

# Frank Knight Forest Management Plan

Yarmouth, Maine

Prepared by Yarmouth Community Services Staff  
and the Parks and Lands Committee for the Yarmouth Town Council

## **Key Contacts**

Yarmouth Community Services  
200 Main Street  
Yarmouth, ME 04096

(207) 846-2406  
Karyn MacNeill, Director  
Erik Donohoe, Parks Specialist

# Table of Contents:

Key Contacts.....	1
Land Acknowledgement Statement.....	3
Goals of the Management Plan.....	3
Context Map for Frank Knight Forest .....	5
Aerial View of Frank Knight Forest with parcel IDs and existing trails.....	6
Property Description.....	7
Zoning.....	8
Benefits of FKF.....	8
Management and Oversight.....	8
Public Access/Other Rights.....	9
Trail Maintenance/Development.....	9
Recreation Management.....	11
Dog Rule Recommendations.....	12
Summary of Allowed Uses.....	13
Summary of Prohibited Uses.....	13
Ecological Management.....	13
Forest Management.....	13
Field Management.....	14
Invasive Vegetation Control.....	15
Potential Growth Areas.....	16
Permanent Protections for FKF.....	17
<b>Appendices:</b>	
Appendix A: Explanation of Prohibited Uses.....	19
Appendix B: Summary of Town Ordinances Affecting Use of FKF.....	20
Appendix C: Invasive Vegetation Control Plan.....	24
Appendix D: Trail Assessment for “Other Power-Driven Mobility Devices” .....	25
Town Approvals.....	25

---

# Parks and Lands Committee

## Land Acknowledgement Statement

*The current stewards of open space in what is now known as Yarmouth, Maine recognize that the lands and waters we inhabit and enjoy are places from which Wabanaki peoples were forcefully removed. The Abenaki and other tribes of the modern Wabanaki Confederacy lived here and are still present. They stewarded these lands and waters as part of an interconnected ecosystem for thousands of years prior to European colonization.*

*Let us respectfully acknowledge and learn from this significant history, while also appreciating the current beauty that exists here and recognizing the social, health, and other benefits we now derive from these unceded ancestral lands of indigenous people.*

## Goals of the Management Plan

### Overview

This plan provides guidance for the management of Frank Knight Forest (FKF), a town-owned open space totaling approximately 85 acres. While the Frank Knight Forest is co-located with the Yarmouth Community Garden, this plan is intended to guide management of FKF independent of the Community Garden except where they share amenities (e.g., parking and trailhead). FKF is named after Frank Knight, an outstanding citizen of Yarmouth and its long-serving tree warden and caretaker for what was once New England's largest American elm, named Herbie.

The property consists of five contiguous parcels assembled through three separate acquisitions since 2001. The first two acquisitions were the Parks (~68 acres in 2001) and Craig parcels (~4 acres in 2003). These were acquired with funds from Yarmouth's Land Acquisition Reserve and the town's 1989 Land Bond Authorization. The most recent acquisition occurred in 2018, when the town purchased the three Klenda parcels (~13 acres), which expanded FKF to the Northeast along the Maine Central Railroad Line.

The goal of this plan is to provide governance and objectives for the future management of FKF by balancing the Town's expressed interests in its lasting conservation, compatible recreation, and community services. This plan is the result of a three-year effort (2019-2022) to gather information from the community on the value and current uses of FKF. The plan considers the land's natural history and past land use to recommend best management practices for sustaining natural lands, wildlife habitat, compatible recreation, and FKF's importance in our community.

The plan establishes a set of allowances and restrictions to govern the use of the property. These are designed to maintain, enhance, and sustain the property's resource values, while providing the public with opportunities for safe outdoor recreation. This plan is not intended to dramatically alter current use of FKF; but rather, to formalize current uses and to formalize the Town's intent to steward the property as open space for current and future generations.

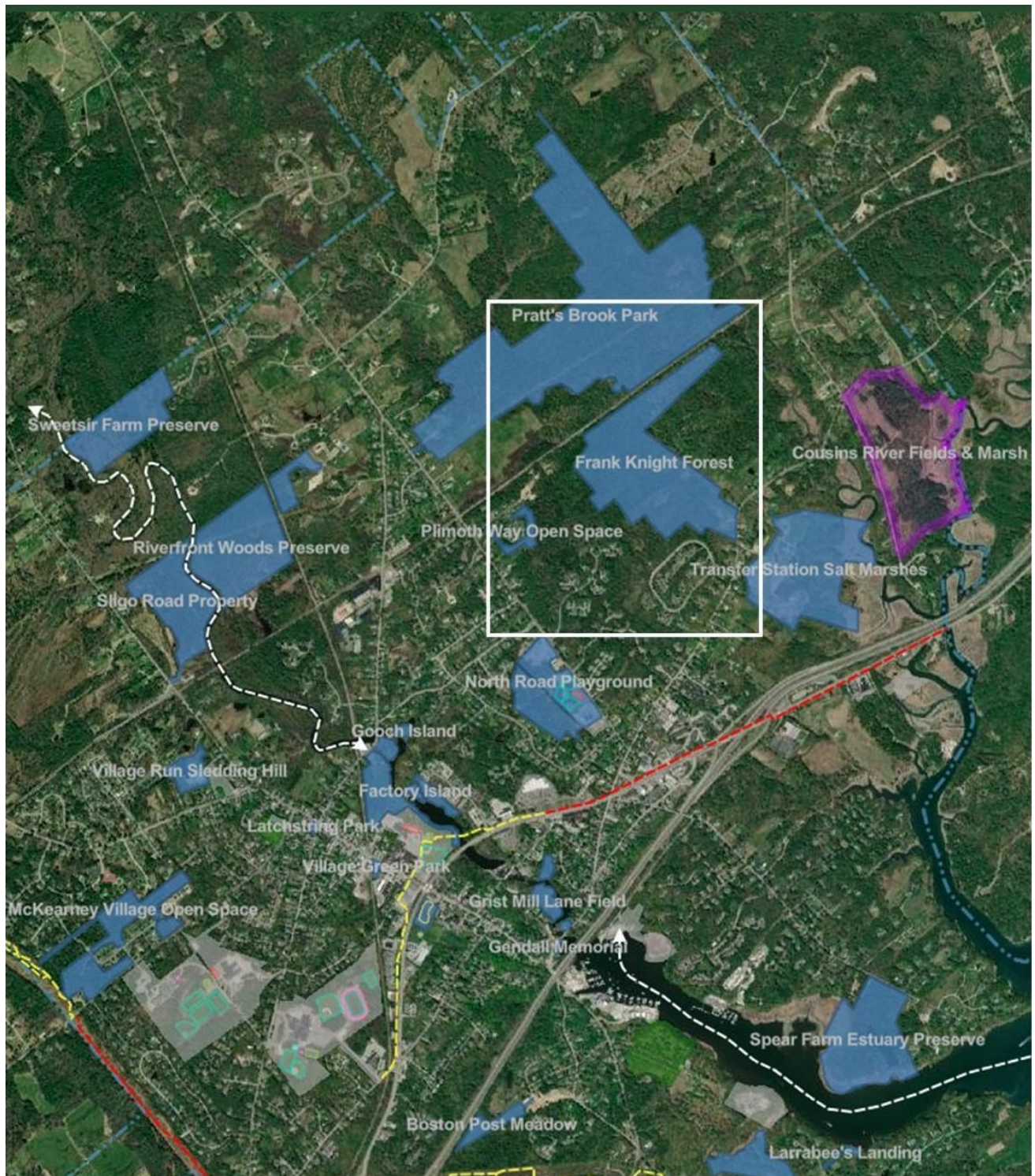
The FKF Management Plan provides guidance to town staff, contractors, and volunteers who conduct on-the-ground management activities. It also articulates challenges foreseen for management and provides long-term recommendations for improved access, ecological health, potential future expansion of FKF, and securing permanent protections of the forest.

