SPONGY MOTH

State Forester Forum

Background

The spongy moth (formerly called gypsy moth) is considered to be the most important defoliating insect of hardwood trees in the Eastern United States. A French naturalist who was trying to develop a hardy strain of silkworm introduced it into the Boston area from Europe in 1869. Several of the moths escaped in 1870 and within ten years, they had established a viable population in the local area. Lacking their native European natural control agents, they spread rapidly and by 1889, this insect had defoliated over 230,000 acres of forest and shade trees. Despite the expenditure of millions of dollars in control efforts, this pest has continued to spread and now has caused millions of acres of defoliation, primarily in the northeastern states.

How could it get to Idaho?

The spongy moth is a notorious hitchhiker. The female moth lays her eggs on any solid surface including outdoor furniture, recreational vehicles, firewood, toys, etc. When these objects are later moved, spongy moths can be transported long distances. This has been the main source of spongy moth introductions to Idaho. However, populations in Idaho have been promptly eradicated, and spongy moth is not established in Idaho.

Why is spongy moth a serious pest?

Spongy moth caterpillars will feed on more than 300 kinds of plants. Preferred hosts in Idaho include paper birch, hawthorn, plum, oaks, apple, alder, aspen, filbert, and willow. Some types of spongy moths can survive and reproduce on Douglas-fir, western larch, lodgepole pine, and other western conifers.

This insect has a tremendous capacity to increase in numbers. Populations can rapidly build to large infestations causing widespread defoliation, which weakens, and sometimes kills trees. Weakened trees often become the targets of other tree-killing insects and diseases.

Defoliation reduces the aesthetic, recreational, and economic value of forests, parks, and wooded homesites. It can also impact stream side vegetation, contributing to degradation of water quality.

The greatest economic threat to Idaho comes from the potential for newly infested states to be subject to restrictive quarantines to prevent further spread of the insect. Thus, our nursery, Christmas tree, and lumber industries could be heavily impacted.

When spongy moth caterpillars are very numerous, they can be a nuisance to homeowners, crawling over buildings, vehicles, roads, and lawn furniture. Some people suffer allergic reactions when they contact hairs from the caterpillar.

Life Cycle

The spongy moth goes through four life stages: **egg**, **larva** (caterpillar), **pupa**, and **adult moth**. It has one generation per year and overwinters in the egg stage. Each female lays 50 to 1,000 **eggs** in one mass, which is covered with velvety golden or buff-colored hairs from the female's abdomen. The egg mass is about 3/4 inch wide and 1 to 1 1/5 inches long and may be attached to trees (Figure 1), logs, rocks, buildings, toys, or on outdoor household articles or vehicles.

Caterpillars hatch from eggs in mid-April to mid-June. When about half-grown, the

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caterpillar acquires five pairs of blue bumps and six pairs of red bumps on its back. These blue and red bumps distinguish the spongy moth caterpillars from other kinds of hairy caterpillars. The full-grown caterpillar (Figure 2) is about 1 1/5 to 2 inches long.

In July, the caterpillar transforms into a non-feeding stage called the **pupa** (Figure 3). The adult moth develops inside this hard, dark-brown shell. The pupa is attached to solid objects by several strands of silk, often with the last skin shed by the caterpillar attached to its pointed end.

Adult moths begin to emerge in late July. The female moth (2-inch wing span) is white with brown zigzag markings on its wings (Figure 4). The male moth (Figure 5) is smaller (1 1/5-inch wing span) with mottled brown wings. It can be recognized by two feather-like antennae on its head. Adult moths do not feed. They live for about one week, during which time the sexes mate. Females lay eggs during August and early September starting the cycle over again.

How can you help stop the spongy moth?

1. Report suspected spongy moth life stages to the Idaho Department of Lands.
2. Cooperate with the Idaho Department of Lands spongy moth survey staff when they request permission to place traps each summer.
3. Help restrict movement of the spongy moth by not moving wood products, firewood, or plant material out of spongy moth infested areas without certification.
4. Inspect outdoor furniture, vehicles, and other articles for spongy moth life stages prior to returning home if you have visited an infested area.

Principal control techniques

The principal control techniques and/or tools currently available for use against the spongy moth include chemical and biological pesticides, insect growth regulators (IGRs) and pheromones. Pheromones are synthetic reproductions of chemicals produced by moths to convey messages. Formulations of pheromone can be used as baits in traps for detection surveys or for control techniques such as mating disruption or mass trapping. For mating disruption, the pheromone is formulated to be spread aerially to saturate the area, “confusing” the males. Similarly, mass trapping saturates the area with traps, catching males before they are able to mate. Both of these techniques disrupt the mating cycle. Any of these techniques may be used independently or in conjunction with each other.

