deal with the increased acreage recommended for treatment. During 2004 STS partner contributions collectively totaled:

Forest Service	\$11,000,000	78%
State Partners	\$ 2,794,730	20%
APHIS	<u>\$ 270,000</u>	2%
TOTAL	\$14,064,730	100%

Summary of project activities and costs

Activity	Accomplishment	Cost
Monitoring	≈ 78,000 pheromone traps deployed in 10 states	\$4.4 million total (\$57 per trap)
Treatments	210 infestations totaling ≈ 640,000 acres treated > 80% treated with gypsy moth specific products	\$8.5 million total (\$13.20 per acre)
Data management	Data management, GIS, decision support and project evaluation	\$0.89 million
Regulatory	Inspections, compliance agreements and education	\$0.27 million

