

Native Plant Selection and Maintenance

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Photo Credit: Kelsey Prickett

What are Native Plants?

- A plant that is a part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem (USDA-NRCS).
 - Geographic context is critical
- Native plants generally require less maintenance, when appropriately sited.
- Native plants provide habitat for pollinators and wildlife
 - Doug Tallamy, Author and Entomologist



Photo Credit: Kelsey Prickett

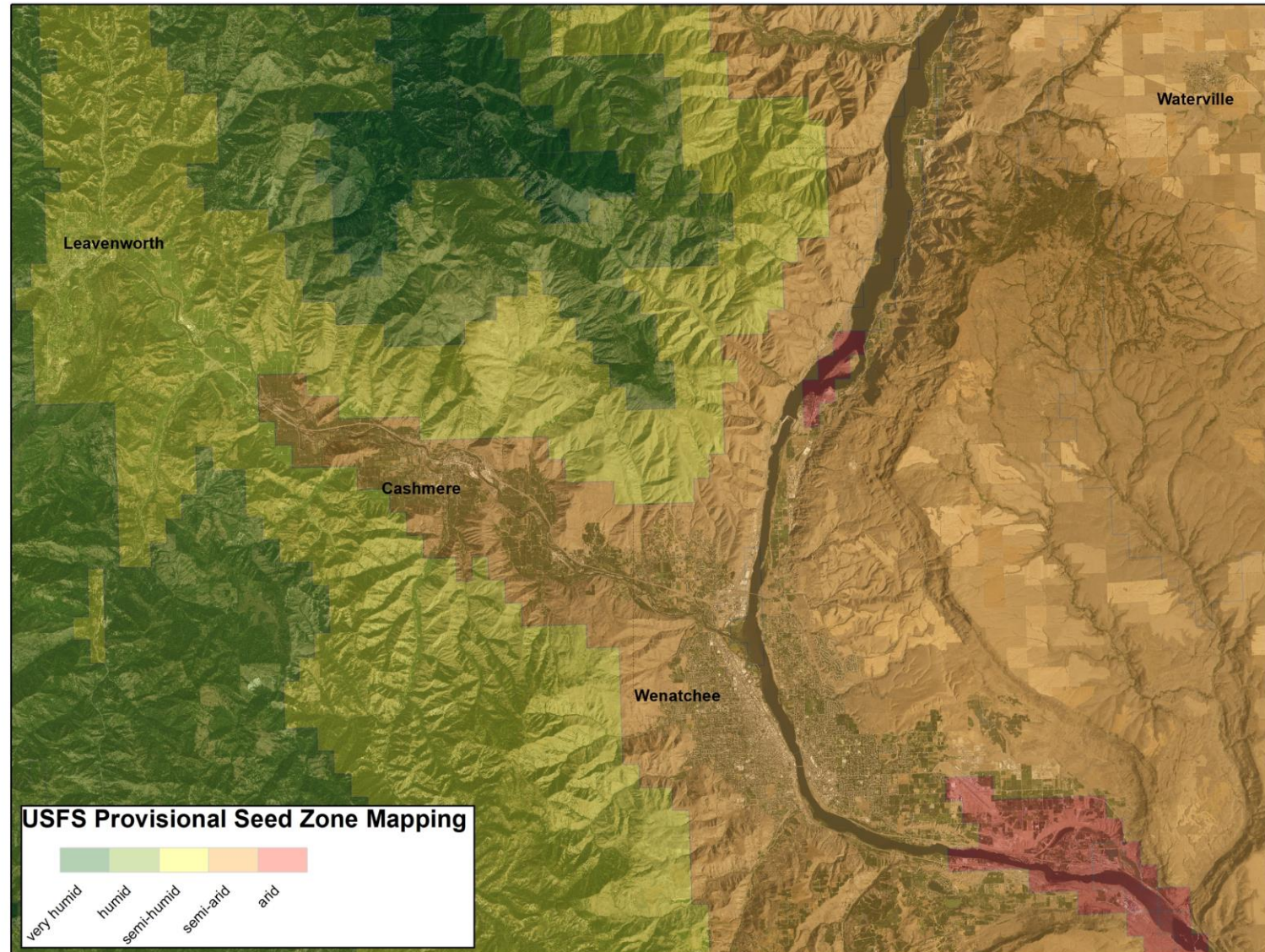
Overview

- Plant selection based on moisture requirements and soils
- Wildflowers for Pollinators
- Types of plant materials available and commonly used
- Genetic provenance
- Planting
- Long-term maintenance



