

Hemlock Woolly Adelgid (HWA) Action/Treatment Program for Nova Scotia

Frequently Asked Questions

What elements are included in the HWA Action/Treatment Program?

- Selection and chemical treatment of high priority hemlock stands on Crown and protected lands.
- Outreach to help with protection of hemlock on other lands.
- Facilitation of volunteer and community-based stewardship to conserve and protect hemlock.
- Research related to long-term management of HWA.

Why is this program necessary?

- 95% of trees in hemlock stands can die from HWA within 4-15 years.
- Rapid decline and death of hemlocks is already being observed in parts of western Nova Scotia.
- The loss of hemlock will have severe ecological and cultural consequences.
- Hemlocks store large amounts of carbon to help mitigate climate change – an estimated 15-21 million tons of carbon are stored in hemlock stands in the province.

Where is the funding for this program coming from?

- Funding is coming from the federal Nature Smart Climate Solutions Fund administered by Environment and Climate Change Canada. This fund helps conserve, manage, and restore ecosystems to mitigate and adapt to climate change. Half of the funding being received will be used for obtaining and conserving more forest lands, and the other half will be used for the HWA Action/Treatment Program. The province is also providing funding from the Environmental Trust Fund and committing crown lands for conservation as part of the project.

Who is involved in delivering this program?

- The Department of Environment and Climate Change is administering the program in collaboration with the Department of Natural Resources and Renewables.
- The Medway Community Forest Cooperative will also be providing direct assistance.
- Input and help from a broad range of stakeholders on the HWA Working Group – Maritimes is also being provided.
- The Mi'kmaq of Nova Scotia, through their Assembly of Nova Scotia Mi'kmaq Chiefs, forest advisory group, and key local representatives, are also playing an important role.

How will high priority hemlock stands be selected?

- We're using a scoring system originally developed by Cornell University and modified for Nova Scotia to rank and identify the highest priority hemlock stands.
- Various criteria, like old growth forest, have been used to identify important ecological areas.
- We have also worked with the Mi'kmaq of Nova Scotia to identify areas of high cultural significance.

Tell me more about HWA ...

- HWA is an invasive pest which was first detected in NS in 2017.
- It has spread rapidly and is now found in seven western counties (Shelburne, Yarmouth, Digby, Annapolis, Queens, and most recently Kings and Lunenburg).
- An aphid like insect it feeds on water and nutrients found in hemlock twigs.
- This feeding causes loss of foliage and new growth and eventual tree death.
- The presence of white, cottony masses on twigs at the base of needles indicates the presence of HWA.

How can HWA be controlled?

- Early detection and treatment of trees is key.
- Chemical treatment of individual trees is currently the only effective way to control HWA.
- Research on biological control agents, including insect predators to reduce HWA populations, shows promise for long-term management.

What kind of chemical treatments are available to control HWA?

- To control HWA, systemic insecticides which move through the vascular tissues of the tree are applied.
- Currently there are four insecticides approved for use in Canada through Health Canada's Pest Management Regulatory Agency – they include: IMA-jet, Xytect 2F, TreeAzin, and Starkle 20SG.
- IMA-jet and TreeAzin are injected directly into the tree using special tree injection equipment, and Xytect 2F and Starkle 20SG are applied on the bark to the lower part (1.4m) of the tree using a backpack sprayer.
- IMA-jet and Xytect 2F take 6-9 months to take effect and provide 4-7 years of protection.
- TreeAzin and Starkle 20SG act quicker and only take 1 month to take effect, but only provide 1-2 years of protection.
- These are all commercial pesticides requiring a provincial pesticide applicators certificate ([Pesticide Applicator Certification | Pests and Pesticides \(novascotia.ca\)](#)) to apply. *There is no domestic or over the counter pesticide currently available for HWA control in Canada.*

What safety measure are in place for conducting these treatments?

- Treatments will only be done by or under the supervision of qualified pesticide applicators.
- All mixing and loading of pesticides will be conducted 30 or more meters from water and within a portable berm for containment.
- Bark applications will only be made 7 metres or more from watercourses and only done when weather conditions permit.
- All pesticide will be applied per label directions and safely stored when not being used.

Will these chemical treatments have any impact on the environment or human health?

- All chemicals have been evaluated by Health Canada and are safe for use and provide effective control when used per label directions.

Will any treatments be conducted on private lands?

- Through various outreach opportunities, treatment information will be shared with private landowners who can conduct their own treatments on private lands.
- Treatment information will also be provided to licensed pesticide applicators who can provide a service for fee to private landowners.

Will the province keep doing these treatments in the future?

- Given the cost and tremendous effort required to conduct chemical treatments, our goal is to use these treatments only in the short-term. Therefore, we are also looking at whether biological control agents can provide a long-term management solution to reduce and regulate HWA populations naturally.

Tell me more about biological controls ...

- Invasive species can cause a great deal of damage when there are no biological agents (insect predators, parasites, disease) present to control them.
- In Nova Scotia, research conducted has found no biological control agents.
- In contrast, on the west coast of Canada where HWA is present, there is little damage to hemlock compared to Nova Scotia because natural predators found there help to regulate or keep HWA populations low.
- Studies have shown that these predators only attack adelgids and prefer HWA. They do not affect other insects.
- Research involving the release of these insect predators to regulate HWA populations in Nova Scotia will be evaluated. If successful, a biological control program could provide a long-term solution to the management of HWA and protection of hemlock in the province.

For additional information on HWA and research, management, and outreach efforts to conserve Nova Scotia's hemlock, please visit [Home | Nova Scotia Hemlock Initiative \(nshemlock.ca\)](#) .



This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada