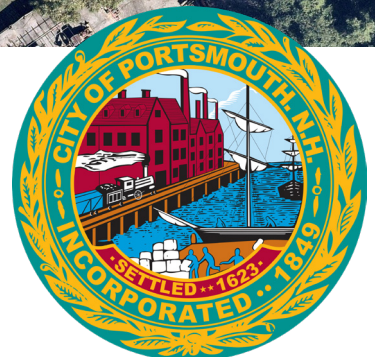


LAND MANAGEMENT PLAN

A NARRATIVE FOR INVASIVE MANAGEMENT & NATIVE PLANT RESTORATION AT INLAND WETLAND SITE



BANFIELD WETLAND BUFFER RESTORATION



PROJECT INTRODUCTION

This document is suitable for use in inland wetland systems throughout the city. This plan addresses a proposed invasive management and restoration planting at the Banfield Road Trail Head located at 850 Banfield Road, Portsmouth, NH. The parcel area is about 11.5 acres. It consists of a mix of wetlands, mown areas, gravel parking, and trail access to the New Hampshire Seacoast Greenway.

Overall the wetland areas are densely vegetated with woody trees and shrubs, although there are pockets of mowed lawn as well. There is significant invasive plant pressure in these wild spaces throughout the entire vegetated area.

The invasive population on site is mature and self-perpetuating. These species will inevitably displace the remnant native population unless decisive action is taken. These invasives include common culprits such as bittersweet, buckthorn, multiflora rose, autumn olive and phragmites.

The purpose of this plan is to identify the invasives plants we propose to remove, provide a description of each, and detail best management practices for control and management. The plan also includes a narrative for proposed native restoration, suggested plant species to restore the property, and an outline for planting methods.

Finally, this Land Management Plan provides a maintenance calender for all aspects of proposed management and ecological restoration over an extended timeline.

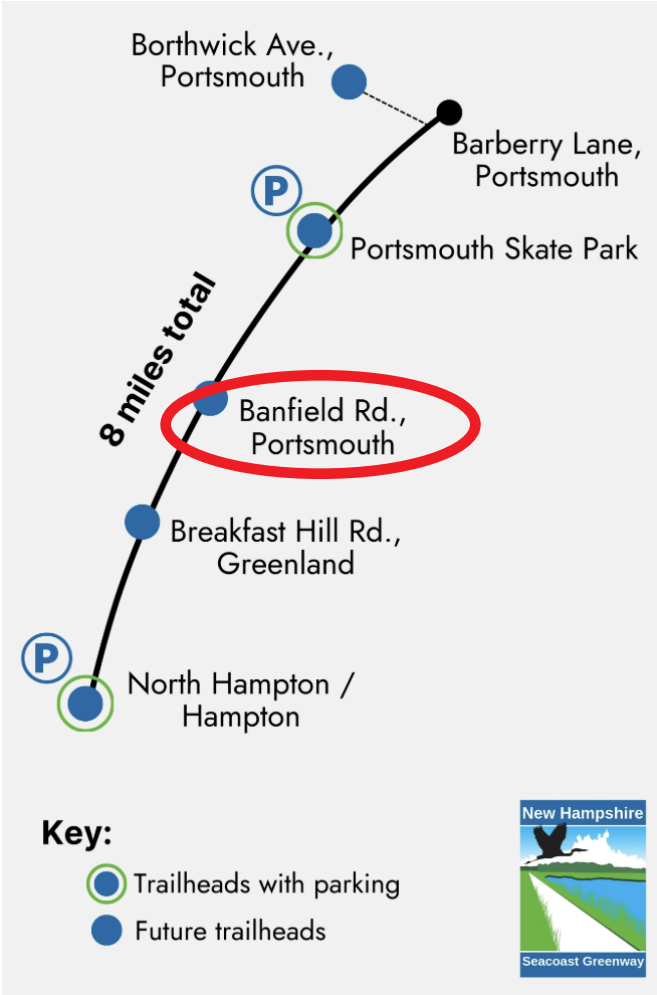
This project was made possible through grant funding from the New Hampshire Department of Environmental Services Coastal Resilience Grants (CRG) Program.

