

Identifying Suitable Woody Vegetation



Vegetation on Levees:
Information, Data, & Approaches to Inform
Best Practices
Arlington, VA - May 2-3, 2023

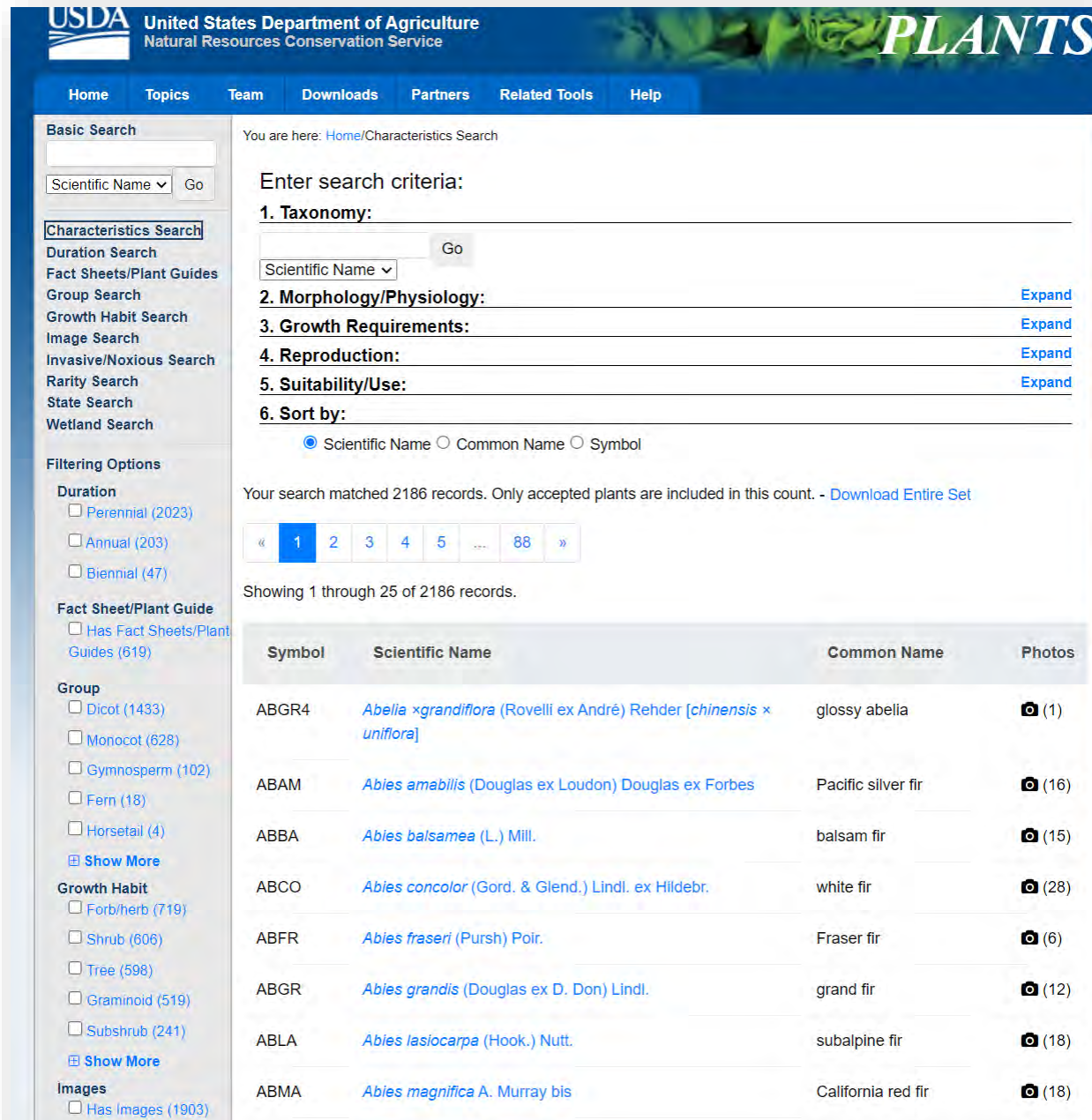


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You are here: [Home](#)/Characteristics Search

Enter search criteria:
 1. **Taxonomy:**
 2. **Morphology/Physiology:** [Expand](#)
 3. **Growth Requirements:** [Expand](#)
 4. **Reproduction:** [Expand](#)
 5. **Suitability/Use:** [Expand](#)
 6. **Sort by:**
 Scientific Name Common Name Symbol

Your search matched 2186 records. Only accepted plants are included in this count. - [Download Entire Set](#)

« 1 2 3 4 5 ... 88 »



Showing 1 through 25 of 2186 records.

