Ayer Devens Municipal Guide
Rewilding Marginal Landscapes - 2025

MVP
Municipal Vulnerability Preparedness

Ayer-Devens
POCKET FORESTS PROJECT

Prepared on behalf of Executive Office of

AYER-MASS Incorporated Feb.14.1871 AYER LIBRARY

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Rewilding process:

- Develop a list of possible locations based on discussion of maintenance and utilization or opportunities.
- Select sites for implementation of pilot projects. See pilot site examples section 2.
- Define phases of a project either manageable quantities relative to staff or manageable quantities relative to perception.
- Rate opportunities, Some sites represent better opportunities for reduction of wasted effort than others, some present opportunities for investment in water quality and biodiversity, Some represent opportunities for hazard mitigation or traffic safety.
- Mark the limits of the rewilding and notify staff to prevent inadvertent regression to standard maintenance.
- Identify and mange resources. See section 3 Wild things.
- Manage plant and animal species. See Species management guide and triage table section 4.
- Invest in plant biodiversity to the extent feasible, supplemental planting or seeding to expedite stable native land cover.
- Manage conflict and education. Having a prepared narrative describing the benefits or waste/ risk reduction of the process.

Section 2
Rewilding sitre selection criteria:

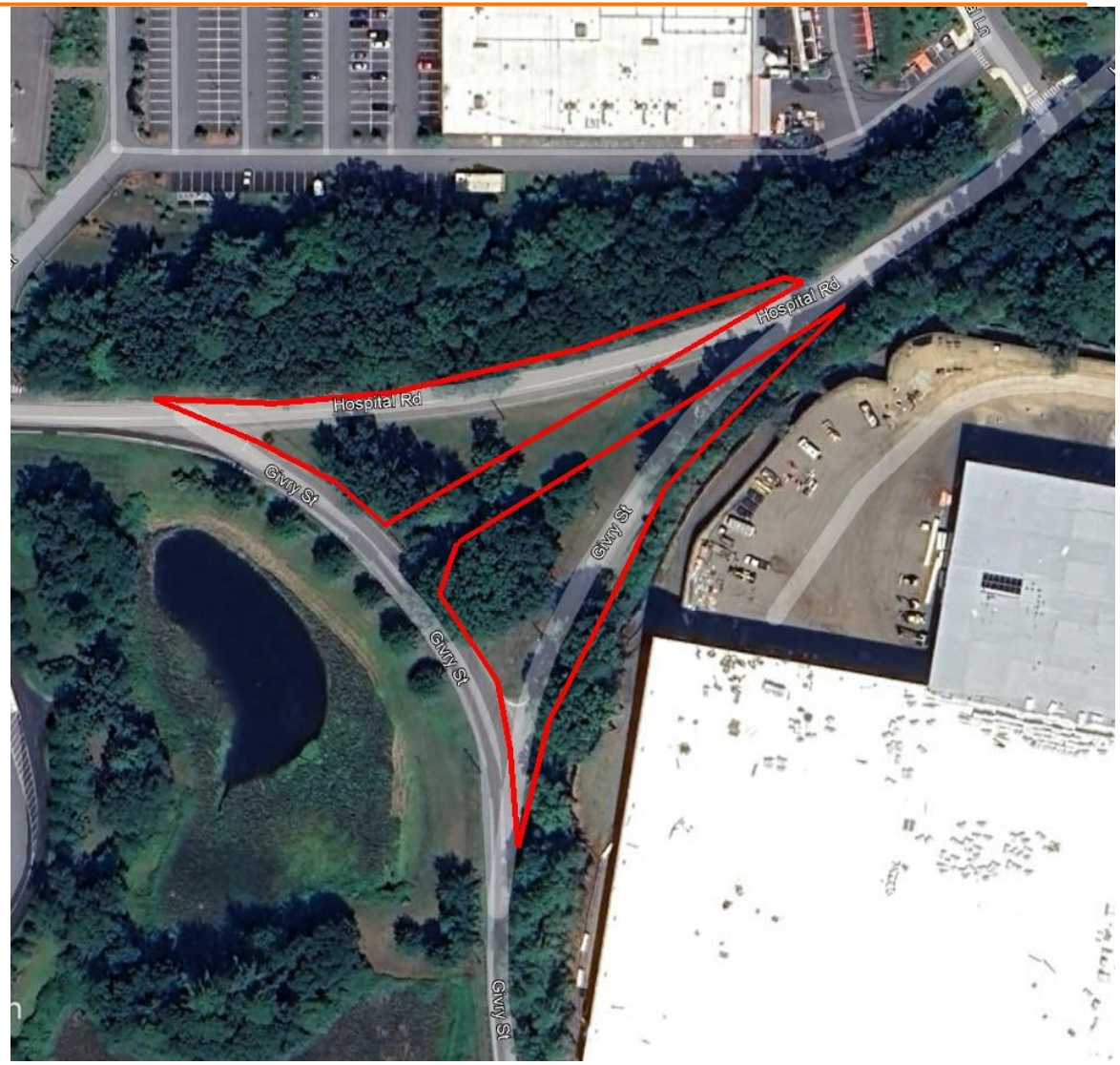
- Is the site regularly occupied for activities, access, or staging?
- Is openness of the site necessary for utility access, fire suppression or traffic site lines.
- Is the site wet, rocky, steep, remote or isolated?
- Are noxious invasive species present, (Phrag = fire hazard, Bittersweet = dead fall hazard). See species triage table.
- Is the site socially significant, visually prominent, at risk of redevelopment?
- Are there habitat resources to preserve. See section 2 Wild things?
- Is there an opportunity to leverage private investment, labor, or education?
- Can you describe the benefits or waste/ risk reduction of the process when answering these questions?

Phasing a project:

- For Linear sites like road shoulders, park margins:
  - Reduce clearing to a minimum shoulder
  - Or successionally reduce clearing by one mowers width per year for gradual transition
- For contiguous sites:
  - Estimate current maintenance hours to set a management budget this is an investment in future effort reduction.
  - Set new management criteria and designate specific times or staff to monitor/ maintain.
  - Divide the site into aesthetic, functional, or practical modules for managed divestment.
- Define goals and the degree of change desired.
  - Where it is important for access or visibility convert regularly mowed sites to infrequently mowed sites meadow, scrub, or ‘ruff’ like a golf course.
  - Where overhead utility clearance or views are important selecting for or promoting shrubs has been identified as the lowest effort land cover.
- Prioritize hazard mitigation then water quality cooling and habitat.

Pilot site example 1 Hospital Rd.

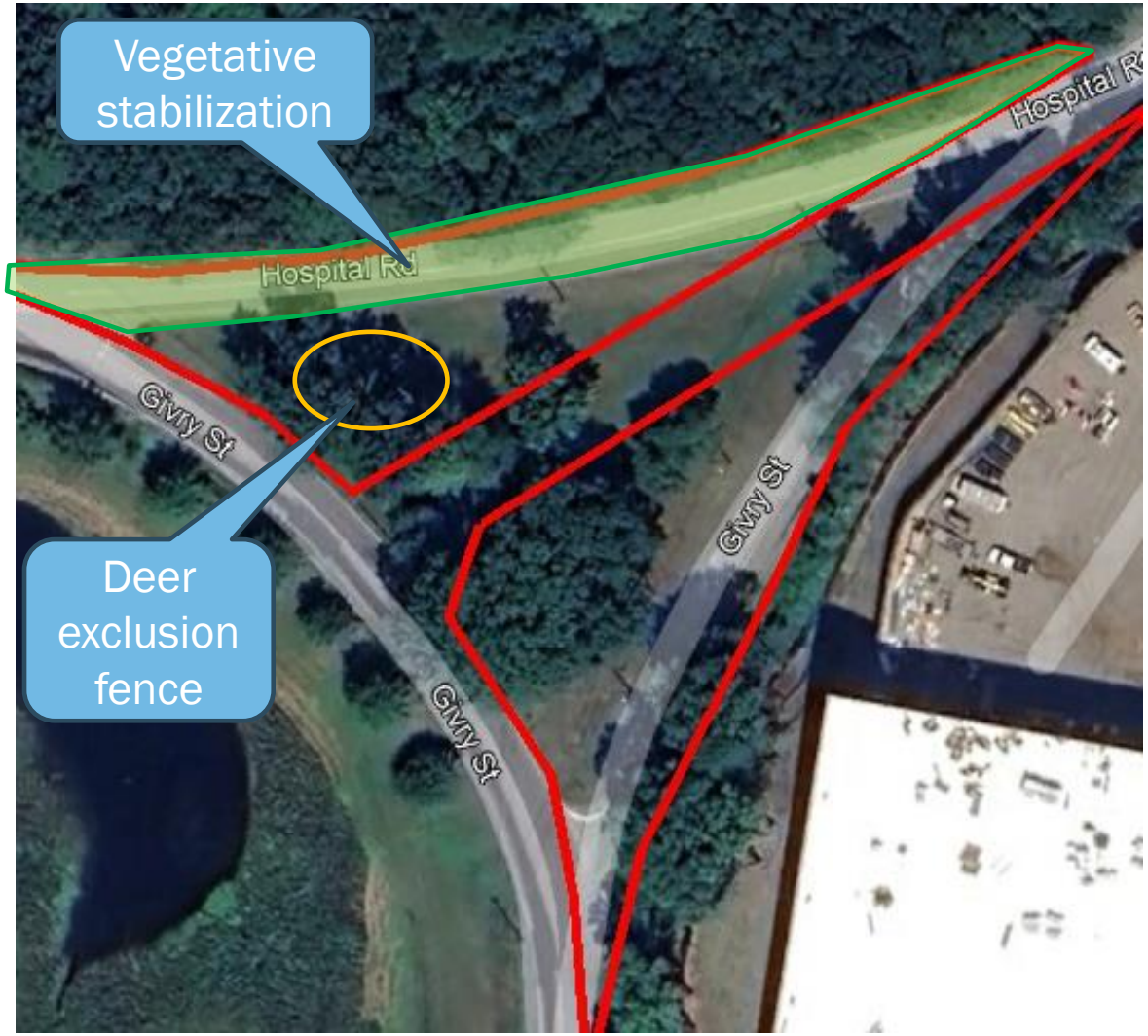
- The sites are not located or shaped for activities, access, or staging
- There is no utility access, and being open does not improve traffic site lines.
- The site is, steep, remote, isolated and near a wetland resource.
- Species hazards are minimal.
- The site is not socially significant, prominent, of developable.
- There are habitat resources to preserve that would reduce clearing costs.
- Community involvement opportunity are minimal but possible.
- It is easy to describe the traffic safety benefits, waste reduction, water quality, and wildlife benefits of this project.



Hospital Rd. rewilding phases

This is a prototype for decommissioned infrastructure and typical road sides after renovation:

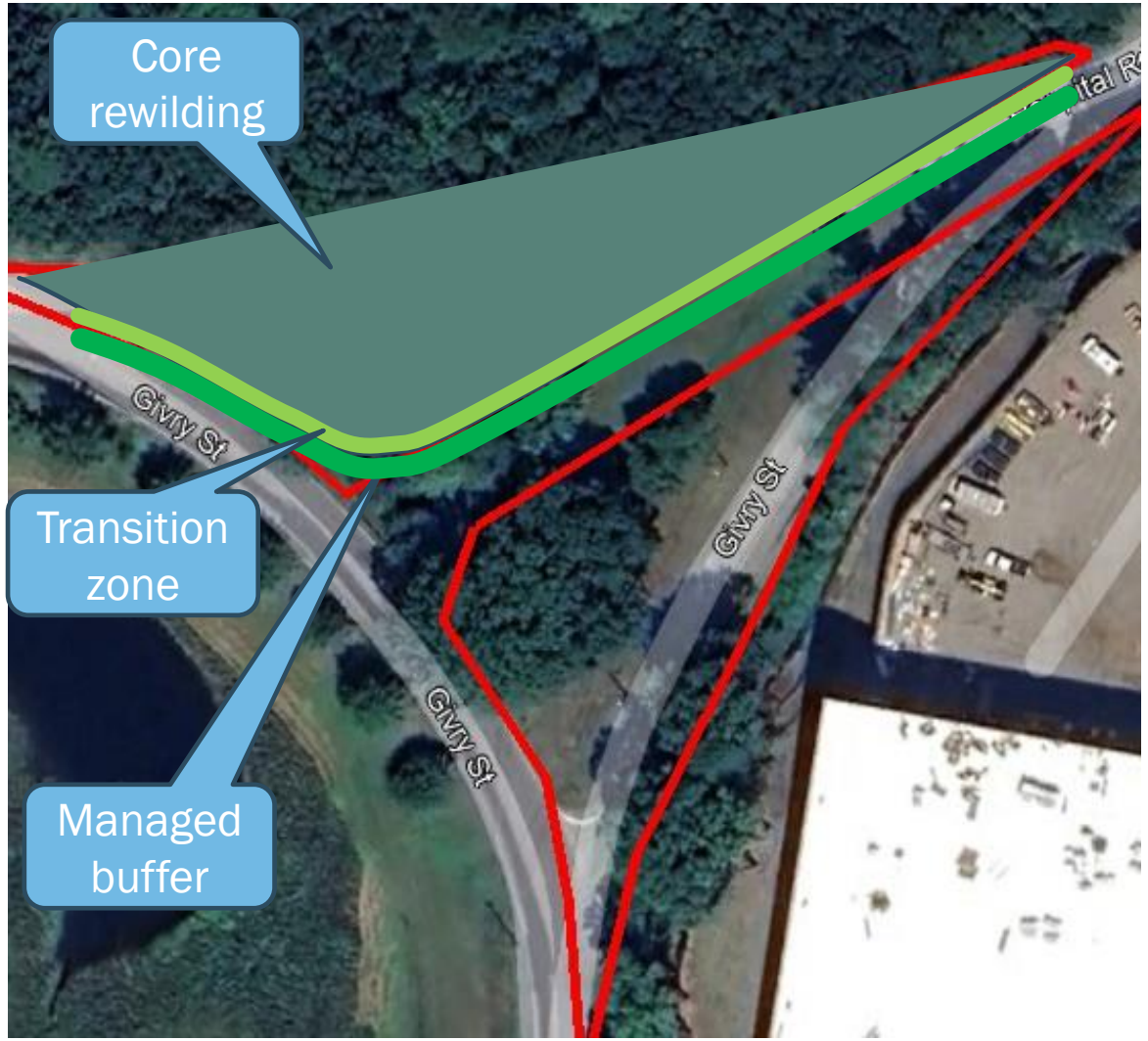
- Treat perimeter invasives to reduce local seed and root stock pressure on the newly disturbed soil. Maintenance for this year is very similar to standard practice with this exception.
- Typically a site disturbed by construction is restored with a thin layer of compost and a fast growing seed to stabilize it or a compost and meadow seed. Follow the seed providers recommendations for water and mowing. This time allows soil chemistry to regulate and fibrous plants to stabilize the soil.
- This is an opportunity to fence against browsers creating diversity plots.



Hospital Rd. rewilding phases

At the end of the first or second growing season:

- **Define zones**: *Core rewilding area*: Full forest succession allowed. *Transition zone*: Selective planting or mowing to reduce edge effects. *Buffer zone*: Managed strip to maintain sightlines, aesthetic, or traffic recovery.
- Stake and sign the rewilding zone, end mowing and leaf removal.
- This area can also become a space to blow leaves into and to dispose logs and brush. The only task here is to monitor and treat invasive species.
- As this area establishes it will need less and less attention, typically 5 years.
- You may choose to plant or promote flowering trees and shrubs in the transition zone to further reduce long term maintenance.



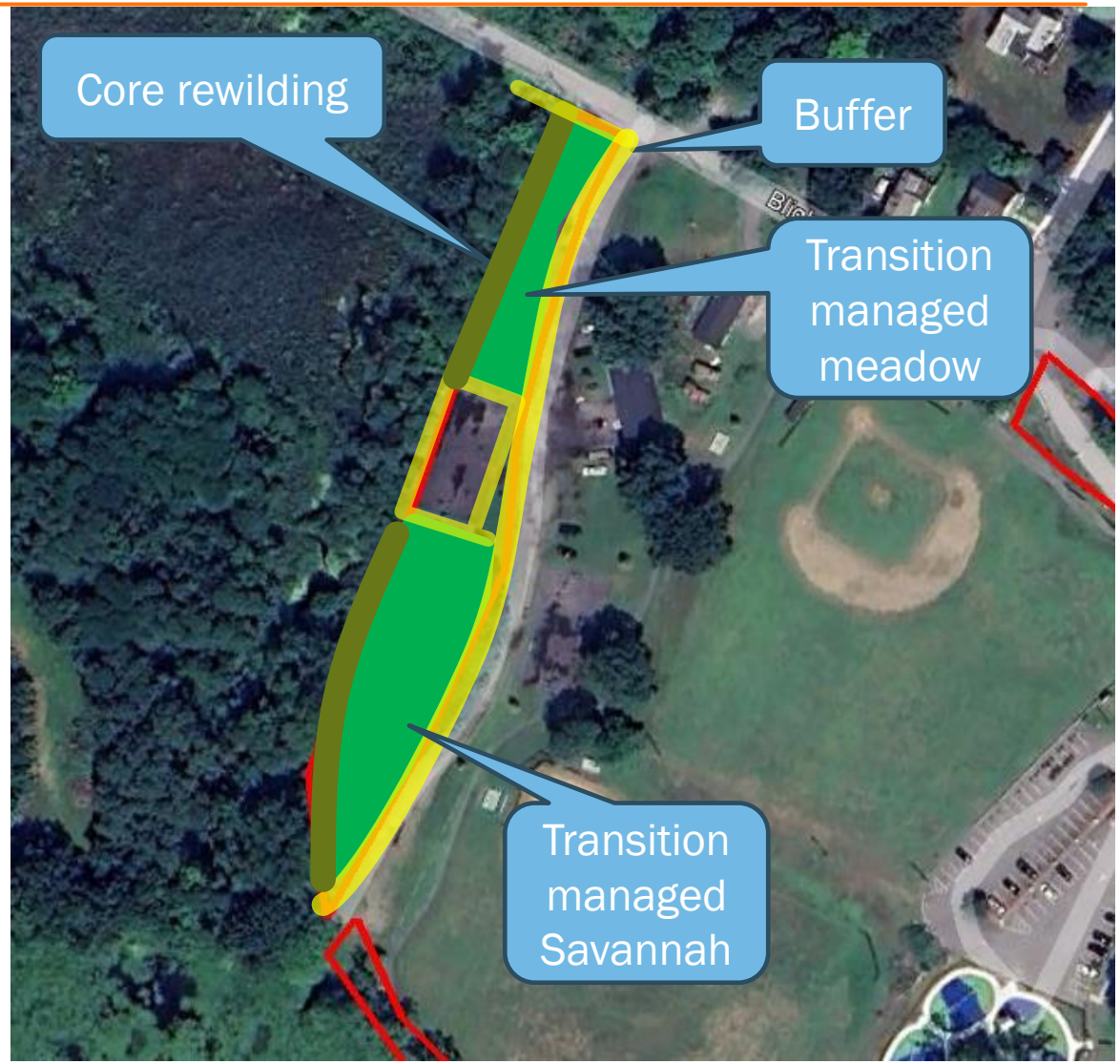
Pilot site example 2 Pirone Park

This is a prototype for various established landscapes (A Wetland Edge, B Pond Edge, and C Steep Slopes): All follow these core steps.

- **Define zones**: *Core rewilding area*: Full forest succession allowed. *Transition zone*: Selective planting or mowing to reduce edge effects. *Buffer zone*: Managed areas seasonally mowed as meadow for staging and event overflow.
- Stake and sign the rewilding zone, end mowing and leaf removal.
- The main task here is to monitor and treat invasive species.
- This is also an opportunity to educate or establish nature-based recreation opportunities.

Pirone Park Wetland Buffer Zone A

- This may require more intensive invasive species management than other areas due to wet conditions that augment growth.
- The core zone can be a space to blow some adjacent leaves into (no more than 6” these should not mound) and to dispose logs and brush in small piles ‘brushy thichets that support wildlife.
- This zone should not include composting lawn clippings because of the potential for nutrient loading in the wetland.
- Naturalizing a wetland buffer has exceptional ecological value and may be leveraged as a permit impact mitigation for areas where a lower value or smaller impact can be off set.

