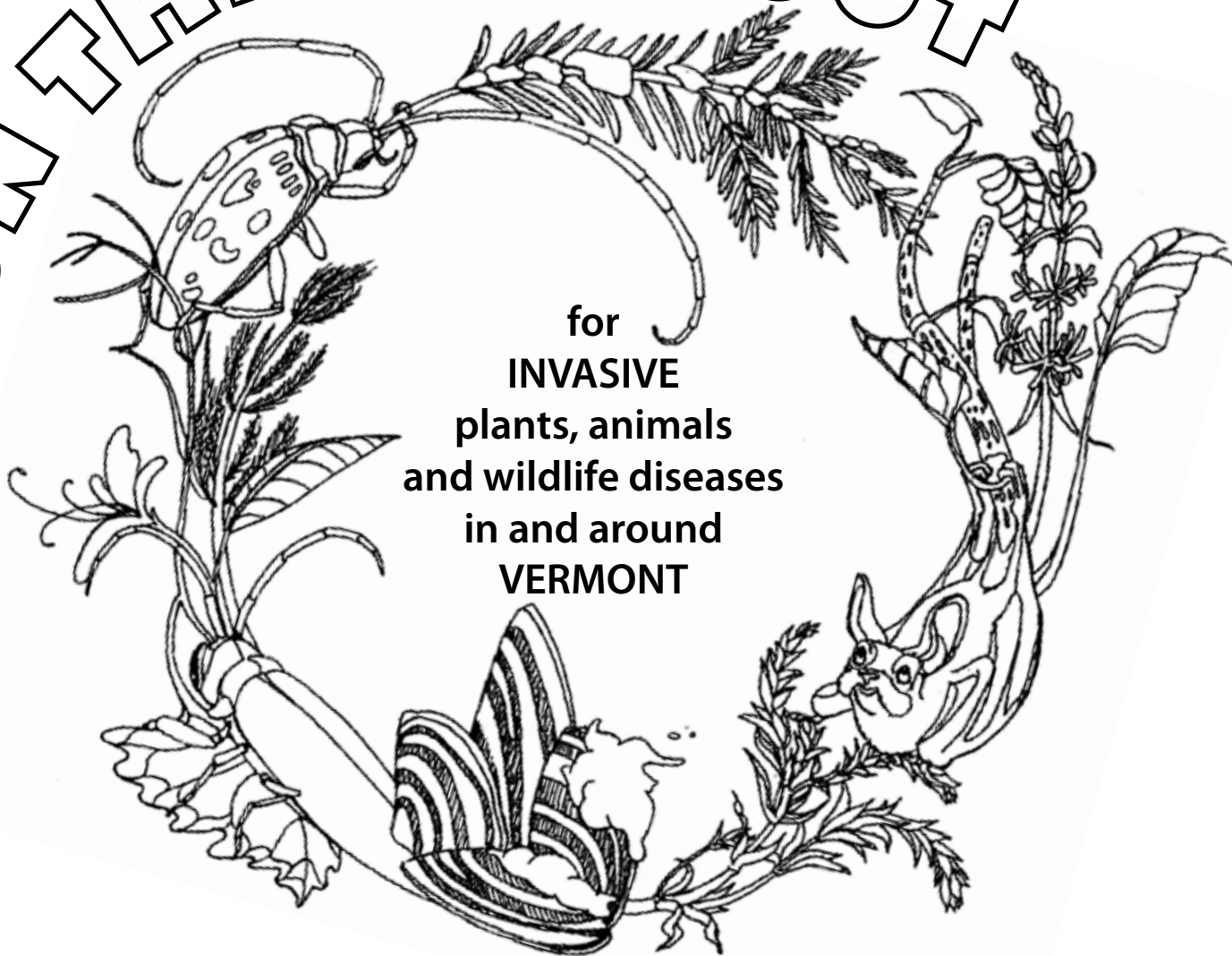


# ON THE LOOKOUT

for  
INVASIVE  
plants, animals  
and wildlife diseases  
in and around  
VERMONT



Let's



VERMONT

AGENCY OF NATURAL RESOURCES  
Department of Forests, Parks and Recreation

# What is an invasive?

An invasive is an organism whose introduction to a habitat changes its ecological balance.