CONTENTS

2	Introduction
3	Context
4	Existing Conditions: Invasive Plant Images
6	Existing Conditions: Invasive Plant Inventory
8	General Invasive Plant Management Techniques
10	Specialized Invasive Plant Management Techniques
12	Existing Conditions: Native Plant Images
14	Existing Conditions: Native Plant Inventory
15	Restoration Planting Recommendations
16	Recommended Plant List
18	Native Plant Restoration Techniques
19	Maintenance Tips
20	Management Calendar for Treatment and Planting
24	Appendix A: Invasive Plant Species Pages

NEW HAMPSHIRE SEACOAST GREENWAY

The New Hampshire Seacoast Greenway (NHSG) is set to make a big impact on the region. Transforming this corridor into a multi-use “linear park” is a brilliant way to bridge the gap between Portsmouth and Seabrook while keeping people active year-round. The route spans seven coastal communities, providing a dedicated off-road path for commuters and tourists alike. The trail is designed for everything from summer biking and horseback riding to winter cross-country skiing. It serves as a vital link in the East Coast Greenway (ECG), which is essentially the “Appalachian Trail” for cyclists and pedestrians, stretching 3,000 miles from Maine to Florida. The NHSG weaves through the heart of New Hampshire’s coastline, including Portsmouth, Greenland, Rye, North Hampton, Hampton, Hampton Falls and Seabrook. The Banfield Road portion along the trail is a central place to access the Greenway.



Both Images from: <https://nhseacoastgreenway.org/>

EXISTING CONDITIONS: INVASIVE PLANT IMAGES



Along Banfield Road is a large patch of Phragmites.



Seed heads of invasive Purple Loosestrife.



The understory is dominated by invasive Common Buckthorn, Multiflora Rose and Phragmites.

EXISTING CONDITIONS: INVASIVE PLANT IMAGES



Bittersweet and Muliflora Rose suffocate a mature tree.



Morrow's Honeysuckle and Multiflora Rose shown growing in the wetland.



A small patch of Japanese Knotweed is starting to form within the Phragmites patch near Banfield Road.

EXISTING CONDITIONS: INVASIVE SPECIES INVENTORY

Banfield Road Wetland Invasive Plant Inventory

Invasive Pressure: High

**INVASIVES/UNDESIRABLE NON-NATIVES:
TREES/SHRUBS/WOODY VINES**

- Celastrus orbiculatus (Asiatic Bittersweet)
- Elaeagnus umbellata (Russian Olive)
- Lonicera morrowii (Morrow’s Honeysuckle)
- Rosa multiflora (Multiflora Rose)
- Rhamnus cathartica (Common Buckthorn)
- Frangula alnus (Alder Buckthorn)

HERBACEOUS PLANTS

*Intake was performed in March of 2026. There may be other herbaceous invasive plants in the wetland.

- Lythrum salicaria (Purple Loosestrife)
- Phragmites australis (Phragmites)
- Reynoutria japonica (Japanese Knotweed)



The understory of the Banfield Wetland has high invasive plant pressure which is choking out native species and compromising the biodiversity of the site that our wildlife depend on.

PROPOSED GENERAL INVASIVE MANAGEMENT TECHNIQUES

Important Note: The removal of invasive species can trigger the need for wetland permitting depending on the disturbance or activity levels necessary for removal. Please check your local city and state regulations to determine if your invasive removal method within a wetland or wetland buffer is an allowed method.

MANUAL HAND REMOVAL METHODS:

Manual methods of invasive plant management - including hand pulling and cutting - will be prioritized whenever possible. For tenacious woody plants, use of a weed-wrench is recommended. To minimize soil disturbance (which can activate invasive seed banks), only shallow-rooted invasive plants less than 1” in caliper should be hand pulled from the soil. Invasive plant species greater than 1” caliper (diameter) are best cut and treated. Invasive plant material will be disposed of off site, chipped and spread, or piled discreetly in the woods as habitat piles.



Hand pulling invasives should be prioritized, however if the invasion is too established it will not be an effective way to completely eradicate the species from the area.

