

For the Week of May 8, 2023: Part 2

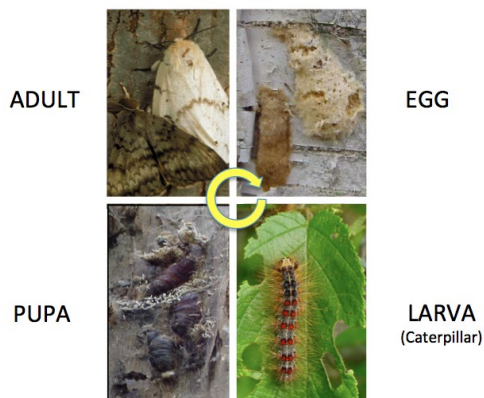
Manager’s Message

Aaron Frank, Town Manager

An Update on **Spongy Moth (formerly Gypsy Moth) Management**

Last year, the Town of Colchester, and many other regions of Vermont, experienced an increased population of *Lymantria dispar* (Spongy Moth, formerly known as the Gypsy Moth) resulting in significant defoliation of trees throughout the spring and summer. Before 2021 and 2022, there hadn’t been a major increase in Spongy Moth population and large spread defoliation since the early 1990s, and although this invasive insect is

not native to the region, it has been here since the late 1800s. Your Town staff has engaged the State and, as of now, they have no plans to spray this year. Instead, the State is providing [information](#) to landowners letting them make the decisions about treatment themselves. Between 2016 to 2018, the State’s method of education and outreach for treatment strategies was used for the Forest Tent Caterpillar outbreak, which had a positive outcome.



What is the impact of Spongy Moth outbreaks?

Spongy Moth outbreaks occur cyclically and are often naturally controlled by insect parasites and predators, virus and fungal disease, and adverse weather conditions. An outbreak of Spongy Moths occurs when their population exceeds natural enemies, such as when a drought occurs and reduces the activity of the fungus *Entomophaga maimaiga* that can regularly keep populations controlled if sufficient moisture is present. During outbreaks, Spongy Moths can cause large spread defoliation. The larvae typically feed on oak and maple trees, but they will also feed on other deciduous hardwoods such as birch and apple trees. However, Spongy Moths are early season defoliators. If it isn’t too dry, heavily defoliated trees can produce new leaves over the summer.

What is the Town doing to control the Spongy Moth population?

The Town is following the expert advice of the State of Vermont and the University of Vermont who both employ tree specialists with specific expertise in controlling Spongy Moths. While there is a process for municipalities to apply for permits for aerial spraying of their communities, the process is extensive requiring the municipality to have total and documented buy-in/permission from every property owner within the community. For

Colchester, there are over 7,000 property owners. Due to this extensive permitting process, no municipality has ever been issued a permit by the State of Vermont for community wide spraying for spongy moths. At this time, we believe the best approach continues to be education and outreach, which has been effective for the State. Below are several management strategies for homeowners, along with a number of useful links.

Management Strategies for Homeowners

- **Destroy Egg Masses:** Egg masses can be removed from trees between August and May to reduce the population in the coming year. The egg masses can be removed using a scraper to carefully remove the masses and submerge them into a container of soapy water or alcohol for 2 days before discarding them in the trash. This will destroy the eggs. Do not scrape them onto the ground or try to crush them as they can survive and hatch in the spring. Egg masses can also be sprayed with horticultural oil labeled for Spongy Moth (formerly Gypsy Moth) egg masses. These horticultural oils can be available at lawn and garden centers or online. Be sure to read the label and use the product appropriately.



- **Trapping:** Trapping Spongy Moths during two stages of their life cycle can reduce the population. Late April, just after the larvae has hatched, barrier bands will prevent larvae from climbing back into the trees after ballooning (this is when they drop down on thin silken threads to find a host tree or shrub after hatching). These barrier bands can be constructed from duct tape or other type of material that can be wrapped around a tree trunk and coated with a sticky material, such as TangleFoot or Vaseline. Do not put the sticky material directly on the tree trunk. Butcher paper or paper bags can be placed around the trunk before using the duct tape. Reapply the sticky material as necessary and replace the band when it becomes covered with caterpillars.





