



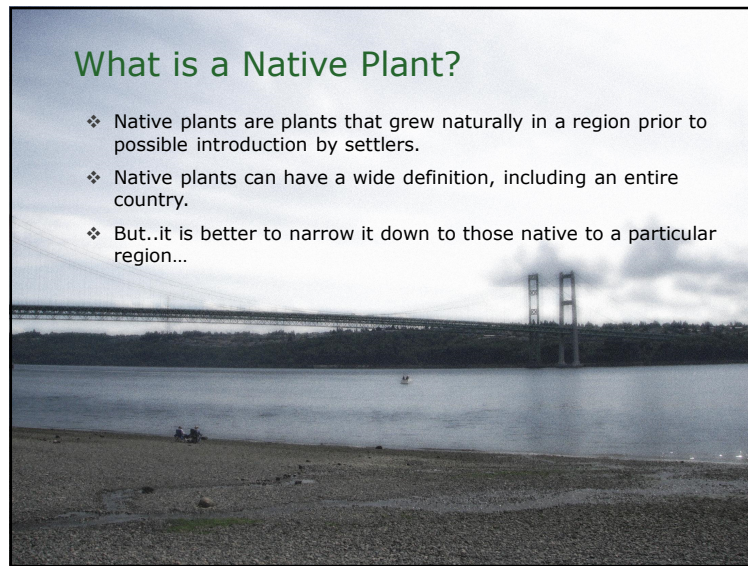
Why Plant Native Plants?



Twinflower, *Linnaea borealis*

- Native plants are better adapted to soils and climate.
- They usually require less irrigation and less maintenance.
- Native plants attract native wildlife; and they improve or restore the natural ecology of an area.
- Native Plants "fit" better, aesthetically, in local landscapes than many exotics.
- A natural landscape can be left alone to regenerate itself through natural systems of pollination, seed dispersal and germination.

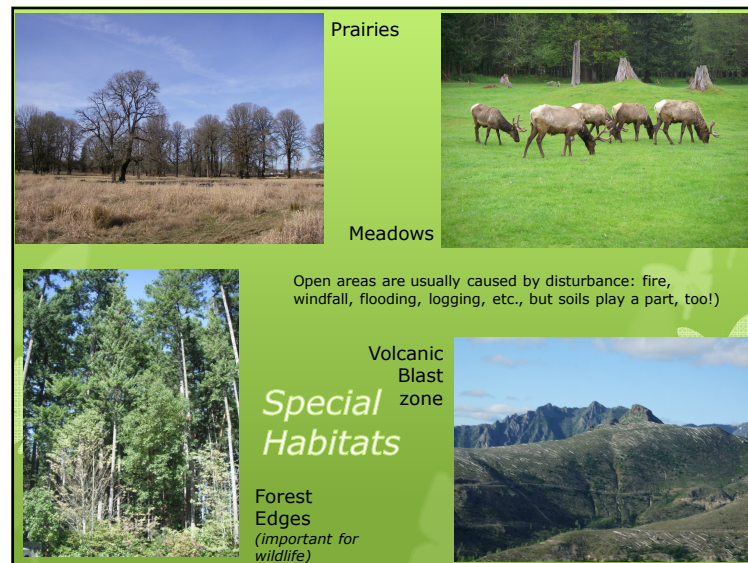
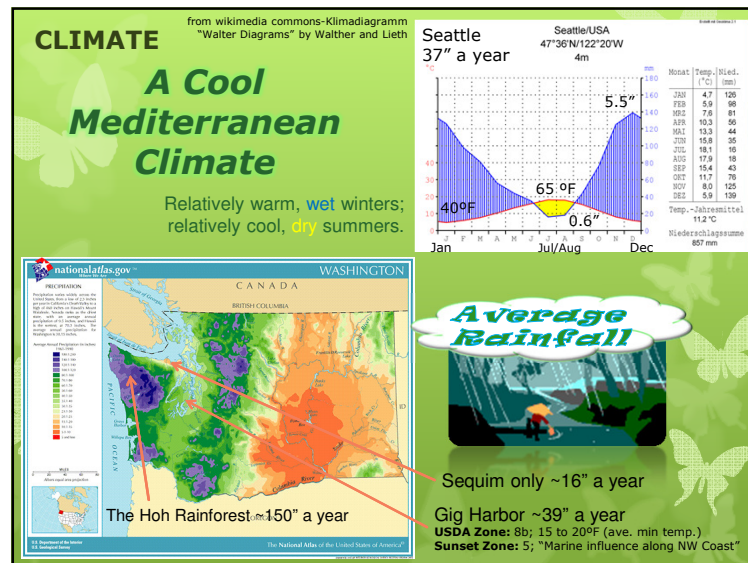
Native Plants are "eco-friendly."




