

Ada Township, Kent County Recommended Spongy Moth Spray Areas 2023

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Block #	Acres	Reason for Spray
AdaTwp01	89	A remnant population in very good habitat. Historical tree damage is evident on a few trees in the area. Nuisance is likely elevated in the area. State game area surrounds the residential areas and population is continuous into neighboring Cannon Township, so risk of population persistence and reinfestation of treated areas is high. Spray to mitigate potential nuisance, limit further tree damage, and inhibit potential reinfestation.
AdaTwp02	51	See block AdaTwp01
AdaTwp03	56	A sustained population in good habitat. Nuisance is the primary concern in this area, due to history of infestation. Tree damage is a secondary concern as some trees in the western-most section of block were heavily infested last season. Spray to mitigate potential nuisance and limit further tree damage.
AdaTwp04	156	A sustained population in very good habitat. Tree damage is the primary concern in this block due to historically high egg mass densities and heavy defoliation in prior years. Nuisance is a secondary concern as the area has been heavily infested for a few years. Population persistence is also a concern given the population is continuous into the expansive Seidman Park. Spray to limit further tree damage, mitigate potential nuisance, and further reduce population.
AdaTwp05	68	A remnant population in prime habitat. Nuisance is the primary concern in this area due to history of nuisance in the area. Observed egg mass densities do not imply threat of significant tree damage in 2023. Spray to mitigate potential nuisance and limit potential tree damage.
AdaTwp06	234	An established population in very good habitat. Nuisance level is elevated in the area, as confirmed by homeowner interaction. Evidence of historical tree damage was noted in a few trees along Vergennes Rd. Potential for reinfestation both post-spray and post-suppression is elevated due to shared border with untreated Vergennes Township. Spray to mitigate potential nuisance, limit tree damage, and inhibit reinfestation.

Total Acreage = **654 acres**

The term “nuisance” is subjective and relates to the likelihood that the feeding behavior and number of caterpillars in the area will impact a property owner’s quality of life. Some property owners may experience heavy infestation yet go unbothered. Other property owners may view 5-10 caterpillars visible on a barn door as a nuisance. Field experience during spongy moth infestation suggests that the number of egg masses found in an area may yield a widespread nuisance situation. The term “tree damage” is more literal, but relative to environmental and historical factors as well. Any level of defoliation should be considered damaging, but otherwise healthy trees are generally much more resilient, even after consecutive years of defoliation. Other environmental stressors such as drought or disease are additive factors that will contribute to

greater risk of tree degradation and/or mortality. Defoliation levels of >60% are also very stressful to trees, although most trees can survive 3+ years of >60% defoliation if few other stressors are present. Habitat quality relates to tree species composition, density, distribution, understory, and topography of an area. Mixed forest type consisting primarily of oaks, neatly groomed understory, mixed age-class, and low topographic variability are the ideal conditions for persistent infestation, and so this habitat is designated as “prime” with very good, good, and marginal habitat in decreasing suitability. Trends in populations are designated by the egg mass residues in the area. Rising populations show a high new/old egg mass ratio, with established, sustained, and remnant populations proceeding toward a high old/new egg mass ratio.

Overall, the vast majority of infested areas are showing >75% reduction in egg mass densities with some areas showing >90% reduction. Sustained and remnant population classes both refer to higher proportions of old egg masses, implying that the population is declining notably. Generally, this trend will continue, and suppressive spray will increase the likelihood of decline. Be advised that this is not always the case, and we have seen population rebounds from remnant classes in other areas in Michigan. Also be advised that level of damage and/or nuisance can be difficult to predict given the interaction of unpredictable environmental factors. Accordingly, all spray areas are highly recommended for *Bacillus thuringiensis var. kurstaki* (B.t.k.) treatment in spring 2023. Some areas showed evidence of several successive years of infestation (particularly blocks AdaTwp01/02, AdaTwp03, and AdaTwp04), which often proves much more challenging to suppress. Under these circumstances, several years of treatment are often necessary. It is not possible to completely eliminate spongy moth populations, so this should never be the expectation. Often with 2-3 years of treatment and monitoring, an acceptable level of control is attainable.

Spongy moth suppression programs often are tasked with balancing high potential for damaging spongy moth numbers with high community benefit. Areas where these considerations overlap are generally the areas that are treated first with available funds and areas of diminishing return are treated as funds are depleted. Our treatment recommendations take this into account, and we try to limit recommended spray areas to these top-tier areas.

Spongy moth suppression programs in Michigan generally follow an Integrated Pest Management (IPM) strategy which is focused on low environmental impact and economic awareness. Further, an IPM strategy intends to mitigate exponential population growth with treatment only until latent environmental controls begin to limit populations sufficiently. In order to efficiently determine when treatment is no longer advisable, monitoring is imperative. Accordingly, we strongly advise Ada Township maintains a monitoring program for the next 2-3 years at least.



Photo 1: A mixture of several old and new egg masses on underside of white oak branch, block: AdaTwp01



Photo 2: Two new egg masses and several pupal cases on trunk of black cherry tree, block: AdaTwp04



Photo 3: Mixture of several old and new egg masses on underside of red oak branch, block: AdaTwp06