

Ada Township, Kent County Recommended Spongy Moth Spray Areas 2024

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Block #	Acres	Reason for Spray
AdaTwp01	97	An established population in prime habitat. Nuisance is likely elevated in the area. This area was fairly heavily infested 2 years ago, so further tree damage is a secondary concern. Population is relatively isolated, so reinfestation post-treatment is unlikely. Spray to mitigate potential nuisance and limit further tree damage.
AdaTwp02	110	A sustained population in favorable habitat. Nuisance is the primary concern in this area, due to history of infestation. Observed egg mass residues show several years of infestation, so population rebound is a secondary concern. Spray to mitigate potential nuisance and inhibit population rebound.
AdaTwp03	82	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.

Total Acreage = **289 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 favorable, suitable, 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 extending toward a high old/new egg mass ratio.

Overall, a high proportion of infested areas are showing >90% reduction in egg mass densities with some areas showing 95-100% reduction. The sustained population class refers to a relatively high proportion 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 2024. 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. There is always some risk the objection of “Why did you treat them and not me?” Given this trade-off, some of our broadly infested clients decide that the best use of available funds is to treat areas of high residential population density that are also generally infested with spongy moths. We cannot offer any guidance on this consideration and take no responsibility for the concluded spray acreage. It is solely the decision of the municipality to treat all, some, or none of the recommended treatment area.

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 in upcoming years.



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



Photo 2: Several new egg masses and a few old egg masses on wooden shed, block: AdaTwp02