

Underwood Conservation District

Enhancing natural resources and stewardship in Skamania County and western Klickitat County



Riparian Buffers: What, Why, and How

**Thriving with Streams
and other Water Resources
Workshop
February 22, 2020**

Tova Tillinghast, UCD Manager

Topics:

- Who is UCD?
- What is a riparian buffer?
- Why do they matter? What functions do they serve?



- What do healthy riparian buffers look like?
- How do you protect or enhance riparian buffers?
- Landowner incentives and best management practices for protecting streams

Who is UCD?

Underwood Conservation District (UCD) serves as
a convener for the public, landowners and other
stakeholders,
a clearinghouse of information, and
a source of project support.

Locally-led

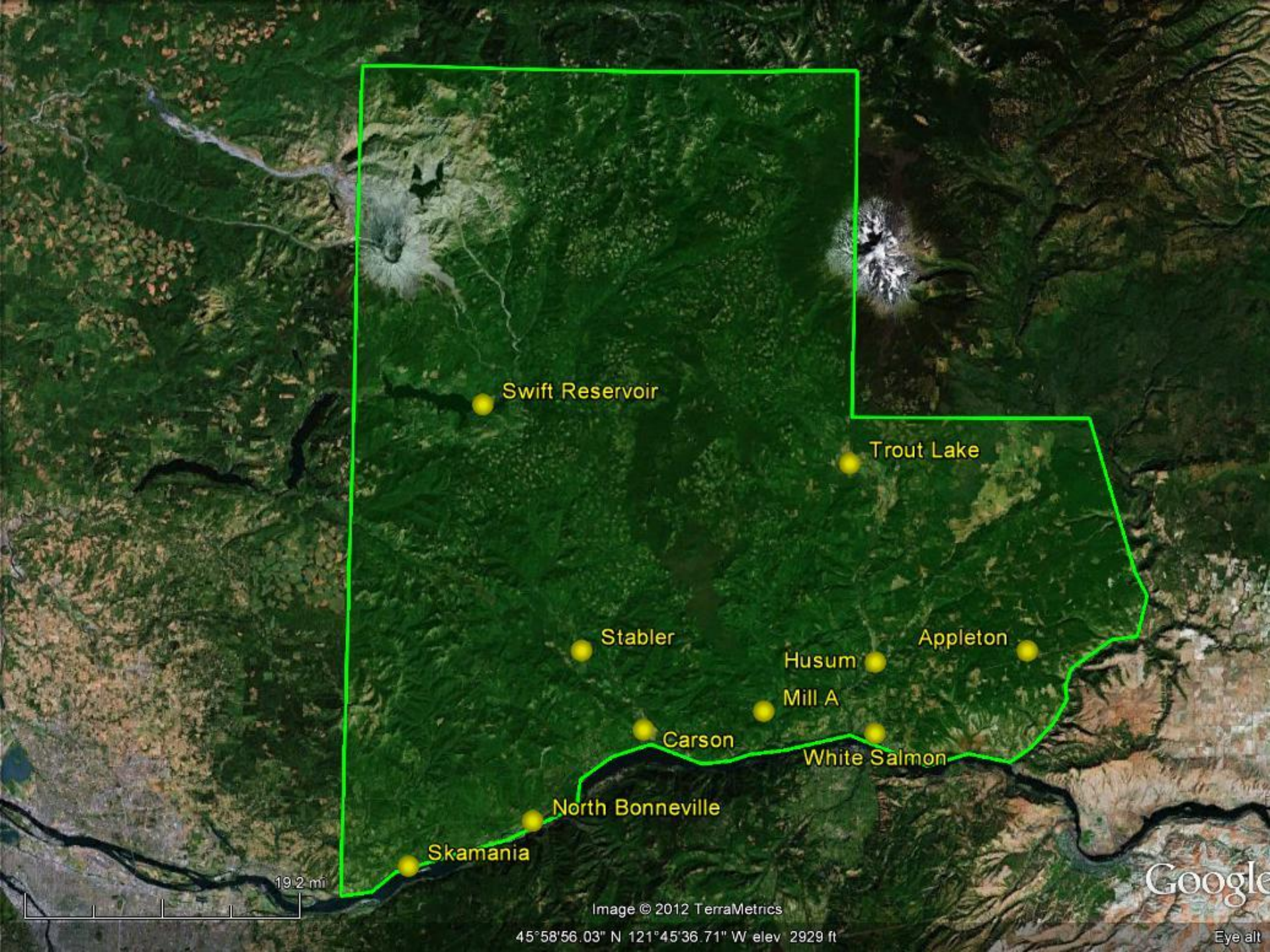
Non-regulatory

Neutral

Source of natural resource assistance for all kinds of needs: watershed health, water quality, forest health, wildfire risk reduction (Firewise), fish habitat restoration, upland habitat, native plants, noxious weeds, and more....