Symbol	Scientific Name	Common Name	Photos
ABGR4	<i>Abelia xgrandiflora</i> (Rovelli ex André) Rehder [<i>chinensis</i> x <i>uniflora</i>]	glossy abelia	 (1)
ABAM	<i>Abies amabilis</i> (Douglas ex Loudon) Douglas ex Forbes	Pacific silver fir	 (16)
ABBA	<i>Abies balsamea</i> (L.) Mill.	balsam fir	 (15)
ABCO	<i>Abies concolor</i> (Gord. & Glend.) Lindl. ex Hildebr.	white fir	 (28)
ABFR	<i>Abies fraseri</i> (Pursh) Poir.	Fraser fir	 (6)
ABGR	<i>Abies grandis</i> (Douglas ex D. Don) Lindl.	grand fir	 (12)
ABLA	<i>Abies lasiocarpa</i> (Hook.) Nutt.	subalpine fir	 (18)
ABMA	<i>Abies magnifica</i> A. Murray bis	California red fir	 (18)



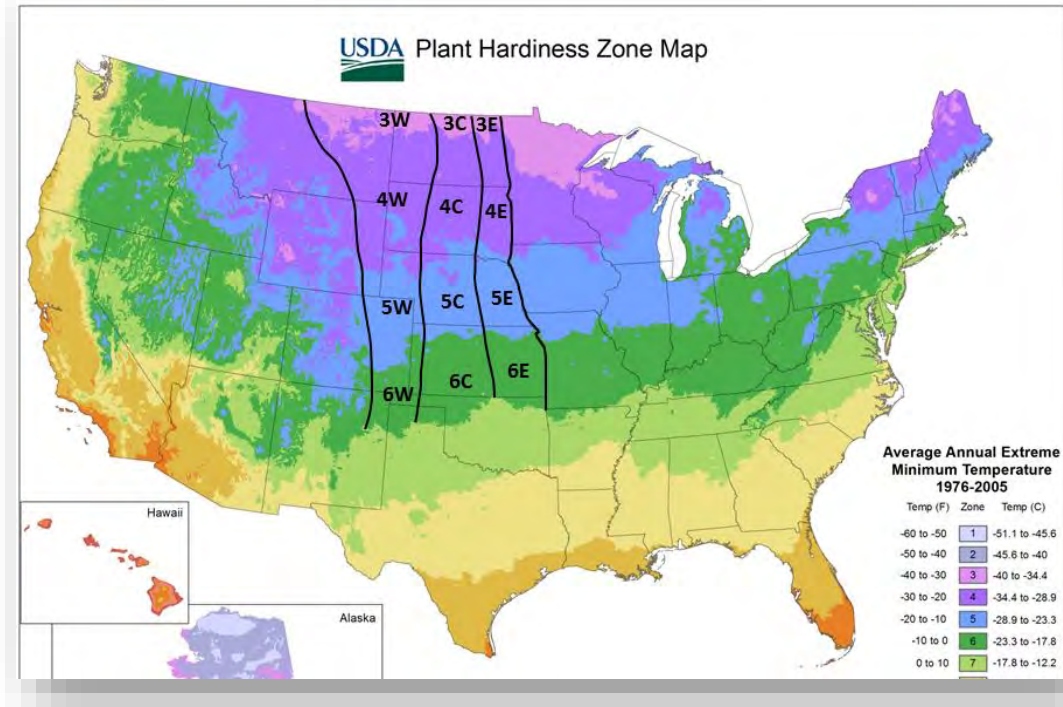
Tree Advisor

Useful Trees & Shrubs for the Great Plains

- 
 Based on 2012 USDA Plant Hardiness Zones
- 
 90 woody species
- 
 Rating tool
- 
 Not a site-specific tool
- 
 Evolving tool

<https://www.fs.usda.gov/nac-plant-guide/>

Bentrup, G. and Dosskey, M.G., 2022. Tree Advisor: A Novel Woody Plant Selection Tool to Support Multifunctional Objectives. *Land*, 11(3), p.397.



