

ANALYSIS OF SPONGY MOTH POPULATIONS

Cooperative STS Spongy Moth Project For Indiana - 2025

Spongy moth has moved into northern Indiana from the infestations in Michigan and Ohio. Its movement is by natural spread and short distance transport by human activities. To detect the introduction of this pest, the State of Indiana has surveyed since 1972. From 1988 to 1998 the survey used a one-mile grid in the northern third of Indiana and a two-mile grid in the remainder of the state. In 1999, Indiana adopted the Slow-The-Spread (STS) survey protocol developed by the USDA Forest Service. Traps are set in detection (2K, 3K, 5K & 8K) and delimit (250M, 500M or 1K) grids and organized into the STS Evaluation, STS Action, and State area north to south, respectively, across the state. The 2024 survey set a total of 9,767 traps set across the state. There were seven counties where no traps were placed in 2024 (Gibson, Knox, Perry, Posey, Spencer, Vanderburgh and Warrick). Only part of nine other counties (Crawford, Daviess, Dubois, Greene, Lawrence, Martin, Orange, Pike, and Sullivan) were trapped. These counties are in the state area in southern Indiana. Areas are not trapped for economic reasons, but also because of negative trap catches in previous years. The areas of the state that are not trapped rotate each year so that all areas are trapped and surveyed within a two year period.

The STS analysis of the 2024 trapping data in Indiana identified potential problem areas (PPAs) at 96 locations in Indiana. The analysis identified higher or equivalent moth catches in delimiting survey grids placed at each site compared to detections and delimits in prior years and recommended action in these areas. In addition to the data from the STS analysis, field survey by Indiana DNR staff detected multiple life stages at one PPA location. Indiana DNR and USDA, Forest Service staff reviewed this information and determined which PPAs should have treatment, and which treatment options should be applied. This information, along with locations of spongy moth habitat within those PPAs, was then used to define where treatment boundaries would be designated for those areas. In several areas identified by the analysis, the decision to delimit the area was chosen due to a lack of multiple life stages found and/or lack of habitat.

Of the 96 PPAs, 91 were recommended for delimit survey or returned to the detection survey grid for 2025. Two of the 5 PPAs proposed for treatment, were returned to delimit survey grid for 2025 due to STS program budget management. The three proposed treatment sites in four counties in the STS Action Area are based on the trapping surveys, STS analysis, egg mass detections, available habitat, and ability to meet budget management.

Table 1 and Figure 1 show the three proposed treatment sites, and the mean number of spongy moths caught in detection traps between 2020 and 2024. The mean number of moths has fluctuated in the four counties over the past five years.

Map 1 shows the 1, 3, 10, 30 and 100 moth lines (south to north, respectively) and the potential problem areas based on STS analysis of the 2024 data. This analysis places the STS action zone below the 10-moth line. The 1, 10 and 100 moth lines and action zone are indicated by arrows on the map.

Maps 2 and 3 show the number of spongy moths detected in each county for 2023 and 2024, respectively.

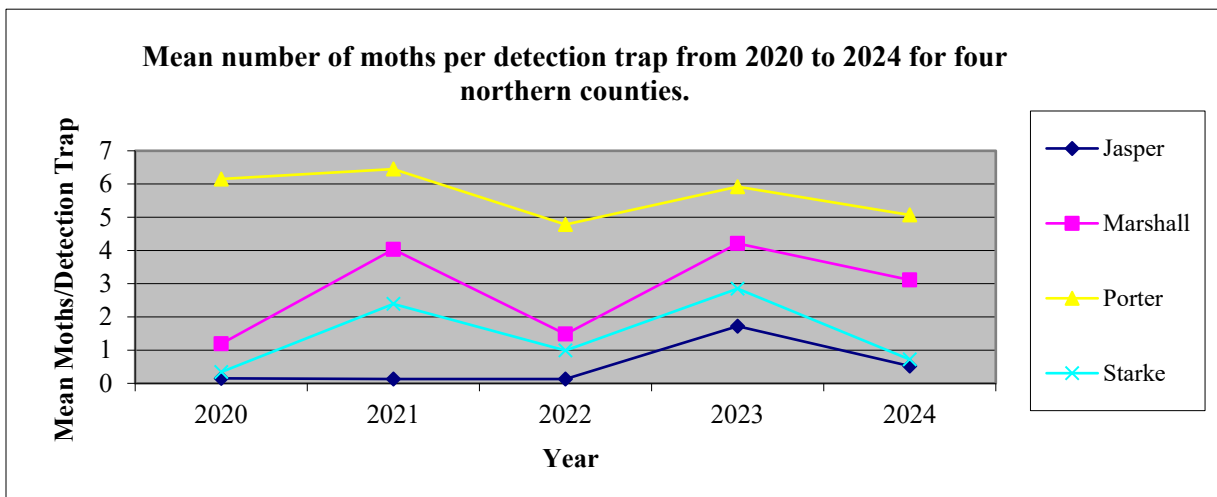
Map 4 shows the 10-moth line in Indiana from 2020-2024.