Photo Credit: Kelsey Prickett

Determine Moisture Availability at Your Site



Plant Selection – Moisture Requirements

- In central Washington, the native plants on dry upland sites are shrub-steppe species:
 - Shrubs
 - Big sagebrush
 - Bitterbrush

LOW WATER REQUIREMENT
FULL SUN



Plant Selection – Moisture Requirements

- In central Washington, the native plants on dry upland sites are shrub-steppe species:
 - **Bunchgrasses**
 - Bluebunch wheatgrass
 - Sandberg's bluegrass
 - Idaho fescue

LOW WATER REQUIREMENT
FULL SUN



Plant Selection – Moisture Requirements

- In central Washington, the native plants on dry upland sites are shrub-steppe species:
 - A diversity of wildflowers
 - Snow buckwheat
 - Lewis' flax
 - Fleabane daisies

LOW WATER REQUIREMENT
FULL SUN



Plant Selection – Moisture Requirements

- At higher elevations or areas with more moisture, moist-site and woodland species include:
 - Taller shrubs and trees
 - Ponderosa pine
 - Wood's rose

MODERATE MOISTURE REQUIREMENT
FULL SUN TO PARTIAL SHADE



4-6' tall

Plant Selection – Moisture Requirements

- At higher elevations or areas with more moisture, moist-site and woodland species include:
 - Spreading grasses
 - Pinegrass

MODERATE MOISTURE REQUIREMENT
FULL SUN TO PARTIAL SHADE



Plant Selection – Moisture Requirements

- At higher elevations or areas with more moisture, moist-site and woodland species include:
 - Spreading grasses
 - Blue wildrye

MODERATE MOISTURE REQUIREMENT
FULL SUN TO PARTIAL SHADE



Plant Selection – Moisture Requirements

- At higher elevations or areas with more moisture, moist-site and woodland species include:
 - Even more of wildflowers!!
 - Showy fleabane

MODERATE MOISTURE REQUIREMENT
FULL SUN TO PARTIAL SHADE



Plant Selection – Moisture Requirements

- At higher elevations or areas with more moisture, moist-site and woodland species include:
 - Even more of wildflowers!!
 - Blanketflower

MODERATE MOISTURE REQUIREMENT
FULL SUN TO PARTIAL SHADE



Plant Selection – Moisture Requirements

- In riparian areas along streams and creeks:
 - Willows, cottonwood, water birch
 - Mainly used for restoration or habitat projects

HIGH MOISTURE REQUIREMENT
FULL SUN to PARTIAL SHADE



Up to 100' tall

Moisture Requirements of Native Plants

Washington Native Plant Society – Columbia Basin Chapter -

<https://www.wnps.org/content/documents/columbia-basin/NativePlantsEasternWAbrochurefinal.pdf>