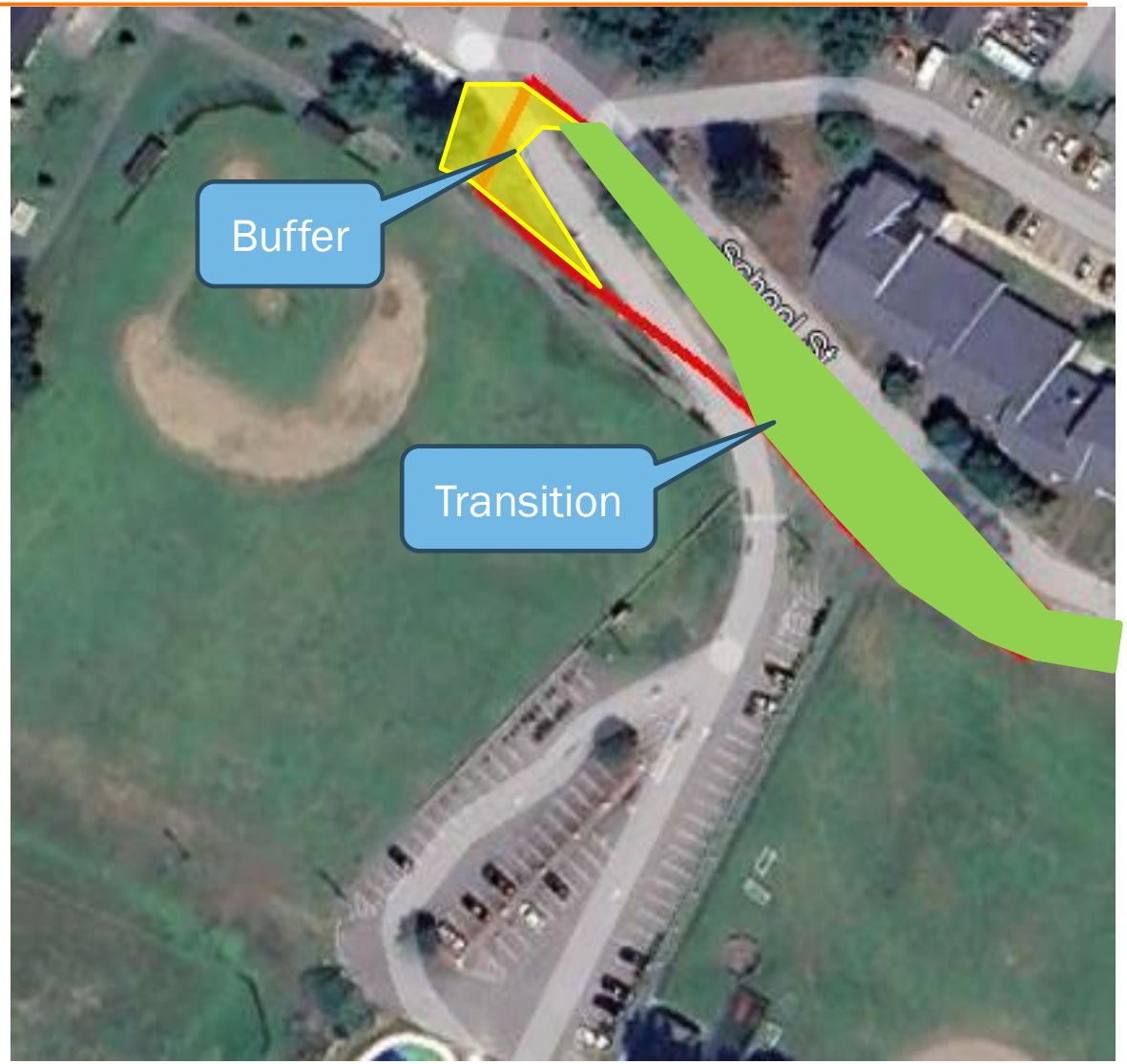


Pirone Park Lake/ Pond Shore Zone B

- This requires balancing the human needs selecting the most stable and desirable areas to maintain as open access with bank protections.
- The benefit of buffering lake/ pond shores is water quality protection and reducing waterfowl conflicts in adjacent recreation turf.
- This can be an area where the type of maintenance and plant selection maters. Consider pruning for open views rather than cutting. Select for species that can accommodate changes to the water table.
- Here ‘Snags’ Dead standing trees are a preferred habitat supporting raptors for pest control. Prune for balance.
- Alternately float logs trees felled into the waters edge are valuable for habitat and shading shallow water.

Pirone Park Slopes Zone C

- Mowing these areas represent a risk both to the public and maintenance staff.
- Slopes provide little utility so naturalizing this area in its entirety may be practical provided an acceptable aesthetic is achieved.
- This area can be naturalized close to the recreational field because it is the north of the field and will not shade turf but will provide ambient cooling through convection.
- Slopes dry and heat more quickly so species options are more limited. Where views or access must remain open promote native warm season grasses.
- For others focus on removing invasive species allowing adjacent upland trees to populate with appropriate thinning to prevent fire or stability hazards.

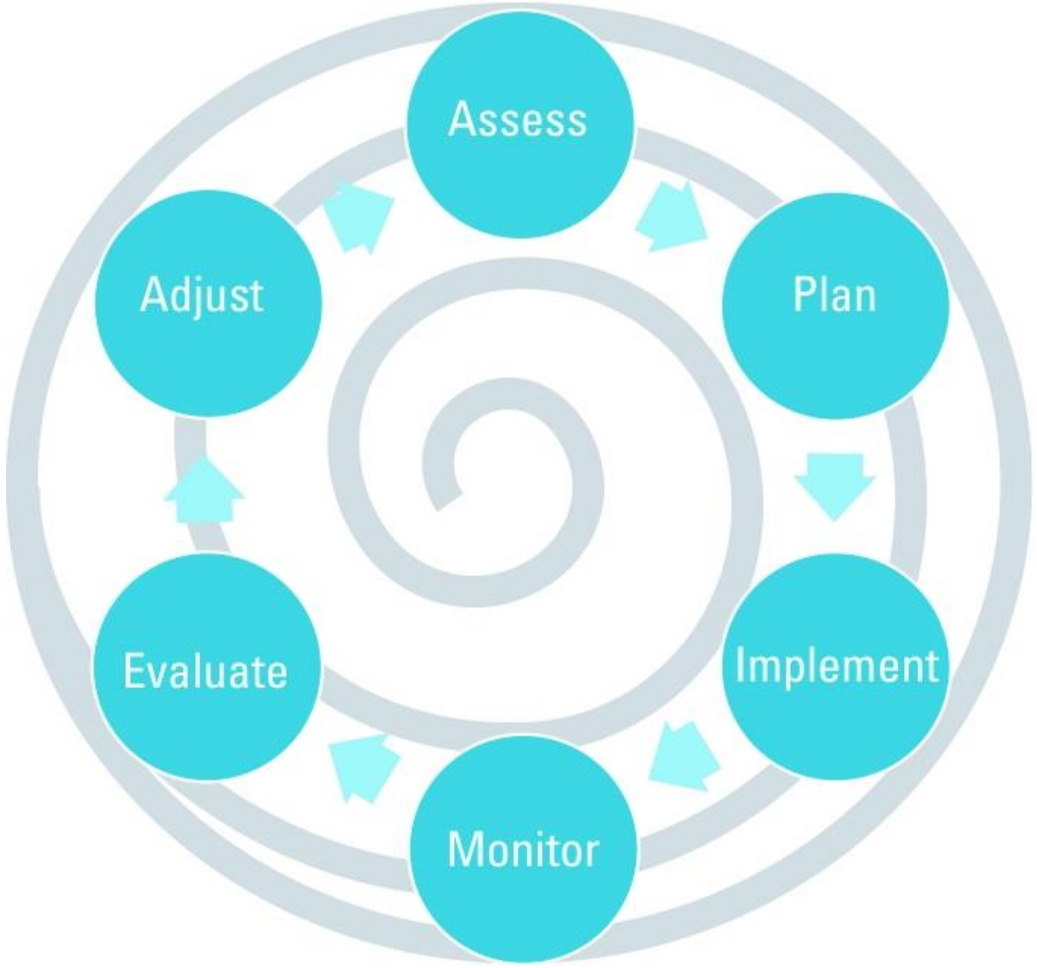


Working the process
Adaptive Management Process

- Land lives and changes. No decision in the landscape is irreversible. A plan is based on its site assessment. Once implemented, and monitored, you will see what changed. You can then evaluate and adjust to the new living site.

- Adaptive management is a structured approach to decision making it is useful when there is substantial uncertainty regarding the most appropriate strategy for managing natural resources.

