

# National Gypsy Moth Slow the Spread Program 2020 Accomplishment Report

**Summary:** In 2020, the National Gypsy Moth Slow the Spread Program (STS), on average, stopped the rate of spread of gypsy moth (-0.9 km) across the program, reducing spread by approximately 20 km from its historical rate of spread. To surpass the goal of the program, ~57,000 traps were monitored and 299,832 acres were treated with the support of ~310 people from 11 states (IL, IN, IA, KY, MN, NC, OH, VA, TN, WV, and WI), two universities (VT and MSU), the Slow the Spread Foundation, and USDA Forest Service and Animal and Plant Health Inspection Service (APHIS). Federal (\$7.36 million), state (\$2.07 million), and university (\$485K) funds supported the annual activities of the program, which were adjusted to address the worldwide pandemic. The STS program annually focuses on trapping, treatment, technology development, and regulatory activities. For additional information about STS, visit the [2020 STS Accomplishments](#) and [STS Background](#) story maps and previous [Accomplishment Reports](#).

**Trapping Program:** The STS program spanned approximately 1,600 miles. Base trapping grids and 371 delimiting grids, which were monitored in three project boundaries, detected newly established populations, modeled gypsy moth spread from quarantined areas, and evaluated treatment blocks (Fig. 1). Approximately 57,000 traps were monitored by ~200 seasonal trappers. Traps were monitored from April to October across the program area with >95% accuracy for trap location, placement, and removal timing. New trapping software, G4, developed by the STS database will be implemented program-wide in 2021. The G4 software was tested in 2019 and 2020 by several states to ensure a smooth transition. The trapping program accounted for 58.1% of the 2020 budget.

**Treatment Program:** Aerial applications occurred primarily on private lands, but also included four national forests and two tribal lands across the 11 states (Fig. 2). STS used two biological control [*Bacillus thuringiensis kurstaki* (*Btk*): 23,921 acres and gypsy moth nucleopolyhedrosis virus (Gypchek): 1,010 acres] treatments and a semiochemical control [mating disruption (MD) (SPLAT GM-Organic): 274,901 acres] treatment to suppress newly established gypsy moth populations. Treatments were implemented primarily from May to July. The majority of treatments occurred in Ohio, Virginia, and Wisconsin. Treatment success was exceptionally high for 2019 *Btk* + MD applications (100%), 2019 MD (91%) applications, and 2020 *Btk* (97%) applications. In 2020, the rate of spread of gypsy moth was highest in central and southern Wisconsin, Indiana, and southern Appalachian Mountains. However, the mean spread rate in the southern region was -6.63 km (NC, TN, VA, WV), -0.2 km in the central region (IL, IN, OH), and 5.87 km in the northern region (IA, MN, WI) of the program. The three-year average rate of spread was -2.15 km/yr (Fig. 3). The treatment program accounted for 39.4% of the 2020 budget.

**Technology Development:** The STS Technical Committee continues to facilitate the success of the program by monitoring study plots treated with test formulations of SPLAT GM-Organic; assessing new trapping methodology to improve the implementation of trapping and treatment programs; evaluating the efficacy of treatment applications by examining long-term data; assessing gypsy moth adaptation to local climates across the program; and analyzing the timing of *Btk* applications with the presence of monarch butterfly populations. Technology development accounted for 2.5% of the 2020 budget.

**Regulatory Program:** USDA APHIS supported four states (\$110k) (IL, MN, WV, and WI) to implement annual gypsy moth regulatory activities. These activities included amending county quarantines to reflect spread; disseminating education and outreach material to the public and industry personnel; trapping high-risk facilities; inspecting and monitoring hundreds of Christmas tree lots, wood products stakeholders, wreath and garland producers, shipping containers, and nurseries for compliance.



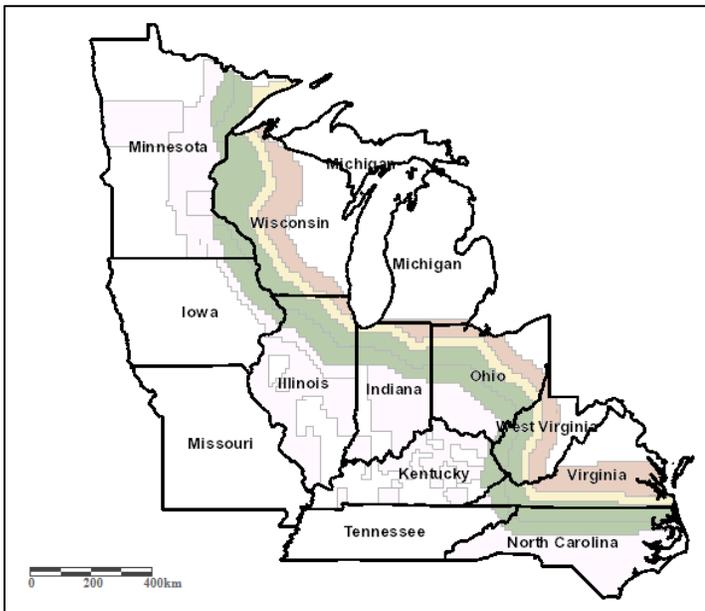


Figure 1. Traps and delimiting grids were planned in three project boundaries (Action Area: green, Monitoring Zone I: yellow, Monitoring Zone II: pink) in the STS program.

