

Invasive Flora Control Plan

Town of Sedgwick, Maine

March 2026

1. Background

Three invasive plant species have established themselves in Sedgwick and across Hancock County: Asiatic bittersweet (*Celastrus orbiculatus*), purple loosestrife (*Lythrum salicaria*), and Japanese knotweed (*Fallopia japonica*). None of these plants are native to Maine. All three spread aggressively, and once established, they displace the native vegetation that local wildlife, pollinators, and waterways depend on.

Bittersweet is a woody vine that climbs and girdles trees, eventually toppling them under the added weight. It thrives along roadsides, field edges, and anywhere the canopy has been opened. Purple loosestrife colonizes wetlands, riverbanks, and tidal margins, converting diverse marsh habitat into dense monoculture stands that offer little value to native insects or birds. Japanese knotweed forms thick stands along roads and watercourses, crowds out all competing vegetation, and can damage pavement, foundations, and culverts with its root system.

Left unmanaged, all three species will continue to spread. The cost and difficulty of control increases the longer they go unchecked. A town that acts early, while infestations are still manageable, spends far less in the long run than one that waits.

Source: UMaine Cooperative Extension, Bulletin #2536, "Invasive Plants Threaten Maine's Natural Treasures"

2. The Three Target Species

Species	Identification	Where It Grows	Why It Matters
Asiatic Bittersweet (<i>Celastrus orbiculatus</i>)	Woody vine. Climbs trees, wraps tightly around trunks and branches. Bright red/orange berries spread by birds.	Roadsides, field edges, forest margins, stone walls, hedgerows. Anywhere with partial sun.	Girdles and kills trees. Forms dense thickets that shade out native understory. Spreads rapidly by seed and root fragments.
Purple Loosestrife (<i>Lythrum salicaria</i>)	Tall perennial herb, 3 to 7 feet. Distinctive purple flower spikes in mid to late summer.	Wetlands, stream banks, pond margins, roadside ditches, tidal marshes.	A single plant can produce over 2 million seeds per year. Converts diverse wetland habitat into monoculture. Reduces value for waterfowl, amphibians, and native insects.

Species	Identification	Where It Grows	Why It Matters
Japanese Knotweed (Fallopia japonica)	Tall herbaceous perennial, 6 to 10 feet. Bamboo-like stems, broad leaves, clusters of small white flowers in late summer.	Roadsides, riverbanks, stream corridors, disturbed ground, around buildings and culverts.	Spreads primarily by root fragments. Can grow through pavement and foundations. Extremely difficult to eradicate once established. Even small root pieces (under an inch) can resprout.

Source: UMaine Cooperative Extension publications and Maine Natural Areas Program species fact sheets

3. Control Methods

Effective control uses a combination of mechanical removal and, where appropriate, targeted herbicide application. The University of Maine Cooperative Extension recommends treating herbicide as one tool among several, not as a first or only resort. The right approach depends on the species, the size of the infestation, and its proximity to water.

Source: UMaine Cooperative Extension, Pesticide Safety Education Program; Maine Invasive Species Network (MISN)

Asiatic Bittersweet

Mechanical: Cut vines at the base and again at chest height to free host trees. Pull seedlings by hand when soil is moist. Cutting alone will not kill the plant; it will resprout from the roots. Cut material with berries should be bagged and disposed of in the trash, not left on the ground or composted.

Herbicide: The most effective chemical treatment is cut-stump application: cut the vine at the base and immediately paint the cut surface with a concentrated triclopyr-based herbicide (such as Garlon 4 Ultra, applied undiluted or at 25% concentration in bark oil). Triclopyr is generally more effective on bittersweet than glyphosate. Treatment is most effective from midsummer through early fall, when the plant is actively moving carbohydrates down into its root system. Repeated follow-up treatments may be necessary in subsequent years.

