

Regenerating Riparian Resiliency (after a water disturbance)



PRESENTERS



- **Ben Dillner, State Survey Coordinator VT Agency of Agriculture, Food and Markets (VAAFMT)**



- **Lina Swislocki, Invasive Plant Program Assistant Coordinator, VT Department of Forests, Parks & Recreation**



- **Judy Rosovsky, State Entomologist, VAAFMT**

GOALS OF THIS SESSION

- Define invasive plants
- Water disturbance + invasive plants
- Go over treatment options and best management practices
- Practice plant ID
- Learn about restoration planting
- Share resources

OUTCOMES OF THIS SESSION

- Watch for, identify, and treat invasive plants
- Know where to turn for help

DEFINE INVASIVE PLANTS



AGENCY OF AGRICULTURE, FOOD & MARKETS



A noxious weed is any plant **(not from the state)** in any stage of development...whose presence, whether direct or indirect, is **detrimental** to the **environment, crops**...or is injurious to the **public health** or the **economy** generally



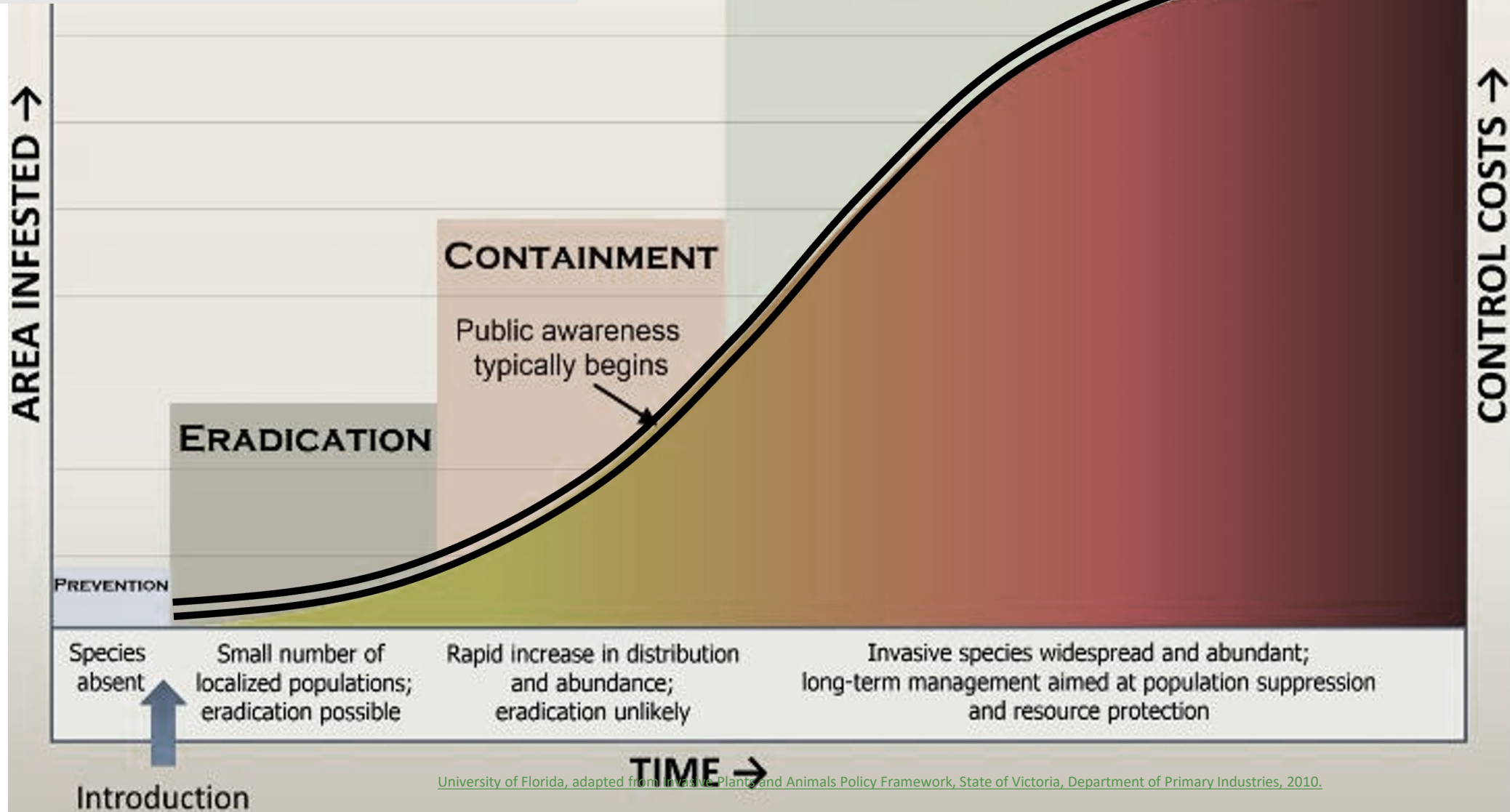
WATER DISTURBANCE + INVASIVES



WATER DISTURBANCE + INVASIVES

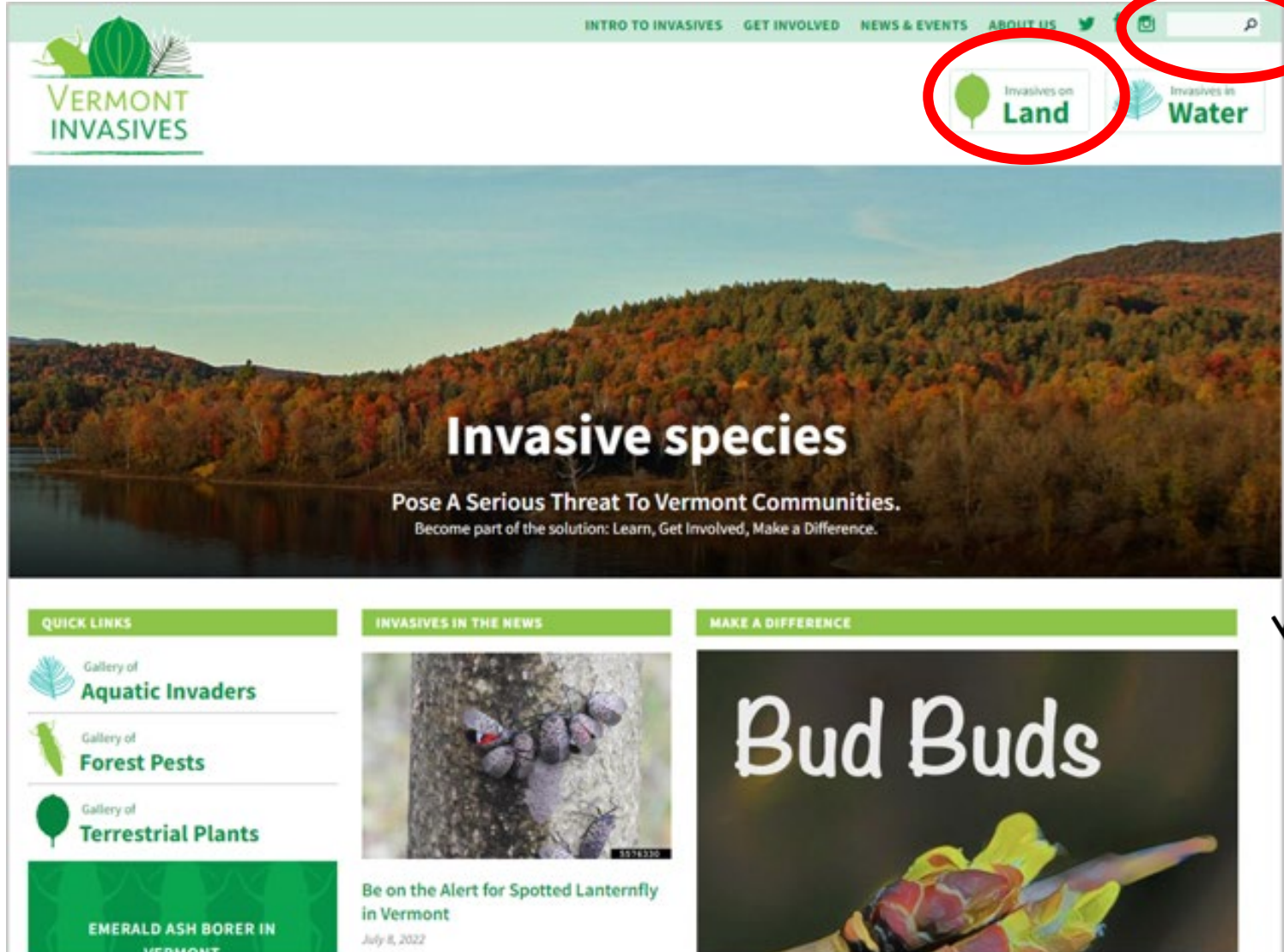


INVASION CURVE



University of Florida, adapted from Invasive Plants and Animals Policy Framework, State of Victoria, Department of Primary Industries, 2010.





The screenshot shows the homepage of vtinvasives.org. At the top, there is a navigation bar with links for 'INTRO TO INVASIVES', 'GET INVOLVED', 'NEWS & EVENTS', and 'ABOUT US'. Below this is a search bar and social media icons for Twitter, Facebook, and Instagram. Two buttons, 'Invasives on Land' and 'Invasives in Water', are highlighted with red circles. The main content area features a large image of a forest with the text 'Invasive species' and 'Pose A Serious Threat To Vermont Communities. Become part of the solution: Learn, Get Involved, Make a Difference.' Below this are three sections: 'QUICK LINKS' with links to 'Gallery of Aquatic Invaders', 'Gallery of Forest Pests', and 'Gallery of Terrestrial Plants'; 'INVASIVES IN THE NEWS' with a featured article 'Be on the Alert for Spotted Lanternfly in Vermont' dated July 8, 2022; and 'MAKE A DIFFERENCE' with a 'Bud Buds' section.

Getting Started

DEVELOPING A MANAGEMENT PLAN

- [Developing a management plan](#)
- [Management Plan Template Long Form](#)
- [Management Plan Template Short Form](#)
- [Comparison of Project Strategies](#)

ASSESSING INFESTATIONS

- [Assessing infestations](#)
- [Landowner Guide to Invasive Plant Assessment](#)
- [UVA Invasive Plant Assessment Methods](#)
- [Field Guide for 12 Invasive Plants Common in Vermont](#)

FUNDING OPPORTUNITIES

- [USDA Natural Resources Conservation Service's Environmental Quality Incentives Program \(EQIP\)](#)
- [EQIP in Vermont](#)
- [More funding opportunities](#)

Treatment And Restoration

HIRING A CONTRACTOR

<https://vtinvasives.org/land/management>

PLANT ID – HANDS-ON PRACTICE



HOW TO ID



PLANT ID - KNOTWEED



PLANT ID - PHRAGMITES



PLANT ID - LOOSESTRIFE



CONTROL OPTIONS

	Pro	Con	Ideal setting
Manual	Non-toxic	<ul style="list-style-type: none"> • LOTS OF LONG HARD WORK • Can be very hard to get all the plant parts 	<ul style="list-style-type: none"> • Small infestation • Lots of people working
Mechanical	<ul style="list-style-type: none"> • Less toxic • Cover more area than manual 	<ul style="list-style-type: none"> • Can cause more damage • May spread • Hard to reach desirable plants 	<ul style="list-style-type: none"> • First round treatment of large infestation
Chemical	Works quickly	<ul style="list-style-type: none"> • May impact other plants and animals in the area 	<ul style="list-style-type: none"> • Very precise application when there are no flowers nearby • Get large infestation under control

Note: no treatment will work in isolation

12 INVASIVE PLANTS FIELD GUIDE



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12 INVASIVE PLANTS COMMONLY FOUND IN VERMONT



RESOURCES



Information about the Rule:

<https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/plant-health-and-pest-management/plant-2>

Information about invasive plants and best management practices:

VTinvasives.org >

- Gallery of Land Invasives
- Factsheets
- 12 Common Invasives field guide

Information about restoration planting

- <https://dec.vermont.gov/content/lake-wise-info-sheet-live-stakes-fascines>
- Vermont Bioengineering Manual



OUR CONTACT INFO



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RIPARIAN RESTORATION AFTER FLOODING



WHY NATIVE PLANTS?

- Supports higher biodiversity
- Habitat and food for animals
- Pollinator resources
- Erosion control
- Aesthetics and human use