USDA Hardiness Zone	Winter Minimum Temperature (°F)	Annual Precipitation (inches)		
		West	Central	East
3	-30 to -40	< 14	14 - 16	> 16
4	-20 to -30	< 15	15 - 20	> 20
5	-10 to -20	< 18	18 - 25	> 25
6	0 to -10	< 15	15 - 30	> 30

Plant Attributes

SUB-REGION

Native Status 3 (native), 2 (native elsewhere in North America, 1 (not native in N.A.)

MORPHOLOGY and GROWTH CHARACTERISTICS

Crown Size/Form	1 (small shrub) - 4 (large tree)
Crown Height	1 (short) – 3 (tall)
Growth Rate	1 (slow) – 3 (fast)
Life Span	1 (short) – 3 (long)
Stem Form	1 (single) – 2 (multiple)
Foliage Retention	1 (deciduous) – 2 evergreen)
Shade Density	1 (light) – 3 (dense)
Foliage Porosity	1(low) – 3 (porous)
Root Structure	1 (shallow lateral) – 3 (deep, lateral or taproot)
Vegetative Spread Rate	0 (none) – 3 (fast)
Seeding Spread Rate	1 (slow) – 2 (fast)
Stand Form	1 (dispersed individuals) – 3 (dense clonal thickets)
Resprout Ability	0 (no ability) – 2 (high ability)
Nitrogen Fixation	0 (not significant) – 1 (significant)
Water Use	1 (low) – 3 (high)

3 = Tall trees (>30 ft)
 2 = Short trees or tall shrubs (7-30 ft)
 1 = Short shrubs (< 7ft)

ENVIRONMENTAL TOLERANCES

Flood Tolerance	1 (low) – 3 (high)
Drought Tolerance	1 (low) – 3 (high)
Salt Tolerance	1 (low) – 3 (high)
Shade Tolerance	1 (low) – 3 (high)
Breakage Resistance	1 (low) – 2 (high)

3 = High; Can grow well under deep shade
 2 = Moderate; Can grow well under shade that is not more than partial
 1 = Low; Will not grow well in partial or deep



Adobestock

Plant Attributes

ENVIRONMENTAL RISKS

Spread Risk	Text description of weedy, invasive qualities
Pest Risks	Text description of serious insect/disease/other damage agents
Other Issues	Text description of other potential hazards associated with a species

WILDLIFE BENEFITS

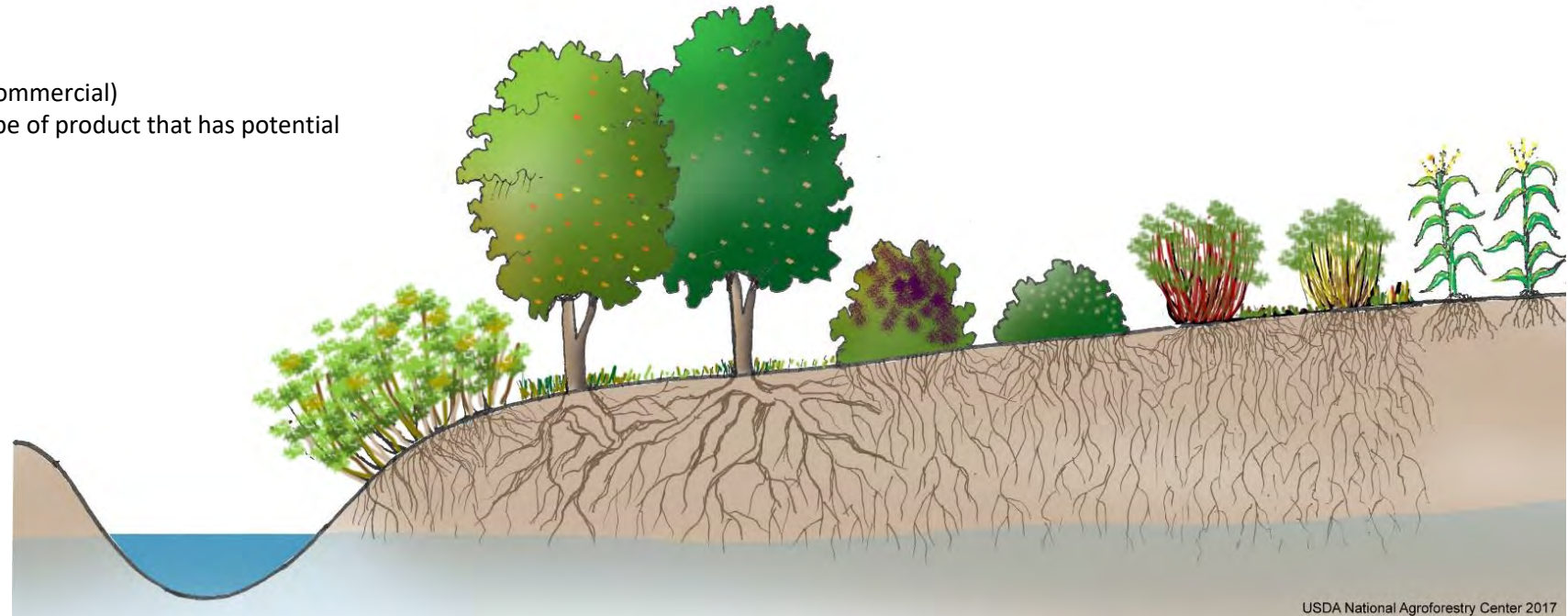
Bird & Mammal Habitat	1 (average) – 2 (high)
B&M Habitat Quality	Text description of type of high habitat quality for birds, mammals
Pollinator Habitat	1 (average) – 2 (high)