The Maritime Pacific Northwest Ecoregion

From sea level to the Cascade Mountain Range-- northern Oregon, Washington, British Columbia and southeast Alaska. —see "Plants of the Pacific Northwest Coast," Pojar & MacKinnon.

→ Why is Washington the Evergreen State?—why do coniferous trees predominate?



Right Plant/Right Place


Sun vs. Shade; Moist vs. Wet

Observation & experience


Leaves are the plant's solar collectors and are generally inefficient at retaining moisture when photosynthesizing.

In general:


- Large thin leaves = shady, moist
- Small, fuzzy or gray leaves withstand sun & hot, drying winds.
- Thick waxy leaves, withstand periods of dryness.
- Deciduous plants are usually found in moister areas.
 - *Sometimes their leaves will become yellow and drop during dry periods (ex. alders & Indian Plums).*



Big Leaf Maple—Shady/moist



Pearly Everlasting--Sun




Pacific Rhododendron withstands dryness (leaves will curl when dry)


SOILS--history

Volcanos

Geology: Fire & Ice



20,000 years ago, Puget Sound was covered in a mile-high sheet of glacial ice. The ice sheet over Seattle alone was 3,412 feet high.



Glaciers

Glacial Till: mixtures of clay, sand, gravel and boulders deposited by advancing & retreating glaciers.

SOILS

Physical Properties

"The Feel Test"

	Dry Squeeze	Wet Squeeze	Ribbon
Sand	Falls apart.	Makes cast; Falls apart.	Ribbon
Sandy Loam	Makes cast; Falls apart.	Falls apart. some.	Won't ribbon.
Loam	Cast endures some.	Cast endures easily.	"
Silt Loam	Cast handles easily.	"	"
Clay Loam	"	"	"
Clay	"	"	Ribbon breaks. Ribbon stays intact.

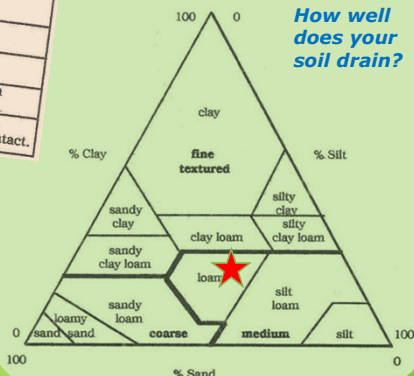
U.S.D.A. system of classification

Separate	diameter(mm)
Gravel	>2.0
Very Coarse Sand	2.00-1.00
Coarse Sand	1.00-0.50
Medium Sand	0.50-0.25
Fine Sand	0.25-0.10
Very Fine Sand	0.10-0.05
Silt	0.05-0.002
Clay	<0.002

Physical properties of soil (& steepness of slope) affect fertility, water retention & drainage.

SOIL TEXTURAL CLASSES***

How well does your soil drain?



The horticultural ideal!

Planning the Design

- Plant Selection & Design (on paper or a general idea in your head!)
- Right Plant, Right Place: sun, shade, moisture, ultimate size.
- Special Goals: Attracting wildlife (hummingbirds, butterflies, etc.), food, screens, erosion control, deer resistance....
- Aesthetic Design Elements: focal points, scale, form, texture, color, balance, fragrance, movement.
- The 4th dimension: visualize change through time--the seasons and the years/decades/centuries...!
- Set out plants--start with largest plants to create the "framework."




