

## Hemlock Woolly Adelgid Eradication Effort in New Hampshire

Jennifer Bofinger

New Hampshire Division of Forests and Lands  
172 Pembroke Road, Concord, NH, 03301

### Abstract

Hemlock woolly adelgid has been found in four locations in New Hampshire since September 2000. Three sites are located in Portsmouth in Rockingham County and one is in Peterborough in Hillsborough County. At all four sites aggressive efforts to eliminate the adelgid have been ongoing.

Hemlock woolly adelgid (HWA) was found first at a site known as Elwyn Park. This is the largest area of adelgid infestation. It covers approximately 11 acres; 200 hemlocks were infested. All infested trees were treated with horticultural oil in October 2000. In January 2001, unhealthy or non-vigorous hemlock and other species were cut and chipped at the site. All remaining infested hemlocks (approximately 100), were tagged. In May 2001 imidacloprid was applied by soil injection. In June approximately 3,000 *Pseudoscygnus tsugae* beetles were released at the edge of the infestation. In October 2001 branch samples were taken from 13 of the infested trees to determine if HWA had been killed by the imidacloprid. Samples were taken from the top, middle, and bottom of the tree crown. Only two trees still had a small number of live adelgid. Samples were taken from the same set of trees so that the level of imidacloprid in the foliage could be determined. Results from the residue analysis lab are still pending.

A second site, the Urban Forestry Center, was found infested in June 2001. At this site there were 16 hemlock trees in a pine-oak forest. The population was light. Fifteen of the hemlocks were cut and chipped into one large pile. The pile was tightly covered with black plastic and left. In return surveys of the site, no live adelgid have been found.

The third site in Portsmouth is on Middle Road. It is a residential area where 15 trees in one yard were heavily infested. This site was treated with horticultural oil mixed with Talstar® in July 2001. All trees were sampled. Samples were taken from the top, middle, and bottom of each tree. No live adelgid were found during sampling.

The fourth site was found in May 2001 in Peterborough. In this case, a very small population was found in one large yard tree growing with two other mature hemlocks. The visible adelgid was pruned out and burned. The three hemlocks were treated with horticultural oil and Talstar®. Branch samples were taken from all three hemlocks in December 2001 and no live adelgid were found.

Further branch sampling for adelgid will determine the future course of action. At sites where good coverage was achieved with a spray truck, oil and Talstar® have given good control. In the forest area at Elwyn Park, the imidacloprid also provided high level of control. The few remaining hemlocks with live adelgid will either be retreated with imidacloprid in the spring of 2002 or removed.

**Keywords:**

New Hampshire, infestation, treatments.