Tree species not favored by the spongy moth include ash, true firs, cottonwood, catalpa, cedar, dogwood, sycamore, rhododendron, and tulip poplar.

Figure 1. *Spongy moth egg masses.*

Figure 2. *Full grown spongy moth caterpillar.*

Figure 3. *Spongy moth pupa.*

Figure 4. *Spongy moth female.*

Figure 5. *Spongy moth male.*

FOR MORE INFORMATION CONTACT
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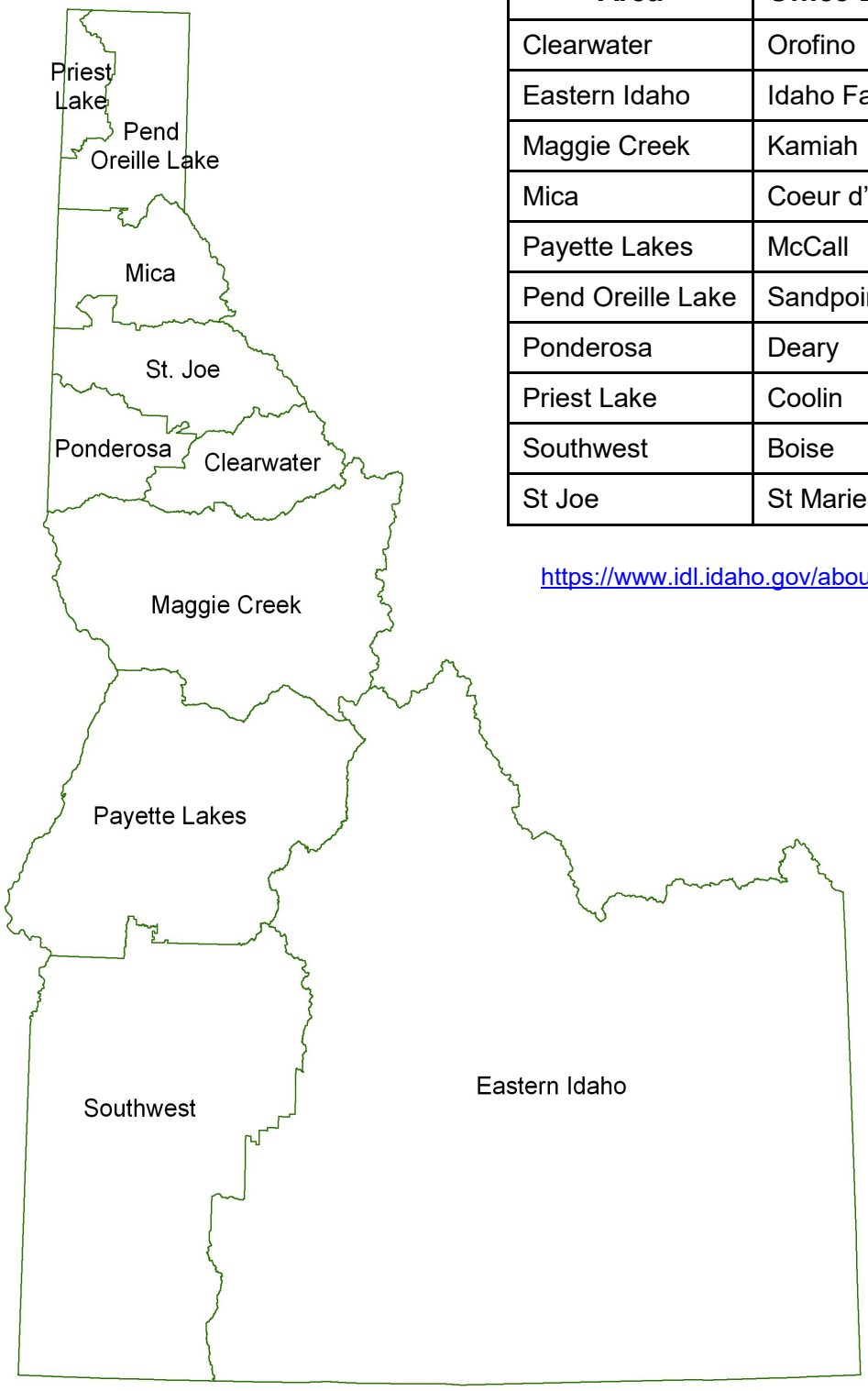

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https://www.idl.idaho.gov/about-forestry/insects-and-disease/