The [Spongy Moth analysis and trapping data](#) can be viewed at the STS website.

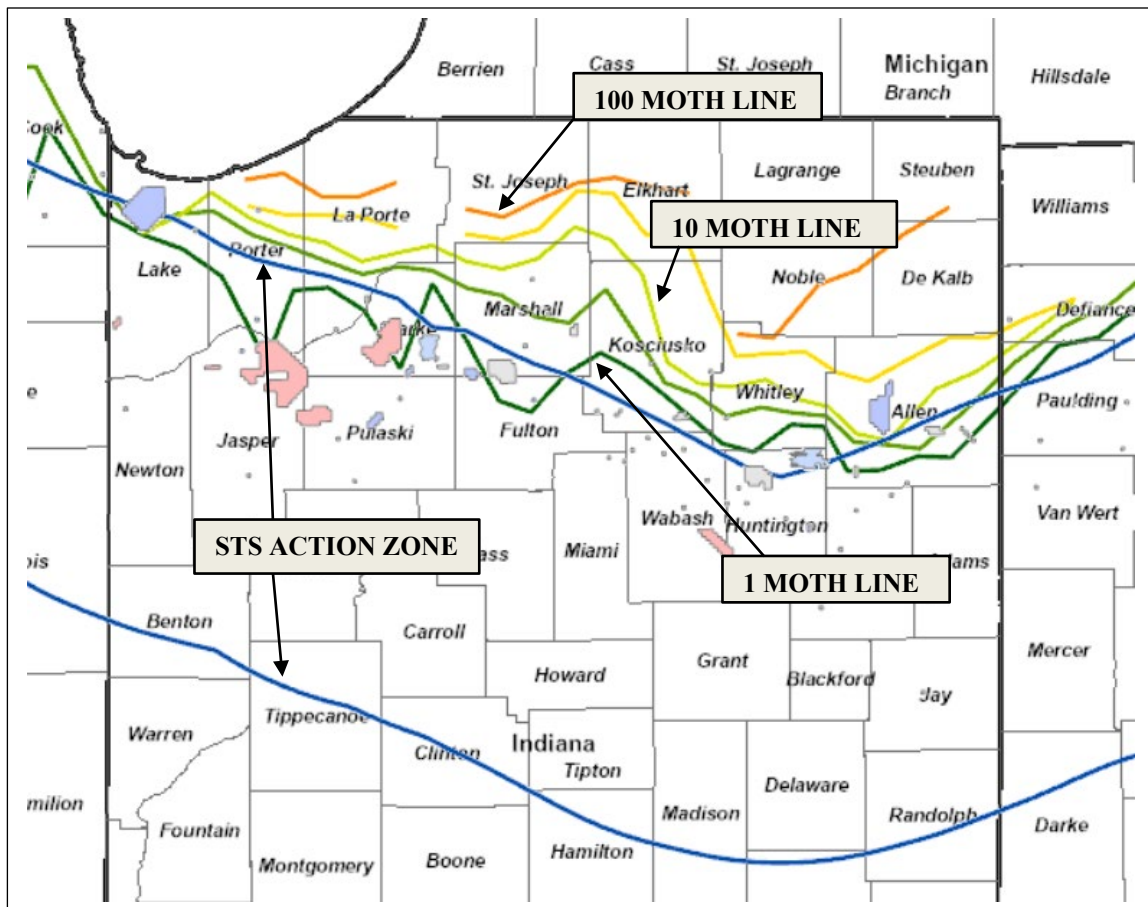
Table 1. Mean number of spongy moths per detection trap (milk carton and delta) in all the proposed treatment counties from 2020 to 2024.