Pierce Conservation District's Depave Planting 6th & Division St.

KEY



Cattails, *Typha latifolia*
LR---Lakeshore, Riparian
& Streamsides



Dunegrass, *Elymus mollis*
SS---Seashore & Estuarine




D---Disturbed
N---Nitrogen-Fixing




Deerbrush, *Ceanothus velutinus*

LARGE TREES


Sun
(intolerant of shade) 

Douglas Fir (225') D
Noble Fir (170')
Ponderosa Pine (120')
Shore Pine (60') SS LR D
Pacific Madrone (50') D


Part Shade/Sun
(tolerant of some shade) 

Evergreen Trees
Sitka Spruce (215') SS LR
Western Red Cedar (180') LR
White Pine* (180') D
Grand Fir (150')
Alaska Cedar (105') LR
Subalpine Fir (90')
Mountain Hemlock (90')


Deciduous Trees
Paper Birch (90') LR
Oregon Ash (75') LR
Big Leaf Maple (45') LR

Shade
(very tolerant of shade) 

Western Hemlock (175')
Pacific Silver Fir (150')



Black Cottonwood (125') LR
Red Alder (70') LR D N
Oregon White Oak (60')
Quaking Aspen (55') LR



Western Hemlock will grow
under the shade of Doug Fir.

* Some trees have greater shade tolerance in youth, lesser at maturity.

SMALLER TREES

Sun
(intolerant of shade) 

Rocky Mtn Juniper (30-40') SS
Willows (12-40') LR D

Part Shade/Sun
(tolerant of some shade) 

Pacific Dogwood (25')
Cascara (25') LR
Pacific Crabapple (25') SS LR

Shade
(very tolerant of shade) 

Western Yew (25')



Sitka Willow



Pacific Dogwood (25')



Western Yew (25')



Black Hawthorn (30')
SS LR D





Pacific Crabapple (25') SS LR




Bitter Cherry (25') D

LARGE SHRUBS for Sun


(intolerant of shade) 




Saskatoon Serviceberry SS D
Amelanchier alnifolia (12')



Cranberry Bush
Viburnum opulus (10')



Pacific Ninebark LR
Physocarpus capitatus (12')



Blue Elderberry (12')

Other choices:
Douglas Maple (25')
Mountain Ashes (10')

LARGE SHRUBS for:

Part Shade/Sun 
(tolerant of some shade)



Western Hazelnut
Corylus cornuta
(15')



Red-twig Dogwood
Cornus sericea
(15') LR

Shade 
(very tolerant of shade)




Vine Maple
Acer circinatum
(20') LR



Red Elderberry
Sambucus racemosa
(15') LR

EVERGREEN SHRUBS

 **Tall Oregon Grape** D
Mahonia aquifolium (8')




Pacific Wax Myrtle SS LR N
Myrica californica (15')
Great for screening or hedging!



Pacific Rhododendron
Rhododendron macrophyllum
(15')

Favorite Flowering Shrubs

 **Western Azalea**
Rhododendron occidentale
(10')




Pacific Mock Orange
Philadelphus lewisii
(8')

 **Red-flowering Currant**
Ribes sanguineum
(8') D




Golden Currant
Ribes aureum
(5')

More Superb Shrubs

 **Indian Plum**
Oemleria cerasiformis
(15')




Snowberry SS LR
Symphoricarpos albus
(6')


 **Ocean Spray** SS D
Holodiscus discolor (8')




Twinberry SS
Lonicera involucrata
(3-9')




Roses & Brambles




Nootka Rose SS LR D
Rosa nutkana (8')
(& **Peafruit Rose**, *Rosa pisocarpa*)




Thimbleberry SS D
Rubus parviflorus (8')




Salmonberry LR D
Rubus spectabilis (10')





Gooseberries—flowers for hummingbirds & berries for other birds & mammals-- people, too!

Black Swamp Gooseberry LR *Ribes lacustre* (2-6')

Coast Black Gooseberry LR *Ribes divaricatum* (4-9')

They are very prickly!

Pretty in Pink!