Native Plants Available from Nurseries

Common Name	Botanical Name	Height	Soil Type	Exposure	Comments
Trees					
Western juniper	<i>Juniperus occidentalis</i>	20'	A	S	Evergreen, cinnamon to gray-brown bark
Ponderosa pine	<i>Pinus ponderosa</i>	100'	A, D	S	Long needles, orange-brown to brown bark, very tall tree
Quaking aspen	<i>Populus tremuloides</i>	30'	A, M	S, PS	Heart-shaped leaves flutter in wind, turn gold in fall
Chokecherry	<i>Prunus virginiana</i>	20'	A, M	S, PS	Large clusters of white flowers, red fruit in early summer
Hawthorn	<i>Crataegus douglasii</i>	10-20'	A	S, PS	White flowers, small black fruit, can form thickets, thorny
Water birch	<i>Betula occidentalis</i>	25-50'	M	S, PS	Smooth dark reddish-brown bark
Garry oak	<i>Quercus garryana</i>	25-45'	A, D	S	Dark green leathery leaves, red in fall, acorns
Shrubs					
Sagebrush	<i>Artemisia tridentata</i>	2-6'	D	S	Gray-green leaves
Bitterbrush	<i>Purshia tridentata</i>	2-6'	D	S	Dark green leaves, yellow flowers in spring
Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	2-3'	D	S	Green leaves, yellow flowers in fall
Gray rabbitbrush	<i>Ericameria nauseosa</i>	2-4'	D	S	Gray-green leaves, yellow flowers in fall
Purple sage	<i>Salvia dorrii</i>	2-4'	D	S	Minty smell, purple blossoms in spring into summer
Snowberry	<i>Symphoricarpos albus</i>	3-4'	A, M	S, PS	Pink blossoms in spring, white berries in fall
Snow buckwheat	<i>Eriogonum niveum</i>	1-2'	D	S	Pinkish-white flowers in fall, grayish-white foliage
Rock buckwheat	<i>Eriogonum sphaerocephalum</i>	1-2'	D	S	Yellow flowers in late spring, rounded shape
Mock orange	<i>Philadelphus lewisii</i>	5-12'	A, M	S, PS	Wonderfully fragrant flowers
Golden currant	<i>Ribes aureum</i>	6'	A, M	S, PS	Golden flowers and berries in spring
Nootka rose	<i>Rosa nutkana</i>	4'	A, M	S, PS	Pink simple roses, red hips in fall
Serviceberry	<i>Amelanchier alnifolia</i>	8-20'	A, M	S, PS	Multiple stems, beautiful white flowers, small black fruit
Hazelnut	<i>Corylus cornuta</i>	3-12'	A, M	S, PS	Multiple stems, small edible nuts, catkins in spring
Red-osier dogwood	<i>Cornus stolonifera</i>	8-12'	M	S, PS	Multi-stemmed shrub, red bark in winter, white berries
Elderberry	<i>Sambucus nigra</i>	10-15'	A, M	S, PS	Multiple stems, hanging clusters of edible blue berries
Sumac	<i>Rhus glabra</i>	8-12'	A, M	S	Divided leaves turn brilliant red in fall, red seeds form stalk
Kinnickinnick	<i>Arctostaphylos uva-ursi</i>	8-12"	A, M	S, PS	Evergreen groundcover, white flowers, red berries