This plan recommends that the Town pursue the following long-term actions for improvement to FKF:

- Prepare to pursue opportunities for expansion of FKF when willing landowner sales opportunities arise around the existing parcels, especially where there are trails extending from FKF onto private lands, and to increase acreage for additional recreational opportunities and/or wildlife habitat and water protection values.
  - Consider third party protection, on some or all portions of the land, in the form of a Conservation Easement.
  - Extend the existing sidewalk on East Main Street to the parking lot for FKF.
  - Pursue opportunities for formalized access from the North Road side of FKF as they arise.
-

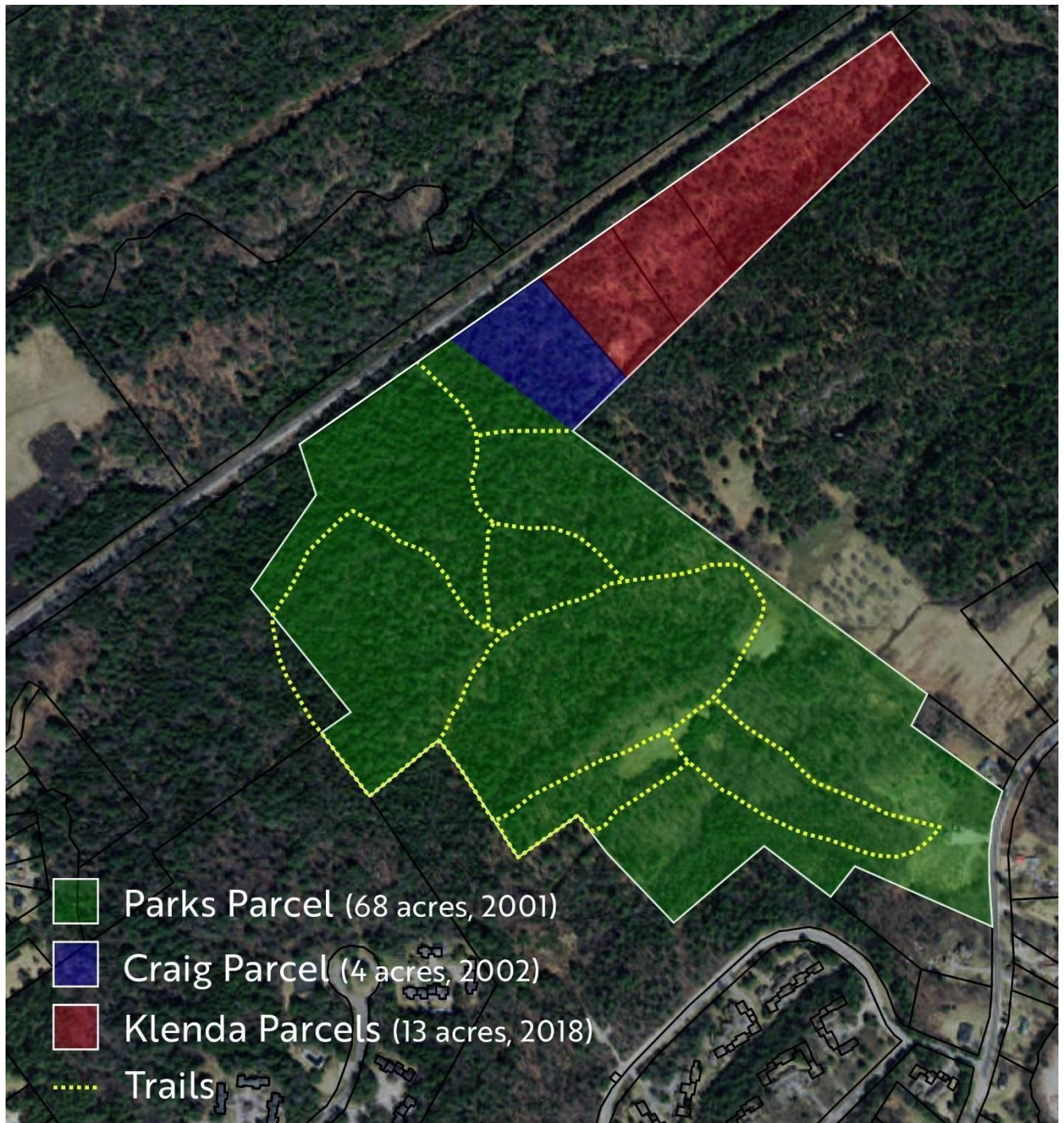


Map 1: Context map for FKF





Map 2: Aerial view of FKF with parcel IDs and existing trails



# Property Description

(For property bounds see Map 2 on Page 6)

Frank Knight Forest (FKF) in Yarmouth, Maine is made up of 5 town-owned parcels totaling approximately 85 acres and referred to for descriptive purposes as follows: Parks Parcel (~68 acres), Craig Parcel (~4 acres), the Klenda Parcels (3 parcels totaling ~13 acres). The Craig and Klenda Parcels have deeded rights to a “drift road” leading from East Main Street that currently provides maintenance and emergency access to those parcels.

This property is significant in Yarmouth as one of the largest undeveloped and scenic open spaces that provides public access for various outdoor recreation, while also preserving part of the larger mostly uninterrupted habitat blocks that extends from Pratt’s Brook Park to the Cousins River Marsh. The property features open meadows, both young and mature woods with large pines and spruce, and steep-sided hemlock ravines.

FKF is located within the Pratt’s Brook - Cousins River watershed, part of the larger Royal River watershed. Land protection in the watershed is vital to the overall health of the Cousins River marshes and to the tidal flats, shellfish, and eelgrass beds of Casco Bay. The land generally slopes northward down from East Main Street and the Community Garden through young moist forest, through a set of open fields to thicker older forests that eventually tilt more steeply down towards a series of ravines that drain under the active Pan Am railroad line. A series of stone culverts transmits the waters from those ravines under the rail bed to Pratt’s Brook. The soils of most of the property are dense silt loams which are ecologically significant. These mineral rich but tight soils hold water near the surface for extended periods of time after rain or snow melt. Where the ground levels out or forms shallow basins, there are perched wetlands, vernal pools, and pocket swamps. These areas are forested variously with red maple and balsam fir with an understory of winterberry, glossy buckthorn, and highbush blueberry. On the northern slopes groundwater emerges in a series of deeply incised ravines. The sloping hills around the ravines contain the most significant old hemlock stands in town with many large-diameter trees exceeding 175 years. The silty soils throughout the property also compact and erode easily exposing tree roots over time and causing trails to become soft, muddy, and to hold water long after rains. The perched wetlands scattered throughout the property vary from red maple swamps, to mixed fir and spruce with mounds growing interrupted fern, highbush blueberry, and winterberry. There is a small floating fen and several spruce bog areas with sphagnum moss and dense ferns. Other uplands contain a mix of hardwoods (red oak, red maple, American beech, and big-toothed aspen) and softwoods (red spruce, balsam fir, red pine, and some magnificent large-diameter white pine). The understory varies from thickets of invasive glossy buckthorn to diverse more typical mixes of high and low-bush blueberry, beaked hazelnut, occasional bayberry, winterberry, partridgeberry, beaked sedges, and pincushion and haircap mosses. This area, including Pratt’s Brook Park and the lands surrounding FKF, are of statewide ecological significance because of its diverse landforms, large-connected forests, wetlands, and groundwater fed stream networks which make this highly resilient to climate change compared to most of the surrounding lands in Southern Maine.