Sea Thrift SS
or **Sea Pink**
Armeria maritima
(4-16")



Mountain Meadowsweet or Subalpine Spiraea
Spiraea splendens (*densiflora*)
(3')



Douglas Spiraea LR
Spiraea douglasii
(spreads aggressively)
(6')



Hairy Honeysuckle
Lonicera hispidula
A vine, usually rambling or crawling

3 Essential Evergreens Shrubs



Evergreen Huckleberry SS
Vaccinium ovatum
3-6 ft. slow




Low Oregon Grape
Mahonia nervosa
2-3 ft. slow



Salal SS
Gaultheria shallon
3-6 ft. slow

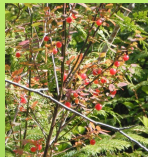
HUCKLEBERRIES

Mountain Huckleberry *Vaccinium membranaceum*




Prized for its delicious berries, its leaves turn a spectacular red to purple in the fall. (3')

Red Huckleberry *Vaccinium parvifolium*




A favorite treat for hikers, it often grows on stumps and nurse logs. (6')

Cascade Huckleberry *Vaccinium deliciosum*




A low, mat-forming shrub that grows in subalpine and alpine. Its blue berries are delicious as its name suggests. (10")

Dwarf Bilberry *Vaccinium caespitosum*



Also known as Swamp or Sierra Blueberry, Bilberry, Huckleberry, Whortleberry, or Grouseberry-- a low spreading, mat-forming shrub. It grows in bogs, and subalpine wet meadows. (12")

Oval-leaved Blueberry *Vaccinium ovalifolium*



Attractive in a woodland garden, especially when grown along with Red Huckleberry. (8')

4 Fabulous Ferns

Western Sword Fern *Polystichum munitum* LR



to 4 ft.

Deer Fern *Blechnum spicant*



1-3 ft.

Lady Fern *Athyrium filix-femina* LR



to 6 ft.

Maidenhair Fern *Adiantum aleuticum (pedatum)*



(best near waterfalls & fountains!) 6-24 in.

The best Groundcovers for sun

Coastal Strawberry SS



Fragaria chiloensis (to 8" w/running stolons)

Silverweed (Potentilla) SS



Argentina anserina LR (8" with runners)

Creeping Oregon Grape



Mahonia repens (3')

Kinnikinnick SS



Arctostaphylos uva-ursi (to 8" trailing 6' or more)

Groundcovers for Shade

Wood Strawberry



Fragaria vesca (8")

False Lily-of-the-valley



Maianthemum dilatatum (4") spreading rhizomes

Wild Ginger



Asarum caudatum (4") trailing, rooting stems

Bunchberry



Cornus Canadensis (4") spreading rhizomes



Redwood Sorrel
Oxalis oregana
(4") LR

More Fantastic Forest Flora!



Inside-out Flower
Vancouveria hexandra
(12") spreading rhizomes



Western Bleeding Heart
Dicentra Formosa
(16") spreading rhizomes LR



Oak Fern
Gymnocarpium dryopteris
(12") spreading rhizomes



Piggyback Plant
Tolmeia menziesii
16-30 in.



Fringecup
Tellima grandiflora
16-30 in.



Goatsbeard
Aruncus dioicus
3-6 ft.



Western Trillium
Trillium ovatum
to 18 in


Woodland Wonders



Yarrow SS D
Achillea millefolium
(24")



Large-leaved Lupine SS LR N
Lupinus polyphyllus (36")




Beargrass
Xerophyllum tenax
(3')



Great Camas LR
Camassia leichtlinii
(18")




Common Camas
Camassia quamash
(12")




Nodding Onion
Allium cernuum
(16")

Prairie Perennials


Color variations



Tiger Lily
Lilium columbianum
to 4 ft.



Western Columbine SS LR
Aquilegia Formosa
to 3 ft.



Various Violets,
Viola sp. LR

Marsh Violet
V. palustris

Pioneer Violet
V. glabella

Favorite Flowers for anywhere

Flowers for hummingbirds & butterflies

Cooley's Hedgenettle 25-60"

Canada Goldenrod 2-5'

Indian Paintbrush 12-30"

Trumpet Honeysuckle Climbing vine to 18'

Aster 1-4' & **Pearly Everlasting** 8-40"

Rain Garden Staples

Douglas Iris
Iris douglasiana
6-30 in.