County	2020	2021	2022	2023	2024
Jasper	0.15	0.13	0.13	1.72	0.52
Marshall	1.19	4.03	1.48	4.21	3.11
Porter	6.15	6.45	4.78	5.92	5.07
Starke	0.34	2.39	0.99	2.85	0.72

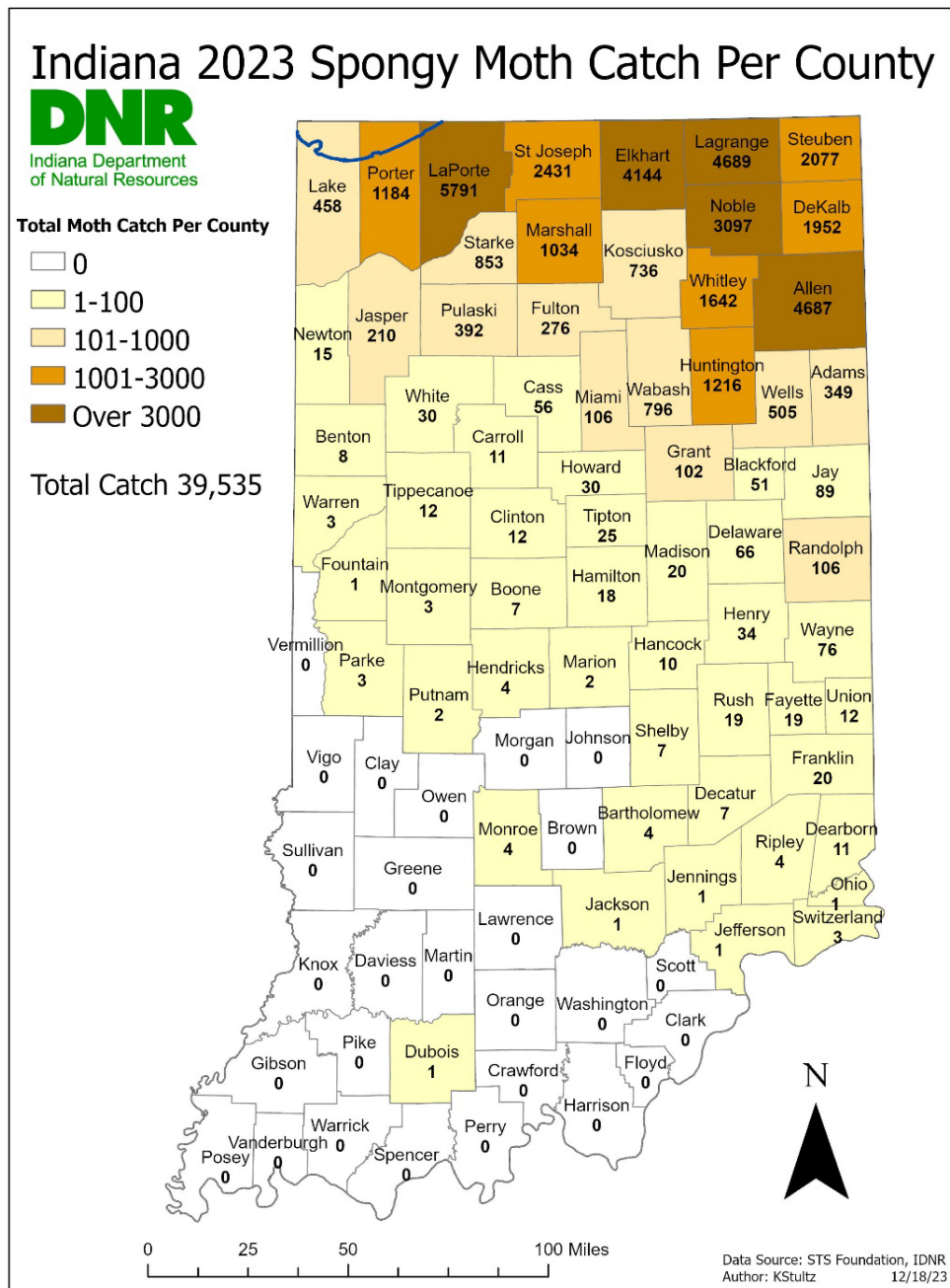
Figure 1. Mean number of spongy moths per detection trap from 2020 to 2024 for the four counties in the proposed STS project area.