Source: UConn Extension, "Controlling Oriental Bittersweet"; UMaine Extension, Bulletin #2536; Natural Areas Journal, Vol. 35(2), "Cutting and Herbicide Treatments for Control of Oriental Bittersweet"

Purple Loosestrife

Mechanical: Small infestations can be hand-pulled before seed set (typically by mid-July). The entire root mass must come out; broken root fragments will resprout. Cut flower heads before they go to seed and bag them for disposal. Mowing is generally not recommended for loosestrife, as it stimulates regrowth from the base.

Biological control: Two species of *Galerucella* leaf beetle (*G. calmariensis* and *G. pusilla*) have been released in Maine and across the Northeast specifically to control purple loosestrife. These beetles complete their life cycle exclusively on loosestrife and cannot survive on other plants. Adults chew through the leaves; larvae feed on the photosynthetic tissue, stripping plants down to bare stalks in heavy infestations. Several Maine land trusts, including Kennebec Estuary Land Trust, have

successfully raised and released *Galerucella* beetles to reduce loosestrife at specific sites. Biological control is particularly well suited to large, wet-area infestations where herbicide use is restricted.

Herbicide: Glyphosate-based herbicides formulated for aquatic use (such as Rodeo or AquaNeat) can be effective against loosestrife. However, any herbicide application near water in Maine requires strict compliance with state regulations (see Section 4 below). A licensed applicator is required.

Source: UMaine Cooperative Extension; Kennebec Estuary Land Trust Galerucella program; York County SWCD Galerucella Rearing Guide; Maine BPC aquatic herbicide regulations

Japanese Knotweed

Mechanical: Repeated cutting or mowing is the primary non-chemical tool. UMaine Extension recommends cutting as frequently as once per week during the growing season. All cut material should be bagged in black plastic bags and left in direct sun for several weeks to kill stems and leaves before disposal in the trash. Never compost knotweed. Never till or dig without extreme care; broken rhizome fragments as small as half an inch will resprout into new plants. Smothering with heavy landscape fabric or tarps for at least one full year (preferably longer) can suppress growth, but requires consistent maintenance.

Herbicide: Glyphosate is the most commonly used herbicide for knotweed in Maine. UMaine Extension describes two application methods:

- **Foliar spray:** Applied to actively growing foliage, typically in late summer or early fall when the plant is moving nutrients to its roots. This approach is practical for large patches but is non-selective; it will kill any plant it contacts. A licensed applicator should handle foliar applications, particularly near roads or waterways.
- **Cut-stem treatment:** For smaller or more contained patches, cut stems to a few inches above ground and immediately apply concentrated glyphosate directly into the hollow stem. This is more targeted and reduces off-target impact. It is the preferred method when knotweed grows near desirable vegetation or water.

Knotweed control is a multi-year commitment regardless of method. Expect at least three to five years of consistent treatment before eradication at a given site.

Source: UMaine Cooperative Extension, "How can I control Japanese Knotweed on my new property?" (2024); UMaine MISN, "Japanese Knotweed and Its Control in Maine" (2023)

Control Methods at a Glance

Species	Mechanical	Chemical	Notes
Asiatic Bittersweet	Cut vines at base and at chest height. Pull seedlings when soil is moist. Bag berries for disposal.	Cut-stump with triclopyr (Garlon 4 Ultra). Apply to fresh cut. Midsummer through early fall.	Triclopyr > glyphosate for this species. Multi-year follow-up needed.

Species	Mechanical	Chemical	Notes
Purple Loosestrife	Hand-pull small patches before mid-July seed set. Remove entire root mass. Bag flower heads.	Aquatic-formulated glyphosate (Rodeo, AquaNeat). Licensed applicator required near water.	Galerucella beetles are effective biocontrol for large/wet-area infestations. Contact Maine BPC for permits near water.
Japanese Knotweed	Cut/mow weekly during growing season. Bag in black plastic, sun-kill before trash disposal. No composting. No tilling.	Glyphosate via foliar spray (large patches) or cut-stem injection (targeted). Late summer/early fall.	3 to 5 year commitment minimum. Even tiny root fragments resprout. Licensed applicator for foliar.

