

FRCC HWA Biological Control Annual Report 2025

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Project Title: Continuation of expanded biological control releases to protect eastern hemlocks from HWA invasions in the Upper Farmington River watershed

Progress Report:

Eastern hemlock, *Tsuga canadensis*, an important component of the watershed forests of the Upper Farmington and its tributaries, continues to be invaded by the hemlock woolly adelgid, *Adelges tsugae* (HWA), the most serious exotic pest of Eastern and Carolina Hemlocks in eastern North America. Native hemlocks are very susceptible to HWA infestations, which can rapidly decrease tree vigor, result in defoliation and hamper the tree's ability to produce new growth. Trees can succumb to heavy and repeated HWA infestations in a few years, especially in poor growing sites. In northern areas, HWA can be significantly reduced by extremely cold winters but these events are highly unpredictable in a warming climate. In warmer winter years, HWA is able to exponentially increase and spread rapidly on vulnerable hemlocks, as happened in 2024 when there were no sub-zero winter temperatures. In 2025, there was a polar vortex in late January which brought arctic subzero cold to northern Connecticut. Many stands of infested hemlocks throughout Connecticut were sampled after subzero cold occurred in January 2025 to determine subsequent impacts on HWA populations and this time, the results differed from the winter of 2023 when riparian areas had greater survival of HWA. There was highly variable HWA winter mortality in Connecticut in 2025 due to elevation effects, and the sampling showed that significantly higher HWA survival was recorded at higher elevations while HWA winter mortality (>80%) was greatest at lower elevations along rivers and streams. These results helped guide extensive hemlock scouting in the Upper Farmington River watershed forests to strategically locate and select optimal release trees with HWA populations that would support predator introductions. Through 2025 funding from the Farmington River Coordinating Committee, 5,000 *S. tsugae* were purchased from Tree Savers, PA, for strategic releases on rebounding HWA infestations along the Upper Farmington, with expansion of releases to more tributaries to control HWA and mitigate spread and damage to riparian hemlocks. High winter mortality of HWA in Pennsylvania due to the same polar vortex did affect 2025 *S. tsugae* rearing which delayed production, resulting in staggered deliveries, but all proceeded smoothly to facilitate the releases at 6 land trust (LT) properties and 5 state forests in the riparian hemlock forest of the Upper Farmington and its tributaries. Releases were made in all 5 member towns of Canton, New Hartford, Barkhamsted, Hartland and Colebrook, from mid-May through mid-June 2025. Biological control releases of *S. tsugae* through FRCC to protect hemlocks in this watershed now total 21,250 from 2021 – 2025 (Figure 1). Connecticut's hemlocks have also been stressed by consecutive severe late summer-fall droughts in 2024 and 2025 and a reduction in HWA pressure is beneficial toward tree recovery.

The beetles were hand-delivered by Tree Savers to Dr. Cheah's laboratory in Windsor and fed and maintained at cool temperatures in an incubator until the time of scheduled releases. Dr. Cheah applied for and obtained permission and permits for releases on state lands and land trust properties. Through cooperation with multiple partners in 2025, *S. tsugae* was released at state forest sites (Werner

Woods at Roaring Brook Nature Center, a section of Nepaug State Forest, American Legion, Peoples, Tunxis and Algonquin State Forests), at Canton Conservation LT's Pratt Preserve, at New Hartford LT's South Nepaug Brook Preserve, Wernick and Oliva preserves on East Mountain Brook, at Northwoods Land Conservancy properties of Mill District Preserve and Mill District Sanctuary, and on hemlocks of the Metropolitan District Commission lining the Upper Farmington along Hogback Road (Figures 2-4).

