

Summary:

In 2023, spongy moth outbreaks adjacent to the boundaries of the National Slow the Spread Program (STS) negatively impacted the program's ability to reduce the rate of spread of spongy moth by >60%. Outbreaks resulted in the greatest number of moths to be collected in the STS Program since 2008, an approximately three-fold increase in the number of moths collected annually over the last decade. However, the STS Program reduced the annual rate of spread by 27% and has reduced the mean annual rate of spread by 80% since 2000, adding only 13 counties to the quarantine in seven years. In 2023, state partners monitored 62,524 traps across the 11-state program area (IA, IL, IN, KY, MN, NC, OH, TN, VA, WI, and WV). Treatments targeted spongy moth populations on 257,770 acres adjacent to quarantined counties. Federal (USDA Forest Service and Animal and Plant Health Inspection Service), state, and university funding (\$9.6 million) supported the STS Program. Approximately 390 people directly contributed to the trapping and treatment programs implemented by the STS Program.

Trapping Program

- The STS Program monitored **62,524 traps** (Fig. 1), encompassing **117,600,217 acres**.
- A total of **737,388 male moths** were collected in 2023 due to the adjacent outbreaks; the highest moth catch in the program since 2008.
- Quality Assurance/Quality Control assessments determined 99% of traps were placed at planned nodes and 92% of traps were placed in the appropriate location.
- Delimit-trapping grids (**636 grids**) monitored new infestations and evaluated treatment efficacy.

Treatment Program

- A total of **88 low-density populations** were treated in eight states (Fig. 1), totaling **257,770 treatment acres**.
- Private lands received **93%** of the treatment applications. Three National Forests, two Department of Interior lands, and one U.S. Fish and Wildlife Service land also received treatments.
- Mating disruption (MD) applications (**239,254 acres**) treated most of the populations, whereas larvicides [*Bacillus thuringiensis kurstaki* (*Btk*)] treated fewer populations (**18,516 acres**).
- Treatment applications had a **high rate of success**: 2023 *Btk* + MD applications (100% successful), 2022 MD applications (82% successful and 10% partial success), and 2023 *Btk* (100%).
- Aerial applications were implemented without any incidents and accidents.
- The mean rate of spread for spongy moth was **14.8 km/yr**, representing a 27% reduction in spread from the mean historical spread rate. Regional spread rates ranged from 8.5 km/yr in the Southern Region, 13.0 km/yr in the Central Region, and 22.9 km/yr in the Northern Region.

Technology Development and Regulatory Activities

- The STS Technology Committee supported a cost-benefit analysis for the STS Program; assessed the efficacy of the operational mating disruption applications and the residual effect of mating disruption applications 1-yr post-treatment; evaluated the efficacy of mating disruption applied by an unmanned aircraft system (UAS); and evaluated remotely monitored traps to assess spongy moth phenology; and provided technical expertise to the STS Program.
- USDA APHIS supported regulatory work in four states (IL, MN, WV, and WI). State partners monitored high-risk sites (e.g., wood product stakeholders, nurseries, shipping containers, etc.) for spongy moth and promoted awareness about invasive species with private industries.

2023 National Slow the Spread Program delimiting grids, treatment blocks, and population growth (2022 – 2023)

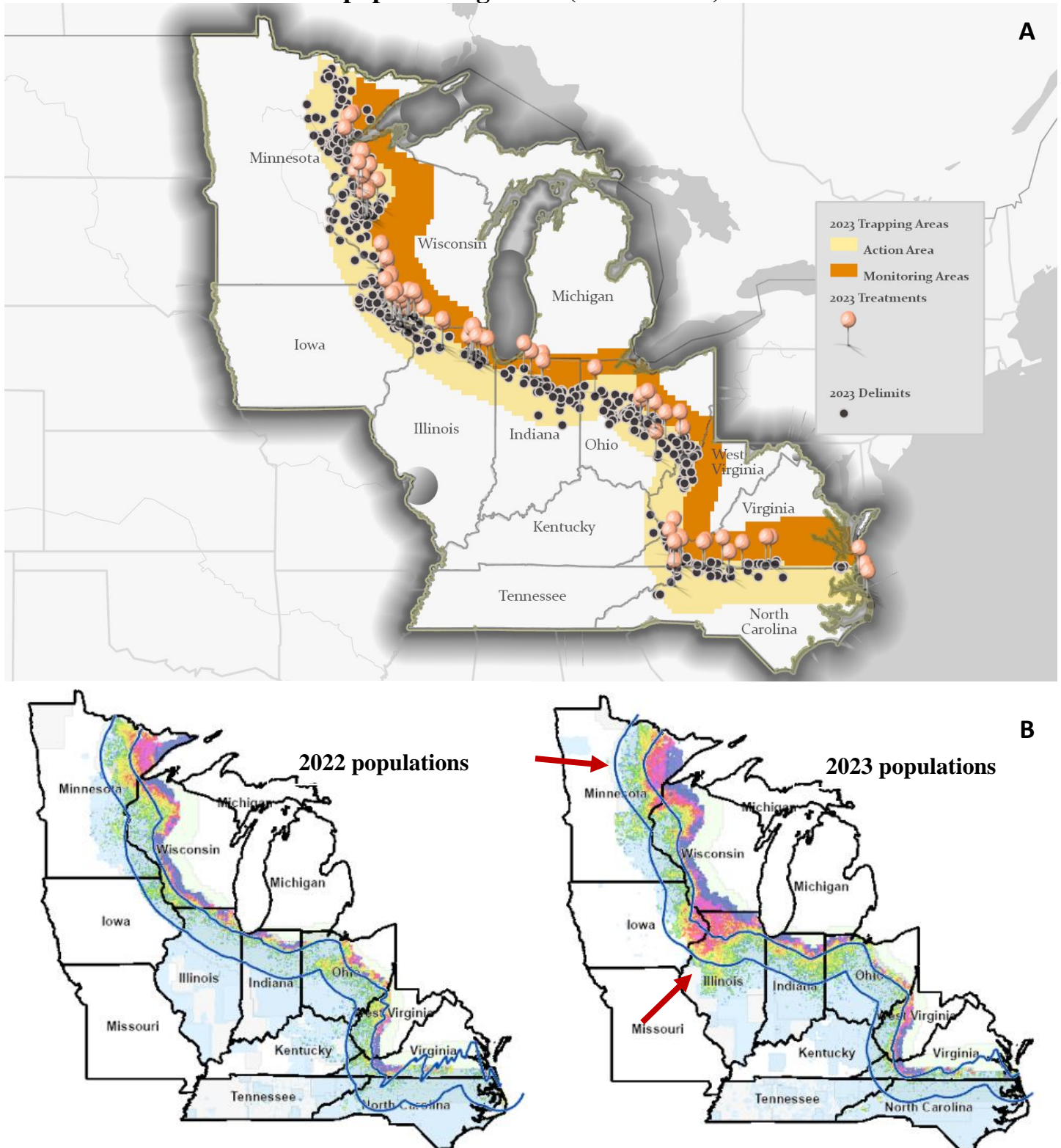


Figure 1. The 2023 National Slow the Spread Program (STS): A) delimiting grids and treatment blocks and B) population growth from 2022 to 2023. Note the bulges in the program bounds (red arrows) where high population densities (pink and blue colors) spread from quarantined areas spread into the STS Program. These areas will likely require additional trapping and treatments for several years.

For additional information about STS and spongy moth, visit the slowthespread.org.

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