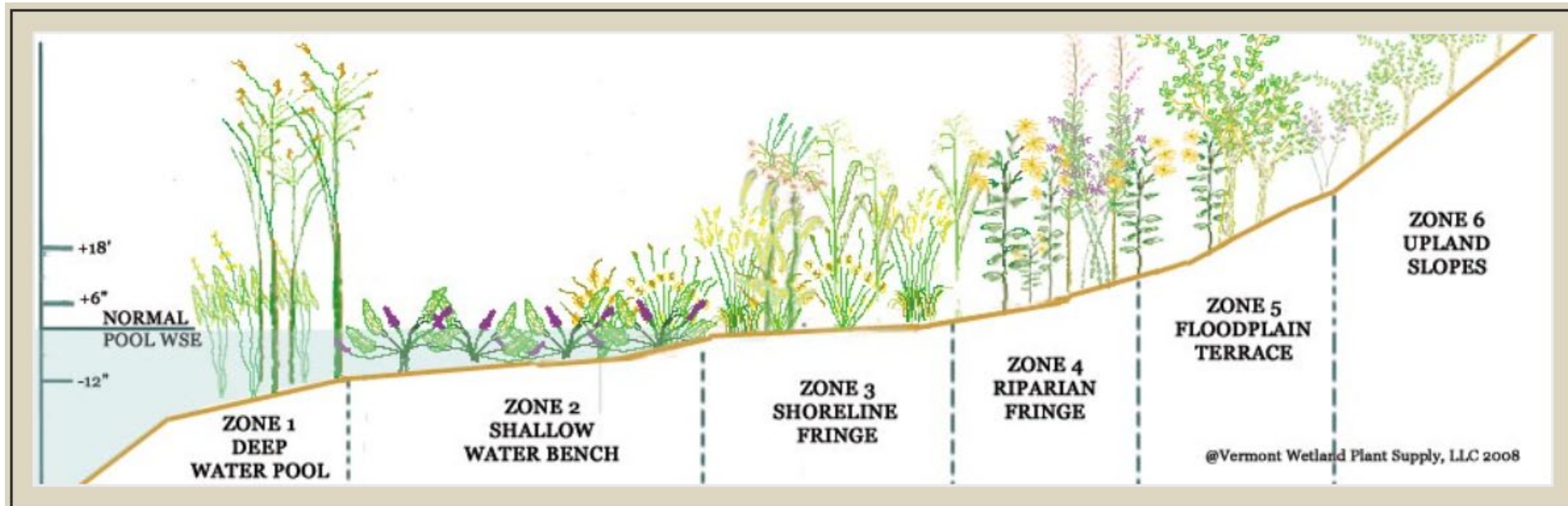


PC: Ben Dillner

KNOW YOUR SITE

- Soil type
- Sun exposure
- Moisture
- Native plants already in the area

VT Wetland Plant Supply



INVASIVE REMOVAL BEFORE PLANTING?

- Are there invasives already present, such as knotweed?
 - How heavy is the infestation?
 - Heavy infestations will require control before replanting
- Bare soil is perfect for replanting- prevents invasives from establishing
 - Need to act quick!

IDEAL PLANT CHARACTERISTICS

- Quick growing
- Tall- compete with invasives
- Tolerant of variety of conditions
- Easy to propagate/ plant



PLANT SELECTION

A small sampling... make sure to get native species/ cultivars

Trees	Shrubs	Herbs
Willow	Dogwood	Joe-pye Weed
Silver maple	Ninebark	Milkweed
Alder	Serviceberry	Turtlehead
River Birch	Elderberry	Ostrich fern
Swamp white oak	Winterberry	Sedges
Black walnut	Viburnum	Rushes
Hickory	Witch hazel	Iris

PLANT SOURCE

Established potted plants \$\$\$



Bare root \$\$



Propagation \$



<https://kb.jniplants.com/understanding-nursery-stock-sizes/>



<https://www.sunnysidenursery.net/>

<https://www.youtube.com/watch?app=desktop&v=8oJkw-KYvqI>

POTTED PLANTS



PC: Christa Lessing

- Source locally if possible
 - Local \$ and may be locally adapted
- Can plant anytime but spring and fall best
- More expensive
- Usually very good success rate if cared for

BARE ROOT PLANTS

- Plants dug while dormant in early spring, shipped out
- Roots need to be kept moist/ dark
- Plant at start of growing season (in ground or pot up)
- Cheaper option for trees/ shrubs
- Good success rate but some failure
 - Irrigation needed if dry spring



PROPAGATION



Seeds



Cuttings



Divisions

SEEDS

- Most wild seeds need a “winter” to germinate
- Collect in summer/ fall: w/ permission, rare plant consideration
- Stratify in ground or fridge for 90+ days at 35F
 - Protect from rodents
- Sow seeds in spring
- Some plants may take 2 years to germinate e.g. walnuts, hickory
- Oaks from acorns, easy!

SEEDS CONT.