The Town recognizes the uniqueness of the property and the importance of conserving its scenic, ecological, and outdoor recreational values, but has not, to date, formally dedicated or restricted the property for such purposes, nor made an indefinite approval of the Community Garden occupancy.

## **Zoning**

FKF is located in the Rural Residential zone and also contains 5 acres of Mobile Home Overlay District which is landlocked and located approximately 300 yards from East Elm Street. Development for either of these uses would be in conflict with the intent of conserving the property's scenic, ecological, and outdoor recreational values.

A goal of the Town's 2019 Open Space Plan was to create a new Park/Open Space Zone to extend protections for open space, shoreland areas, and other sensitive lands. The Town should consider in the short-term removing the Mobile Home Overlay District from Frank Knight Forest and long-term incorporating FKF into a Park/Open Space Zone if and when one is created. An assessment regarding the need and location of the Mobile Home Overlay District is anticipated to be incorporated into the update of the town's comprehensive plan, which is planned to be adopted before the end of 2024. Creating a new zoning district would require review by the Planning Board and adoption by the Town Council. This form of zoning would not replace the more permanent protections afforded by a third-party Conservation Easement but would demonstrate the Town's commitment to protecting the park from development.

## **Benefits of Frank Knight Forest**

Frank Knight Forest currently benefits and has further potential to benefit the town by:

- providing outdoor recreational and educational opportunities;
- sustaining mature forests and steep otherwise erodible drainages in an area that is anticipated to be regionally significant for resiliency to climate change;
- protecting significant and diverse wildlife habitats, wetlands, and other natural areas;
- supporting the town's open space plan and long-term vision;
- maintaining the area's scenic and rural character; and
- protecting water sources and water quality in the Royal River Watershed and the nearshore estuaries of Casco Bay.

## **Management and Oversight** (See Appendix B)

Day to day management and stewardship decisions for FKF will be made by Yarmouth Community Services with guidance from the Yarmouth Parks and Lands Committee (PLC) and oversight by the Town Council to ensure compliance with the goals of this management plan.

This plan outlines specific stewardship recommendations while recognizing it is difficult to predict the impact of future environmental changes and human uses on the resources of this property. Stewardship

recommendations in this plan will therefore need to be responsive while remaining dedicated to the above objectives.

## Public Access / Other Rights of Access

Hours of operation are governed by the Town's Public Grounds Ordinance, see [Chapter 501\\*](#) for current restrictions on hours of operation if existing.

Parking and the only public entrance to FKF is located on East Main Street and shared with the Community Garden. According to the user survey\*\*, about 80% of respondents drive to the park and over 50% reported that they would be more likely to walk or bike to the park if there was safer bike and pedestrian access. The sidewalk on East Main Street currently terminates about a half mile before the entrance to FKF and if extended would connect FKF to Yarmouth's well-developed bike and pedestrian infrastructure and many neighborhoods. There is opportunity to work with the Bicycle and Pedestrian Advisory Committee, the Complete Streets Advisory Committee, and the Department of Public Works to assess the feasibility and potential funding opportunities for a sidewalk extension.

A map of the property is included with the signs at the main entrance to FKF. The Town and abutting landowners have also installed signs at key boundary points to encourage respect of those private neighboring lands, especially where the trail traverses those lands thanks to their current generous consent.

\*Chapter 501 can be found on the Town website at:

[https://cms5.revize.com/revize/yarmouth/government/codes\\_ordinances/501\\_Public\\_Grounds.pdf](https://cms5.revize.com/revize/yarmouth/government/codes_ordinances/501_Public_Grounds.pdf)

\*\*Survey conducted by Yarmouth Community Services in 2021

## Trail Closure Protocol

Town staff may reroute or even close trails or whole portions of the property on a temporary basis for the purposes of public safety, trail maintenance and protection, wildlife management, resource protection, or other reasons that advance the conservation purposes and objectives of the property. Decisions on temporary closures will be made by the Director of Community Services or the Town Manager in consultation with the PLC.

## Trail Maintenance/Development

Trails are well established but minimally developed within FKF. Responses to the user survey indicate that current users of FKF prefer its undeveloped character but appreciate bog bridging and boardwalks where they are required for dry passage and to protect wetlands, water quality, and erodible drainages. The silty soils mentioned above create wet muddy conditions long after rainstorms and snowmelt, and foot traffic causes these areas to become wetter, muddier, and larger as people skirt around the edge.



More bog bridges are needed now and will be needed over time as the soils compact even with the current sustained moderate use.

Responses to the 2021 user survey indicate that current signage is confusing to some visitors who are unfamiliar with FKF. Maps should be maintained at key intersections, similar to Pratt's Brook Park, to guide users to key areas of the property. This can be reinforced with a trail naming scheme that is intuitive for new users.

There are several private trails that intersect the FKF trails from abutting private property. In the short term, Town-branded directional signs have been added at these locations to alert users when they are on private lands and ensure they can easily navigate back onto the public lands. In the long term, the Town should work to secure additional formalized public access to adjacent trails where abutting landowners allow or easement rights are secured. This is particularly true on the western side of the property where an envisioned legal trail connection to North Road could offer easy access to several large neighborhoods. As FKF is currently landlocked on the western side, this connection would be subject to the willingness and generosity of abutting private landowners, multiple alternative routes exist, but the one most easily envisioned is through the Town owned Plimouth Way Open Space.

Currently several sections of the main trail system of FKF cross onto private land with no formal agreement with the landowners (see map 2 on pg. 4). Formal agreements should be negotiated or secured with those owners over time, or these trail sections should be moved in a way that minimizes impacts to habitat and the user's experience.

The extent of trail establishment on the original 'Parks' parcel should be considered complete, but there is potential for new trail development connecting across the Craig parcel and onto the newly acquired Klenda parcels. While a series of ravines extends along the lower flanks of these parcels, the upland areas could allow for some trail development with limited permitting requirements. The geometry and topography of these parcels will limit opportunities for an additional trail loop. Experience with an existing 'out and back' trail nearby, suggests visitation to this area of the property will be low. Investment in such a trail should correspondingly be kept to a minimum. Any new trail will need to be well marked to discourage trespassing on adjacent private parcels.

Long term future connectivity to Pratt's Brook Park is challenging because of the separation by the active high-speed Pan Am railroad line. The topography in the area where the two properties are aligned is conducive to a raised bridge over the railroad which, although expensive and aspirational, would benefit both properties and offer increased loop walking opportunities to that whole area of Town. Any formal crossing of the Pan Am railroad line would require a license agreement with the Maine Department of Transportation.

# Recreation Management

The property currently receives relatively limited use compared to other parcels its size, so user conflicts to date have been minimal. Reported user-conflicts are limited mostly to off leash dogs not under voice control and their interactions with other users, dogs, or the abutting landowners (see “Dog Rule Recommendations” below for further discussion). The predominant use of the property is for walking or dog walking, with snowshoeing seasonally under the right conditions. The property sees cross-country skiing use, but much less than at the nearby Pratt’s Brook Park.

