

Which Willow?

Non-native gray willow (*Salix cinerea*)

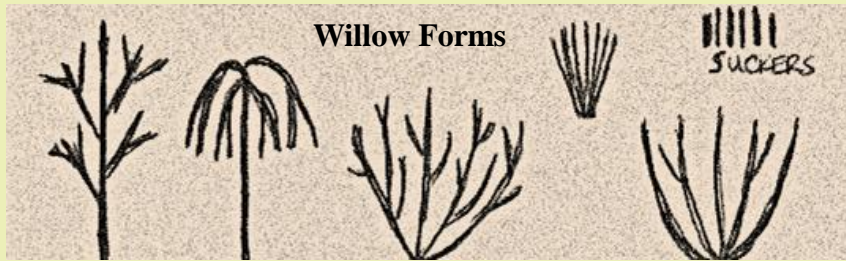
NEW ENGLAND
WILD
FLOWER
SOCIETY



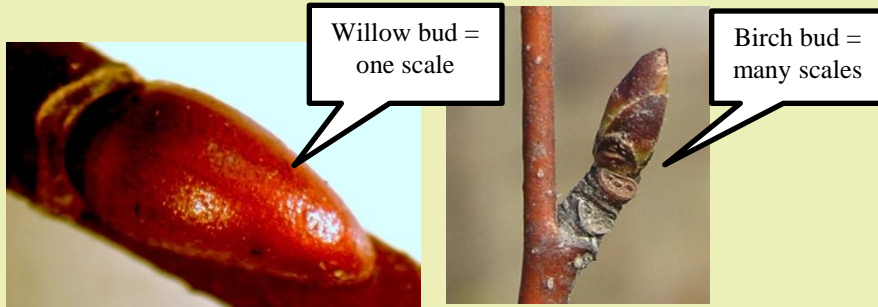
Amanda Weise

Ecological Programs Coordinator

Willows, salallows and osiers (*Salix*)



- **Salicaceae family**
- **Deciduous trees and shrubs**
- **Dioecious**
- **Upright catkins (aments)**
- **Insect pollinated, wind dispersed**
- **Winter buds = single scale**
- **Often prefer wet soils**
- **Species can be difficult to ID**



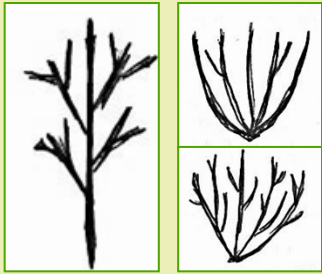
UGA1379029

Vetrix...Cinerella...Salix cinerea

subgenus

section

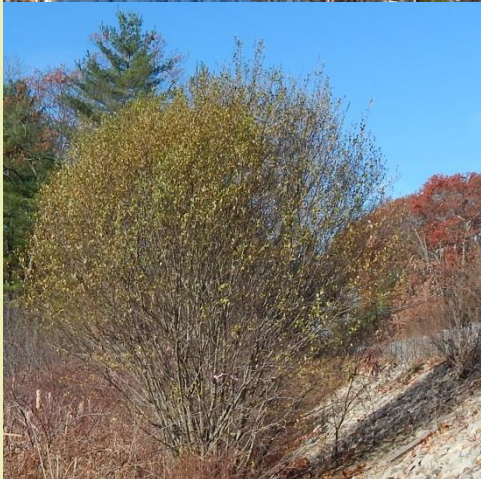
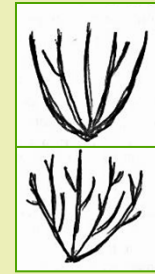
species



Salix cinerea

ssp. oleifolia
(*S. atrocinerea*)

ssp. cinerea
(*S. cinerea*)

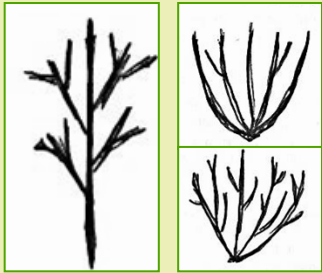


Vetrix...Cinerella...Salix cinerea

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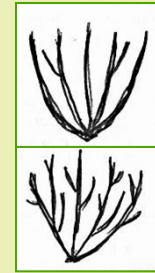
species



Salix cinerea

ssp. oleifolia
(*S. atrocinerea*)

ssp. cinerea
(*S. cinerea*)



Both are non-native
Both are invasive

LUMPING IS OK HERE!