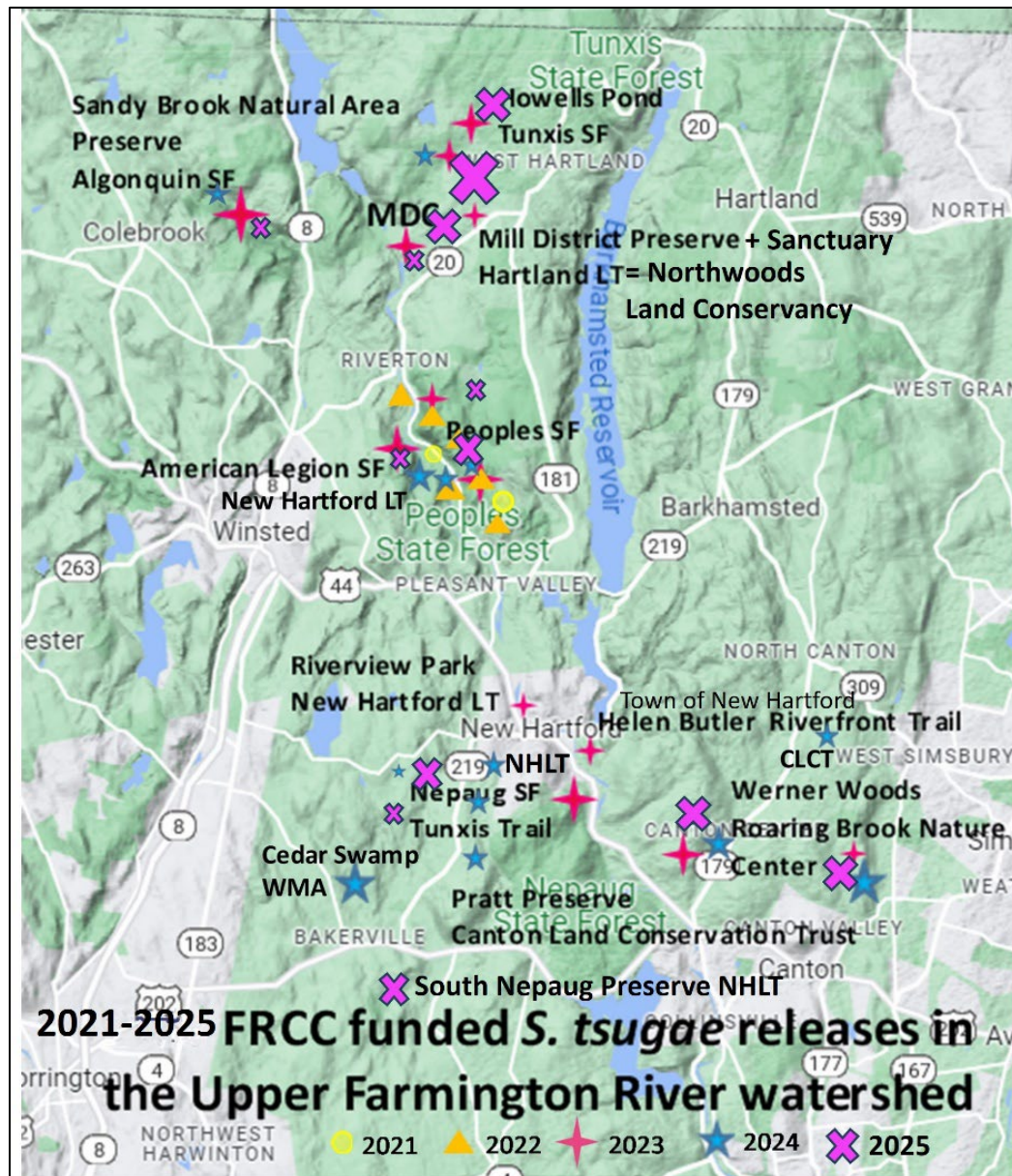


Figure 1. Map showing releases of *S. tsugae*, funded by FRCC, from 2021 – 2025, to manage invasive HWA infestations.

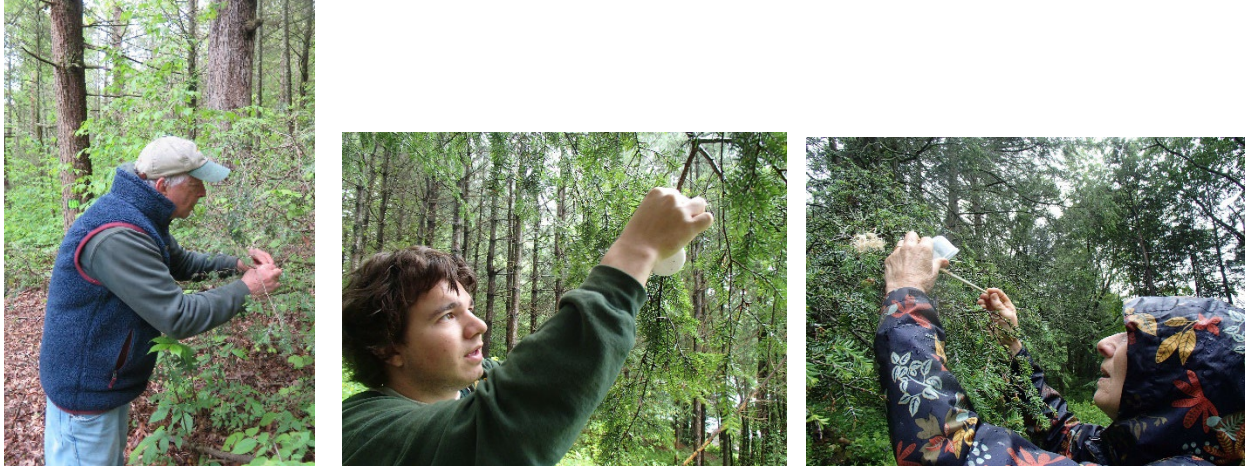


Figure 2. 2025 releases at Werner Woods, Mathies Grove at Peoples State Forest and at Pratt Preserve in Canton in May and June 2025