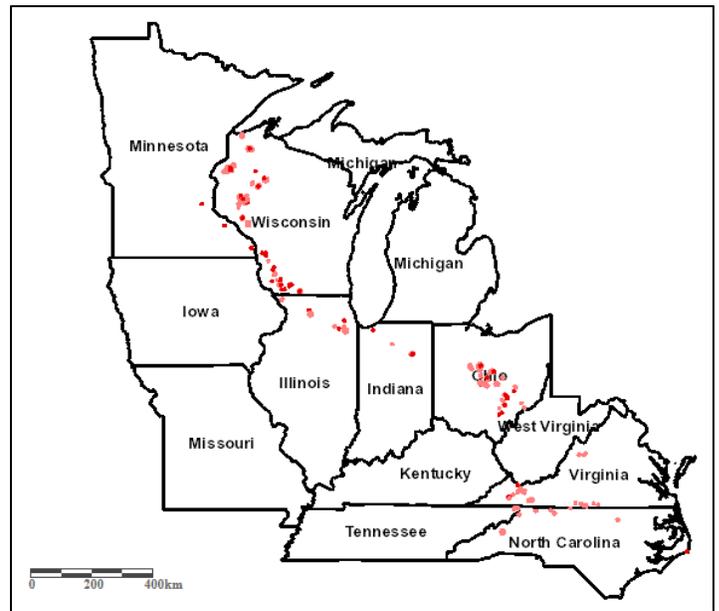


Figure 2. Suppression treatments (semiochemical control: pink, biological control: red) accomplished in 2020 by the STS program.

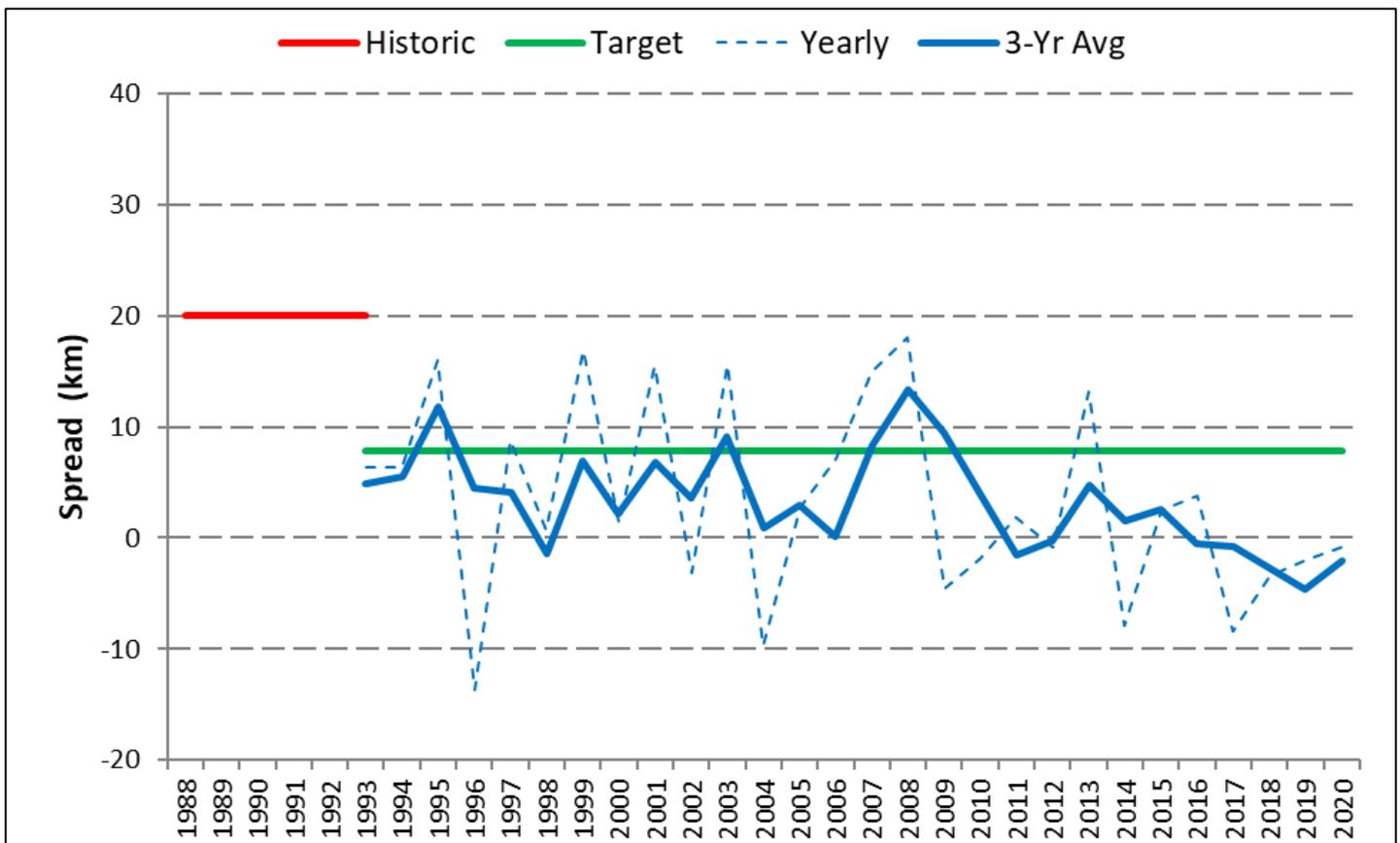


Figure 3. Since 2013, the STS program has achieved its goal of reducing the annual rate of spread (blue dashed line) of gypsy moth by >60% (green line) from its historical rate of spread (red line) in the U.S. The three-year average rate of spread for gypsy moth has met program goals since 2010.