Finding Plants Adapted to Your Site

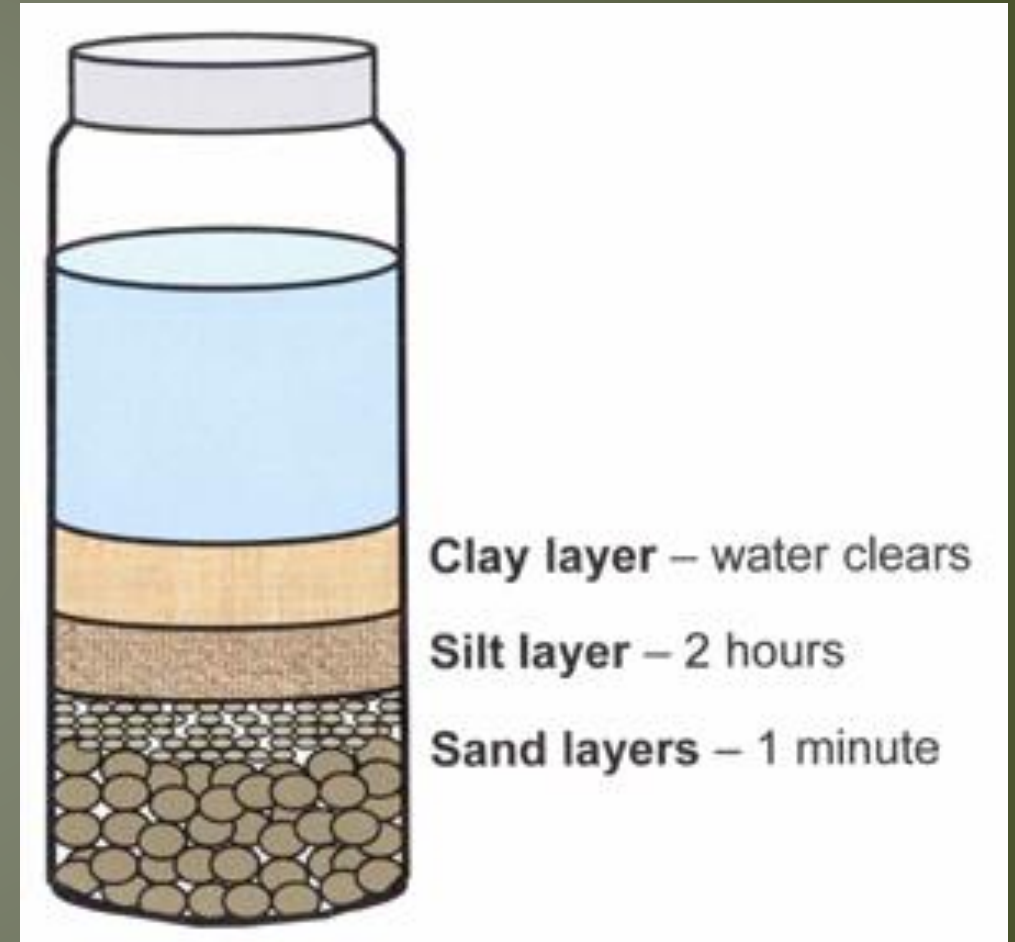
derbycanyonnatives.com/plants/shrubs/

Skyward Inbox - ashermbfi@... TSheets :: Sign In Welcome to the PL... WTU Herbarium Im... native plant propag... My L&I: Login or si... Mint > Overview ORDERS - Asana

NAMES	HEIGHT	EXPOSURE	DROUGHT TOLERANT	COMMENT	CONTAINER SIZES
<i>Amelanchier alnifolia</i> serviceberry	8-14'	S, PSH	X	Multi-stemmed shrub with white flowers in early spring, blue berries, yellow fall foliage	40ci, #1, #2
<i>Arctostaphylos uva-ursi</i> kinnikinnick	2-5" 3'+ wide	S, PSH	X	Ground-hugging evergreen plant. Glossy green leaves, pink flowers, red berries	3", #1
<i>Artemisia tridentata</i> ssp. <i>tridentata</i> big sagebrush	4-6'	S	XX	Most widespread sagebrush. Beautiful gray-green, fragrant foliage, semi-evergreen.	10ci, 40ci, #1
<i>Ceanothus sanguineus</i> redstem ceanothus	6-9'	S, PSH	X	White flowers, scented, reddish stems. Deciduous and nitrogen fixer	10ci, 40ci, #1
<i>Ceanothus velutinus</i> snowbrush ceanothus	4-7'	S	X	Evergreen shrub with glossy green leaves. White flowers in pyramidal clusters. Nitrogen fixer.	10ci, 40ci, #1
<i>Chrysothamnus viscidiflorus</i> green rabbitbrush	1.5-4'	S	XX	Mounding, many stemmed shrub from dry areas of E WA, dense yellow flower masses in late summer-fall	40ci, #1
<i>Clematis ligusticifolia</i> Western clematis	15-20' climber	S, PSH	X	Vigorous, climbing vine with small white flowers in spring, followed by fluffy seed heads	40ci, #1
<i>Cornus stolonifera</i> red osier dogwood	8-16'	S, PSH		Multi-stemmed shrub, red bark, white flower clusters, followed by white berries. Fast growing in moist sites.	40ci, #1, #2
<i>Dasiphora fruticosa</i> shrubby cinquefoil	2-3'	S, PSH	X	Bright yellow flowers for several months, velvety leaves	40ci, #1, #2
<i>Ericameria nauseosa</i> gray rabbitbrush	3'	S	XX	Very drought tolerant, fine grayish foliage, yellow flowers in fall. Late season nectar source for butterflies.	40ci, #1
<i>Frangula purshiana</i> cascara	15-20'	S, PSH		Large shrub (in E WA) with attractive form and foliage. Blue-black fruits, bird attractive	40ci, #1, #2
<i>Holodiscus discolor</i> greenspray	6-8'	S, PSH	X	Loose, creamy flower plumes May-June. Forest shrub, reddish fall foliage.	40ci, #1, #2

Determining Soil Texture

- Critical for restoration projects with no long-term maintenance
- Also important in landscaping, particularly if no/minimal irrigation is planned.
- Soil texture determines moisture retention and therefore can influence aridity.
 - Sandy or cobbly soils drain faster and make sites functionally drier.
- Texture can be determined with a “Jar Test”
 - <https://extension.oregonstate.edu/gardenin/g/techniques/mechanical-analysis-soils-jar-test>



Soils Types for Native Plants

Washington Native Plant Society – Columbia Basin Chapter -

<https://www.wnps.org/content/documents/columbia-basin/NativePlantsEasternWAbrochurefinal.pdf>

Sandy soil

Western juniper
Bitterbrush
Sagebrush
Purple sage
Rabbitbrush
Snow buckwheat
Sandberg's bluegrass
Squirreltail grass
Indian ricegrass
Needle and thread grass
Sand dropseed
Yarrow
Munroe's globemallow