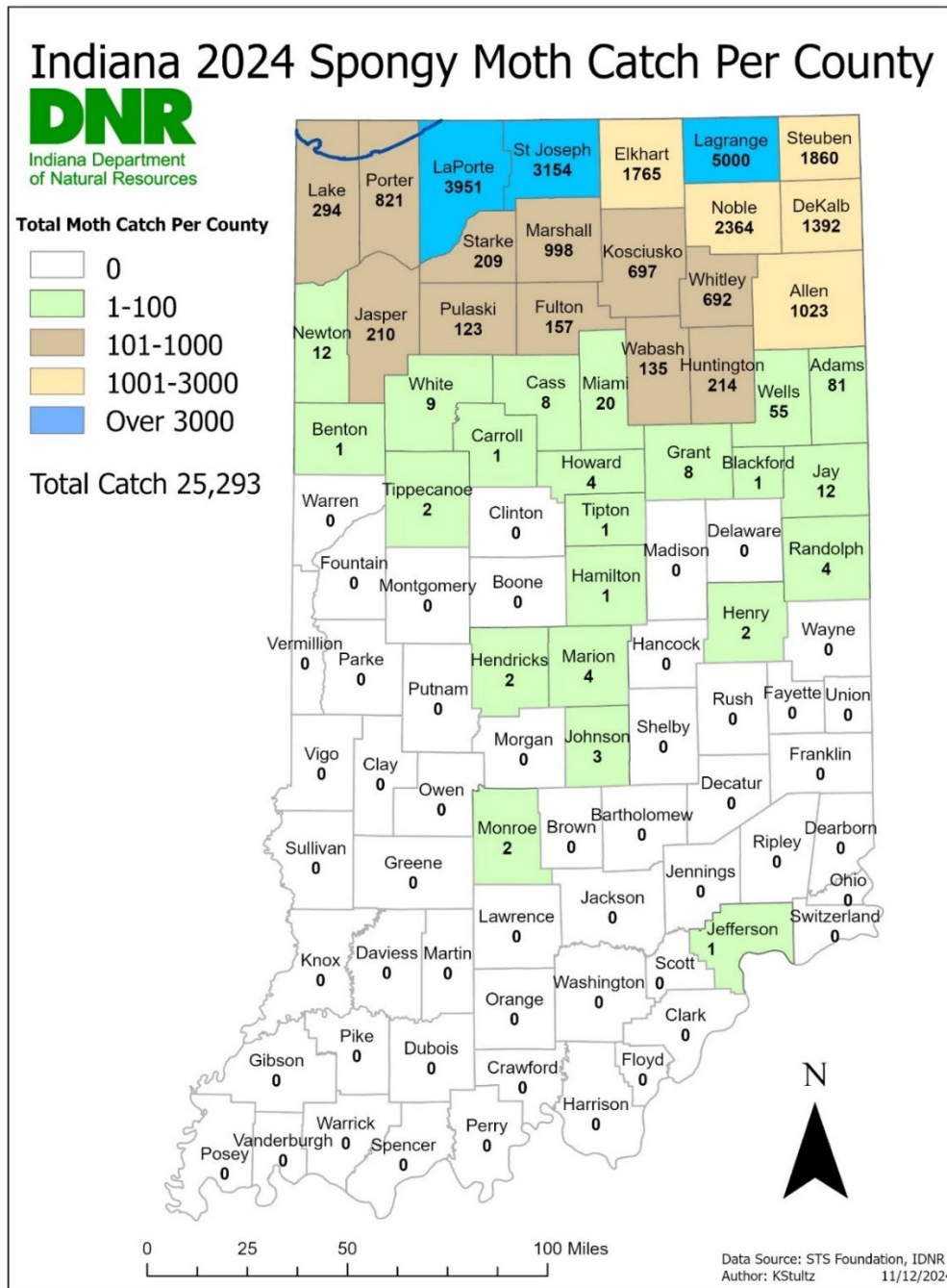
Map 1. Results of the 2024 Spongy Moth Slow-The-Spread Analysis showing the 1, 3, 10, 30 and 100 moth lines, potential problem areas (light gray, blue and pink areas) and the STS Action Zone for northern Indiana. The 1, 10 and 100 moth lines and action zone are indicated by arrows on the map.



Map 2. Map showing male moth catches by county in Indiana for 2023.



Map 3. Map showing male moth catches by county in Indiana for 2024.



Map 4. Map showing the 10-moth line of Spongy Moth in Indiana from 2020 to 2024.



Indiana Spongy Moth Historic 10-Moth Line

