



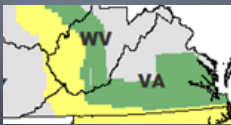
## Gypsy Moth Slow the Spread Program Update

Larry Nichols  
Virginia Department of Agriculture & Consumer Services  
2013 National Plant Board Meeting  
Louisville, KY



## Gypsy Moth Programs

- Suppression – Forest Service
- Eradication – Forest Service/APHIS
- Survey - APHIS
- Regulatory – APHIS (STS)
- Slow The Spread – Forest Service (STS)



## STS Programs

- Operational
  - Survey
  - Treatments
- Regulatory
  - Outreach
  - Regulatory Compliance

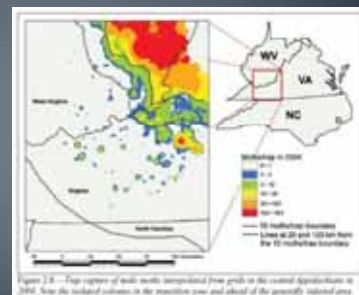


## Slow the Spread (STS)

- Barrier zone - intensive monitoring and treatment in the transition area where GM populations are:
  - Recently established
  - Low density
  - Separate
- Goal: at least 60% reduction in spread
- Actual: 80% reduction in spread



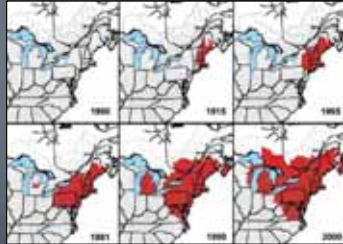
## Building on lessons learned from AIPM.....



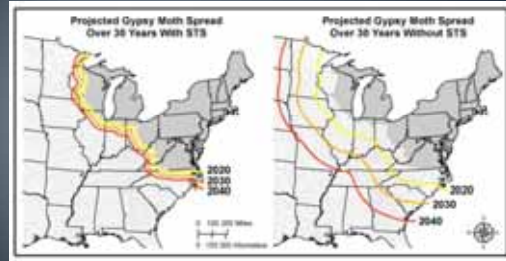
## Analysis of Spread Based on Movement of the Quarantine

Interval	Spread
1900-1915	9.5 km/yr
1916-1965	3 km/yr
1965-1989	21 km/yr

Liebholt et al 1992



STS will prevent infestation of more than 250 million acres over the next 30 years



4 km/year with STS

20 km/year w/out STS

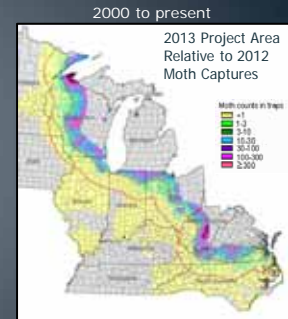
## STS Management Structure

- Non-profit foundation with each participating state providing a member to the Board of Directors
- Provides a formal framework for cooperation among states
- Mechanism for states to meet cost share collectively
- Flexibility to target federal funds where biologically needed while keeping each state's cost stable from year to year



## Operational Program

- Standardized decision making across all jurisdictional and administrative boundaries
- About 6 million acres treated; 85% with GM specific tactics
- Spread reduced >80%
- Prevented infestation of more than 100 million acres



## Key Factors that Led to Success

- More than 100 years of R&D
  - Pheromone identified (Bierl et al 1970)
  - Trap design & spacing
  - Advances in products & spray technology
- Technology such as computers, the internet, GIS, the DA, map servers, GPS.....



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## Two Key Factors

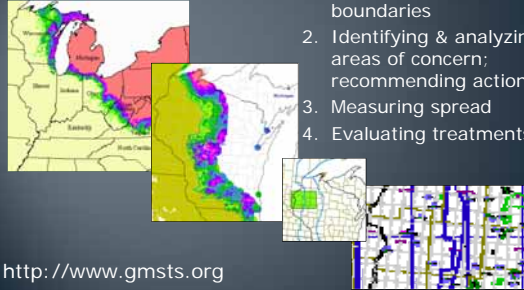
- The decision algorithm
- Mating disruption



Alexei Sharov

A web-based tool used to streamline planning and standardize actions by:

1. Setting project boundaries
2. Identifying & analyzing areas of concern; recommending actions
3. Measuring spread
4. Evaluating treatments