FKF is used by hunters predominantly in the Fall during deer hunting season. Hunting is regulated by the State, with the additions of local Firearms ([Chapter 314](#))\* and Public Grounds ([Chapter 501](#))\* ordinances (see appendix B). Currently local ordinance limits the type of arms and trapping equipment that can be used for hunting under the State hunting laws. As a result of multiple regulated Maine State hunting seasons, it should always be assumed that there could be some form of legal hunting occurring within the property. Although hunters make up a small percentage of total annual users, they play an important part in controlling the population of deer, which helps maintain a more natural and healthier understory and allows forest regeneration, while reducing the spread of invasive plants. Users should be made aware of these other uses and the need for brightly visible clothing for them and their pets especially during deer hunting season.

It is impossible to predict all future uses that may arise in the ten-year scope of this plan. Therefore, any uses not enumerated below as “Allowed” or “Prohibited” will require review by, and permission from Yarmouth Community Services Department in consultation with the Parks and Lands Committee. The Town Manager and Town Council reserve the right to limit or halt any uses that degrade or have the potential to degrade the conservation values of the property or that have the potential to interfere with or be harmful to other visitors.

\*Chapter 314 and Chapter 501 can be found on the Town website at:

[https://cms5.revize.com/revize/yarmouth/government/codes\\_ordinances/314\\_Firearms.pdf](https://cms5.revize.com/revize/yarmouth/government/codes_ordinances/314_Firearms.pdf)

and

[https://cms5.revize.com/revize/yarmouth/government/codes\\_ordinances/501\\_Public\\_Grounds.pdf](https://cms5.revize.com/revize/yarmouth/government/codes_ordinances/501_Public_Grounds.pdf)

## Dog Rule Recommendations

The Town should consider changing the Animal Control Ordinance, [Chapter 309](#)\* to create on-leash buffer areas at two locations at FKF to promote visitor safety and to reduce user conflicts.

The first location where an on-leash requirement should be considered is within 300 feet of the parking lot and trailhead where shared use with the Community Garden leads to concentrated use. This policy is already in place at Pratt's Brook Park and on the West Side Trail, and it has been effective in both places.

The second location where an on-leash requirement should be considered is adjacent to the abutting property to the northeast of FKF. There have been repeated reports of off leash dogs leaving FKF at this location and chasing deer on the abutting private property. The abutting property is hunted frequently in the fall and dogs running at large create a safety issue, a nuisance for the abutting landowner, and lead to trespassing on posted private property by users trying to recover their dog.

**Map 3: Recommended dog on-leash areas**



\*Chapter 309 can be found on the Town website at:  
[https://cms5.revize.com/revize/yarmouth/government/codes\\_ordinances/309\\_Dog\\_Control\(1\).pdf](https://cms5.revize.com/revize/yarmouth/government/codes_ordinances/309_Dog_Control(1).pdf)



## Summary of Allowed Uses

At this time, the following uses are determined to be in keeping with the natural resource values and constraints of the property and with the goal of reducing any degradation or user conflicts:

- Hiking, dog-walking in compliance with townwide rules (see Appendix B), snowshoeing, cross-country skiing, wildlife observation, hunting by permission only\* (see Appendix B for local hunting and trapping restrictions)
- Use of electric mobility devices similar in size to powered wheelchairs, with a maximum width of 36 inches; (see Appendix D for trail assessment)
- Use of powered equipment for authorized maintenance, trail construction, and emergency response.

## Summary of Prohibited Uses (See Appendix B)

At this time, the following uses are determined to conflict with the natural resource values of the property and with the goal of reducing user conflicts:

- Bicycles; horseback riding; camping; fires; paintball; tree harvesting\*\*; and motorized recreational vehicles and recreational snowmobiles.

*\* Prior complete knowledge of trail locations is imperative to improve hunting safety and avoid danger to other users of this property. Contact Town Hall annually for permission prior to hunting.*

*\*\*This should not be construed to limit Town approved tree removal for stewardship, maintenance, or public safety.*

# Ecological Management

## Forest Management

Forest management activities in FKF are less restricted than many of the other Town-owned properties which are subject to conservation easements and other deed restrictions. The property is exceptional for its high number of very large trees by Maine standards. Since Town ownership, FKF forestry management has been limited to the cutting of hazard trees. This current level of management has been sufficient to maintain a healthy and diverse forest and more active management will not be necessary to promote forest health unless conditions change. One exception to this rule is on the Klenda parcels where a timber harvest occurred shortly before the Town's acquisition in 2018. These parcels should be monitored to ensure that an appropriate stand of trees reestablishes. An ongoing concern on all town properties is the establishment, spread, and dominance of invasive plant species (trees, shrubs, and herbs) especially where there is tree canopy removal and soil disturbance. Cutting can exacerbate the establishment of invasive species such as glossy buckthorn which is particularly pervasive in the younger

forests within the upper portions of this property. More information on invasive species management is described below.

Hazard trees will continue to be evaluated by Yarmouth Community Services and will be judged on the criteria that they pose a threat to structures, are located at trail junctions, scenic views, or other areas where people may congregate, and/or are an imminent threat to fall on the trail during normal weather conditions. Downed trees blocking the trail will be cleared 5 feet back from trails to minimize the visual impacts of cutting and will be delimbed to promote contact of the trunk and branches with the ground. This practice facilitates rot, thereby reducing fire hazards and increasing the number of rotted logs utilized by salamanders, insects, and other wildlife. The remaining brush should be piled in a discreet location to provide refuge for wildlife.

Several invasive pests will likely pose a threat to the health of FKF and its visitors over the next several years, including Emerald Ash Borer (EAB), Hemlock Woolly Adelgid (HWA), Asian Longhorn Beetle (ALB) and Browntail Moth. Ash trees are not present in high enough numbers in FKF for EAB to have a large effect on forest health, though it is likely that some trees will be killed and that some hazard trees may result. HWA poses a larger overall threat to the health and scenic nature of the forest, particularly in the Northeast portion of the forest where Canadian hemlock is the dominant species along the multiple deep ravines. Browntail Moth poses a minimal threat to the overall health of the property but poses a large threat to visitor health and was a major complaint repeated in the user survey. Early detection is often key to minimizing outbreaks of these invasive pests and monitoring for them and others should be prioritized. Chemical treatment for all these pests on the scale of Frank Knight Forest is prohibitively expensive and would have undesirable consequences on non-target species and the overall habitat value of FKF. Mechanical control on any scale of consequence is also likely impractical. Biological treatment has shown promise as a viable option on many invasive pests, specifically in this case for HWA, and should be weighed as an option.

## **Field Management**

There are two small fields at FKF totaling less than 2 acres. To maintain their scenic and habitat value, the fields are mowed annually in the Fall on the same schedule as other fields in Town. These fields aren't large enough to be important habitat for grassland birds, but they do offer important refuge for the insects and pollinators that are a critical food source for birds and other wildlife.

The fields are seasonally wet and as with most fields in Town are impassable with a tractor from late Fall into early summer. The small scale of the field provides the option for hand mowing with light equipment and opens the opportunity for a variation from the Town's typical mowing regime. An early Spring mowing should be considered as an alternative to the late Fall mowing to promote overwintering insects and encourage natural seed dispersal of native field vegetation. A diversity of native field vegetation could be further encouraged by the introduction of herbaceous native seeds or seedlings not currently present in the field.

The edges of the field are surrounded by a mix of forest and invasive buckthorn, which, if left unchecked, will gradually creep into and overwhelm the field. The prevalence of invasive vegetation on the field edges creates a large source of seed which disperses into the field and the forest. A three- or four-year rotation should be established to cut and chip portions of the field edge annually in the Fall or

Winter after the nesting bird season. The rotation should be reviewed annually to gauge its effectiveness in maintaining the equilibrium of the field edges, with some portions of the field always in a state of early successional growth.

