GYPSY MOTH FAQ

Question: What is the Gypsy Moth?
Answer: The European Gypsy Moth is an introduced, defoliating insect that is considered to be a major pest in North America. The caterpillar, or larva stage *of* the insect, eats the leaves of trees, making them more susceptible to disease and damage from other insects.

Question: How much damage can the Gypsy Moth cause to trees?
Answer: Tree damage depends on the degree of infestation, past defoliations, the tree's vulnerability and the environment and can range from light to almost complete defoliation. If the tree has been weakened or stressed by other conditions, and attacked repeatedly in recent years, the defoliation can result in the death of the tree.

Question: What kinds of trees are most affected by the Gypsy Moth caterpillar?
Answer: These caterpillars prefer the leaves of deciduous hardwood trees like birch, crab apple and particularly oak. It will also feed on alder, birch, poplar, spruce, white pine and willow trees. As the caterpillar matures and runs out of foliage of its preferred species, it will begin to feed on more than 200 vegetative species.

Question: What is the lifecycle of the Gypsy Moth?
Answer: The moths are seen only in mid-summer. They exist only to mate and after the female lays her eggs, moths of both sexes die. They lay their egg masses on the limbs and trunks of trees, on rocks, buildings, vehicles or in other sheltered areas. The masses remain in place all winter and will hatch the following spring from late April to mid-May. Once hatched, the caterpillars begin to feed and continue for approximately seven weeks.

Question: Are there any natural enemies (control factors) to the Gypsy Moth?
Answer: Yes. Predators include other insects like wasps, flies, beetles, ants and spiders as well as birds such as chickadees, blue jays, robins and nut hatches. Animals such as chipmunks, squirrels and raccoons will also prey on the caterpillar. Diseases, caused by bacteria, fungi or viruses, contribute the most to keeping levels within a normal range.

Question: How severe could the infestation be?
Answer: Inspections in 'hot spot' areas saw trees covered with hundreds of egg masses. In some cases, trees had as many as 800 egg masses, with each egg mass yielding up to 1000 caterpillars. When the egg masses hatch in these areas, a single tree will be infested with hundreds of thousands of cater pillars.

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Question: What are the proposed aerial spray zones?
Answer: 1 – North of Hollywood Place, between Marcin Road & Newell Street; 2 –South of Michigan Avenue to Errol Road West, between Christina Street and Newell Street; 3 – -South of Michigan Road to Rosedale Avenue, between Colborne Road &Matthews Avenue (Lakeview Cemetery); 4 – -Canatara Park, west of Lake Chipican. (Maps can be viewed online at https://www.sarnia.ca/gypsy-moth-control-program)

Question: Why does the spray zone include private property?
Answer: At outbreak levels, many trees are defoliated and may die, representing significant environmental and financial costs to the City and Sarnia residents. The environmental and health benefits of trees in an urban environment are well known to be associated with improved air and water quality, mitigation of heat island effects, provision of shade, protection against sun and associated skin cancer risks, as well as carbon sequestration.
A large percentage of the local Tree Canopy that exists in our urban forest is located on private property; therefore, the protection of private trees is important to the goal of maintaining canopy cover. Moreover, if only City-owned trees are subjected to control measures, the likelihood that EGM populations would still persist in the treated area is high, potentially leading to severe canopy damage as well as increased spread to the surrounding areas in the future.
EGM is a serious nuisance to the residents living in outbreak areas. The crawling caterpillars and their droppings on private property become intolerable for many residents. Urban Forestry is inundated with public complaints related to the nuisance that results from the caterpillar stage of the EGM, which causes substantial interference with their use or enjoyment of lands. Skin rash and possible upper respiratory tract symptoms are linked to human exposure to airborne gypsy moth hairs, silken threads and skin shed during large-scale infestations.