Rocky soil






























Ponderosa pine
Garry Oak
Western juniper
Sagebrush
Rock buckwheat
Bottlebrush squirreltail grass
Sandberg's bluegrass
Bitterroot
Lance-leaved stonecrop
Purple sage
Indian ricegrass

Special Consideration for Pollinators

Native Wildflowers for the Garden and Landscape

2020



	Common Name	Scientific Name	Bloom	Spring	Summer	Fall	Pollinators and Beneficial Insects	Size	Water Req.
1	Western Yarrow	<i>Achillea millefolium</i>	S	✓	✓		 	1-2 ft	Low-Mod.
2	Basalt Milkvetch	<i>Astragalus filipes</i>		✓	✓		 	1-2 ft	Low
3	Arrowleaf Balsamroot	<i>Balsamorhiza sagittata</i>		✓	✓		 	1-2 ft	Low-Mod.
4	Douglas's Dustymaiden	<i>Chaenactis douglasii</i>			✓		 	1-2 ft	Low
5	Blue Mnt. Prairie Clover	<i>Dalea ornata</i>		✓	✓			1-2 ft	Low
6	Fleabane Daisy	<i>Erigeron speciosus, filifolius, pumilus</i>		✓	✓	✓	 	.5-2.5 ft	Low-Mod.
7	Buckwheat	<i>Eriogonum heracleoides, niveum, umbellatum</i>		✓	✓	✓	 	.5-2 ft	Low
8	Woolly Sunflower	<i>Eriophyllum lanatum</i>			✓		 	.5-2 ft	Low-Mod.
9	Lewis Flax	<i>Linum lewisii</i>		✓	✓		 	2-3 ft	Low
10	Lupine	<i>Lupinus argenteus, sericeus, sulphureus</i>		✓	✓		 	.5-2.5 ft	Low-Mod.
11	Hoary Tansyaster	<i>Machaeranthera canescens</i>			✓	✓	 	1-3 ft	Low
12	Penstemon	<i>Penstemon eatonii, humilis, pruinosis, speciosus, venustus</i>		✓	✓	✓	 	.5-3 ft	Low-Mod.
13	Phacelia	<i>Phacelia hastata, heterophylla</i>		✓	✓	✓	 	.5-3 ft	Low
14	Purple Sage	<i>Salvia dorrii</i>		✓	✓		 	1-2.5 ft	Low
15	Munro's Globemallow	<i>Sphaeralcea munroana</i>		✓	✓		 	1-2 ft	Low

BFI Native Seeds

1550 Pilgrim St, Moses Lake, WA 98837 509.765.6348 www.bfinative seeds.com

Questions on Plant Selection??



Plant Materials

- Seeds
 - Appropriate for larger scale projects (larger than a 5,000-s.f. backyard)
 - Grasses can be easily seeded
 - Forbs and shrub seeds often have dormancy issues that challenge use by layman
- Live Plants
 - Appropriate for small to medium scale projects
 - OR
 - Species that are challenging to establish by seed, such as forbs and shrubs



Newly transplanted rosy pussytoes seedlings

Plant Materials

- Seeds
 - Seeding requires substantial site preparation work, weed control, and lots of bare soil for good SEED-TO-SOIL CONTACT
- Live Plants
 - Need less site preparation and weed control and plants are larger and more competitive



How to Purchase Native Plants

Washington Native Plant Society

https://www.wnps.org/content/documents/plants/gardening/native-plant-seed-sources_2-28-2020.pdf



NATIVE PLANT AND SEED SOURCES 2020

This information is provided as a resource by the Washington Native Plant Society and does not imply an endorsement. For more information, suggested additions, or data changes, please contact WNPS at 206-527-3210 or wnps@wnps.org. The contacts listed here include details from a survey describing types of plant material stocked, forms plants are available in, and the focus of the firm.



Specialty Nurseries

Some of these growers, nurseries and seed suppliers deal mainly in native plants. Others stock mostly non-natives yet may also have a

good selection of natives. Many specialize in plants for wetlands, alpine and rock gardens, or trees and shrubs. Some will harvest seed or grow plants under contract.

Confirm before visiting. Many nurseries require an appointment and may not keep regular business hours.