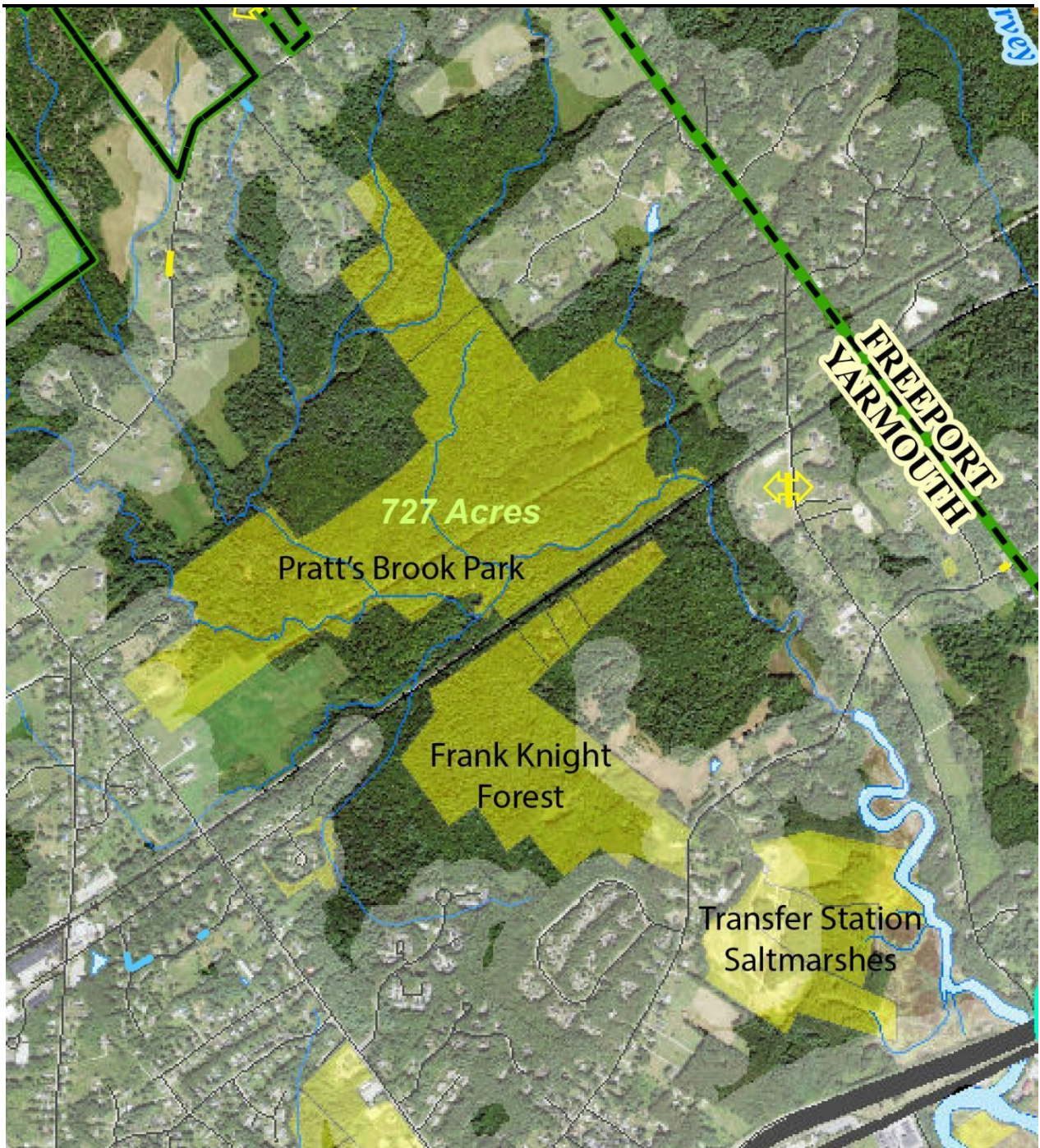
## **Invasive Vegetation Control**

Invasive vegetation in FKF is capable of outcompeting native species, reducing the overall productivity and habitat value of FKF and making trail maintenance more difficult and costly. Controlling invasives in FKF should be prioritized to prevent further spread. For a detailed invasive vegetation control plan see Appendix C. When replanting is necessary after broad-scale invasive species control, replanting will focus on the use of high-value native species. With the high diversity of native plants on the property, natural recolonization by native plants will likely be adequate so long as the density and coverage of invasive species is not too extensive.

Invasive species control will be undertaken by Yarmouth Community Services via stewardship staff, contractors, or volunteers under supervision of Yarmouth Community Services staff. Any invasive species control will be completed to standards of the UMaine Cooperative Extension or another conservation organization. Any herbicide application to control invasives will be conducted by a licensed pesticide applicator with special care taken to avoid impacts to the property's vernal pools, wetlands, streams, and other habitats.

# Potential Growth Areas

Map 4: Undeveloped areas surrounding FKF



**Map Description:** The map above is an excerpt taken from the “Undeveloped Habitat and Connectors and Conserved Land” 2022 map produced by the Beginning with Habitat program. Beginning with Habitat describes the map as follows:



*This map highlights undeveloped natural areas likely to provide core habitat blocks and habitat connections that facilitate species movements between blocks. Undeveloped habitat blocks provide relatively undisturbed habitat conditions required by many of Maine's species. Habitat connections provide necessary opportunities for wildlife to travel between preferred habitat types in search of food, water, and mates. Roads and development fragment habitat blocks and can be barriers to moving wildlife. By maintaining a network of interconnected blocks towns and land trusts can protect a wide variety of Maine's species-both rare and common-to help ensure rich species diversity long into the future. Maintaining a network of these large rural open spaces also protects future opportunities for forestry, agriculture, and outdoor recreation.*

The pale transparency on the map represents a 250 to 500-foot buffer around improved roads and developed areas based on development intensity and the remaining area shows undeveloped habitat blocks.

FKF (85 acres) and Pratt's Brook Park (225 acres) make up less than 50% of the 727-acre undeveloped habitat block that they are a part of. This means that the two properties are strategically placed to contribute to habitat and wildlife protection and that there is still room for expansion and growth. A recommendation for expansion should not be taken as a mandate to purchase and protect every undeveloped acre, but rather as a vision to work with willing landowners to expand the Town properties or to reduce development pressures on the surrounding parcels.

To see all of the Beginning with Habitat maps for Yarmouth go to <https://www.maine.gov/ifw/fish-wildlife/wildlife/beginning-with-habitat/maps/database/status-y.html>.

## Permanent Protections for FKF

FKF is an important piece in Yarmouth's Open Space network and invaluable as a place for Yarmouth residents and visitors to hike, run, ski, snowshoe, hunt, or seek solace. The property is an important piece of the larger undeveloped habitat block which includes Pratt's Brook Park and adjacent undeveloped lands and waters. It is also critical for the protection of the Cousins River Marsh and Pratt's Brook watersheds and the estuarine ecosystems downstream and into Casco Bay.