POTENTIAL ECONOMIC PRODUCTS

Product Potential	0 (none) – 2 (significant commercial)
Product Type	Text description of the type of product that has potential

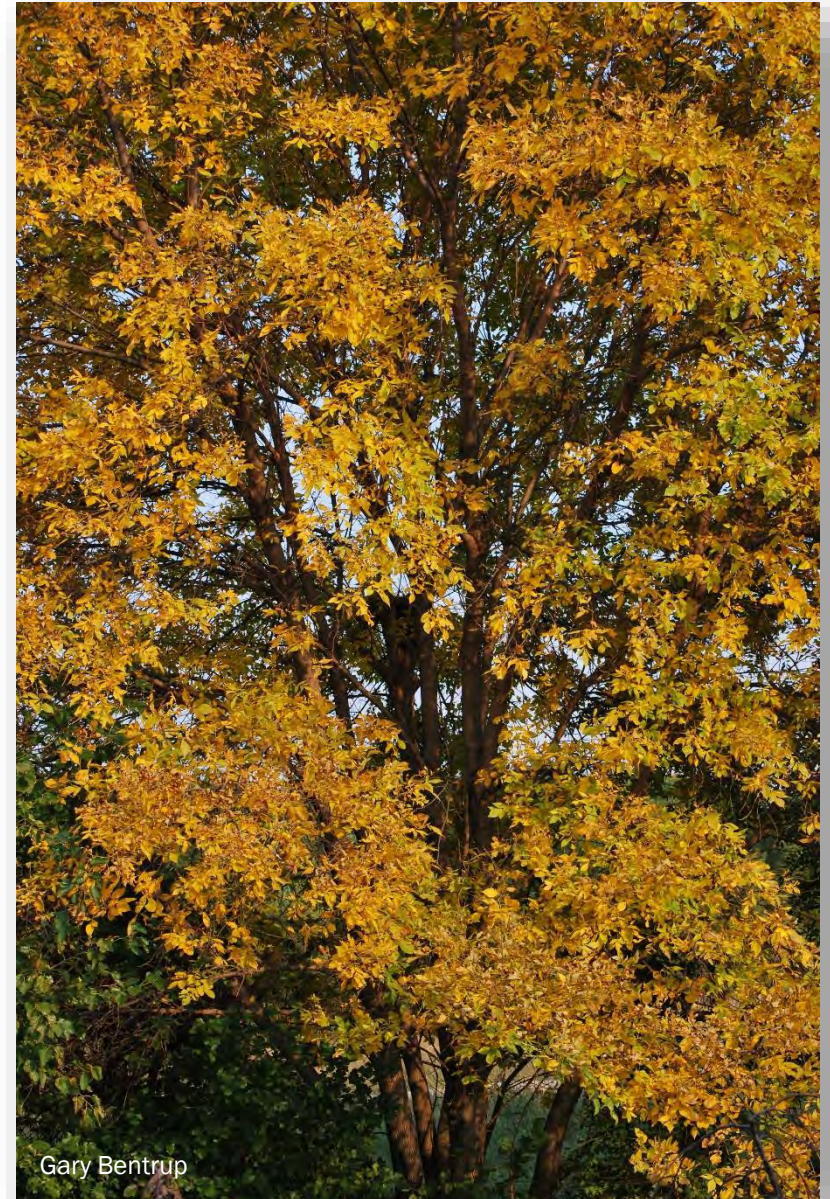
VISUAL AESTHETICS

Visual Quality	Exhibits a special quality
Visual Quality Type	Text description



14 Purpose Ratings

- ✓ Alley Cropping
 - ✓ Aquatic Habitat
 - ✓ Carbon Sequestration
 - ✓ Flood Protection
 - ✓ Native Ecosystem Restoration
 - ✓ Particle Drift Reduction
 - ✓ Pollinator Habitat
 - ✓ Polluted Runoff Treatment
 - ✓ Streambank Stabilization
 - ✓ Stormwater Treatment
 - ✓ Wetland Restoration
 - ✓ Wildlife Habitat
 - ✓ Visual Aesthetics
 - ✓ Vision & Noise Screen
- ✓ Rated on a scale of 0 (none) to 10 (highest)
✓ Most ratings based on 3 to 5 plant attributes