<http://www.gmsts.org>

## Mating Disruption Early Projects 1990-1998

- Aircraft equipped with Hercon's pods
  - Limited load capacity
  - 45 foot swath
  - Bridging and clogs
  - 300 to 1000 ac/day
- High dose and high cost
- But it worked!
- Limited use – demonstrate efficacy & establish user confidence

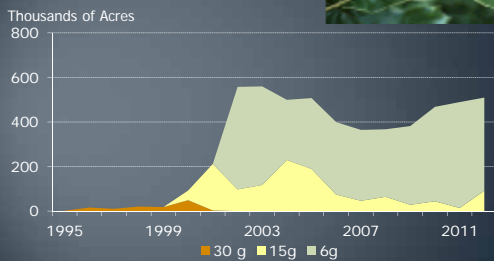


## Wide Use - 1999 to Present

- Improvements from contractors have increased production more than tenfold
- Production now > 1000 ac/hr/aircraft

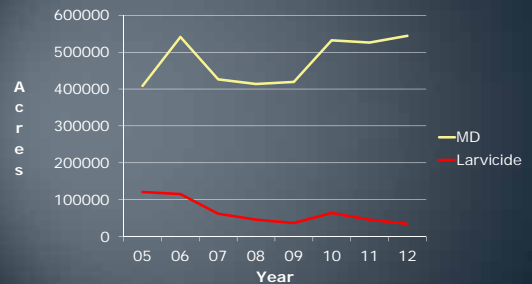


## Acres Treated by Dose, 1995-2012



988 blocks treated – about 5 million acres

## STS Treatments



**Mating disruption is critical to the success of STS because**

- (1) it's target specific
- (2) inexpensive and
- (3) allows us to treat large bubbles that periodically develop along the advancing front



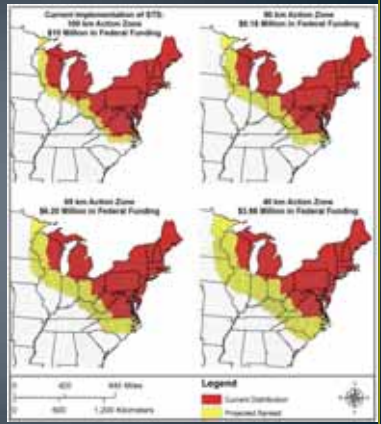
But its use is limited to the lower density populations (generally areas with most traps catching less than 30 moths each).

**Funding for STS**

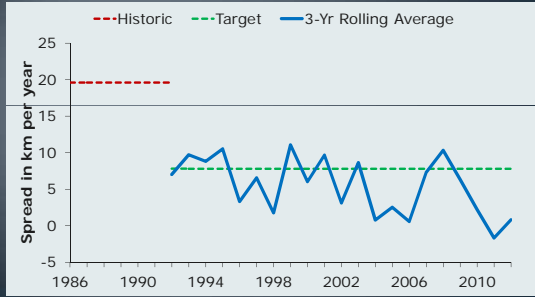
- Federal funding fluctuates from \$8 to \$11 million annually
  - Partner match of \$2.5 to \$3 million
- 2012, 2013 and future – max of \$8 million
- At \$10 million federal funding
  - About 85,000 traps and 525,000 acres treatment
- At \$8 million federal funding
  - About 70,000 traps and 400,000 acres treatment

**As funding decreases, spread will increase**

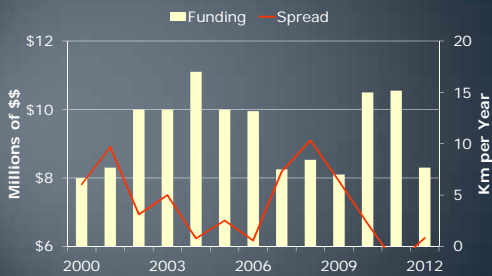
(Projections from P. Tobin 2007)



**Spread**  
Variable in space and time but averaging about 4 km per year



**Illustrated in our past**



**STS Regulatory Funding**

Year	APHIS Funding
2008	\$227,287
2009	\$262,287
2010	\$278,625
2011	\$281,429
2012	\$171,000
2013	\$90,000

Resolve conflicts between CFR and GM Program Manual

## *Summary*



- STS is cooperative program between states, APHIS and Forest Service
- An effective barrier zone program that has reduced spread by 80%
- Decision algorithm & mating disruption vital to success of STS
- As funding for the program decreases spread will increase