It is unique as a large and popular open space in Yarmouth that has no conservation easement or other form of deed restrictions protecting the property from sale or development. The only restriction currently encumbering the property is that it was purchased largely through funds from the 1989 land bond authorization and any proceeds from a sale of FKF would be required to be used for projects authorized in the 1989 bond vote. The property is increasingly irreplaceable in Yarmouth as most of the town's remaining large undeveloped open spaces are either poorly suited to trail development and outdoor recreation, or already used for that purpose. If the property was repurposed, it would be difficult or impossible to replace in kind. The property was identified in the Town's 2019 Open Space Plan as both a high priority for expansion and as a high priority for more permanent levels of protection. Feedback from the user survey showed that 89% of respondents would support permanent protections for FKF in the form of a conservation easement or other similar protection.

The hard work in conserving the current FKF lands has largely been done as the property is under Town ownership and amply used as an Open Space. It would be prudent to consider permanent protections for FKF to ensure it remains as an Open Space for future generations. A layer of protection could be added by rezoning FKF with the creation of a Park/Open Space Zone. However, a stronger layer of protection and the model for other similar properties in Town has been to protect Town Open Spaces in perpetuity through a third-party conservation easement such as the Royal River Conservation Trust. Town-owned properties protected in this way include Spear Farm Estuary Preserve, Fels-Groves Farm Preserve, Riverfront Woods Preserve, and the Tinker Preserve. FKF is different from these properties because it was purchased solely with Town funds, while the properties mentioned above were purchased with contributions from or gifts by conservation organizations. By granting a conservation easement on FKF, the Town would be giving up some of its rights to the property and the cessation of those rights may have financial value to a third-party conservation organization. The value from the sale of a conservation easement could be reinvested into the land acquisition fund for future expansion of or increased connectivity to Frank Knight Forest or potentially leveraged as the local match for securing State or Federal funds through a grant opportunity such as Land for Maine's Future Program.

## **Appendix A- Explanation of Prohibited Uses**

USE	Reasons for Prohibition
Recreational Motor Vehicles* (not including other power-driven recreational mobility devices, see the trail assessment in Appendix D for details)	<ul style="list-style-type: none"><li>● Trails are not constructed to accommodate recreational motor vehicles.</li><li>● The property lacks connectivity to any other recreational motor vehicle trails.</li><li>● Isolated wetlands and zones of saturated soils throughout the property are easily damaged habitats and rutting prevents natural repair and can pollute adjacent wetlands and waters in violation of state and federal laws.</li><li>● Steep slopes on the backside of the property are conducive to erosion and soft saturated soils at the front of the property are susceptible to rutting.</li></ul> <p>*This should not be construed to limit Town approved use of emergency or stewardship/maintenance vehicles.</p>
Bicycles	<ul style="list-style-type: none"><li>● Trails currently have not been designed or built to accommodate bicycles.</li><li>● Any new trail development proposals for bicycles in FKF must be approved by Town Council after design and advice from Yarmouth Community Services and the Parks and Lands Committee and the financial commitment and resources to professionally plan, develop, and maintain them.</li></ul>
Horseback Riding	<ul style="list-style-type: none"><li>● Trails, bridges, and boardwalks are not designed to accommodate horses.</li><li>● Trails are not pruned or maintained to accommodate horses.</li><li>● Fields are seasonally wet with saturated soils susceptible to hoof prints which would later pose a danger to pedestrians</li><li>● Any new trail development proposals for horses in FKF must be approved by Town Council after design and advice from Yarmouth Community Services and the Parks and Lands Committee and the financial commitment and resources to professionally plan, develop, and maintain them.</li></ul>

**Appendix B- Summary of Town Ordinances Affecting Use of FKF\***

Key to Ordinance Reference		Town Ordinance reference	Ordinance Language
Trapping		Public Grounds Ordinance  Chapter 501, Article IV A.2	No person shall set, leave, bait, or tend any animal traps, water sets, or snares.
Hunting		Firearms Ordinance  Chapter 314, Article II A	1. The discharge of firearms shall be limited to shotguns only, except that .22 caliber handguns may be discharged for night hunting of raccoons as authorized by M.R.S.A. Title 12, 11901.  2. The discharge of firearms shall be prohibited within three hundred (300) feet of any residential dwelling, or commercial, industrial or institutional building.
Dogs	Sanitation	Dog Control Ordinance  Chapter 309 Article IV B	It shall be unlawful for any person who owns, possesses or controls a dog to fail to promptly remove and dispose of any feces left by such dog on any sidewalk, street, beach, or public owned property or private property (other than the property of the owner of the dog or of a person who has consented to the presence of the dog on such property).
	Leash	Dog Control Ordinance  Chapter 309 Article IV A 2	Possession of leash required. An owner/keeper shall have a leash, as defined above, in his/her possession for each dog which is off leash at all times except when the dog or dogs are on the premises of the owner/keeper or other private property if permitted to be there. A leash shall not include an electronic control collar or other device. An owner/keeper is allowed a maximum of five (5) dogs in their control at any time.



## Appendix B- Summary of Town Ordinances Affecting Use of FKF\*

Key to Ordinance Reference		Town Ordinance reference	Ordinance Language
	Voice Control	<p>Dog Control Ordinance</p> <p>Chapter 309 Article IV A</p> <p>And</p> <p>Chapter 309 Article I C</p>	<p>It shall be unlawful for any dog, licensed or unlicensed, to run at large, except as follows (<i>reasons fully enumerated in the ordinance, but particularly relevant to FKF are</i>): :</p> <p style="padding-left: 40px;">a. When used for hunting,</p> <p style="padding-left: 40px;">d. When the dog is a service animal whose handler, because of disability, is unable to use a harness, leash, or other tether, or the use of such a device would interfere with the service dog's safe and effective performance of work or tasks, provided that the service dog is otherwise under the handler's control through voice control, signals, or other effective means.</p> <p>"At Large" means off the premises of the owner/keeper and not under the control of any person by means of personal presence and attention as will reasonably control the conduct of such dog, which shall mean that the dog is under "Voice Control" at any time the dog is not on a leash or confined on the premises of the owner.</p> <p>"Voice Control" as used in this ordinance, the term "voice control" means that the dog returns immediately to and remains by the side of the owner or keeper in response to the owner or keepers verbal command, whistle or hand signal. If a dog approaches or remains within 10 feet of any other person other than the owner or keeper, that dog is not under voice control and shall be deemed to be "at large", unless such person (or in the case of a minor child, an adult present with the child) has communicated to the owner or keeper by spoken word or gesture that such person consents to the presence of the dog.</p> <p><i>Note: This management plan proposes changes to the animal control ordinance to include limitation to "Voice Control" as an acceptable means to prevent a dog from being deemed "At Large" on a portion of the FKF trail system (see Map 3 pg. 11). Please consult current Animal Control Ordinance, <a href="#">Chapter 309</a> to see current rules.</i></p>
Litter		<p>Public Grounds Ordinance</p> <p>Chapter 501 Article IV A 1</p>	<p>No person shall deposit or leave any trash, litter, or refuse except in designated containers or disposal areas.</p>