  -US Department of the Interior

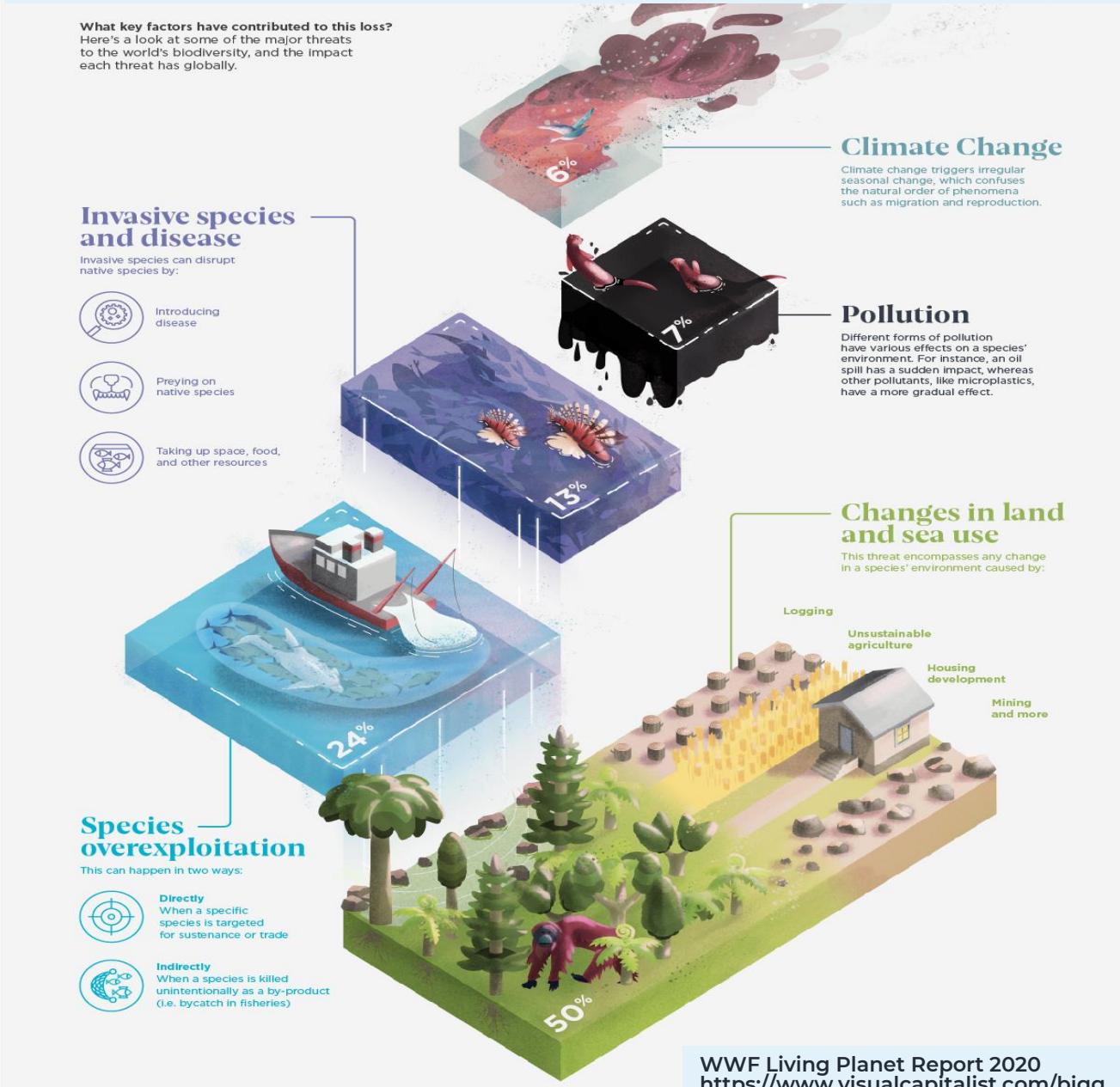


Hess, Mc Dowel, Luber

Rating opportunities
(Framing the issue of biodiversity)

- We can’t solve everything all at once. In fact solve is the wrong criteria to apply.
- Instead we manage and adapt our goals to suit out needs. To do than it helps to keep issues and efforts in perspective.
- Ask with what I have what can I do for what purpose?

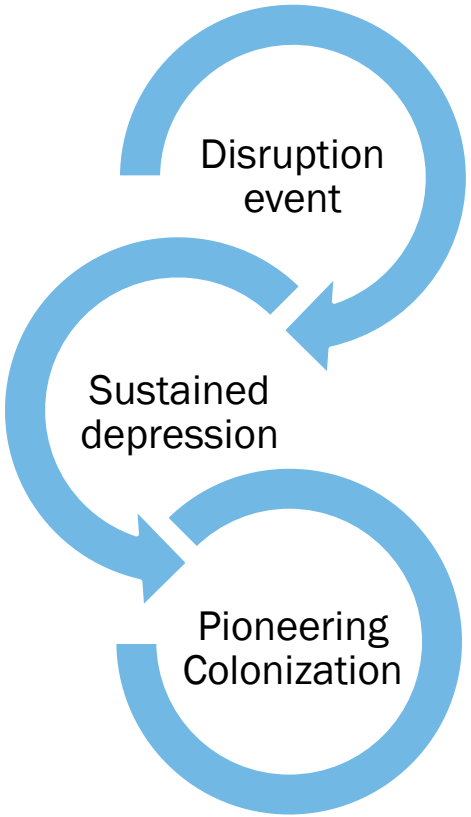
Loss of biodiversity by %



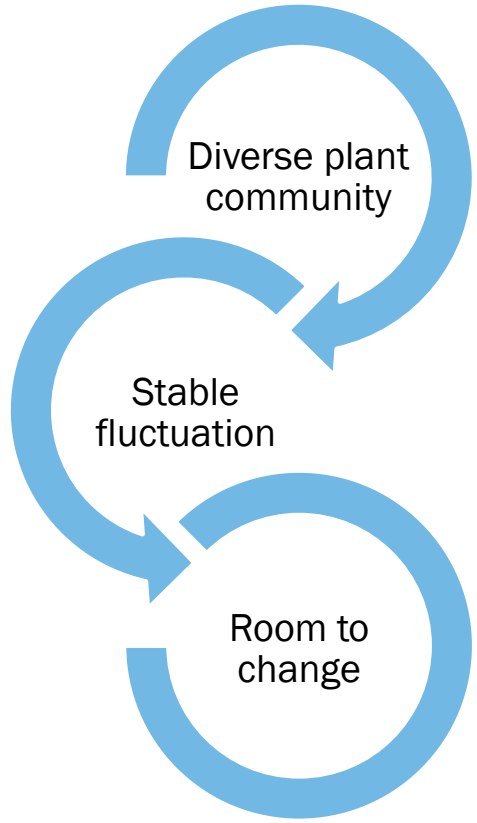
WWF Living Planet Report 2020
https://www.visualcapitalist.com/biggest-threats-to-earths-biodiversity/

Understanding Disruptions and making them work for us

Things to minimize



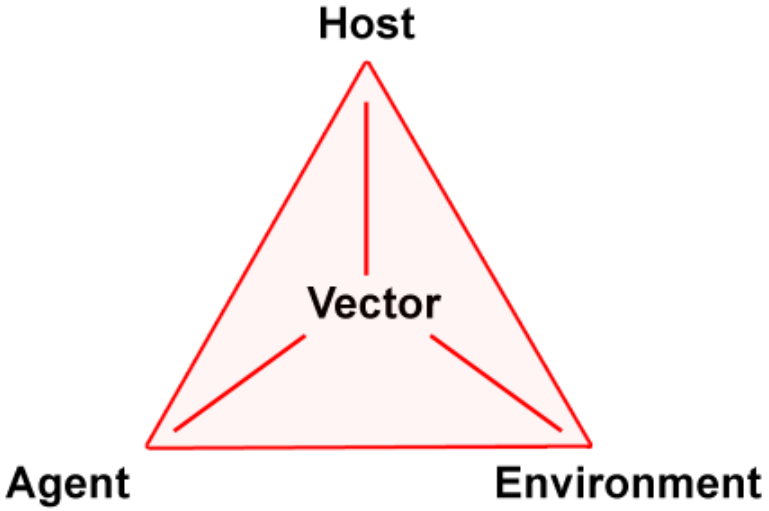
Things to promote



- Which habitats have we taken over? → Which habitat functions can we provide?
- Which plants have we excluded? → Which trees do birds and pollinators need more of?
- Which trees/ landscapes are best suited to your specific site and provide functional habitat.

