

City of Walker
Gypsy Moth Post-Spray Evaluation

Conducted: 6/17/19
 By
 Aquatic Consulting Services LLC

Block #	Acres	Spray Result Observations
Walk01	79	Excellent results in this spray area. Evidence of feeding cessation and caterpillar mortality throughout the area. The majority of trees show <10% defoliation.
Walk02	356	Overall very good results. <10% defoliation was common with evidence of feeding cessation. A few trees in one area did experience 20-25% defoliation. Caterpillar mortality was notable however, and further defoliation is unlikely. Nuisance level should remain low.
Walk03	69	Very good results. A few trees did experience 10-20% defoliation, but feeding cessation was evident. Further defoliation should be minimal.
Walk04	171	Excellent results throughout. Feeding cessation and caterpillar mortality was evident. Nuisance should be low.
Walk05	536	Very good results overall in this large spray area. A few trees with 10-20% defoliation, but many trees saw <10%. Caterpillar mortality was found throughout so further defoliation is unlikely.
Walk06	217	Good results overall. One area near Wilson Ave did experience ≈25% defoliation. This level of defoliation is not ideal, but should not result in any long-term damage to the trees. The vast majority of trees saw <10% defoliation with evidence of feeding cessation and caterpillar mortality common.
Areas Outside Spray Blocks	NA	Little evidence of feeding was observed outside of spray areas. It appears the populations were primarily concentrated in our recommended spray areas. Some bordering areas in the City of Grand Rapids did show notable defoliation, so re-infestation of blocks Walk03 and Walk05 are possible. I believe the City of Grand Rapids conducted a spray program this year as well, so population rebound should be low.

The overall spray program was successful in Walker again for 2019. As I'm sure you are aware, gypsy moth populations across West Michigan have grown to alarmingly high numbers over the past few years. The goal of any gypsy moth suppression program is not to eradicate the gypsy moth populations (which is impossible), but to reduce the likelihood of long-term tree damage and ideally, reduce nuisance levels. This is accomplished through an integrated pest management (IPM) strategy, which focuses on techniques with the lowest possible ecological footprint (use of *Bacillus thuringiensis* bacterial insecticides, focused surveys and spray timing). This strategy also relies on assistance from environmental controls such as the gypsy moth specific fungus, virus, and parasitoid wasp that will help to reduce populations to near undetectable numbers.

Fortunately, the conditions this year have been favorable for the growth of these environmental controls, so populations should be on a downward trend for the next few years. This said, you will see that several of the spray blocks saw some level of defoliation. This is expected in all years where gypsy moth populations are active, due mainly to the fact that the caterpillars must be actively feeding for the B.t. to be effective. The application of B.t. is intended to be $\approx 80\%$ effective under ideal conditions. Frequent rain events made spray timing challenging again this year, but I was confident spray timing and caterpillar development was as good as possible this season, and the post-spray evaluation has confirmed that.

The conditions this spring were again, quite abnormal. This just reinforces the ability to adapt quickly to seasonal and annual variations. While the gypsy moth populations appear to be on a downward trend, I encourage the City of Walker not to let their guard down. At this point monitoring is vital to reduce the chance of a rebound in the populations. The rapid changes in gypsy moth infestations through the recent cycle were challenging but not unprecedented, and the proactive survey and spray methods we use have been proven to be the best approach for enduring these spikes in gypsy moth populations.