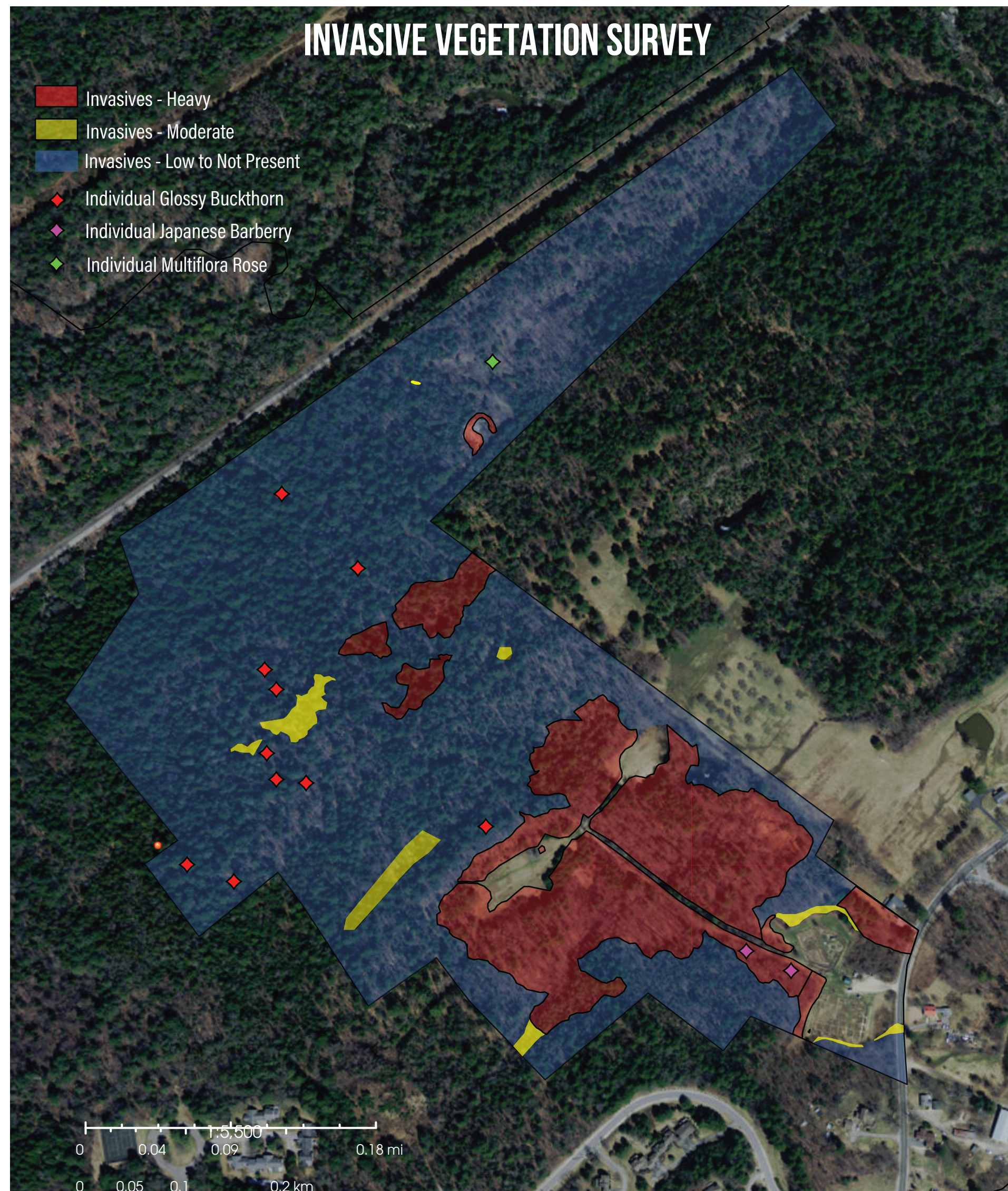
**Appendix B- Summary of Town Ordinances Affecting Use of FKF\***

Key to Ordinance Reference	Town Ordinance reference	Ordinance Language
Structures	Public Grounds Ordinance Chapter 501 Article IV A 4	No person shall place, construct or assemble any fence, tree house, permanent tree stand, building, structure, latrine, lean-to, bridge, culvert, or conduit, without the explicit permission of the Town as provided in Section 4.2 hereinafter.
Fires	Public Grounds Ordinance Chapter 501 Article IV A 5	No person shall set, kindle, burn, or allow any fire, without the explicit permission of the Town as provided in Section 4.2 hereinafter
Camping	Public Grounds Ordinance Chapter 501 Article IV A 6	No person may camp or tent on any Town properties after 11:00 p.m. or the authorized evening hours of operation, whichever is earlier, without the explicit permission of the Town as provided in Section 4.2 hereinafter.
Foraging and cutting vegetation	Public Grounds Ordinance Chapter 501 Article IV A7	Except for brushing or maintenance of approved trails systems no person shall cut or remove any trees, limbs, shrubs or bushes nor remove any vegetation, without the explicit permission of the Town as provided in Section 4.2 hereinafter. This shall not be construed to prohibit the gathering of nuts, fruits, ferns, leaves, berries, cones, ornamentation, scientific or educational purposes.
Herbicides/pesticides	Public Grounds Ordinance Chapter 501 Article IV A8	No person shall apply any herbicide, fungicide, or pesticide, without the explicit permission of the Town as provided in Section 4.2 hereinafter.
Motor Vehicles and bikes	Public Grounds Ordinance Chapter 501 Article IV A9	Motor vehicles, bicycles, all terrain vehicles and other motorized equipment shall be prohibited from all areas except roadways, parking areas, and tracts specifically established or designated for such use, without the explicit permission of the Town as provided in Section 4.2 hereinafter.

**Appendix B- Summary of Town Ordinances Affecting Use of FKF\***

Key to Ordinance Reference	Town Ordinance reference	Ordinance Language
Management plan authority	Public Grounds Ordinance  Chapter 501 Article IV A10	<p>The Town Manager, under the direction of the Town Council, or with the advice and consent of the Citizens Advisory Committee or Agency assigned may adopt or establish additional rules and regulations as are reasonable and necessary to accomplish the following purposes:</p> <ul style="list-style-type: none"> <li>a. To assure healthful, safe, and sanitary conditions on the subject property.</li> <li>b. To promote peaceful and considerate public use and enjoyment of Town properties and to minimize any nuisance, disturbance or interference, or safety concerns on adjoining or nearby lands that may be caused by such public use or enjoyment of Town lands.</li> <li>c. To protect or enhance the scenic, recreational and environmental values of the property and to prevent erosion, unreasonable disturbance of natural habitat and wildlife, or to prevent pollution.</li> <li>d. To allocate the limited use of time and space fairly and equitably among various persons or groups seeking use of the properties.</li> <li>e. To provide for efficient care and maintenance of the properties.</li> </ul>
Exemptions	Public Grounds Ordinance  Chapter 501 Article IV B	<p>All activities listed in this schedule of General and Special Regulations shall not be unlawful if undertaken with the explicit approval of the department, agency, or officer of the Town assigned primary oversight responsibility for the use of the subject property. Approval shall only be granted if the Department, Agency or Officer determines that such requested activity is consistent with the general public purposes for which the property is intended and shall not unreasonably injure or risk injury to the subject property or to the public use and enjoyment thereof.</p> <p>1. Nothing herein shall prohibit the care, maintenance, control of improvement of Town properties undertaken by any agency, department or officer of the Town or with the authority of the Town.</p>