Disrupt Vectors

- Vectors are the transfer mechanisms responsible for the introduction and spread of invasive species in a certain area, including a wide variety of physical means or agents, from ballast water to horticulture, biological control and aquaculture (Ruiz and Carlton 2003).



Invasive Species around municipal compost distribution

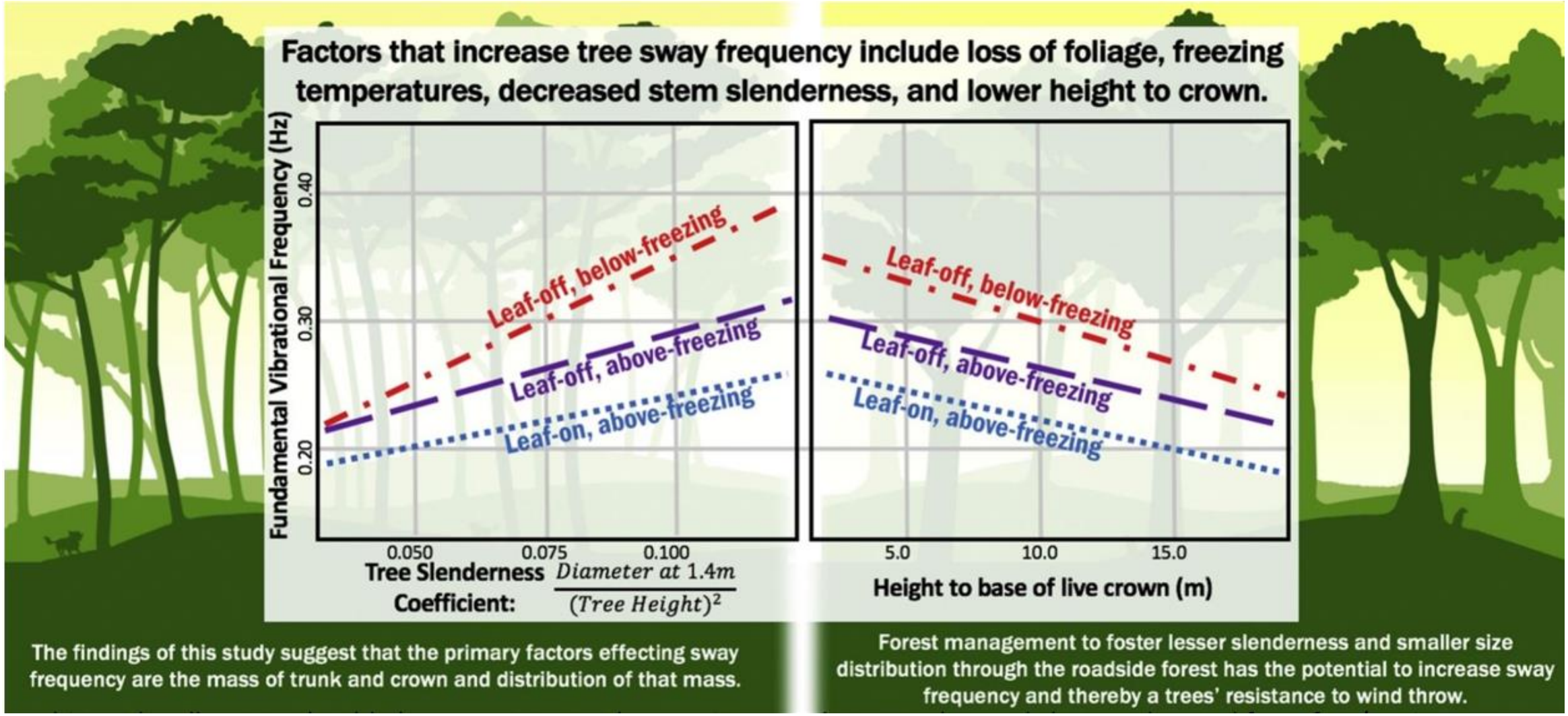
Example Municipal Compost share below a hill of invasive species greatest hits

Build manageable borders

Vulnerable clearing, drainage and erosion

Capture of wind and water swept seed/ root

Structural borders for reduced risk & Maintenance



Increasing stem thickness and lower canopy at roadsides will reduce the occurrence of necessary vegetation management and emergency road clearing with less work than repeatedly pushing back an entire vegetated edge.

Road and vegetation maintenance examples

Excess clearing increases rather than decreases tree fall hazard and reduces shying effect increasing speed and risky behavior see how these dense narrow trees now lean in. Instead choose individual understory trees to retain and occupy this space reducing the opportunity for other growth.

