

BIOLOGICAL EVALUATION

Cooperative STS Gypsy Moth Project For Indiana - 2014

Gypsy moth is moving 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 or 3K) and delimit (250M, 500M or 1K) grids across the state. The 2013 survey set 8,167 detection traps and 1,597 delimit traps, for a total of 9,764 traps set across the state. Six counties were not trapped in 2013 mostly for economic reasons, but also because of negative trap catches in previous years.

The STS analysis of the 2013 trapping data in Indiana identified potential problem areas (PPA's) at 52 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 two PPA locations. Indiana DNR and USDA, Forest Service staff reviewed this information and determined which PPA's should have a STS treatment, and which treatment options should be applied. This information, along with locations of gypsy moth habitat within those PPA's, 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. The five proposed treatment sites in three counties are based on the trapping surveys, STS analysis, egg mass detections and available habitat.

There is an additional proposed treatment site in Tippecanoe County which is proposed for eradication. This site is evaluated in a separate document.

Table 1 & Figure 1 show in the three northern counties with proposed treatment sites, the mean number of gypsy moths caught in detection traps between 2009 and 2013. The mean number of moths fluctuated in Allen and Whitley Counties, and decreased in Porter County during this period.

Map 1 shows various moth lines and several potential problem areas across northern Indiana based on STS analysis of 2013 data. This analysis places the STS action area below the 10-moth line.

Map 2 and 3 show the number of gypsy moths detected in each county for 2012 and 2013, respectively.

Map 4 shows the 10-moth line in Indiana from 2009-2013.

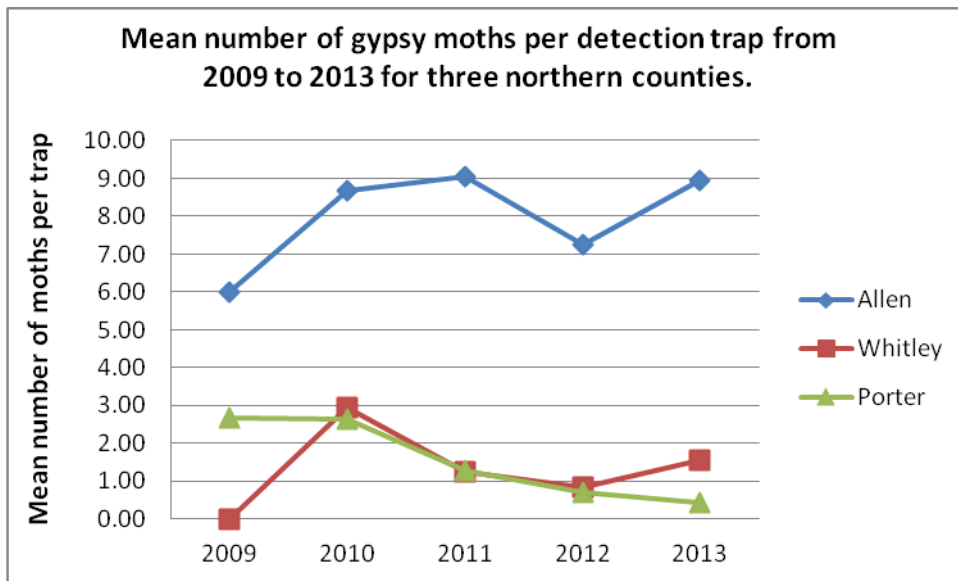
The site and moth trapping data can be viewed at the STS website -