*Left: Red oak seedlings emerging. Right: Red maple seedlings.
Photos courtesy of Annalise Carington, USFWS & The Intervale
Center.*

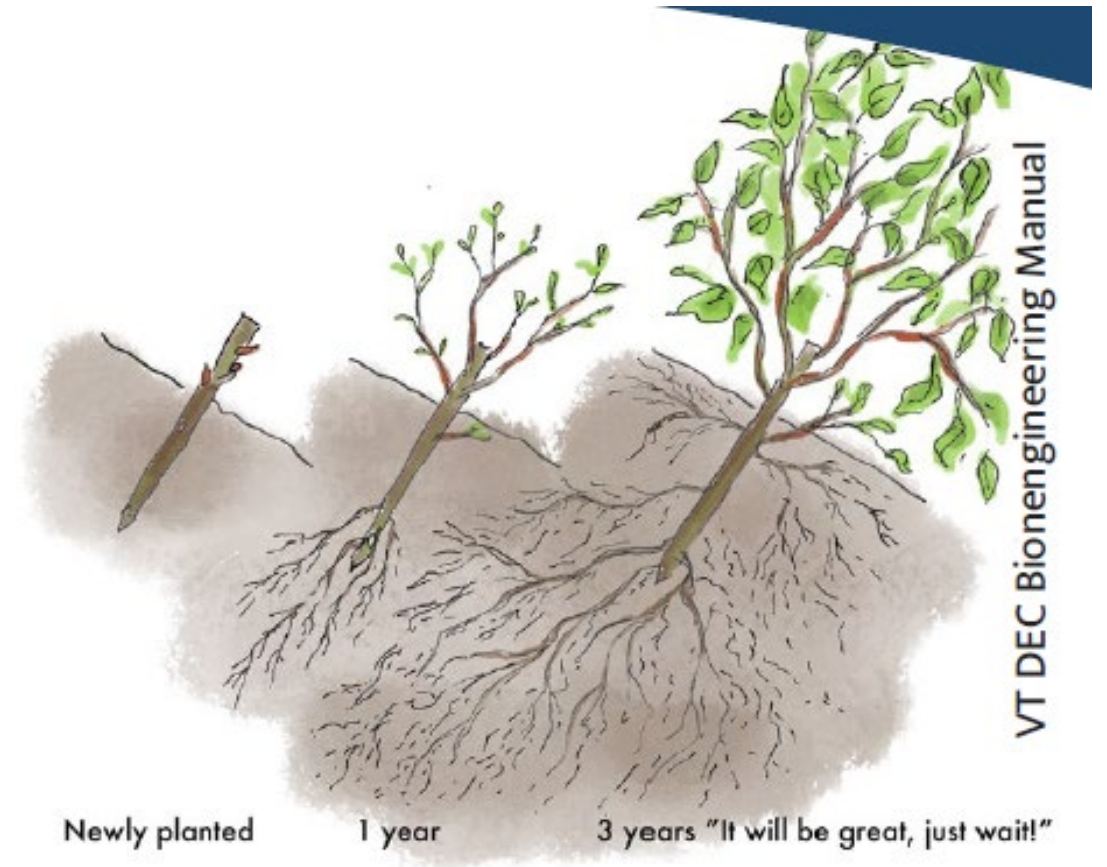
CUTTINGS

- Some plants grow very easily from cuttings
 - Willow, dogwood, elderberry
- Others require special facility
- Softwood cuttings
- Live stakes



CUTTINGS CONT....LIVE STAKES

- Collect cuttings in fall/ winter
 - Local, multiple individuals, sust. harvest
- Plant in fall or early spring
 - Just stick in ground!
- Plant plenty of extra, not all survive
- Very easy and cheap!



DIVISIONS

- Herbaceous plants with large root systems
- Limit soil disturbance/ transfer
- Bulbs, corms, rhizomes, tubers
- Divide in fall- when not in bloom



<https://livingcolorgardencenter.net/gardening/when-how-to-divide-perennials/>



<https://www.ediblewildfood.com/joe-pye-Weed.aspx>  VERMONT

ONGOING SITE MAINTENANCE

- Plan for the future
- First couple years until well established
- Check for new invaders
- “Helping Hand for Nature” ... create resilient and adaptive system



FOR MORE INFO:

- <https://dec.vermont.gov/content/lake-wise-info-sheet-live-stakes-fascines>
- Vermont Bioengineering Manual
- USDA woody plant seed manual:
https://www.fs.usda.gov/nsl/nsl_wpsm.html