Invasive:

## Asian Longhorn Beetle (ALB)

*Anoplophora glabripennis*

**Origin:** China and Korea

**Description:** Large (0.75 to 1.25” long), jet black beetle with white spots. Antennae are very long with black and white stripes.

**Why is ALB bad?** ALB infest and kill hardwood trees such as maple, elm, ash, birch, and poplar, among others. The adult beetle lays eggs on the tree bark; when the larva hatches, it burrows into the wood of the tree, weakening the structure of the tree while protecting itself from predators. ALB are inadvertently transported through human movement of unprocessed wood, such as packing material and firewood.



Invasive:

## Didymo

*Didymosphenia geminata*

**Origin:** Northern latitudes of Europe, Asia, and North America

**Description:** A light tan to brown freshwater algae. Clumps of didymo feel like wet wool—not slimy or slippery—and resist being pulled apart.

**Why is Didymo bad?** Didymo, also known as Rock Snot, can form dense mats on river bottoms, impacting river ecology and hydrology. These mats have no nutritional value for larval insects, negatively impacting the food web, and possibly endangering trout fisheries. Individual cells are microscopic and can easily be spread to new water bodies on fishing gear, boats, even the soles of shoes that have been in the water. Once didymo is established in a water body, there are no known ways to eradicate it.

Invasive:

## Hydrilla

*Hydrilla verticillata*

**Origin:** Central Africa

**Description:** A rooted aquatic plant with whorls of five oblong, fine toothed leaves, each up to  $\frac{3}{4}$  inch long.

**Why is Hydrilla bad?** Hydrilla spreads quickly, outcompeting native aquatic vegetation, and filling the water body. Large populations of hydrilla can render the water body unusable for recreation, such as boating, swimming, and fishing. This plant is spread to new water bodies through vegetative fragments, often carried on boats or fishing gear.



Invasive:

## **Emerald Ash Borer (EAB)**

*Agrilus planipennis*

**Origin:** Asia

**Description:** Small (0.5”) dark, metallic green beetle. Larvae leave distinctive “S” shaped galleries under the bark of the tree; emerging adults leave exit holes shaped like a “D.”

**Why is EAB bad?** EAB larvae tunnel under the bark of ash trees, cutting off the tree’s supply of nutrients and water, thus killing the tree. New infestations can occur when EAB are inadvertently transported to new locations in firewood and other unprocessed wood products.



Invasive:

## Eurasian Milfoil

*Myriophyllum spicatum*

**Origin:** Europe and Asia

**Description:** A feathery aquatic plant with whorls of four leaves, each with 12-21 pairs of leaflets.

**Why is Eurasian Milfoil bad?** Eurasian milfoil can form thick mats of vegetation floating on the surface or underwater, interfering with swimming, boating, and fishing, crowding out native water plants, and drastically altering the available habitat. The plant is spread to new water bodies through tiny stem fragments, often carried on boats, fishing gear, or water fowl. Once established in a water body, Eurasian milfoil is very difficult to eradicate.

Invasive:

## Zebra Mussel

*Dreissena polymorpha*

**Origin:** Eastern Europe

**Description:** A small, freshwater bivalve mollusk, many zebra mussels bear a black and white striped pattern on their shells.

**Why are Zebra Mussels bad?** Zebra mussels multiply rapidly, with a single female producing up to a million eggs per year. Zebra mussels will colonize any hard surface, natural or artificial. Zebra mussels clog water in-take pipes, add drag to boat hulls, foul beaches, drag down navigational buoys with their weight, and damage the surfaces they attach to. Zebra mussels will also colonize the shells of native mollusks, turtles, crayfish, and other slow moving animals, impacting these individuals' ability to survive. Large populations of these filter feeders can rob food from larval fish, native mollusks, and other native aquatic animals.