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Salix cinerea: the problem

NY Invasiveness Ranking: 84.44

>80.00 = very high

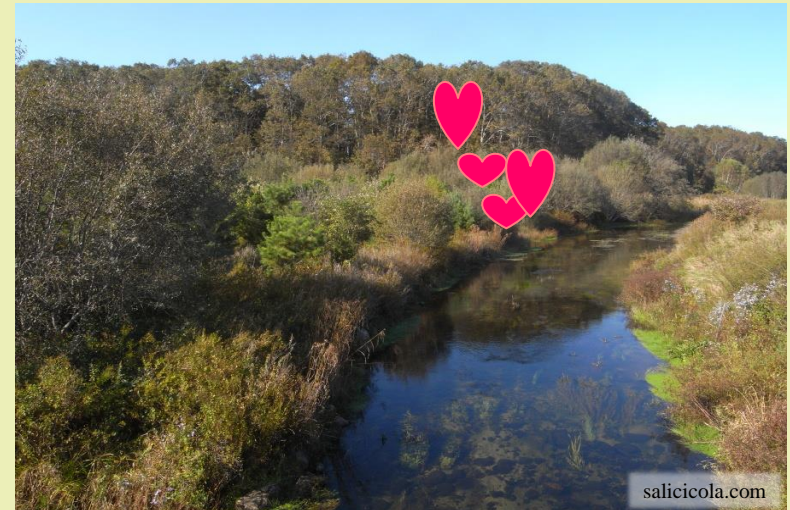
Celastrus orbiculatus = 86.67

Seed dispersed by wind

Outcompetes / hybridize with native willows

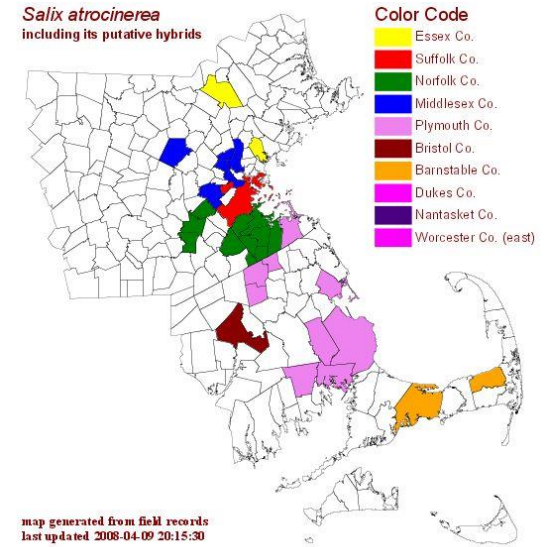
Local extinction of native genotypes?