Invasive shrubs are not stunted by this mowing, it gives them an advantage

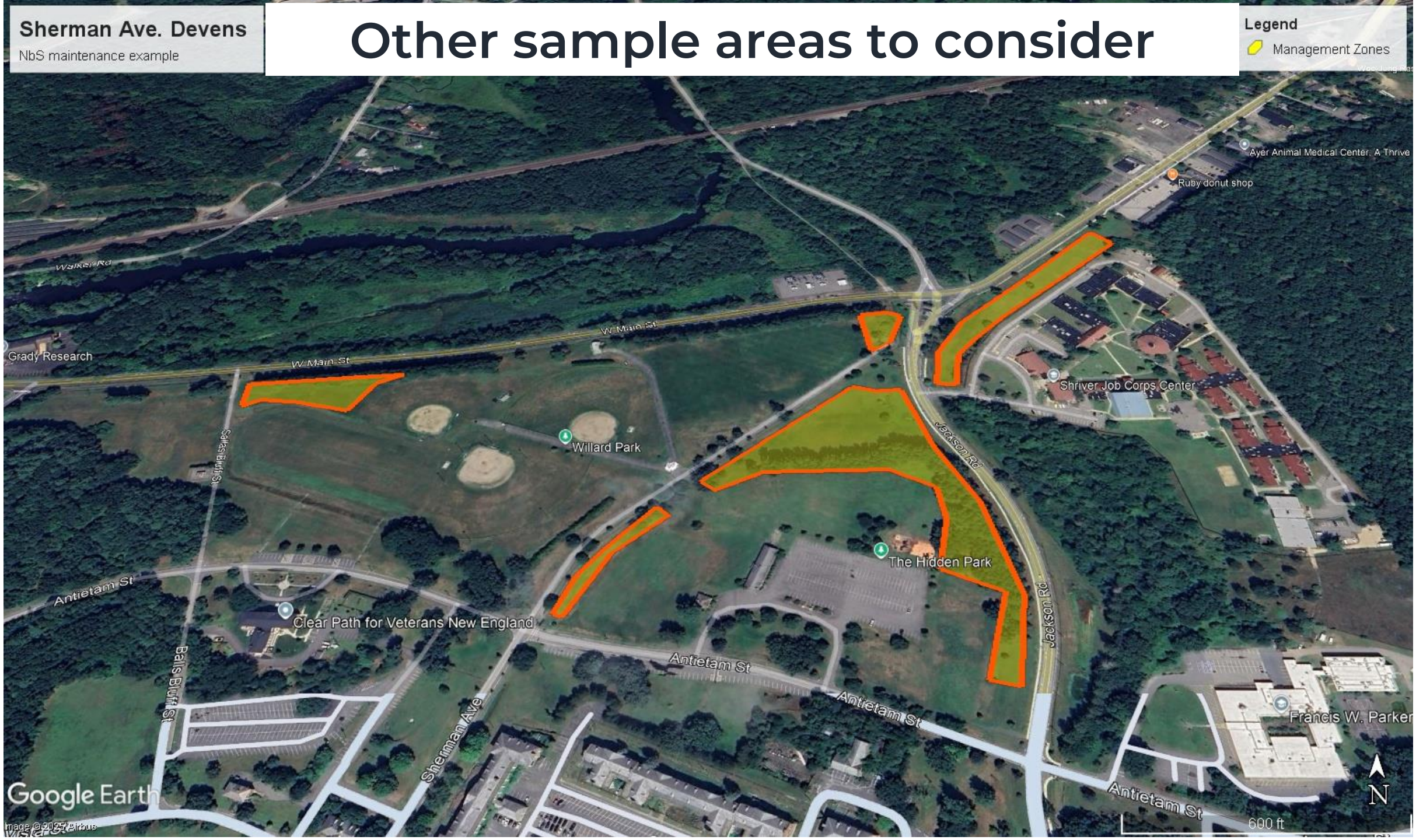
Clearing beyond guard rails or down slopes may be a wasted effort that does not add to road safety

Understanding Maintenance vs Management

Maintenance in cultural landscapes is for use and utility. Asking is this needed, used, enjoyed can reduce workloads or change maintenance tasks.

Management: restoring a naturalized buffer or bio-plot is simultaneous investment in biodiversity and risk reduction while eliminating wasted efforts.

Other sample areas to consider

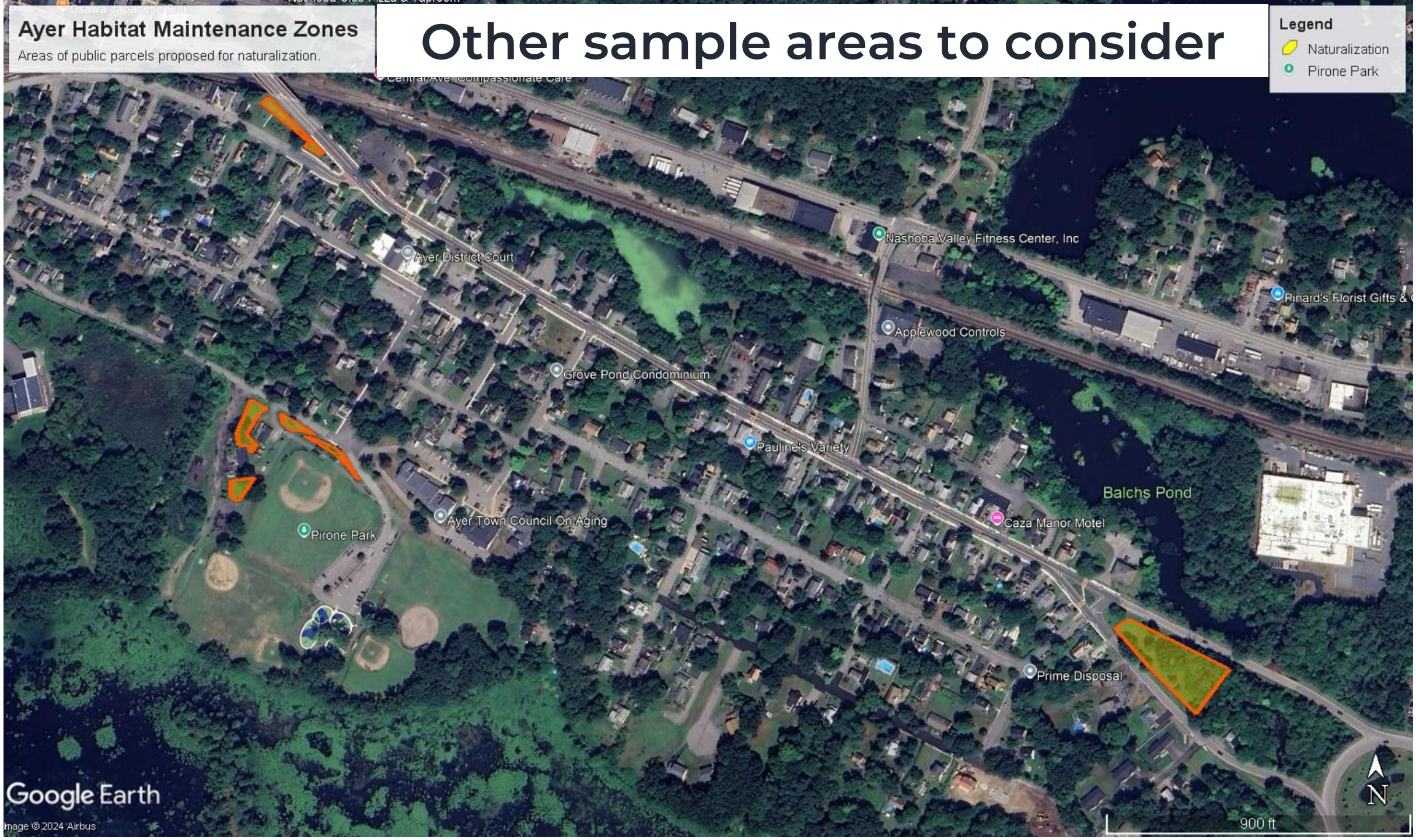


Visual comparison

Existing all mowed

Mow only front of house road and walk edges cut throughs for access, and utility areas, allow other margins and slopes to naturalize.

Other sample areas to consider



Visual comparison

Existing all mowed

Mow only front of house road and walk edges cut throughs for access, and utility areas, allow other margins and slopes to naturalize.

Visual comparison

Existing (stopped mowing here because it was inconvenient. Repeat this benign neglect except where access is needed.

Mow level landscape areas, naturalize slopes. Match right side.