Invasive:

# Garlic Mustard

*Alliaria petiolata*

**Origin:** Europe

**Description:** Biennial, non-woody plant. First year plants form a rosette of leaves near the ground; second year plants develop a stem carrying small, white flowers with four petals.

**Why is Garlic Mustard bad?** Garlic Mustard spreads rapidly, quickly becoming the dominant ground cover, reducing biodiversity. Garlic Mustard hinders the growth of hardwood trees by out-competing the seedlings for light, water, and nutrients. Garlic Mustard also secretes chemicals into the soil that reduce the germination and growth of surrounding plants, including hardwood trees.



Invasive:

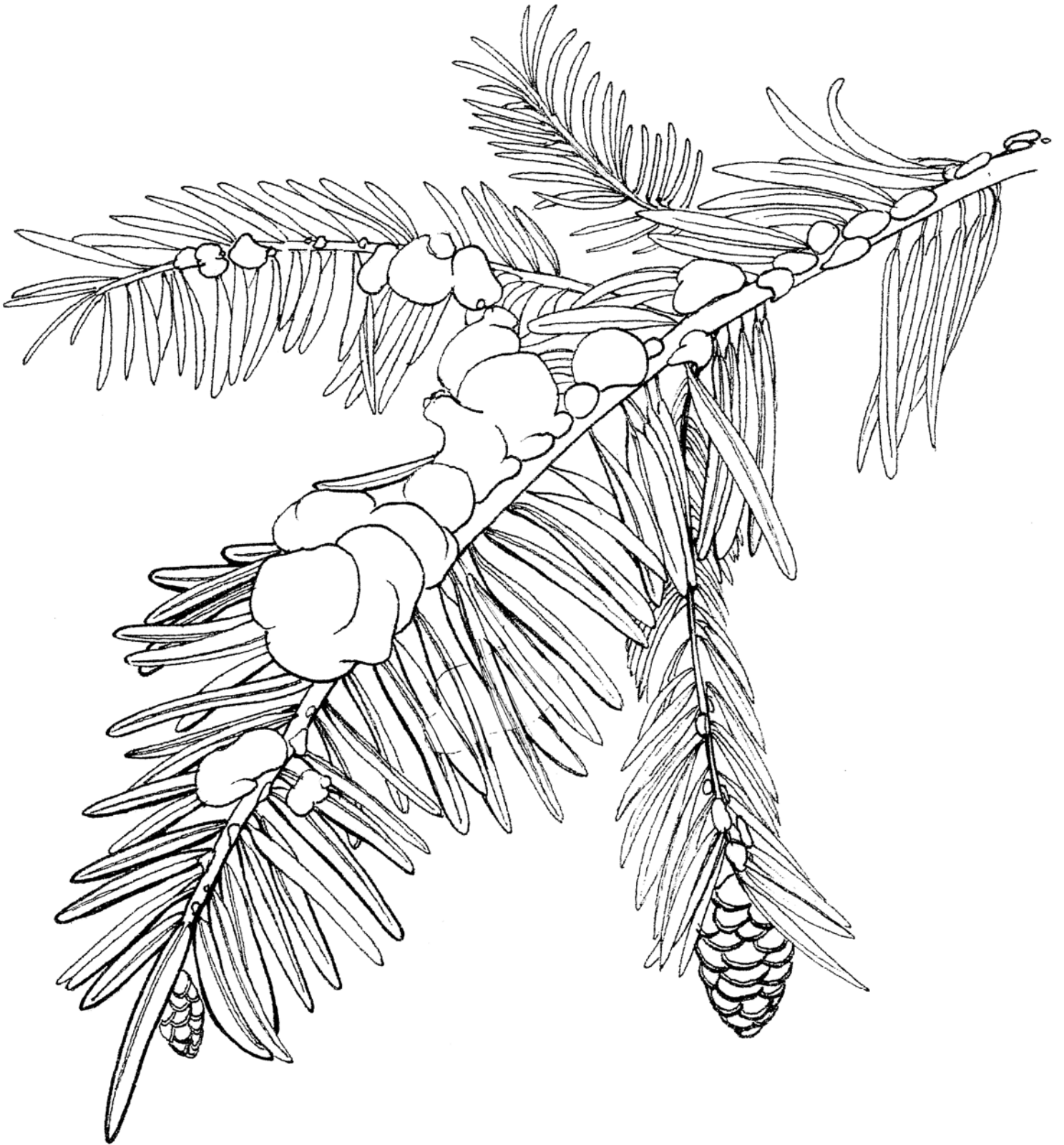
## **Hemlock Woolly Adelgid (HWA)**

*Adelges tsugae*

**Origin:** Asia

**Description:** Very small (less than 1/16-inch), varying in color from dark reddish brown to purplish black. The waxy, white, wool-like substance, covering hemlock twigs, that the adelgid uses to protect its eggs is more noticeable.

**Why is HWA bad?** HWA attack hemlock trees. The nymphs of the HWA feed on the starches the tree has stored, weakening, and eventually killing, the tree. When combined with other stressors, such as drought or other pests, tree mortality is higher and swifter.



Invasive:

## Japanese Knotweed

*Polygonum cuspidatum*

**Origin:** East Asia

**Description:** Shrub-like, non-woody plant. Stems are smooth, swollen at the joints where the leaves meet the stem. The stem at the joints is also surrounded by a membranous sheath.

**Why is Japanese Knotweed bad?** Japanese Knotweed spreads both by seeds and vegetatively, quickly forming dense, bamboo-like thickets where little else grows, reducing food and habitat available for animals. Japanese Knotweed was introduced as an ornamental plant and can still be found around houses.

Invasive:

## Purple Loosestrife

*Lythrum salicaria*

**Origin:** Europe

**Description:** Non-woody, wetland perennial. Flowers, with five to six pinkish-purple petals, are found in a long spike. Leaves are opposite and smooth edged.

**Why is Purple Loosestrife bad?** Purple Loosestrife invades wetlands, suppressing native wetland plants, including threatened and endangered species. This alters wetland form and function, while reducing the food and habitat available for wetland wildlife. A single purple loosestrife plant can produce more than 2 million seeds which are dispersed by water or in mud attached to wildlife, people, and equipment.



Wildlife Epidemic:

## White Nose Syndrome (WNS)

*Geomyces destructans*

**Origin:** Unknown

**Description:** WNS, a fungal infection that affects bats, was named after the white substance it leaves on the bats' muzzles. The syndrome was first discovered in 2006 in a cave 40 miles west of Albany NY. Since then, more than a million bats have died from WNS and the syndrome has spread to many eastern states and provinces. Scientists are still not certain why WNS is killing the bats.

**Why is White Nose Syndrome bad?** In the words of the U.S. Fish & Wildlife Service, WNS is "the worst wildlife health crisis in memory." In many affected caves, all, or nearly all, of the bats hibernating there have died. Entire bat species stand at risk of extinction from WNS. The bats dying from WNS are insectivores—that is, they eat insects, keeping populations of beetles, moths, aquatic flies, and mosquitoes in check. With fewer bats to control insect populations, we face the threat of increased insect damage to our crops and woodlands, as well as more mosquitoes to interrupt our enjoyment of the natural world.





Invasive:

## **Bush Honeysuckle**

*Lonicera tartarica, L. morrowii, & L. maackii*

**Origin:** Asia and Western Europe

**Description:** Stout, erect shrub. Older branches are often hollow. Flowers are generally pink to crimson. Fruits may be yellow, orange, or red. Native species of honeysuckle are twining vines or live in dry, rocky areas and have yellow flowers.

**Why is Bush Honeysuckle bad?** Invasive bush honeysuckle reduce the growth of native shrubs and ground covers, eventually eliminating native species in the invaded area. These honeysuckles leaf out earlier in the spring than native shrubs and trees; this is especially detrimental to spring ephemerals such as spring beauty, bloodroot, trillium, and hepatica that flower early in the spring when more light is available on the forest floor.



We hope you learned something!



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