During early June, the barrier bands can be replaced with collection bands. A 12 to 18-inch-wide medium-weight, neutral-colored cloth or burlap can be placed around the tree. The material can be fastened to the tree with cord or twine at chest height. Fold the top half of the cloth down to cover the bottom half. The older caterpillars will use these as a place to hide during the day. The caterpillars will need to be removed and destroyed every day, by scraping them into a bucket of soapy water.

- **Pesticides:** Pesticides must be applied between May and June. Two types of pesticides can be used: biological and chemical pesticides.
 - **Biological Pesticides:** *Bacillus thuringiensis kurstaki* (Btk) is the most common treatment used to control Spongy Moths. This bacterial insecticide kills caterpillars that eat it within a week of its application. The insecticide causes the cells of the caterpillar's stomach lining to rupture. This bacterium is found naturally in soil. The timing of this application is necessary as the bacterial insecticide can be less effective on the older caterpillars. The bacterial insecticide has no effect on animals, birds, people or other types of insects; however, it can kill other caterpillars of moths and butterflies.
 - **Chemical Pesticides:** Many products are available at local garden centers or nurseries. Be sure to check the label to make sure Spongy Moths (formerly Gypsy Moths) are listed. If you choose to use a chemical insecticide, it is important to always read and precisely follow the label directions, as many of these chemical insecticides can have potential impacts on beneficial insects and natural enemies of Spongy Moths. Common active ingredients of chemical pesticides are bifenthrin, carbaryl, seta-cypermethrin, and permethrin.
- **Crush and Brush:** Once in the pupal stage, you can crush and brush the cocoons into a container of soapy water to prevent them from making it to the adult stage. The cocoons of Spongy Moths are typically in protected spots, so you will need to be thorough when you are inspecting. The pupae are brown in color and approximately $\frac{3}{4}$ to 2 $\frac{1}{2}$ inches long. The adult Spongy Moths will appear within two weeks. The female moths, which are white in color, cannot fly making them easier to crush and brush into a container of soapy water. It is important to focus on the female moths as they can lay upwards of 1,000 eggs, so crushing them reduces the number of eggs to hatch during the spring of the following year.



As you try these management strategies, you may find some work better than others or you may find altering the methods to be more effective. For example, in one case, a resident of a neighboring Town has found that using a wet vac to collect and dispose of the pest while they are in their caterpillar stage to be useful, but time consuming.

In 2022, Vermont State Entomologist Judy Rosovsky predicted the lack of drought and an increase in other natural enemy populations, like certain other insects and birds, would impact 2023's number and lessen the degree of defoliation. You can read the full story on the above strategy and more advice and information from Rosovsky on WCAX:

<https://www.wcax.com/2022/05/31/spongy-moth-caterpillars-create-battle-backyard/>

Useful Websites to Review:

<https://www.uvm.edu/sites/default/files/Extension-CommunityHorticulture/GypsymothJune2021.pdf>

https://fpr.vermont.gov/sites/fpr/files/doc_library/VT%20FPR_LDD%20Leaflet_Dec%202021_final.pdf

<https://fyi.extension.wisc.edu/gypsymothinwisconsin/pest-management-2/management-guide-for-homeowners/>

<https://www.massaudubon.org/learn/nature-wildlife/insects-arachnids/spongy-moths>

https://www.canr.msu.edu/ipm/invasive_species/Gypsy-Moth/gypsy-moth-life-cycle

<https://extension.psu.edu/preparing-for-high-gypsy-moth-densities-in-2021>

<https://vtinvasives.org/invasive/spongy-moth>

Images from: <https://fyi.extension.wisc.edu/spongy moth in wisconsin/pest-management-2/management-guide-for-homeowners/>