MECHANICAL MANAGEMENT:

Mechanical methods of invasive control include mowing, string-trimming, and sawing down of single large specimens or extensive stands of a particular plant. In a few cases repeated mowing or cutting is all that is needed to weaken a plant's resources to the point of die-off. With most aggressive invasives however, mowing and cutting are only the first step in a more intensive program plan that involves selective herbicidal treatments.



Mechanical mowing of a dense stand of phragmites.

PROPOSED GENERAL INVASIVE MANAGEMENT TECHNIQUES

City of Portsmouth Zoning Ordinance
Article 10.1018.25 Pesticides and herbicides: The use of pesticides or herbicides is prohibited in a wetland or wetland buffer, except that application of pesticides by a public agency for public health purposes is permitted.

CUT AND DAB TREATMENT:

All invasive plant species that have a base greater than 1” in caliper will be addressed with herbicide application. Invasive plants of this size usually have extensive fibrous root systems which provide beneficial soil stabilization and are best left in situ. Unfortunately, they also maintain the ability to resprout, which is why we propose a cut and dab method with Garlon 3A™ (a triclopyr-based herbicide) on individual cut stumps. Licensed Herbicide Applicators will complete all treatments.



Licensed applicators with required Personal Protective Equipment paint the **stems** of invasive species after cutting.

FOAM APPLICATION:

Some invasives, particularly persistent herbaceous plants like Japanese Knotweed, or resprouting woodies, are best managed with a foliar foam application. This technique allows the technician to systematically target the new green growth of a plant, where herbicide is absorbed most effectively. The foam adheres to the foliage and the herbicide is trans-located through the vascular system of the plant. Foliar foam wipes are best performed in late summer to fall when the plant is actively reserving energy in the rootstock.



Licensed applicators with required Personal Protective Equipment foam the **foliage** of the invasive plant.

SPECIALIZED INVASIVE MANAGEMENT TECHNIQUES:
ASIATIC BITTERSWEET



Invasive Bittersweet (*Celastrus orbiculatus*) has the capacity to girdle, weaken, and even kill mature canopy trees. Without consistent management, vines will eventually open large holes in the canopy while suppressing saplings from filling the gaps. They readily resprout after being cut and can damage the aesthetic and ecological value of meadows and forests alike.



Removing the entire vines from trees is often dangerous and unnecessary (unless it poses safety risk). Best management practice involves making cuts at shoulder height followed by a cut at 12" and immediate herbicide treatment. Bittersweet aggressively suckers after cutting so it is important to cut and treat during or after its flowering period (late June to December).



Established vines produce thousands of bright red berries that mature in late fall and are spread by birds.

SPECIALIZED INVASIVE MANAGEMENT TECHNIQUES:
JAPANESE KNOTWEED

Japanese Knotweed (*Fallopia japonica*) is one of the most difficult invasive species to control. Its main mode of spreading is through cut portions of its rhizomes or stem, which can actively resprout from a 1" fragment. Growing 10-15' and often shading out any competitors, Japanese Knotweed can quickly form a monoculture, especially along waterways and wetland edges.



Identification: Herbaceous perennial, with long heart shaped leaves and hollow stems. Young sprouts can be red.

Knotweed flowers in late August and early September.

Unfortunately, knotweed roots can extend over 6' below the ground making organic treatment nearly impossible. Even so, it can take 2-5 seasons to fully control it through repeat herbicide treatments. These are best undertaken during August and September when the plant is in its weakest stage and nutrients are flowing back into the roots. There are two ways to approach treatment.



1. Cut and treat: For small patches, cut the stem between the 1st and 3rd node and add a 50% solution of a wetland-approved herbicide such as Aquaneat™ (glyphosate), generally 5 oz per treated stem. If density is < 5 ft per plant treat every third stem. Do this for 2-5 seasons.

2. Cut in May, with a foliar or stem application of herbicide in late summer. Best practice for dense mature stands of knotweed. The May mowing or cutting causes the knotweed to regrow to a more manageable height in the late summer, at which point the leaves can be easily painted with a 6.0% Aquaneat (glyphosate) solution before the plant pulls its nutrients back into the roots in preparation for winter.