Tufted Hairgrass **SS LR**
Deschampsia cespitosa 1-4 ft.

Small-fruited Bulrush
Scirpus microcarpus
To 4.5 ft. **SS LR**
(can be aggressive)

Slough Sedge *Carex obnupta*
8-60 in. **SS LR**
(and other sedges & rushes...)

Ready to Monk-eye Around with colorful flowers?

Yellow-eyed Grass **SS LR**
Sisyrinchium californicum (12")

Yellow Monkey Flower **LR**
Mimulus guttatus (24")

Pink Monkey Flower **LR**
Mimulus lewisii (12-48")

Alaska Iris *Iris setosa* (24") **LR**

Scarlet Monkey Flower **LR**
Mimulus cardinalis (24")

Blue-eyed Grass **LR**
Sisyrinchium idahoense (12")

PLANTING

Gig Harbor's 2014 Arbor Day Celebration.

Little soil preparation is usually necessary; incorporating organic matter over whole area may be beneficial in poorer soils...especially for evergreens and perennials.

Slice and/or spread out circling roots.

1. Dig the hole 2-3 times the diameter of the root ball.
2. Plant should be at least the same level as it was in the pot or slightly higher.
3. Backfill using native soil.
4. Construct a basin to retain water. Water immediately after planting.
5. Mulch to conserve water and discourage weeds.

From WSDOT Tree & Shrub Planting Details

More Natural vs. Manicured*
changing our aesthetic ideals

Seeds??  Berries?  Insects? 

 ? 

High diversity
Provides food, cover,
nesting sites.

Low diversity
(+Chemical pesticides &
fertilizers are toxic to wildlife &
soil organisms.)

**Which would you like your children or grandchildren to explore?*

Suggested Books & Websites:

- *Plants of the Pacific Northwest* by Pojar & Mackinnon
- *Gardening with Native Plants of the Pacific Northwest* by Arthur Kruckeberg
- *Wildflowers of the Pacific Northwest* by Mark Turner & Phyllis Gustafson.
- *Forest Giants of the Pacific Coast* by Robert Van Pelt.
- <http://www.wnps.org>, Washington Native Plant Society.
- <http://biology.burke.washington.edu/herbarium>, Burke Museum of Natural History and Culture, University of Washington Herbarium website.
- <http://www.geog.ubc.ca/biodiversity/eflora/>, Electronic Atlas of the Plants of British Columbia.
- <http://plants.usda.gov>, USDA Natural Resources Conservation Service, Plants Database
- <http://ucjeps.berkeley.edu> Jepson Flora Project & <http://calphotos.berkeley.edu>
- www.fs.fed.us, USDA Fire Effects Information System.
- www.wildflower.org, The Lady Bird Johnsons Wildflower Center, University of Texas at Austin
- <http://herb.umd.umich.edu>, University of Michigan, Dearborn—Native American Ethnobotany Database

Please Visit my Websites!


Encyclopedia of the Cultural and Natural
History of Northwest Native Plants
(Now under construction)

<http://nativeplantspnw.com/>

**For more information on
Native Plants and Native
Plant selection guides:**
*Hummingbirds, Butterflies, Edible
Berries, Rain Gardens, Deer
Resistance, Erosion Control &
Flowering & Fruiting times.*

Dana Kelley Bressette


Visit my sister Website:
Habitat Horticulture PNW!

<http://habitathorticulturepnw.com/>

**Many articles on environmental
gardening topics:** *Living Roofs, Rain
Gardens, Xerophytic Gardens, Landscape
designs for energy conservation,
Permaculture, Native Plant Gardening,
Wildlife Gardening, Reducing Chemical
Use, Organic gardening.*

**Native Plants are good for
wildlife & people!**

Hunting for frogs

Mounting bat boxes @
YMCA Camp Seymour

A Lizard on
a Madrona