$$A+B=AB$$

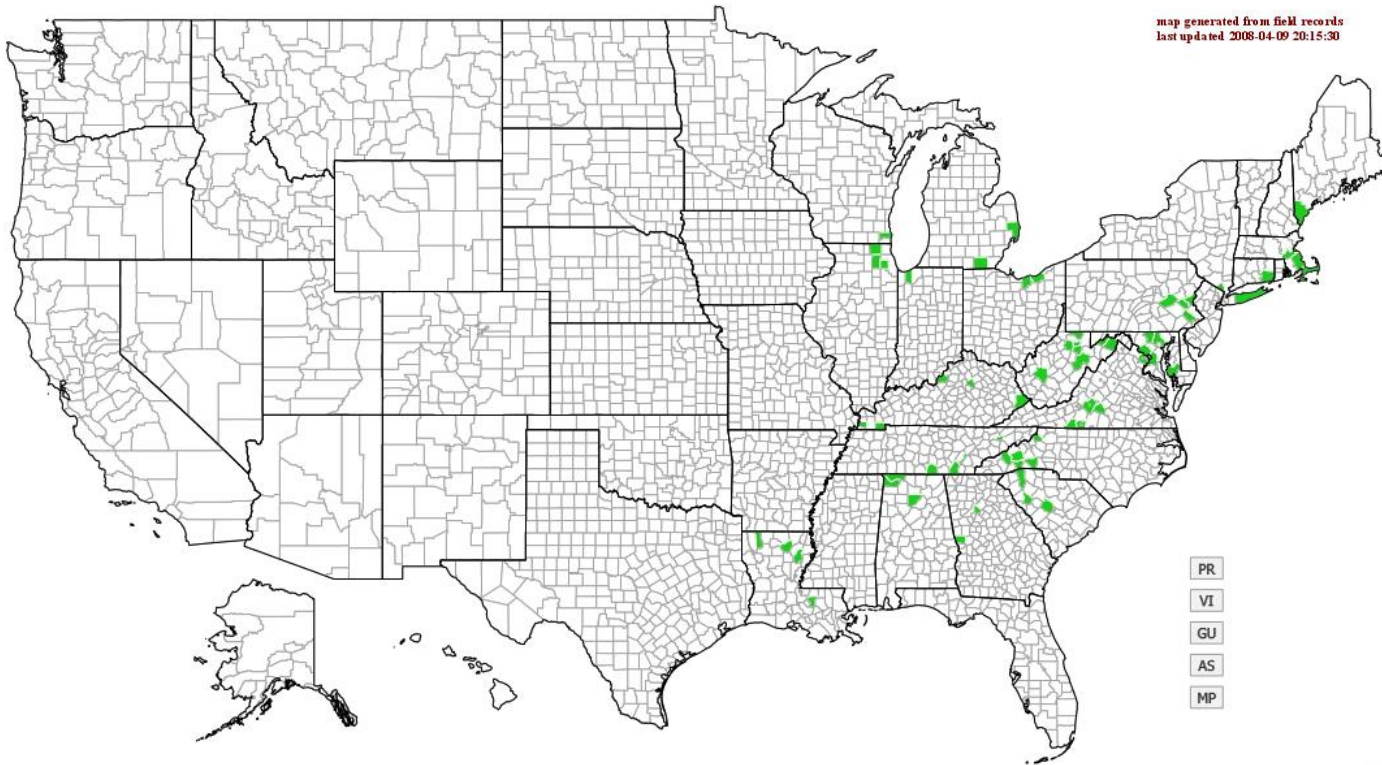


Salix cinerea distribution

European willows (*S. cinerea* ssp. *oleifolia* and ssp. *cinerea*) and their hybrids with American willow



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PR
VI
GU
AS
MP

Salix cinerea habitat preferences



- **Man-made or disturbed habitats**
 - Fort Meadow Brook road edge
- **Meadows and fields**
 - Feeley Field-Landham Brook complex
- **Shores of rivers, ponds or lakes**
 - Callahan SP- Eagle Pond
- **Flood plain/wetlands**
 - Cranberry-Hop Brook complex



Identification: habit and bark



Tree or shrub, smooth gray-green bark, tears- doesn't snap, wavy texture, raised ridges in wood

Identification: buds and twigs



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Caprea-type bud gradation = flower buds found between small vegetative buds, flower buds “clog” shape and angle out- buds slightly convex against the stem, bud and twig color vary- brown, green, red, twigs and buds may or may not have hairs

Identification: leaves and stipules



Leaves highly variable, more oval than lance-shaped, margin may be entire, serrate, or sharply toothed and rolled, lower surface hairy, hairs may be rusty in color, veins pronounced- visible at 3rd order, upper leaf surface dull gray or shining, leaf-shaped stipules

Identification: survey timing



Holds leaves late (through Nov/Dec) and flowers early (April)
= easy fall and spring ID

Identification: native look-alikes



Native alder often occupies the same habitat and can have fluted bark. Alders have drooping catkins and usually have iridescent bark with horizontal lenticels

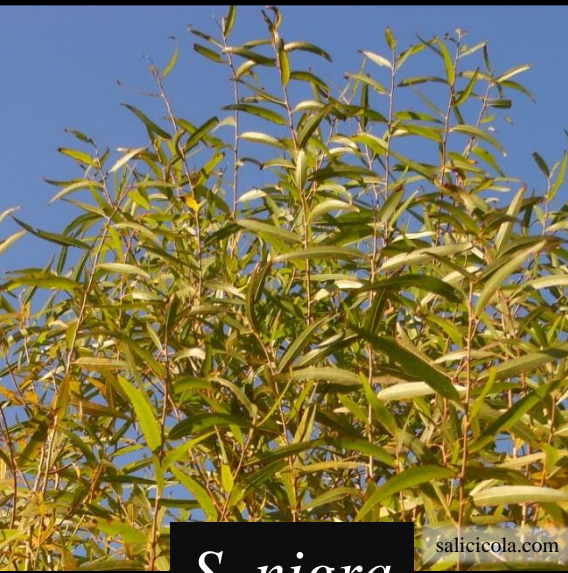
Identification: native look-alikes



American hornbeam has the same fluted, wavy bark, but it's in the birch family. Hornbeams have distinct fruit, buds with many scales, and lack “pimples” on the bark.