EXISTING CONDITIONS: NATIVE PLANT IMAGES



Blue Flag Iris emerging in the wetland in early spring.



Above: White Oak Leaf.
Below: Swamp Rose buds.



Eastern Red Cedar branches stand out against the brown early spring landscape.

EXISTING CONDITIONS: NATIVE PLANT IMAGES



Longstalk sedge greening up amongst the oak leaves.



Grey Alder is abundant in the wetland.



Skunk Cabbage emerging in the wetland as one of our first native plants to wake up in the early spring.

EXISTING CONDITIONS: NATIVE SPECIES INVENTORY

Banfield Road Wetland Native Plant Inventory

NATIVES: TREES/SHRUBS/WOODY VINES

- Alnus incana (Grey Alder)
- Acer rubrum (Red Maple)
- Betula papyrifera (Paper Birch)
- Cornus sericea (Red Osier Dogwood)
- Juniperus virginiana (Eastern Red Cedar)
- Lyonia ligustrina (Male Berry)
- Pinus strobus (White Pine)
- Quercus alba (White Oak)
- Quercus veluntina (Black Oak)
- Rosa palustris (Swamp Rose)
- Spirea spp.
- Vaccinium corymbosum (High Bush Blueberry)

HERBACEOUS PLANTS

*Intake was performed in March of 2026.
There may be other herbaceous native plants in the wetland.

- Carex pedunculata (Longstalk Sedge)
- Eutrochium pupureum (Sweet Joe Pye Weed)
- Iris versicolor (Blue Flag Iris)
- Onoclea sensibilis (Sensitive Fern)
- Solidago nemoralis (Gray Goldenrod)
- Symplocarpus foetidus (Skunk Cabbage)
- Typha latifolia (Cattail)



The Banfield Wetland Restoration project includes trail access to the New Hampshire Seacoast Greenway.

RESTORATION PLANTING RECOMMENDATIONS

Restoration planting will happen once a substantial amount of the Invasive Plant Management has occurred in the wild spaces on site. In the areas that are currently lawn, planting can happen immediately. In the wild areas where the invasive plant pressure is low, we recommend letting the existing native plants creep in and take over. Where the invasive plant pressure is moderate or high, we recommend replanting with native trees, shrubs, or perennials based on the soil type and sun exposure.

For example, the entrance to the site is dominated with phargmites and some knotweed. Once those invasive plants are removed, large gaps in wetland will be exposed. That would be a place where we would recommend replanting with native shrubs or perennials suitable to that area. See following page for examples of native shrubs and perennials that we would recommend being planted as part of the Banfield Wetland Restoration efforts.



Sensitive Fern (Onoclea sensibilis) shown here is a great plant to replace herbaceous invasive plants in wetland areas.

RESTORATION PLANTING RECOMMENDATIONS
MATTHEW CUNNINGHAM LANDSCAPE DESIGN

PROPOSED PLANT LIST

BANFIELD ROAD				
SHRUBS				
CL	1	Clethra alnifolia	Summersweet	3-4' ht. B&B
MG	1	Myrica gale	Sweetgale	#3 cont.
MP2	1	Myrica pensylvanica	Northern Bayberry	5 gal. pot
PERENNIALS				
OS	1	Onoclea sensibilis	Sensitive Fern	#1 cont.
AI	1	Asclepias incarnata	Swamp Milkweed	#1 cont.
SS	1	Solidago ssp.	Goldenrod	#1 cont.
SC	1	Schizachyrium scoparium 'Carousel'	Carousel Little Bluestem	#2 cont.
IV	1	Iris versicolor	Blue Flag Iris	#1 cont.
EP	1	Eupatorium purpureum	Joe Pye Weed	#1 cont.
DPU	1	Dennstaedtia punctilobula	Hay-Scented Fern	#1 cont.