Our Mission: to engage landowners and land users throughout Skamania and west Klickitat Counties in the voluntary conservation, enhancement, stewardship, and sustainable use of natural resources.





Swift Reservoir

Trout Lake

Stabler

Appleton

Husum

Mill A

Carson

White Salmon

North Bonneville

Skamania

19.2 mi

Image © 2012 TerraMetrics

45°58'56.03" N 121°45'36.71" W elev 2929 ft

Google

Eye alt

District Programs



- Educational Workshops, Seminars and Field Trips
- On-Site Technical Assistance, Conservation Planning, Project Development and Cost-Share to:
 - Small Farms
 - Livestock Owners
 - Family Forests
 - Streamside landowners
- Native Plant Sale and Annual TreeFest
- Invasive Weed Management
- Integrated Beneficial Insect/Pollinator Habitat
- Fish Habitat Restoration
- Fish Passage Inventories and Correction
- Irrigation Fish Screen Installation
- Water Quality and Flow Monitoring
- Livestock Best Management Practices
- Oak Woodland and Forest Management
- Firewise

Consider the UCD Native Plant Sale!

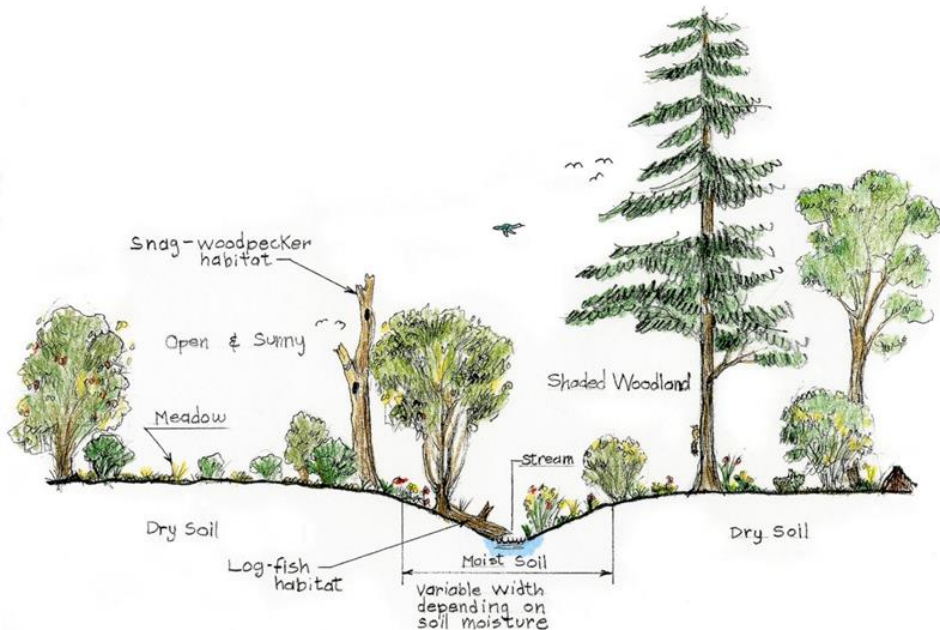
- Check out www.ucdwa.org
- Low cost tree and shrub seedlings (~\$2.50 per plant, discounts for bulk orders) and native grass seed mixes.
- UCD staff can help you choose the best species for your needs.
- Pre-sale ends Feb. 29!
- Plants are available for pick-up at TreeFest on March 21. Shop for additional species that day!
- Hood River SWCD and other neighboring CDs also have sales.

What is a Riparian Buffer?

- The plants along a stream or river
- The link between the land and water
- Has significant biological and ecological importance



Above: a pileated woodpecker

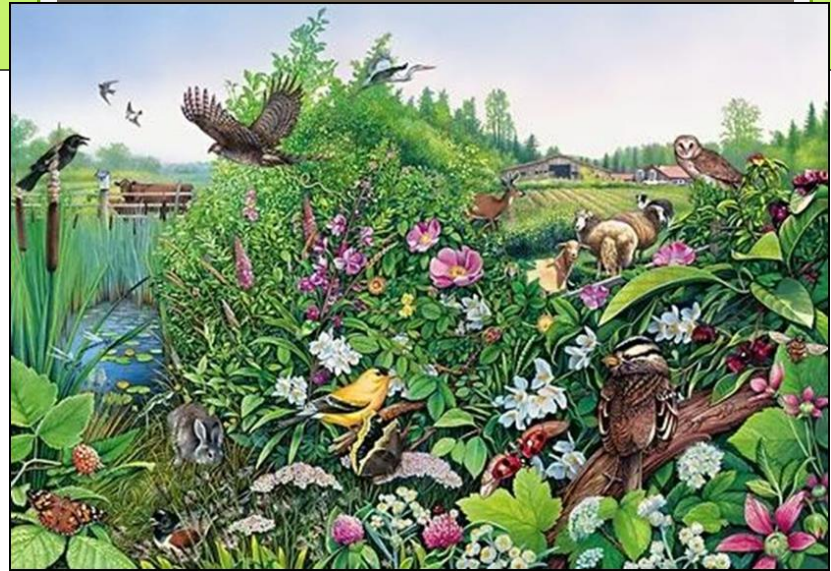


Below: a recently planted riparian buffer



Photo and some text are from: Mid-Columbia Fisheries Enhancement Group. Landscape architecture by: Jurgen Hess

Why Riparian Buffers?