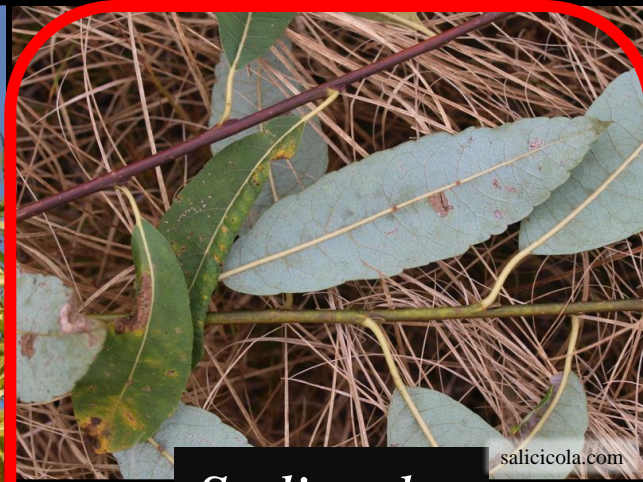
Native willows

Red outlined species = look most like *S. cinerea*



S. nigra

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S. discolor

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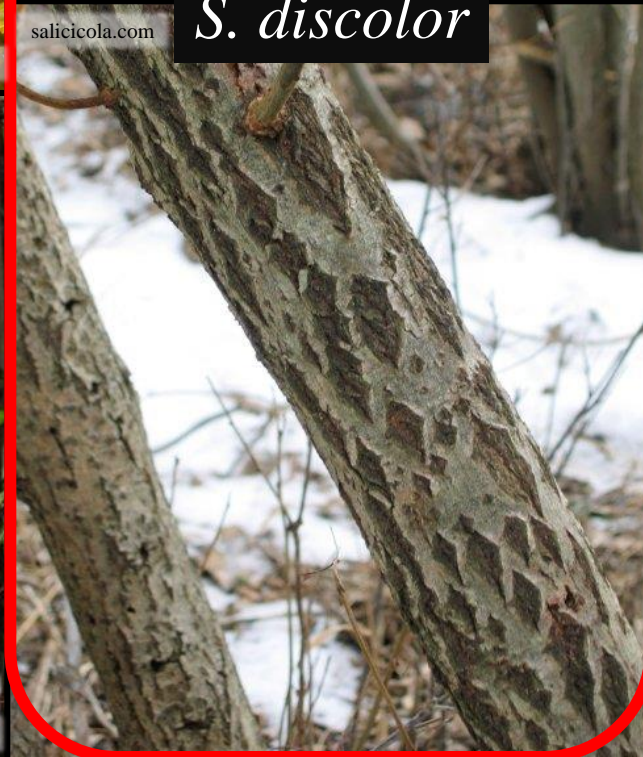


S. petiolaris

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Native willows

Red outlined species = look most like *S. cinerea*

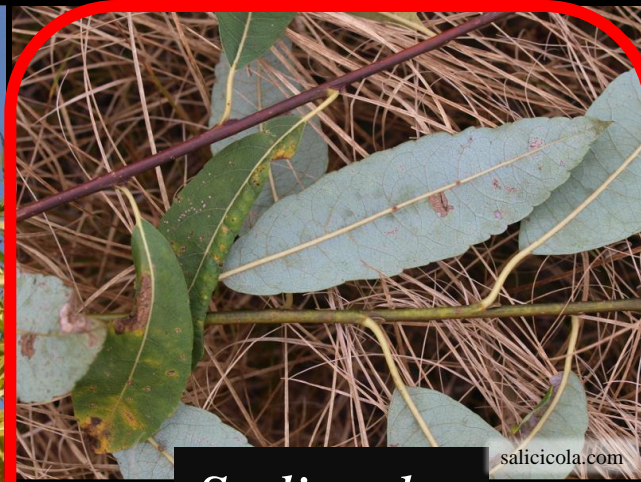


S. nigra

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Black willow = **Tree** willow with shreddy bark. Leaves green on underside, paired glands on petioles, **long lance-shaped leaves**. Twigs and **branches break easily**, don't tear. River and pond edges

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S. discolor

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Pussy willow = **Leaves glaucous** (smooth, not hairy) **and light colored underneath**. Diamond pattern bark. Meadows, fields, wetland, river, and pond edges, ditches



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S. petiolaris

Slender willow = somewhat longer **petioles** when compared to other willow species. Both white and red hairs on leaves, braches bend and tear, and don't snap cleanly.