<http://yt.ento.vt.edu/da/>

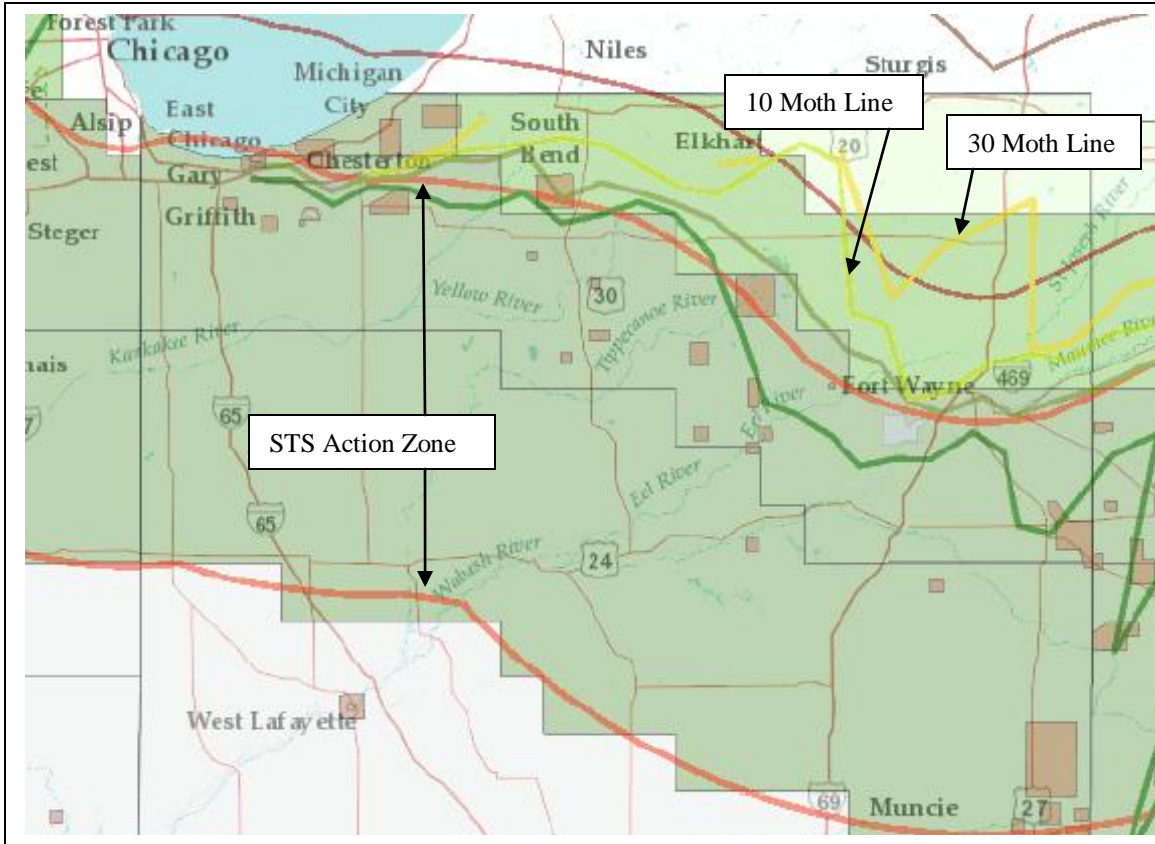
Table 1. Mean number of gypsy moths per detection trap (milk carton and delta) in the proposed counties for 2009 to 2013.

County	2009	2010	2011	2012	2013
Allen	6.00	8.67	9.06	7.24	8.96
Porter	2.66	2.63	1.29	0.71	0.45
Whitley	0.00	2.96	1.25	0.83	1.57

