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Maine Forest Service to release predator beetles to fight hemlock woolly adelgid

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AUGUSTA, Maine — Maine Forest Service entomologists are releasing more predator beetles this week and next week in southern Maine in the continuing effort to fight hemlock woolly adelgid (HWA), a destructive aphid-like insect that kills eastern hemlock trees.

About 9,000 laboratory-reared beetles — a tiny lady beetle known formally as *Sasajiscymnus tsugae (St)* — will be released in Saco and York in new areas where they haven't previously been released, according to MFS officials.

In a process known as bio-control — the use of one living organism to control another — the lady beetles will be released at Ferry Beach State Park, which marks the northern most edge of the HWA-infested area, Allison Kanoti, MFS entomologist, said.

"It's good to release your bio-control in areas that have been recently colonized by HWA so their populations get to catch up the HWA's progressing populations," Kanoti said. "We're trying to get them out on the front line."

There are about 160,000 acres of hemlock-dominated forest in southern-coastal Maine and about 10,000 acres of infested hemlock in the area. HWA is an invasive species from Asia that kills eastern and Carolina hemlock but does not affect pine, spruce, fir or other conifers. It has been found in at least 16 states and was first found in Kittery in 2003. Since 2003 it has also been detected in the Maine towns of Eliot, Kennebunkport, Ogunquit, Saco, South Berwick, Wells and York.

Courtesy photo A predator lady beetle, Sasajiscymnus tsugae, which will be released this week by the Maine Forest Service to fight hemlock woolly adelgid.

HWA is distinguished by white, woolly masses found at the base of needles on the undersides of hemlock twigs. Infested trees also have off-color needles, often with a grayish cast, and premature needle drop and twig dieback. The adelgid often is accompanied by another invasive insect, elongate hemlock scale, which already has been found on planted hemlock in Kennebunkport and Kennebunk. In an effort to control HWA, the Maine Forest Service began releasing the lady beetles in 2004, with almost 27,000 released to date. HWA adults and eggs are the favorite food of the lady beetles. The state agency also has been releasing another predatory insect, tooth-necked fungus beetles, known formally as *Laricobius nigrinus,* in the same locations where the lady beetles have been released, also to combat HWA. Almost 5,000 of the tiny fungus beetles, which also eat HWA, have been released since 2006.

The lady beetle is a black insect about 2 millimeters in length with fine golden hairs covering it whole body. The HWA adult, larvae and eggs are its favorite food. The lady beetles are being purchased through a $21, 450 federal grant for bio-control from the USDA-Animal Plant Health Inspection Service. The beetles come in clumps of straw placed in deli containers, Kanoti said. Starting Wednesday, she and another Maine Department of Conservation staffer will transfer the straw clumps onto hemlock branches. Beetles remaining in the containers will be transferred carefully with paint brushes, allowing them to disperse through the trees.

So far, monitoring has shown that the lady beetles are surviving well and reproducing in the Kittery area. They also have been recovered several times in the York area, Kanoti said. Recovery of the fungus beetle has been less successful, but nonetheless it has been found at one site in York, the entomologist said. "We know it's reproducing, but it's really not well established yet in Maine," she said. Bio-control is a slow process, and so far, there has been no measurable decrease in HWA in Maine. "We expect it to be years before we see measurable impacts from these beetles' offspring," Kanoti said. Unfortunately, the recent warm winters in Maine are causing the HWA to thrive, the scientist said. Usually, the entomologists like to see an over-winter mortality rate of over 90 percent; this past year, there was rate of 17 percent, she said. HWA has continued to move, Kanoti acknowledged. "I really do expect that over the next few years, people in those communities where you don't normally find adelgid will find it," she said. There are some things, however, that Maine residents can do to slow HWA's progression, Kanoti said. They can:

n Check their hemlock trees regularly, especially if they live within 20 miles of the coast, and call the MFS laboratory if they think they have found HWA;

n Take down bird feeders between April and August, when HWA and scale most easily are spread by birds.

nIn infested areas, time timber harvests and hemlock pruning and maintenance to coincide with the period when adelgid is less likely to spread, August through February.

n If you live in or near an infested town, prune hemlock foliage that might come in contact with delivery trucks, hikers, and other potential carriers of adelgid eggs and larvae. To report suspected HWA, call the MFS lab at 207-287-2431 or e-mail allison. m. kanoti@maine.gov. For more information on HWA, go to: http://www.maine.gov/doc/mfs/HemlockWoollyAdelgid.htm