

NRCS Assistance Following Gypsy Moth Devastation



History

The gypsy moth, *Lymantria dispar*, is one of North America's most devastating forest pests. The species, which originally evolved in Europe and Asia, was accidentally introduced near Boston, Massachusetts, by a scientist who reportedly tried to breed a more resistant hybrid than the native silk-spinning caterpillars that were susceptible to disease. Approximately 10 years later, the first outbreaks began. In 1890, state and federal government attempts to eradicate the pest failed; since that time, the range of gypsy moth has continued to spread. The species has been in Connecticut since approximately 1905.

About the Gypsy Moth

Gypsy moth populations, typically eruptive in North America, are known to feed on the foliage of hundreds of species of plants, most commonly the oak. When densities reach very high levels, trees may become completely defoliated. Several successive years of defoliation, along with other stress factors, may ultimately result in tree mortality.

Normally, the gypsy moth population is low and the damage it does is restricted; however, when it enters outbreak status, the problems become significant.

The Invasion

In 2015 and 2016, Connecticut experienced drought conditions. As result, the gypsy moth population grew substantially, reaching outbreak status in areas of south-central and eastern Connecticut. That infestation was the most severe in New England since the 1980s. The dry conditions suppressed or delayed the main caterpillar-killing fungus (*entomophaga*

maimaiga), which led to a higher than normal number of insects, while the lack of water prevented trees from generating new leaves.

The Damage

There is concern for trees that were heavily damaged the last few years. Stressed trees have become targets for other pests and pathogens. When defoliation happens year after year, trees lose their ability to recover.



Defoliation caused by the gypsy moth, Lyme, 2006.

One of the most important factors is how much foliage was eaten. The more the insect eats, the less food is produced for the tree. With all the leaves gone, the tree has no food-producing system, and it must live off its reserve until new leaves appear. These reserve foods are used normally to feed the tree during the winter resting period. If the tree enters winter with low food reserves, some parts of it may die. A tree can lose up to half its foliage before it begins to suffer. When more is eaten, the tree begins to change because not enough food and other growth substances are being produced.

Destruction from this latest attack is still being determined, and the damage will be far reaching.

Contact Your Local NRCS Office

Danielson Service Center
71 Westcott Road
(860) 779-0557

Hamden Service Center
51 Mill Pond Road
(203) 287-8038

Norwich Service Center
238 West Town Street
(860) 887-9941

Torrington Service Center
1185 New Litchfield Street
(860) 626-8852

Windsor Service Center
100 Northfield Dr., 4th Floor
(860) 688-7725

Tolland State Office
344 Merrow Road
(860) 871-4011

The Result of Damage

After trees are weakened by the gypsy moth ...

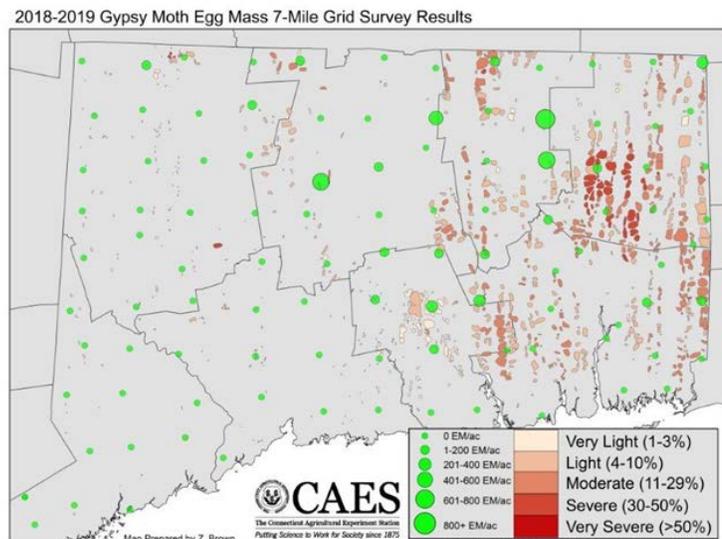
- They can fall prey to the Two-lined Chestnut Borer, a native insect that primarily attacks weakened oak trees. Trees can be killed in the first year of attack; however, death usually occurs after 2-3 successive years of borer infestation. Practically nothing can be done to save infested portions of a tree once symptoms become visible.
- They can be attacked and killed by native fungus if they are too weak to suppress the fungal community.
- They can be a public safety hazard – limbs falling on people or power lines – especially during high winds or heavy rains.
- Dead or dying trees increase the risk of forest fires.
- The absence of trees that have either fallen or been taken down opens the door to more sunlight on the forest floor. This can encourage growth of invasive species, affecting other vegetation in the area, as well as water quality.
- Dead and dying oak trees do not produce acorns. This will have a significant impact on wildlife that rely on acorns for sustenance. Less tree cover also leads to less wildlife habitat.
- Because trees help reduce carbon dioxide in the atmosphere, fewer of them would affect air quality in the state.



How Can NRCS Help?

Through NRCS' Environmental Quality Incentives Program, qualified applicants would have three options:

1. An opportunity for early successional cutting
2. An addendum to applicants with an existing forestry management plan to remove dead and dying trees
3. A template plan for those with a current forest stewardship plan



Aerial survey map of Connecticut showing areas defoliated by the gypsy moth in 2018 (287,013 acres) overlaid with the results of the 2018-2019 Connecticut Ag Experiment Station (CAES) egg mass 7-mile grid ground survey, which provides an indication of activity for 2019. Surveyed egg masses per acre (green dots) and defoliation intensity (red gradation). Survey and map produced by the Office of the State Entomologist, CAES. Aerial survey conducted by Deputy State Entomologist Dr. Victoria Smith and Plant Inspector Tia Blevins. Egg mass survey by State Survey Coordinator Katherine Dugas, Plant Inspectors Tia Blevins and Jeffrey Fengler, and Zachary Brown; map prepared by Zachary Brown. Aerial survey is funded by the U.S. Forest Service

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