

## Ada Township, Kent County Recommended Gypsy Moth Spray Areas 2022

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Block #	Acres	Reason for Spray
AdaTwp01	146	An established 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	134	A rising population in very good habitat. Egg mass density is high on numerous trees throughout the block, so tree damage is the primary concern. Nuisance is also quite high, as confirmed by homeowner interaction. State game area borders much of the residential property in the block, so population persistence and reinfestation post-treatment is high. Spray to reduce nuisance, limit further tree damage, and inhibit potential reinfestation.
AdaTwp03	34	A rising population in good habitat. Nuisance is the primary concern in this area, as confirmed by homeowner interaction. Tree damage is a secondary concern, indicated by lower egg mass densities. Spray to reduce nuisance and mitigate potential tree damage.
AdaTwp04	18	A rising population in good habitat. Nuisance is high in the area, as confirmed by homeowner interaction. Population is somewhat isolated by deforested areas to the north and east, so potential for population persistence is likely lower than in some other treatment blocks. Spray to reduce nuisance and suppress population.
AdaTwp05	1,315	A rising population in very good habitat. Egg mass densities are high in numerous trees throughout the area. Evidence of historical tree damage was noted in several trees, particularly along Honey Creek Ave and 2 Mile Rd. Potential for tree mortality is a concern if current cycle continues for another 1-2 seasons. Population persistence is likely as well due to continuous forest habitat surrounding the area. Nuisance is high as well, particularly along Leonard Rd. Spray to limit further tree damage, reduce nuisance, and deter population growth.
AdaTwp06	87	A rising 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 Cramton Ave. Spray to limit further tree damage and reduce nuisance.
AdaTwp07	42	A rising population in good habitat. Habitat conditions are unique in the area due to lower topographic variability common in the surrounding area. Accordingly, potential for population persistence is lower than in some other spray blocks. Nuisance is primary concern in the area, with tree damage a secondary concern due to relatively low egg mass densities. Spray to reduce nuisance and suppress population.

AdaTwp08	624	A rising population in prime habitat. Habitat conditions and residential population density are both ideal for prolonged infestation. Evidence of historical tree damage is notable along McCabe Ave, but egg mass densities imply potential for greater tree damage next season. Nuisance is very high throughout the area as confirmed by homeowner interactions. Spray to reduce nuisance, limit further tree damage, and suppress population buildup.
AdaTwp09	108	An established population in very good habitat. Egg mass densities along Bailey Rd indicate greater potential for tree damage in coming seasons. Nuisance is elevated throughout the area, as confirmed by homeowner interaction. However, residential population density is lower relative to some other areas, so corresponding nuisance should remain lower. Spray to reduce nuisance, mitigate potential tree damage, and suppress population.
AdaTwp10	190	An established population in very good habitat. Nuisance level is fairly high as confirmed by homeowner interaction. Historical tree damage is evident in several trees along Vergennes Rd. Further tree damage could potentially cause a limb-fall hazard over the heavily traveled Vergennes Rd. Spray to reduce nuisance and limit further tree damage.
AdaTwp11	269	A sustained population in good habitat. Population is continuous with a known population in the adjacent Cascade Township. Nuisance is elevated in the area. Tree community does not present high likelihood of extensive tree damage, but population persistence is a concern for more heavily infested trees along Hall St. Spray to reduce nuisance and further suppress population.

Total Acreage = **2,967 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 gypsy 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, all areas initially designated as problem areas by township officials did in-fact support infestations of gypsy moths. The level of damage and/or nuisance can be difficult to predict given the interaction of unpredictable environmental factors. All recommended areas contain potentially damaging gypsy moth egg mass numbers. Accordingly, all spray areas are highly recommended for *Bacillus thuringiensis var. kurstaki* (B.t.k.) treatment in spring 2022. There is significant risk of potential tree damage and high nuisance levels if recommended areas are left untreated for another cycle. Some areas showed evidence of successive years of infestation (particularly the intersections of Honey Creek Ave, 2 Mile Rd, and Leonard St and McCabe Ave and Conservancy Dr), which often prove much more challenging to suppress. Under these circumstances, several years of treatment are often necessary. It is not possible to completely eliminate gypsy moth populations, so this should never be the expectation. With 2-3 years of treatment and monitoring, an acceptable level of control is attainable.

Gypsy moth suppression programs often are tasked with balancing high potential for damaging gypsy 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.

Gypsy 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: Numerous egg masses on underside of single branch of red oak tree, block: AdaTwp05





Photo 2: Several egg masses on trunk and branch of red oak tree, block: AdaTwp08





Photo 3: Several egg masses at trunk of maple tree, block: AdaTwp10