4. Herbicide Use: Safety and Regulations

Herbicide use is often the most discussed aspect of invasive species control, and for good reason. Used carelessly, herbicides can harm non-target plants, contaminate water, and affect human health. Used properly, within the framework Maine has established, they are an effective and well-regulated tool for controlling plants that mechanical methods alone cannot eliminate.

The University of Maine Cooperative Extension's Pesticide Safety Education Program advises that chemical control should be considered as one part of an integrated approach, not as a standalone solution. The goal is always to use the least amount of herbicide necessary, applied in the most targeted way possible.

Source: UMaine Cooperative Extension, Pesticide Safety Education Program

What Maine Law Requires

The Maine Board of Pesticides Control (BPC), housed within the Department of Agriculture, Conservation and Forestry, regulates all pesticide use in the state. Key requirements that apply to invasive plant control:

- **Licensed applicators:** Any application of restricted-use herbicides (including most triclopyr and glyphosate products used for invasive species) must be performed by or under the direct supervision of a licensed pesticide applicator certified by the Maine BPC.
- **25-foot buffer near fresh water:** Maine law prohibits the application of herbicides within 25 feet of fresh surface waters. This applies year-round.
- **Aquatic herbicide permits:** Any herbicide application to waters of the state, including wetlands, requires a permit from the Maine Department of Environmental Protection (DEP) and a license from the BPC. These permits are rarely approved except for applications by state agencies or their contractors.
- **Sensitive area awareness:** Before any herbicide application, applicators must identify all sensitive areas within a half-mile radius of the treatment site and within one mile downwind. This includes homes, schools, hospitals, surface waters, and water treatment facilities.

- **Weather conditions:** Applications should not take place in wind over 10 mph or in gusty conditions, to minimize off-target drift.
- **Municipal ordinances:** Sedgwick may adopt its own pesticide ordinance. The BPC maintains a list of existing municipal ordinances across the state.

Source: Maine Board of Pesticides Control, DACF; Maine DEP aquatic herbicide program; UMaine Extension. "Minimizing Off-Target Deposition of Pesticide Applications"

Targeted Application Minimizes Risk

The control methods recommended in this plan emphasize targeted application over broadcast spraying. Cut-stump treatment (bittersweet) and cut-stem injection (knotweed) deliver herbicide directly to the plant's vascular system with minimal environmental exposure. These methods:

- Use a fraction of the herbicide that foliar spraying requires
- Eliminate drift risk almost entirely, since the product is painted or injected rather than sprayed
- Can be performed near water, roads, and other sensitive areas with appropriate care
- Reduce risk to non-target plants, insects, and soil organisms

For purple loosestrife in wetland areas, biological control using *Galerucella* beetles is the preferred approach and requires no herbicide at all.

What This Means in Practice

A well-run invasive species control program in Sedgwick would not involve broad herbicide spraying along roads or across wetlands. It would involve trained volunteers or licensed professionals making targeted applications at specific sites, using the minimum effective amount, during the correct seasonal window, with all state and local regulations followed. Many control activities, particularly for bittersweet and knotweed, can be done mechanically with no herbicide at all, though chemical follow-up typically improves long-term results.

5. Program Structure

An effective control program does not require a large budget or a new town department. It requires a basic structure: someone to organize the effort, a way to find and record infestations, a plan for treating them, and a schedule for follow-up.

Survey and Mapping

The first step is knowing where infestations exist. A town-wide survey, conducted by volunteers with basic training in species identification, would map the location and approximate size of each infestation. The Maine Natural Areas Program operates iMapInvasives, a free online mapping tool where survey results can be recorded and shared with the state.

Prioritization

Not every infestation needs treatment at the same time. Priority should go to: small, newly established patches (which are cheapest to eliminate); infestations near waterbodies, wetlands, or conservation

land; and infestations on town-owned property or rights of way. Large, well-established patches may require a multi-year containment strategy rather than immediate eradication.