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Native willows

Red outlined species = look most like *S. cinerea*



S. bebbiana

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S. sericea



S. humilis

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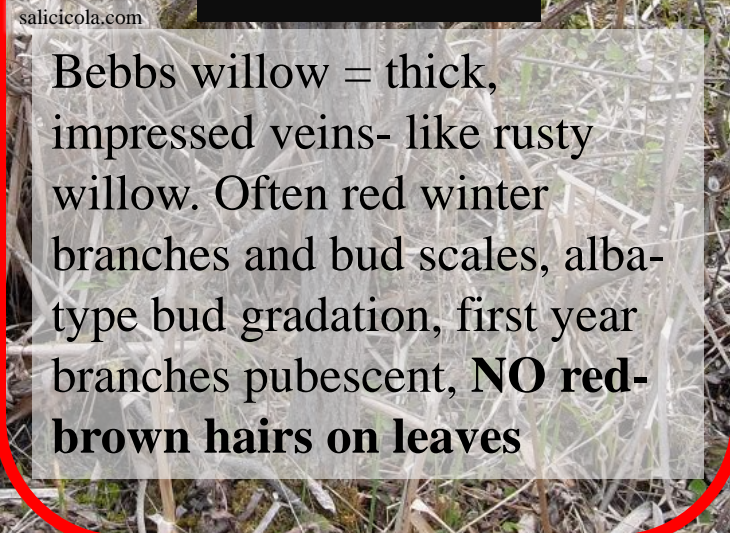
Native willows

Red outlined species = look most like *S. cinerea*



S. bebbiana

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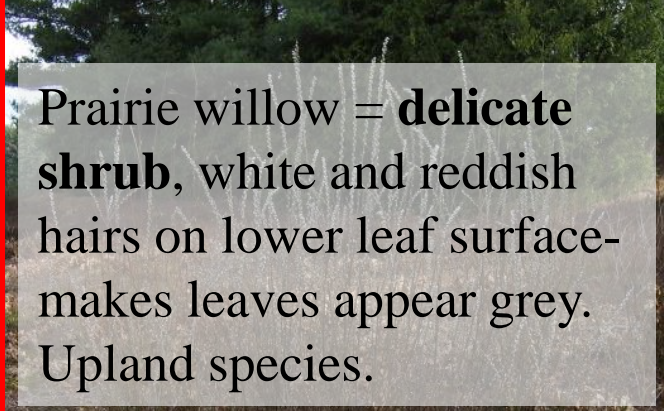
Bebbs willow = thick, impressed veins- like rusty willow. Often red winter branches and bud scales, alba-type bud gradation, first year branches pubescent, **NO red-brown hairs on leaves**



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Silky willow = **silky white hairs** on leaves, branches break cleanly. Found in calcium rich wetlands-fens, ridges or ledges, shores of rivers, lakes or swamps

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S. humilis

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S. sericea

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Salix cinerea management

- Are there willows present?
- Can invasive sp. be removed without major soil disturbance?
- Is replanting needed?
- What plants should be selected?

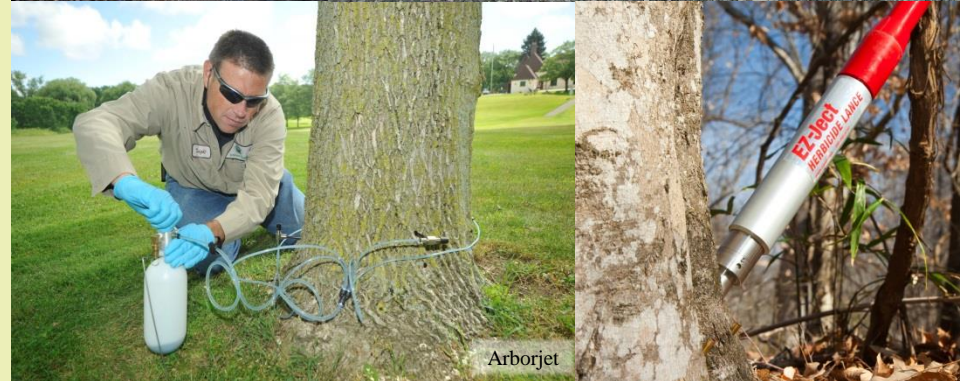


Salix cinerea management

Hand pulling
Digging, weed wrenching, etc.
Foliar spraying
Frill application
Inject
Cut and paint

Low impact, aquatic safe
herbicides
Surfactants, dyes

Most projects need WPA and
EPA review/permitting



Special thanks to Ted Elliman and Irina Kadis

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Plant Gallery	Eastern Massachusetts Vascular Plants Contains about 15,650 photos of 1,300 species as thumbnails and medium size images
Invasive Plants	Photo Search Engine You can search for scientific or common names, communities, reservations, certain months, invasive plants.
Checklists	Results of Field Season 2012
Translations	Plant of the Month (new) Flowering when honey is harvested
Articles/Notes	Questions and Answers
Memorable Dates	Spring Plant Quiz 2013 Quizzes 2006-2012
Books	Index of Latin Names Index of Common Names What's New Archive
Boxford Forest	

Additional information and pictures can be found at

www.salicicola.com

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