## Survey Summary:

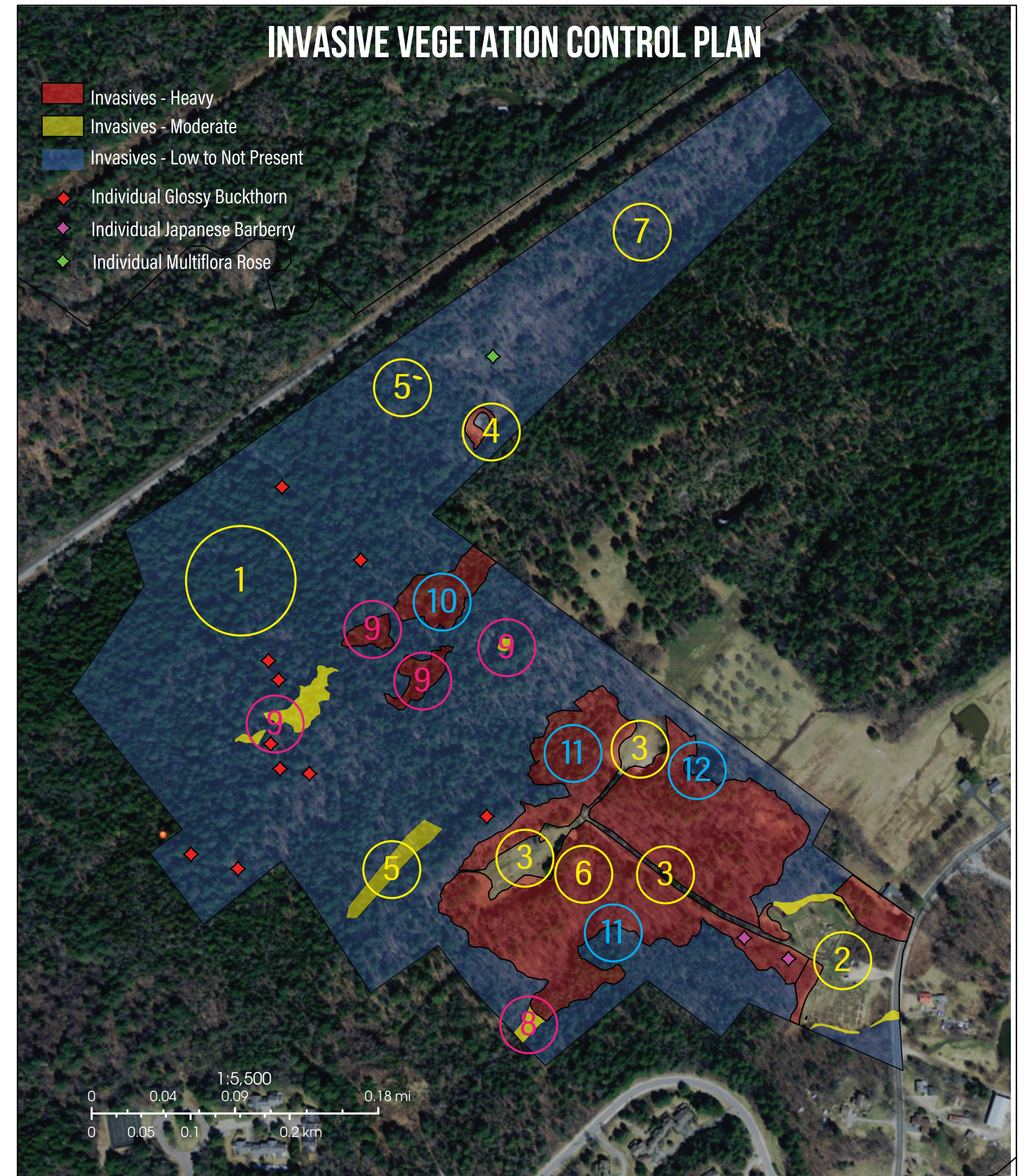
The prevalent invasive plant on the property is glossy buckthorn, which is spreading from the field edges into and through the forested wetlands and, so far, to a lesser extent into the surrounding uplands. Glossy buckthorn is also present in pocket stands on the northern back side of the property, where it again, typically has spread throughout forested wetlands and into the uplands surrounding them. Many of the stands of mature glossy buckthorn are surrounded by high density young buckthorn stems indicating that if left unchecked the infestation will continue to expand through the forest.

Japanese barberry, Morrow's honeysuckle, oriental bittersweet, and multiflora rose are also present on the property, primarily in dense stands around the edges of the community garden.

## Management Goals:

To protect the existing habitat value of Frank Knight Forest by preventing further establishment of invasive vegetation on the property, while educating visitors on effective control and eradication techniques. This goal will be accomplished by using the following strategies:

- Maintaining current areas of unaffected and little affected forest to prevent new infestation.
- Preventing further spread on the leading edge of areas of heavy infestation.
- Targeting large seed producing groups on the edges of the field and the community garden as well as isolated patches of invasives in the forest.
- Create and maintain invasive free areas within 30 feet of trails to enhance visitor experience, educate users, and create invasive free gaps to reduce further spread.



### Year 1: (\$990)

1. Treat all "low to not present" areas. Contract for 2 days of treatment each year until the whole area is treated, then monitor. (67 acres, \$900/day)
2. Cut and chip invasives on edges of Community Garden. Continue to cut regrowth several times a year for 3 years and reevaluate. (1.2 acres, In House)
3. Cut and chip invasives on field edges and woods road edge. Stagger the work over a 3-year period, so that a third is done per year. Continue to cut regrowth several times a year for 3 years and reevaluate. (~1 acre, In House)
4. Cut and chip buckthorn on clearing edge to prevent spread into area of timber harvest. Continue to cut regrowth several times a year for 3 years and reevaluate. (0.1 acres, In House)
5. Contract for cut and paint treatment for several large seed producing glossy buckthorn individuals in wetland to prevent further spread. (>0.1 acres, \$90)
6. Cut buckthorn back from trail edge several times per year. (~0.5 acres, In House)
7. Monitor area of prior timber harvest closely for invasives, contract treatment if necessary. (~12 acres, In House)

### Year 2: (\$990) Several items from year 1 carry over into year two, see items 1, 2, 3, 4, 6 and 7. All treated areas will likely require follow up treatment.

8. Contract cut and paint treatment of moderately infested wetland to prevent further spread. (0.1 acres, \$90)
9. Contract cut and paint treatment of individual buckthorn stands. (1.24 acres, \$900)

### Year 3: (\$3,400) Several items from year 1 carry over into year two and year 3, see items 1, 2, 3, 4, 6 and 7. All treated areas will likely require follow up treatment.

10. Contract cut and paint treatment of large buckthorn stand in wetland. (1 acre, \$800)
11. Contract cut and paint treatment of leading edge of buckthorn infestation to prevent spread into the forest. (~2.3 acres per/year, 9.3 acres total, \$1800/year)
12. Contract cut and paint treatment of infestation, working out from the vernal pool edge to begin to reestablish healthy terrestrial habitat. (1 acre/year, 5.3 acres total, \$800/year)



## Appendix D: Trail Assessment for “other power-driven mobility devices” (OPDMD)

Maximum width (36’): Boardwalks are being constructed with a clear tread width of 41”, this width is functionally reduced by the winding nature of the boardwalks and the necessity for minor turning. As a result, the maximum width of OPDMD’s that can be safely accommodated is 36.” FKF contains no trails specifically constructed to the standards of universal accessibility. Several sections of trail cross streams and wetlands on narrow bog bridging and other sections of trail contain steep slopes and exposed roots. Seasonally, trails may be saturated and unable to support the weight of many OPDMD’s. A detailed trail description should be posted at the entrance kiosk to allow users to make an informed decision as to what barriers may exist for their own ability level.

Engine type (electric only): The sensitive nature of the vernal pools and necessity to protect the property’s water quality, prevents the accommodation of gas and other fuel powered engines. The noise produced by combustion engines is further in conflict with the intent of low-impact, contemplative, and scenic enjoyment of the property.

---

This plan was reviewed and approved by the Parks and Lands Committee on: 8/10/23

This plan was reviewed by the Yarmouth Town Council on: \_\_\_\_\_

This plan was approved by the Yarmouth Town Council on: \_\_\_\_\_

---