Treatment

Treatment follows the methods described in Section 3. For most sites, treatment would be carried out by volunteers under the guidance of a trained coordinator, with licensed applicators brought in for herbicide work that requires certification. The Maine Forest Service's Invasive Plant Control on Priority Public Pathways (IPCPP) program provides technical assistance and sometimes direct support for municipal invasive species projects.

Tracking and Follow-up

Every treated site needs to be revisited at least annually. Invasive species control is not a one-time event. Bittersweet will resprout from missed roots. Knotweed will regrow from rhizome fragments. Loosestrife will reseed from the seed bank. Logging each treatment in iMapInvasives creates a record that helps the town and the state track progress over time.

Roles

Role	Responsibility
Volunteer coordinator	Organize work days, train volunteers on species ID and safe removal, maintain records
Volunteers	Survey, map, and perform mechanical removal at scheduled work days
Licensed applicator	Perform herbicide treatments where chemical control is needed (hired as needed)
Road Commissioner	Identify infestations along town roads and rights of way; coordinate access for treatment
Maine Forest Service	Technical assistance through the IPCPP program; potential funding and equipment
UMaine Cooperative Extension	Species ID training, best practice guidance, Pesticide Safety Education

6. Budget and Funding

The cost of a control program depends on its scope. A volunteer-driven program with targeted contractor support is the most realistic model for a town Sedgwick's size.

Item	Estimated Cost	Notes
Volunteer training and coordination	\$0 to \$500/year	UMaine Extension and MISN offer free training. Costs cover supplies (gloves, loppers, bags, flagging tape).

Timeframe	Action	Notes
Summer/Fall 2026	Treat highest-priority sites	Focus on small new infestations and sites near water. Use mechanical methods first; bring in a licensed applicator for chemical treatment where warranted.
Fall 2026	Explore Galerucella beetle sourcing	Contact Kennebec Estuary Land Trust or York County SWCD for guidance on rearing beetles for loosestrife sites.
Ongoing	Annual follow-up at all treated sites	Revisit, retreat as needed, update iMapInvasives records. Report progress to the Select Board annually.

8. References and Contacts

University of Maine Cooperative Extension

- Bulletin #2536: "Invasive Plants Threaten Maine's Natural Treasures" (extension.umaine.edu/publications/2536e)
- "Japanese Knotweed and Its Control in Maine" (extension.umaine.edu/invasivespecies, October 2023)
- "How can I control Japanese Knotweed on my new property?" (extension.umaine.edu/gardening, May 2024)
- Pesticide Safety Education Program (extension.umaine.edu/ipm/pesticide-safety)
- Maine Invasive Species Network, MISN (extension.umaine.edu/invasivespecies)

State of Maine

- Maine Board of Pesticides Control (maine.gov/dacf/php/pesticides)
- Maine DEP, Use of Aquatic Herbicides (maine.gov/dep/water/invasives/invherbicide.htm)
- Maine Natural Areas Program, iMapInvasives (maineinvasives.org)
- Maine Forest Service, Invasive Plant Control on Priority Public Pathways (IPCPP)

Other Resources

- Kennebec Estuary Land Trust, Galerucella biocontrol program (kennebecestuary.org)
- York County SWCD, Galerucella Beetle Rearing Guide (yorkswcd.org)
- Blue Hill Heritage Trust (bluehillheritagetrust.org)
- Hancock County Soil and Water Conservation District

Contacts

Organization	Phone	Web
UMaine Cooperative Extension, Hancock County	(207) 667-8212	extension.umaine.edu
Maine Board of Pesticides Control	(207) 287-2731	maine.gov/dacf/php/pesticides
Maine Forest Service, Forest Health	(207) 287-2431	maine.gov/dacf/mfs
Maine Natural Areas Program	(207) 287-8044	maine.gov/dacf/mnap