SHRUBS



Clethra alnifolia
Summersweet



Myrica gale
Sweetgale



Myrica pensylvanica
Northern Bayberry

PERENNIALS



Onoclea sensibilis
Sensitive Fern



Asclepias incarnata
Swamp Milkweed



Solidago spp.
Goldenrod



Schizachyrium scoparium
Little Blue Stem 'Carousel'

PERENNIALS



Iris versicolor
Blue Flag Iris



Eupatorium purpureum
Joe Pye Weed



Dennstaedtia punctilobula
Hay-Scented Fern

RESTORATION TECHNIQUES: PLUGS AND POTS

Many native herbaceous perennials and grasses are best installed as plugs, quarts, or even 1-gallon specimens for the more immediate coverage, impact, and stabilization they provide. They can be used to establish an herbaceous layer entire or overlaid in a matrix on a newly-seeded area. Container plants also allow for the creation of drifts and masses of plants in a way that simple seeding cannot. Planted correctly, their roots will quickly expand, stabilizing soils and creating an understory of healthy native vegetation.

PLANTING PLUGS

- » Plugs and container plants are small, with compact root systems, and must be kept moist at all times. Water thoroughly two to three hours before planting. This also facilitates laying out as the roots will not be as liable to desiccate.
- » Determine the spacing of the plugs. Dependent on species and container size, this could range anywhere from 8” to 3’ on center, in a grid formation. If massing species together, take care to put taller varieties towards the “back” of the meadow or plot; shorter plants in “front”.
- » Planting holes will be dug with a variety of tools - trowels, picks, soil knives, shovels, even augers, mechanical or otherwise (especially useful in highly compacted soil). The plug’s or plant’s crown should sit at soil level and be gently tamped down around its base. Water immediately, and continue to water on a regular basis the first year of establishment.
- » Whole plants will fill in more quickly than seeded areas, but weed pressure may still be high. Be vigilant in maintenance.
- » To limit soil disturbance you can dig a hole into sod and plant new plants directly into the existing vegetation. It is essential to string trim inbetween plants during the establishment period if this is the planting method.



Plugs and container plants will have dense root systems that must be kept moist.



MAINTENANCE TIPS: POST PLANTING

1. WATERING

To ensure newly installed shrubs and perennials survive and thrive they need to be watered often during the first season. It is imperative to keep the roots consistently moist as they establish themselves the first year. The second year you can scale back the watering pressure, and by the third year the plants should be resilient enough to survive on their own (with exceptions for extreme drought).

If you are installing plants in a restoration setting where irrigation isn’t present or there are not any water sources to tap from, we recommend using watering bags on woody plants filled as needed using a portable water tank. If this is not an option, we recommend sourcing small restoration sized shrubs and smaller potted perennials. They need less water to establish, they adapt to the soil conditions faster, and they experience less transplant shock. Planting in the spring and late summer/fall would be highly recommended if the newly installed plants cannot be irrigated.

2. MULCH

Mulch helps keep the root systems of the newly installed plants cool and moist while also suppressing weed growth. We recommend mulching at a depth of about 2” of organic leaf mulch or an undyed bark mulch around the base of each plant.

3. WEEDING

Weeding after installing new plants is important because young plants are in their most vulnerable stage — and weeds are surprisingly good at stealing what they need to survive. Weeds compete, stress, and sometimes even smother new plants, slowing establishment and reducing long-term health. Efforts should be made to keep newly installed plants free of weeds. One good strategy to help keep weeds at bay is to consider adding a “green mulch” layer as a groundcover to fill in the gaps over time. This reduces weed pressure and eventually eliminates the need for bark mulch. Wild Strawberry (*Fragaria virginiana*) is a favorite green mulch plant, as it is very adaptable to many soil conditions and can grow in sun or shade.



Tree Watering Bag



Organic Leaf Mulch

MANAGEMENT CALENDER FOR TREATMENT AND PLANTING

TASK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Hand removal woody seedlings < 1" caliper												
Hand pulling herbaceous species												
Mechanical management of woody invasives												
Cut and dab herbicide on woody invasives												
Japanese Knotweed Cutback												
Japanese Knotweed Chemical Treatment												
Restoration: Seeding												
Restoration: Planting												
Restoration: Live staking												

- Optimal timing and efficiency
- Not optimal but mostly effective
- Possible, but not ideal

The timing of various containment and restoration strategies is critical to their success. Fortunately, the calender provides ample opportunity for action at any time of the year. Tasks should be performed by trained ecological technicians and licensed herbicide applicators. These recommendations for restoration take into consideration the long term health of the Banfield Wetland Restoration. Once invasive plants have been managed in a particular area, the restoration of native species should begin.