Use Local Native Plants

Definitions of native vary from one grower to the next and may include cultivated varieties of native species, as well as plants from hundreds of miles away. For restoration and native habitat projects, it is usually best to use genetically varied stock originating from the nearest available natural sites. Local nurseries do not necessarily rely on local sources, nor is it always practical. Ask where a nursery's propagation stock or plants come from before selecting plants for landscaping or restoration projects.

SEEDS ONLY - (=WNPS Member Organization)**

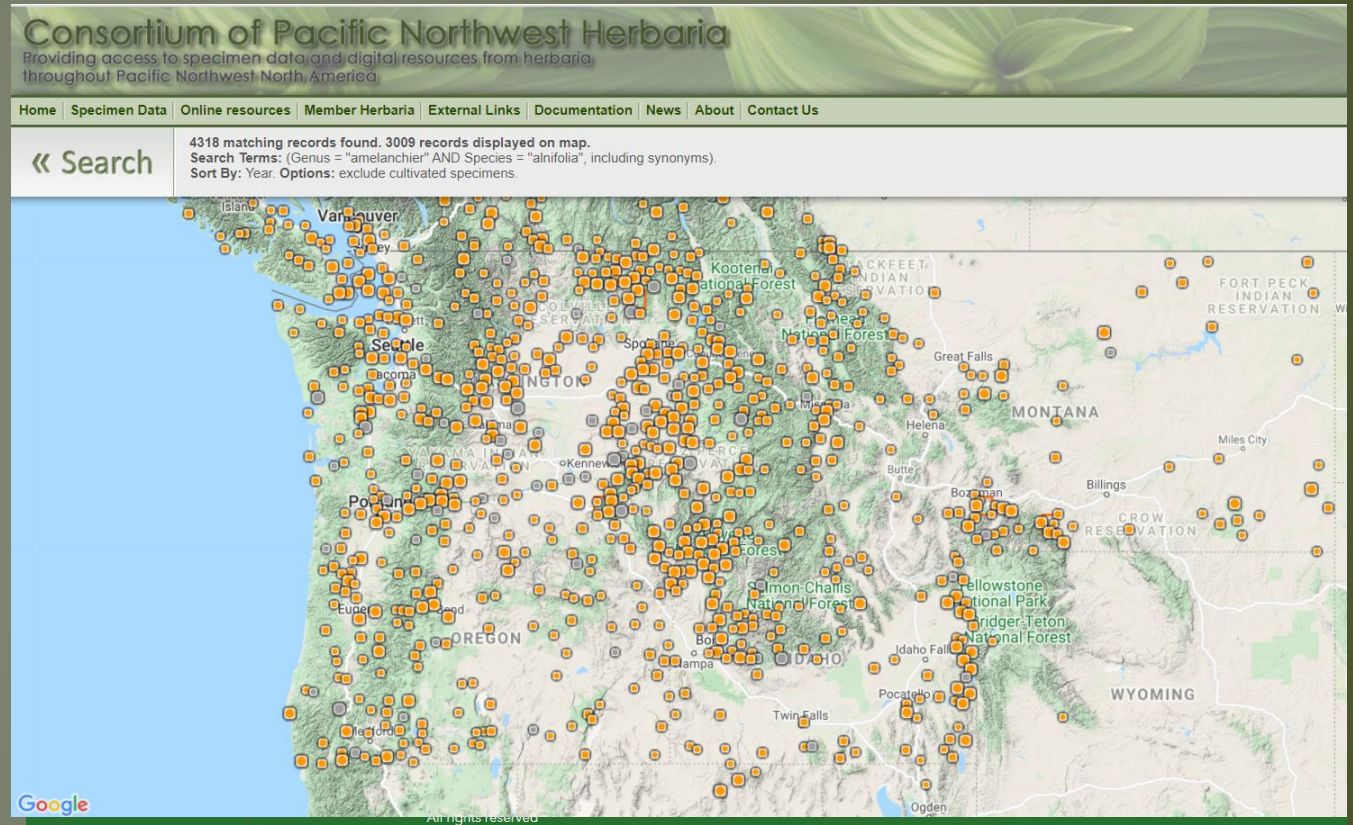
BFI Native Seeds**
1550 Pilgrim Street
Moses Lake, WA 98837
509 765-6348
mbenson@bfinativeseeds.com
<http://bfinativeseeds.com/>