Best practices for species management

MIPAG resources

- –Correct species ID
- –Time of year
- –Selective herbicides/selective methodology
- –Hands on crew observation

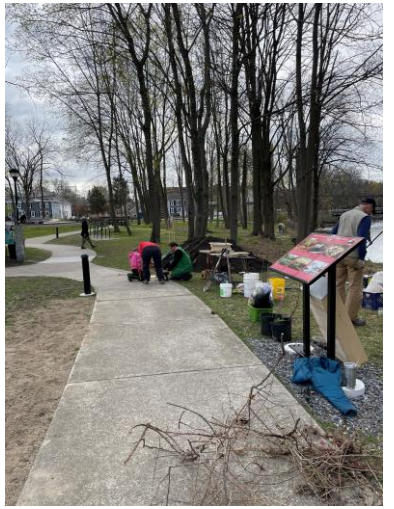
Follow this link to download a Species Triage table a tool for decision makers to better leverage MIPAG information and resources

http://www.bscgroup.com/wp-content/uploads/2024/11/Sample-Plant-Triage-MACC-BSC_Group-2025.xlsx

Time of Year Treatment																							
Species	Growth Form	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Common reed	Grass															y	y	Pref	Pref	Until FF					
Japanese knotweed	Grass							y	y	y	y							Pref	Pref	Until FF					
Garlic mustard	Herb							pref	pref	pref	pref	y	y	Basa	Basl	Basa	Basa	Basa	Basa	al					
Purple loosestrife	Herb							y	y	y	y	y	y	pref	pref	y	y								
Tree of heaven	Tree	y	y							y	y	y	y	y	y	pref	pref	pref	pref	pref	pref	y	y	y	y
Asiatic bittersweet	Woody	y	y											y	y	y	y	y	y	y	y	y	y	y	y
Autumn olive	Woody	y	y							y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Buckthorn spp.	Woody	y	y											y	y	y	y	y	y	y	y	y	y	y	y
Bush honeysuckle spp.	Woody	y	y							y	y	y	y	y	y	y	y	pref	pref	pref	pref	y	y	y	y
Multiflora rose	Woody	y	y							y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y

Legend:

- Treatment window
- Best time for treatment
- Basal growth treatment only as rest has seeded (Biannual species)
- "Until FF" - Until First Frost



Recognizing and preserving habitat

Root wad

Brush Thicket

Float Log

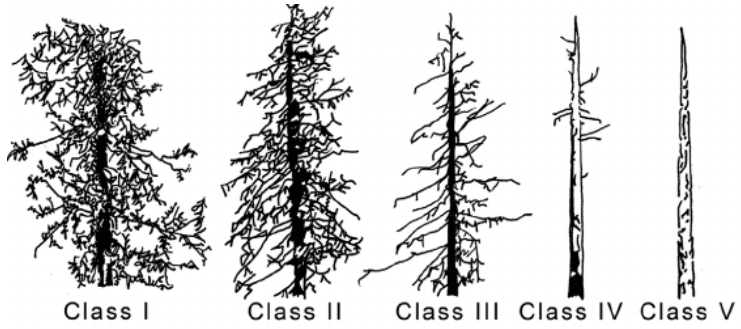
Snag Tree

Nurse Log

We might think:
Collapse, predation, death, decay, erosion?

We should see:
Life cycle, habitat, process, stability, balance
wealth, inoculation?

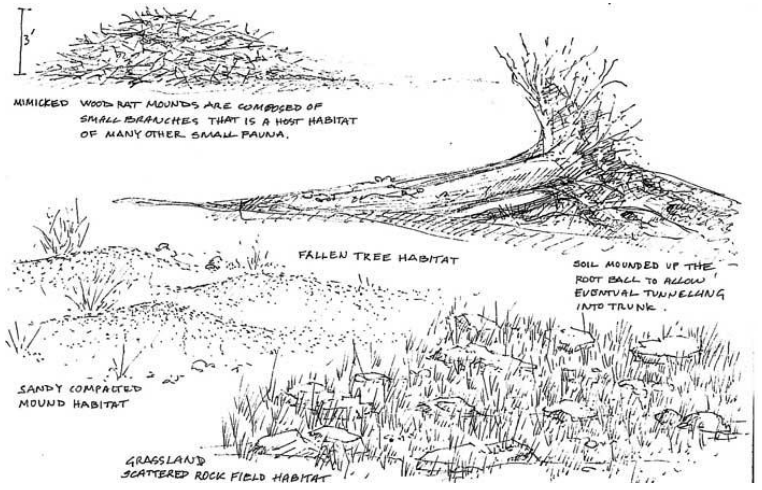
Death is essential for life. There is only one type of cell that denies death, a cancer cell.



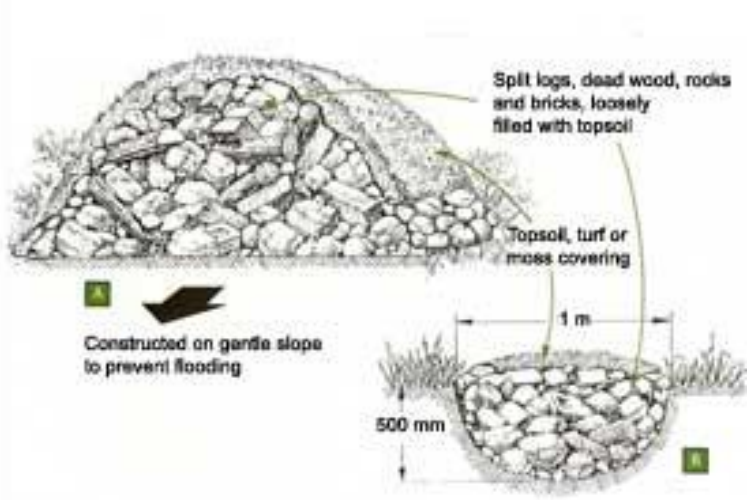
Small cobble/ stump dump = Hibernacula

Dual use housing

Think vertical



Don’t waste your waste



Erosion (in moderation) is natural and essential where can we put ours to good use safely?

Recognizing and preserving habitat

Shelter

- Keep the snag tree make it safe
- Keep the brush make it structural
- Keep the log make it strategic
- Keep the Root Wad make it deep
- Keep the duff, or rebuild it
- Pile the rocks, sand, soil, terrace the rest
- Clear only what you will use
- Shade the built world and the water

Food

- Plant native, diverse, site specific, and resilient
- Plant High forage value nectar, pollen, sap, foliage, seed plants, ruderals where necessary
- Include higher sequestration species Evergreens do a little more than deciduous
- Plant the cultural savannah/ replace the missing landscape
- Forrage the back yard

Order:

- Weed out direct competition by lower value plants: invasives, pioneers, commons (over populated vulnerable populations).
- Do not expel the c students. If there isn't a long term goal for something better then let biological competition manage itself (for now).
- Build the novel ecosystem of tomorrow.
- Expand compatible diversity (without feeding them to the wolves).
- Facilitate genetic migration (The birds and the bees)
- Connect with your neighbors
- Firmness, commodity, and delight (if you forget one the others will fail.)
- The raingarden versus the storm basin

Culture:

- Drawing people in and changing our culture to be ecology positive
- Incorporate art
- Hide your intervention (genius loci)
- Interpret and educate

APPLE COUNTRY
Natural Climate Solutions Project
https://climateresilient.wixsite.com/applecountry

Guide to Living Forest Resilience
https://aae22901-1c26-4554-9229-3264a1e26c4b.filesusr.com/ugd/29afe1_40e57de490fb4cae9f5e3c07e302d271.pdf

Landscape Forest Stewardship Plan
https://mountwashington-ma.gov/departments/conservation-commission/community-forest-stewardship/#

Stow Acres Reforestation Masterplan
https://arcg.is/KGefr0

Reference support

https://www.ndal.org/
https://homegrownnationalpark.org/
Functional ecology of wild bees in cities: towards a better understanding of trait-urbanization relationships
https://gegearlab.weebly.com/
https://www.offshootsinc.com/project/myco/