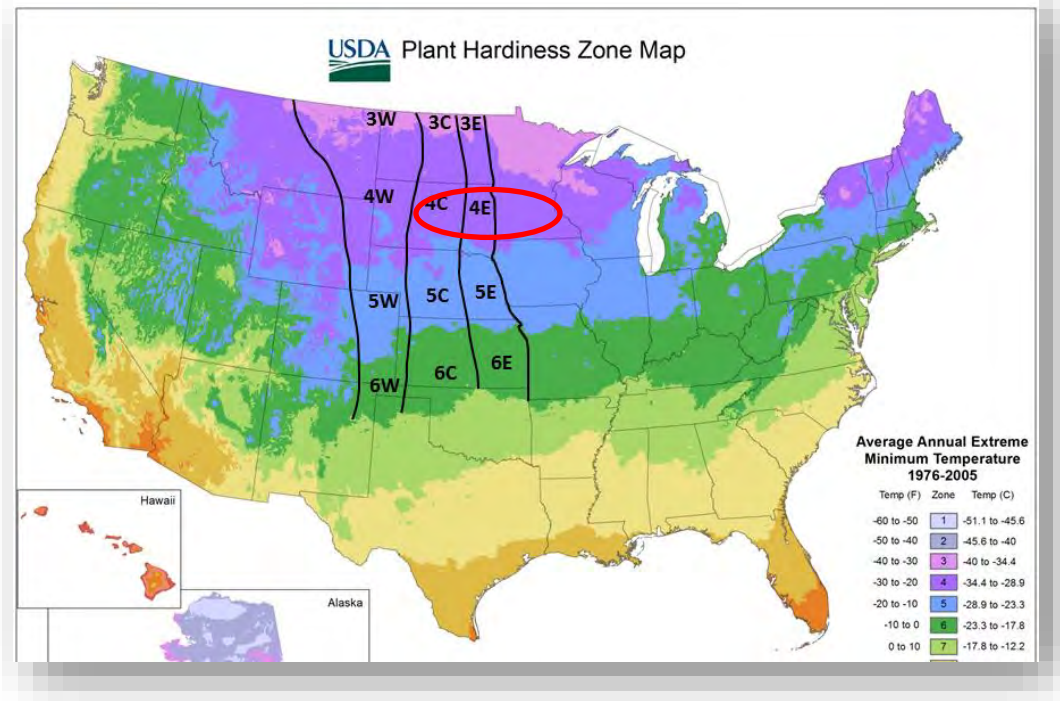


Gary Bentrup

Polluted Runoff Treatment

Sub-region 4E

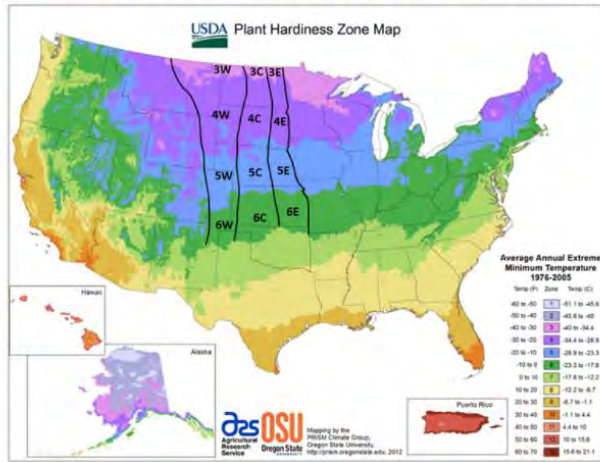
Common Name	Scientific Name	Polluted Runoff Treatment
willow, bebb	<i>Salix bebbiana</i>	9
willow, sandbar	<i>Salix interior</i>	9
willow, pussy	<i>Salix discolor</i>	9
elderberry, common	<i>Sambucus nigra</i> ssp. <i>canadensis</i>	9
aspen, quaking	<i>Populus tremuloides</i>	9
silverberry	<i>Elaeagnus commutata</i>	8
currant, golden	<i>Ribes aureum</i>	8
dogwood, redosier	<i>Cornus sericea</i>	8



Attribute	Stand Form	Shade Density	Water Use	Growth Rate
Bebb Willow (9)	3	2	3	3
Hackberry (5)	1	2	1	2

ree Advisor

Useful Trees & Shrubs for the Great Plains



Select the sub-region and primary purpose. This will identify higher-rated species of trees and shrubs that will function relatively better than other species for that purpose. Select a secondary purpose to rate the primary purpose plants by this additional subordinate objective.

Ratings are on a scale of 10 (highest) to 0 (lowest). Ratings displayed from 10 to 5.

Subregion

4E

Primary Purpose

Polluted Runoff Filter

Secondary Purpose

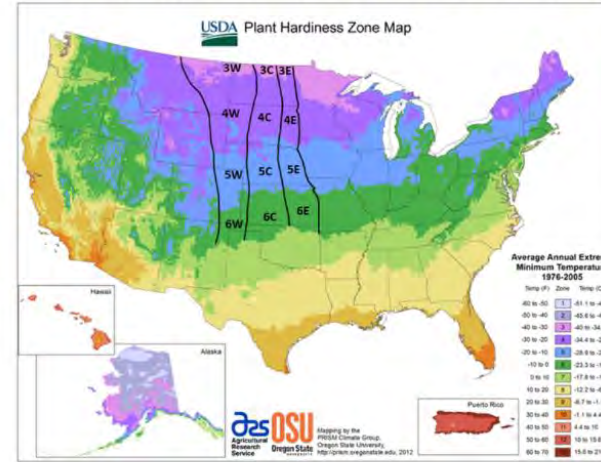
Flood Protection

APPLY

Common Name	Scientific Name	Polluted Runoff Filter	Flood Protection