APPENDIX A: CATALOG OF INVASIVE SPECIES

MULTIFLORA ROSE
ROSA MULTIFLORA



DESCRIPTION:
Rosa multiflora (Multiflora Rose) is a mounding shrub with arching canes and leaves divided into 5–11 toothed leaflets. It’s identifiable by fringed bracts at the base of each leaf stalk. Clusters of white flowers bloom in early summer, followed by red hips that persist through winter.

HABITAT:
Multiflora Rose thrives in early successional habitats and tolerates a range of soil, moisture, and light conditions. It forms dense thickets that suppress native plants and spreads widely through bird-dispersed seeds, with fruit persisting into winter.

MANAGEMENT:
Hand-pulling works for seedlings. For larger shrubs, prune to reduce size, then apply triclopyr to cut stems. Persistent roots may need repeated cutting. Collect and properly dispose of any seeds.

RUSSIAN OLIVE
ELAEAGNUS UMBELLATA



DESCRIPTION:
Elaeagnus angustifolia (Russian Olive) is a deciduous shrub or small tree, 12–20 ft tall, with narrow, gray-green leaves and fragrant yellowish flowers in late spring. It produces silvery fruits that persist into winter and are dispersed by birds. Introduced from Europe and Asia, Russian Olive is invasive in parts of North America, including Maine, forming dense thickets that displace native vegetation.

HABITAT:
Russian Olive thrives in riparian areas, wetlands, and disturbed sites, forming dense thickets that outcompete native vegetation. Its bird-dispersed fruits persist into winter, enabling continued spread.

MANAGEMENT:
Cut plants about 6” above ground and apply a targeted herbicide such as triclopyr, or use a basal-bark treatment in late fall. Remove and properly dispose of all fruiting material to prevent reestablishment.

ASIATIC BITTERSWEET

CELASTRUS ORBICULATUS



DESCRIPTION:
Celastrus orbiculatus (Asiatic Bittersweet) is a deciduous climbing vine common in areas of disturbance in our New England forests. It has glossy, rounded leaves that are alternate with finely toothed margins. The leaves turn yellow in the fall. The fruiting plants produce small greenish flower clusters from leaf axils that mature in fall to produce high numbers of fruiting seed. The seed are noticeably yellow, globular capsules that split open at maturity to reveal red-orange fruiting seeds. Roots are also distinctly orange.



HABITAT:
Bittersweet spreads easily into forest edges, woodlands, unmanaged meadows and old fields. Most disturbed sites that are not being actively managed that receive full sun are susceptible. The vine can tolerate shade but is often found in more open, sunny areas.

MANAGEMENT:
Small seedlings can be hand pulled, but bittersweet resprouts prolifically from root fragments, so more aggressive measures need be taken on all specimens but the very smallest. For established plants, vines should be cut to ground to reduce mass, but repeat cuttings will promote resprouting roots and should be avoided in most cases. Rake any seeds present, bagging in plastic bags, tying, and disposing of correctly.



JAPANESE KNOTWEED

FALLOPIA JAPONICA



DESCRIPTION:
Fallopia japonica, or Japanese knotweed is an herbaceous perennial which was originally imported from Asia as a garden specimen. This relatively short, shrub-like plant forms large dense clumps that measure between 3-10 feet high and as wide as the space permits. It rarely reproduces by seed but instead relies on its large rhizomes which may reach a length of 15-18' feet. The stems are green tinged with reddish pink in, ridged, jointed and hollow. It is often confused with bamboo. The large heart-shaped leaves are alternate on the stem, with red venation. The white plumed flowers appear in late summer. It invades a wide variety of habitats and forms dense stands that crowd out other plants. It is especially pervasive on streambanks where its perennial roots do little to inhibit erosion while crowding out preferred native woody vegetation.