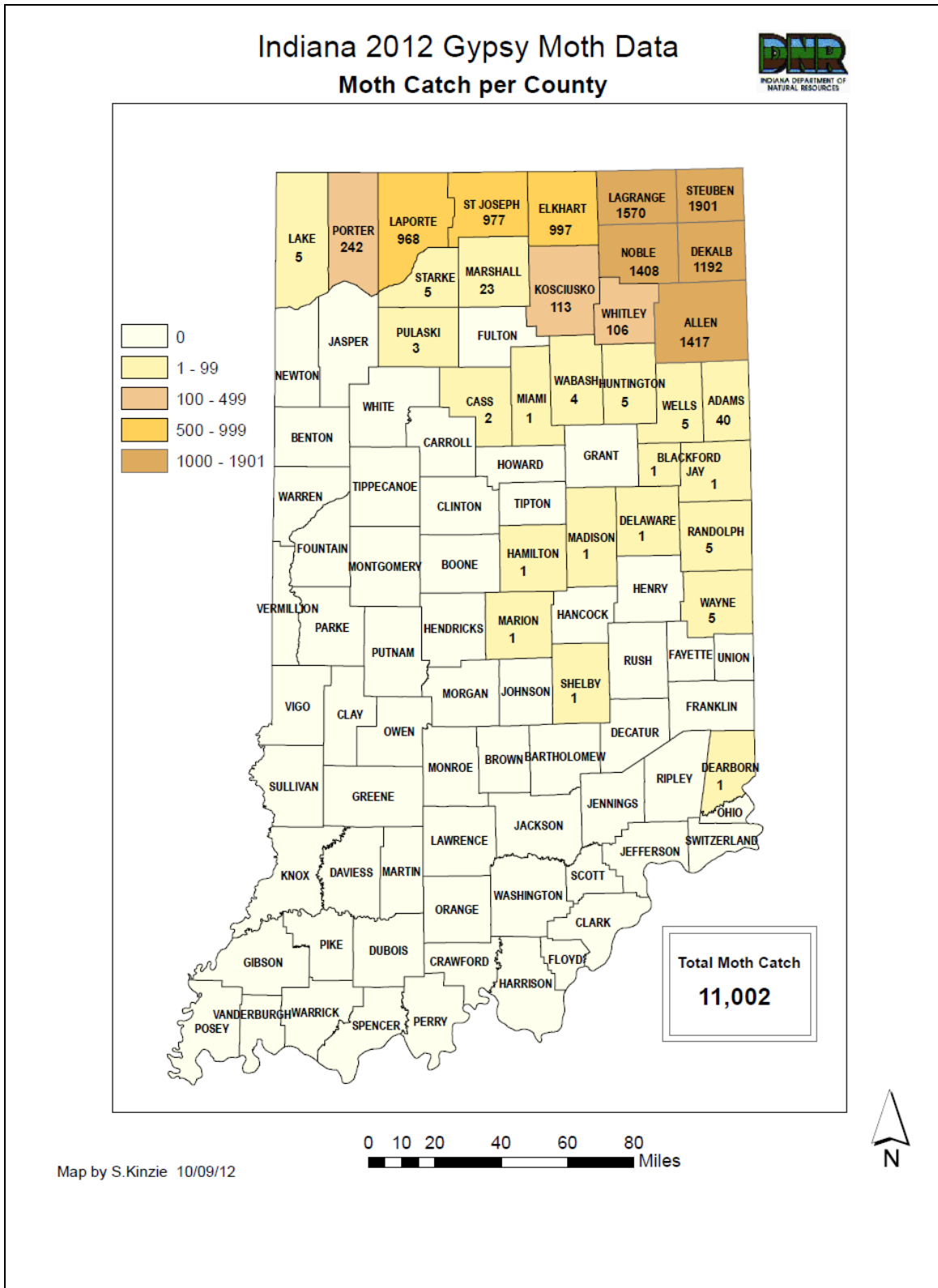
Figure 1. Mean number of gypsy moths per detection trap from 2009 to 2013 for three northern counties.