Question: Do I still need to be concerned if I don't live in the identified affected areas?
Answer: Yes. There are other areas in Sarnia that will experience an increased Gypsy Moth population. Spraying from the ground and mechanical methods of pest control (egg mass removal and banding for control of caterpillars) have proven helpful in keeping lower population levels of Gypsy Moth in check. Please see the information sheet regarding Home Control Methods here:
https://www.sarnia.ca/gypsy-moth-control-program

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Question: What is Bacillus thuringiensis subspecies kurstaki (Btk)?
Answer: It is a rod-shaped bacterium that occurs naturally on dead or decaying matter in the soil. It is grown from soil bacteria that occur naturally worldwide. When Btk is ingested by a susceptible caterpillar, the highly alkaline environment of the caterpillar's gut triggers the Btk bacterium to release a crystalline protein called an "endotoxin" that poison's the insect's digestive system. The caterpillars must ingest the Btk bacterium to be affected.

Question: When should Btk be used?
Answer: The best time to apply Btk is early to late May when the caterpillars are small. Btk is less effective in older more mature caterpillars and highly ineffective during the Gypsy Moth's non-feeding life stages - eggs, pupa and adult moths.

Question: Will there be City wide spraying of Btk?
Answer: No. The total area estimated to be sprayed equals approximately 63 hectares, located in areas where the Gypsy moth population levels are severe.

Question: Why use aerial spraying instead of targeted ground application?
Answer: The target is the topside of the leaves where the caterpillars are rapidly defoliating the trees; ground applications cannot reach the tops of the trees.

Question: What are the environmental impacts of Btk use?
Answer: According to Health Canada, Btk is only toxic in the caterpillar stage of the Gypsy Moth life cycle. It does not affect adult moths and butterflies, other insects, honeybees, fish, birds or mammals.
It biodegrades quickly and there are no groundwater contamination concerns. The United States Environmental Protection Agency categorizes the risks posed to non-target organisms as "minimal to nonexistent." The World Health Organization (WHO) and Pest Management Regulatory Agency (PMRA) feel it is a safe substance to use in pest management. Even with many years of widespread use of Btk in forestry, agriculture and urban settings, no significant environmental concerns been raised.

Question: What are the human health risks associated with Btk?
Answer: According to Health Canada, Btk poses little threat to human health through either handling products directly or being exposed to them indirectly such as during a spray program. Some reports indicate Btk may temporarily cause mild irritation to eyes, skin, and nose in some people.

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Question: How can I reduce my exposure to Btk?
Answer: If you live in an area that is being sprayed, you can avoid exposure to Btk by remaining indoors during and immediately after the spraying. You can also cover patio furniture or outdoor playing areas prior to the spraying or hose them off afterward.

Question: What measures can I use to help keep the Gypsy Moth population in check on my property?
Answer: One way to reduce the population is through the manual removal and destruction of egg masses. You can scrape egg masses into a cup and place them in soapy water for 2 days. Alternatively, you can use a vacuum to remove egg masses, followed by disposal of the vacuum bags. Burlap banding or sticky band barriers can be used to control caterpillars. In May, young caterpillars climbing from the surrounding area to the tree canopy can be trapped by a sticky band placed around the tree stem. Later in June, caterpillars will leave the canopy of trees during the day looking for a shelter to hide from the heat. They return to the canopy each evening to feed at night. You can take advantage of this behavior to reduce the number of caterpillars by putting up single-folded burlap bands. Caterpillars find the burlap band an attractive hiding spot and will congregate there. It is important to collect the caterpillars from under the bands each afternoon, scraping them into a cup of soapy water, or just mechanically destroying them. Moths can be captured by hanging traps containing pheromone scents. Such traps are used for monitoring increases or decreases in population levels.

Question: Should I use a commercial insecticide to help control the population?
Answer: During a severe infestation when the life of a tree may be in jeopardy an insecticide may be considered a viable option. While the cost and complexity of implementing an aerial application of bacterial insecticide will almost certainly limit your ability to use this technique on your property, it may be possible to hire a contractor to apply pesticide from ground spray applicators. Timing of the application and the treatment of the entire canopy is essential to the success of control using a commercial insecticide to control Gypsy Moths. The bacterial insecticide, Bacillus thuringiensis subspecies kurstaki (Btk) is recommended if it is determined that a spray is warranted. You should also be aware that pesticide applications do not produce an instant defense and will not completely eradicate the problem.
Spraying is only effective for the summer it is applied. It will not stop the Gypsy Moths from re-entering your property the following spring.