willow, sandbar	Salix interior	9	10
willow, pussy	Salix discolor	9	9
willow, bebb	Salix bebbiana	9	8
elderberry, common or American black	Sambucus nigra ssp. canadensis	9	7
aspen, quaking	Populus tremuloides	9	5
dogwood, redosier	Cornus sericea	8	9

ree Advisor

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Subregion

4E

Primary Purpose

Streambank Stabilization

Secondary Purpose

Wildlife Habitat

APPLY

Common Name	Scientific Name	Streambank Stabilization	Wildlife Habitat
willow, sandbar	Salix interior	10	10
dogwood, redosier	Cornus sericea	10	10
willow, pussy	Salix discolor	10	10
chokeberry, black	Aronia melanocarpa	9	10
sumac, fragrant	Rhus aromatica	9	10
willow, bebb	Salix bebbiana	9	10

Plant Attributes Affecting Levee Performance?

Desirable Attributes

- Tolerant of the hydroperiod
- Height relative to inundation
- Low shade density
- Native/non-invasive
- Low pest/disease risk
- High regeneration potential
- Climate adaptability
- High tensile root strength
- Fire or maintenance tolerance

Undesirable Attributes

- High shade density
- Undesirable wildlife attracting species - Nut producing species
- Invasive/non-native

Dependent on levee type and location
(Basic vs bank levee)
Regional species lists with photo keys