HABITAT:
Japanese knotweed often invades disturbed sunny sites, and is often found along roadsides and especially stream banks and shorelines. However, it also tolerates deep shade, mesic soils, heat and salinity. Reproduction occurs primarily both by its extensive rhizomes but has also been known to reproduce from cuttings, which makes it a challenge to eradicate.



MANAGEMENT:
If possible hand cut large stands early in the year so that the resprouting stalks will be more manageably-sized. Then apply a glycosophate-based solution to resprouted leaves during late summer flowering. Any portions of the root system not removed or killed by herbicide will potentially re-sprout, so follow up applications will be necessary to control population. See Sheet 15 for details.



MORROW’S HONEYSUCKLE

LONICERA MORROWII



DESCRIPTION:
Lonicera morrowii, Morrow’s honeysuckles are upright, deciduous shrubs that typically have a multi-stem mounding appearance. Oval leaves are opposite along the stem with smooth edges (no teeth or lobes) and hairy on the underside. Mature stems are often hollow on the interior and peeling on the outer bark. In the spring pairs of fragrant, tubular flowers less than an inch long are borne along the stem in the leaf axils. The fruits are red to orange, and fleshy.

HABITAT:
Honeysuckles are relatively shade-intolerant and usually colonize forest edges, abandoned fields, and other open, upland habitats. Grazed meadows and disturbed woodlands are especially vulnerable. Woodlands and open meadows, especially those that have been grazed or otherwise disturbed and are left unmanaged are also highly susceptible. Morrow’s Honeysuckle are highly adaptable and can grow in even challenging environments such as roadsides and wetland edges.



MANAGEMENT:
Honeysuckle management can combine mechanical mowing and manual hand pulling with cut and dab herbicide treatments. Small specimens may be removed manually as honeysuckle root systems are fairly shallow. Root resprouting can persist for a few years and several seasons of management may be required to fully control the population.

COMMON BUCKTHORN

RHAMNUS CATHARTICA



DESCRIPTION:
Rhamnus cathartica (Common buckthorn) is a deciduous shrub or small tree native to Europe. It typically grows 10–25 feet tall, with gray to brown bark and multiple stems. Leaves are oval, dark green, and finely toothed, often remaining on the plant late into fall. Small, yellow-green flowers bloom in spring, producing clusters of black berries that persist into winter and are spread by birds.

HABITAT:
Buckthorn invades woodlands, prairies, pastures, and roadsides, thriving in both sun and shade. It forms dense thickets that suppress native plants, degrade wildlife habitat, and alter soil chemistry.

MANAGEMENT:
Seedlings can be hand-pulled when soil is moist. Larger shrubs require cutting followed by herbicide applied to the stump (glyphosate or triclopyr). Repeated monitoring is needed, as buckthorn seeds remain viable in the soil for several years.



COMMON REED

PHRAGMITES AUSTRALIS



DESCRIPTION:
Phragmites australis is a tall, perennial grass that can grow to heights of 15 ft. or more. The flower heads are dense, fluffy, gray or purple in color and 6” to 1.5’ long, held erect on branches from the culm. They usually persist through winter. Common reed has an extensive rhizomatic root system, which aids in its establishment and vigorous spread. This is its chief means of reproduction, but is capable of sexual reproduction through seeds.

HABITAT:
Common reed is a hardy species that can thrive in a wide range of environmental conditions, but prefers the wetland-upland interface. It occurs in disturbed to untouched wet areas including wetlands, brackish and fresh-water marshes, riparian corridors, shores of lakes and ponds, roadsides and ditches. It will tolerate a degree of salinity. It prefers full sun but will thrive on a variety of soils, from sand to clay.

MANAGEMENT:
Phragmites is tenacious and nearly impossible to eradicate using mechanical means. The best course of management is through treatment with a glyphosate-based herbicide. Best practice includes cutting the phragmites in early summer, and painting the (shorter) resprouting culms with herbicide in late summer or early fall.