Figure 3. Members of the Northwoods Land Conservancy release *S. tsugae* at the Mill District Preserve June 2025

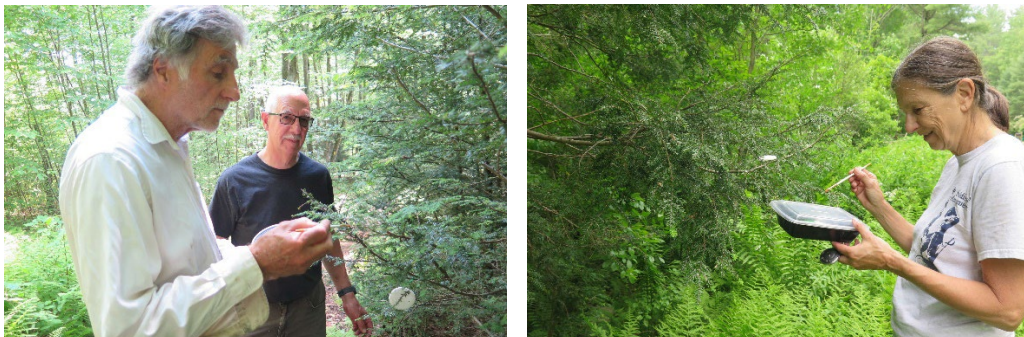
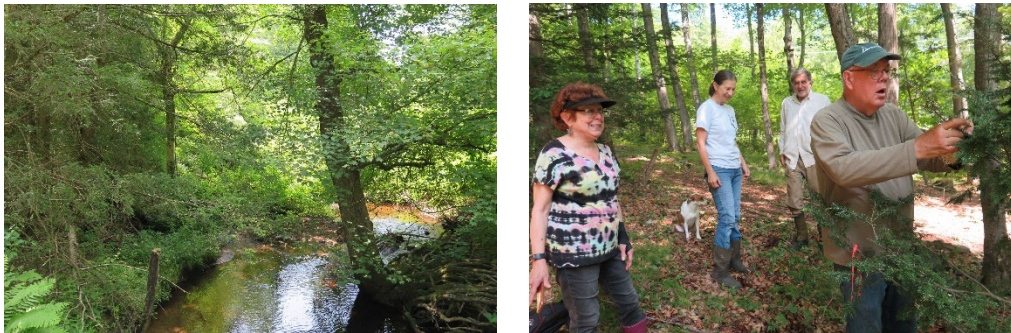


Figure 4. New Hartford Land Trust releases along South Nepaug and East Mountain Brooks

The 2025 FRCC HWA biological control program released 5,000 *S. tsugae* at 13 sites in all 5 member towns of the Wild and Scenic Upper Farmington River, summarized in Table 1 below:

Table 1: FRCC Wild + Scenic 2025 Releases of *Sasajiscymnus tsugae* (n = 5,000)

Species	No.	Date Released	Location	Town
<i>Sasajiscymnus tsugae</i>	100	May 19	Tunxis SF , Old Forge Rd marsh	Hartland
	500	May 19 June 4	Tunxis SF, Howell's Pond	Hartland
	200	May 21	Legion Rd, American Legion SF	Barkhamsted
	600	May 23	Werner Woods, Nepaug SF , Roaring Brook Nature Center on Jim Brook and tributary;	Canton
	200	June 18	Upper Jim Brook and by pond	
	700	June 4	Mill District Preserve, Northwoods Land Conservancy	Hartland
	400	June 4	Mathies Grove, Peoples SF Lower Fishing Parking area Opposite Squire's Tavern/ E River Rd	Barkhamsted
	300	June 18	Mathies Grove by Stone Museum, field edges,	
	100		Beaver Brk Rd near boardwalk	
	200	June 11	Mill District Sanctuary, Northwoods Land Conservancy	Hartland
	100	June 11	Algonquin SF above Sandy Brook	Colebrook
	300 100 200	June 12	New Hartford LT properties South Nepaug Brook Preserve Wernick Preserve Oliva Preserve	New Hartford
	200	June 12	MDC , Upper Hogback Rd	Hartland
	100	June 12	American Legion SF Lower Henry Buck Trail	Barkhamsted
"	700	June 17 -18	Pratt Preserve, Canton Conservation LT on Cherry Brook; driveway and field + Blue & Red Trails	Canton
TOTAL	5,000		13 sites	5 Towns

Encouraging signs of riparian hemlock recovery at American Legion and Peoples State Forests were observed in November 2025, possibly attributed to a combination of recent winter mortality of HWA and suppression of HWA resurgence by *S. tsugae* (Figure 5):



Figure 5. Signs of hemlock recovery along the Upper Farmington River at American Legion and Peoples State Forests in November 2025

Report prepared by Carole Cheah, January 22, 2026.