L & H Seeds Inc.
4756 W. SR 260
Connell, WA 99326
509-234-4433 FAX 509-234-0202
info.lhseeds.com
<https://www.lhseeds.com/>

Rainier Seeds, Inc.
P.O. Box 1064
Davenport, WA 99122
1404 Fourth Street
Davenport, WA 99122
509-725-1235, 800-828-8873
FAX 509-725-7015
rainierseeds@rainierseeds.com
www.rainierseeds.com

Genetic Provenance

- Genetic Provenance is the geographic location that a plant originated.
- Critical for restoration projects with no long-term maintenance.
 - USFS's Empirical or Provisional Seed Zones are an excellent source: <https://www.fs.fed.us/wwetac/threat-map/TRMSeedZoneMapper.php>
- Less important for home landscaping, but still a consideration
 - Many species have a broad range and could be poorly adapted to both temperatures and moisture at your site.



Saskatoon Serviceberry herbarium specimens

Questions on Plant Materials??



Timing of Planting

- Timing is critical
 - Seeding should occur during the dormant season
 - Planting can occur in the dormant season
 - In the Wenatchee Valley, this window is open from late October thru February
- With irrigation or watering, this window extends
 - Just avoid hot months for planting
 - Seeding is still best in the fall through early spring



Plant Spacing

- Plant Spacing
 - Target the following long-term
 - Grasses and wildflowers 2-3' o.c.
 - Shrubs 3-6' o.c.
 - Trees 8-12' o.c.
 - On sites with minimal irrigation/maintenance, allow for mortality and plant at a higher density initially



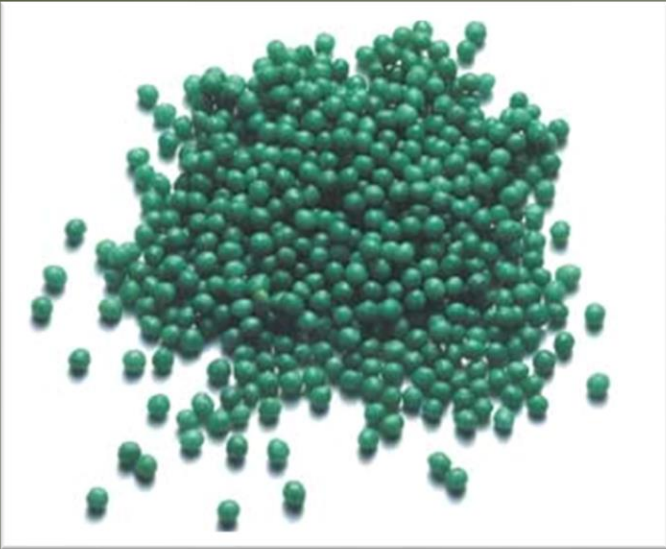
Planting Method

- Dig a hole
 - At least to the depth of the roots
- Plant crown at soil level
- Back fill (no big rocks)
 - No fertilizer in hole
- Compact lightly
- Create watering basin
- Water in, if possible



Fertilization

- Slow Release or Compost
- Apply to soil surface
- Not critical is site has intact top soil



Mulch, Mulch, Mulch

- Reduces weedy competition and reduces soil moisture loss
- 2-3' diameter
- 3-4" depth (less right around plant base)
- Rock, fabric, mats, or bark/hog fuel



Protection from Animals

- Deer
 - Important for woody shrubs and tree seedlings
- Beaver
 - Important for cottonwood and willows



Irrigation

- By Hand
- Installed systems
 - Drip or micro-sprinkler
 - Group plants with similar water needs in the same area / station
- Broadcast irrigation is discouraged except for large, seeded areas
- Greatest need is Year 1



Maintenance

- Monitor regularly during growing season
- Shrub-steppe plants go dormant mid-summer without extra water
- Weed around the plants to reduce competition
- Maintain browse protection



Final Thoughts

- Plant selection should be based on moisture requirements and the landowners desire to irrigate over the long-term
 - Low elevation sites within the Wenatchee Valley will support shrub-steppe native species, and other natives will require irrigation.
- Many sources/experts are available to help with plant selection
 - Washington Native Plant Society
 - Local nurseries/seed vendors
- Mulching is key for low maintenance
- Long-term maintenance needs of native is minimal
 - The selection of higher moisture needs plants will likely require long-term irrigation.



Photo Credit: Kelsey Prickett

Final Questions??

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www.derbycanyonnatives.com

www.bfinative seeds.com