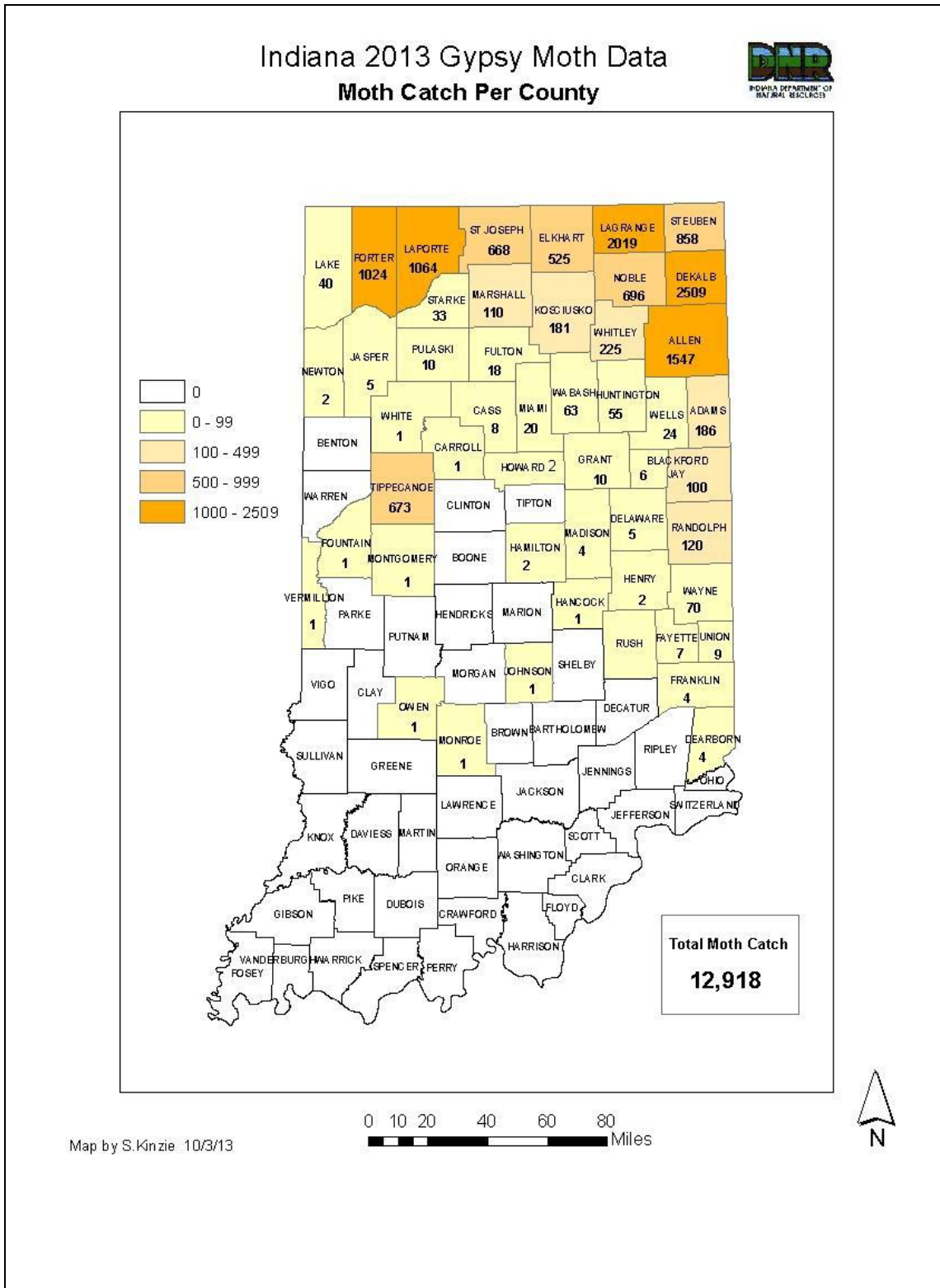
Map 1. Results of the 2013 Gypsy Moth Slow-The-Spread Analysis showing moth lines and several potential problem areas for northern Indiana. Shaded boxes indicate potential problem areas as determined by the analysis of the 2013 trapping data).



Map 2. Male moth catches by county for 2012.



Map 3. Male moth catches by county for 2013.



Map 4. The 10-moth line of Gypsy Moth in Indiana from 2009 to 2013.