- They're beautiful!
- Protect water quality from runoff and sediments.
- Help prevent erosion and flood damage, and absorb runoff to allow recharge of groundwater and wells.
- Provide other important functions to the stream and the entire watershed, such as floodplain connectivity and shading to keep water cool.
- Hardy, and require very little, if any, maintenance or input, reducing pollution.
- Provide food and diverse habitat for fish and wildlife, including beneficial insects and pollinators.

Basic Principles for Riparian Buffers



- Protect what is already there
- Resist the urge to tidy-up
- Enhance by planting native plants
- There are important regulations that require protection of streams and other water resources; consult with your County before doing work within a stream buffer.

What is a Native Plant?

- Definition: plants that are endemic (indigenous) or naturalized to a given area in geologic time. This includes plants that have developed, occur naturally, or existed for many years in an area.
- In the Gorge, there are many eco-regions. A plant native to Washougal may not be native to Lyle.
- They are NOT classified as noxious by the state or county; not invasive and generally not problematic.
- Some may still call them “weeds.”



Red Flowering Currant
Ribes sanguineum

Benefits of Native Plants

- Adapted to our climate and soil conditions.
- Noxious weed prevention
- Conserve water, as they need little or no irrigation once established.
- Hardy; very little, if any, maintenance needed.
- Fire-resistant native plants are “Firewise”
- Protect streambanks, retain soil, reduce erosion, shade and cool stream
- Visual screens and aesthetics
- Living fences or hedgerows
- Promote backyard biodiversity.
- Bird, bug and wildlife habitat



The Alternative?

- Degraded and simplified riparian areas
 - are susceptible to erosion, instability, and more flood-related damage;
 - capture less runoff and don't filter out pollutants, often reducing water quality;
 - provide little to no shade to the stream, leading to warmer water that can be lethal to fish and other aquatic life;
 - provide much less food and habitat to native fish, wildlife, birds, and insects.



“It’s astonishing how we decided that this green, flat lawn is a beautiful thing, when really it’s a sterile desert.”

- Dennis vanEngelsdorp, Pennsylvania State apiarist





The Alternative?

- Many invasive, exotic, and noxious weeds were, and still are, introduced as ornamentals.
- These garden plants escape to surrounding wild spaces easily, through multiple vectors and often traveling downstream.
- The World Conservation Union estimates that 12% of all bird species are threatened with extinction because of habitat loss and invasive species.

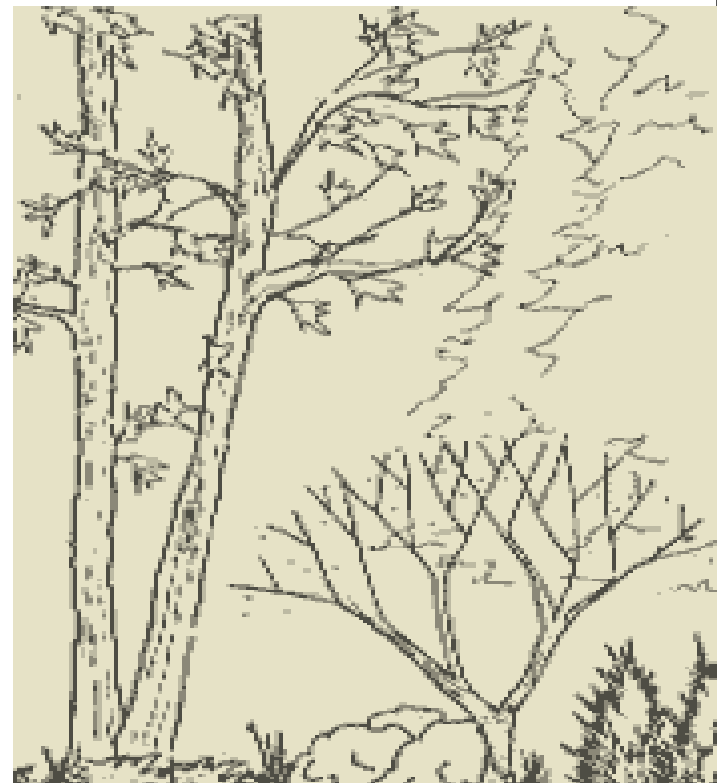
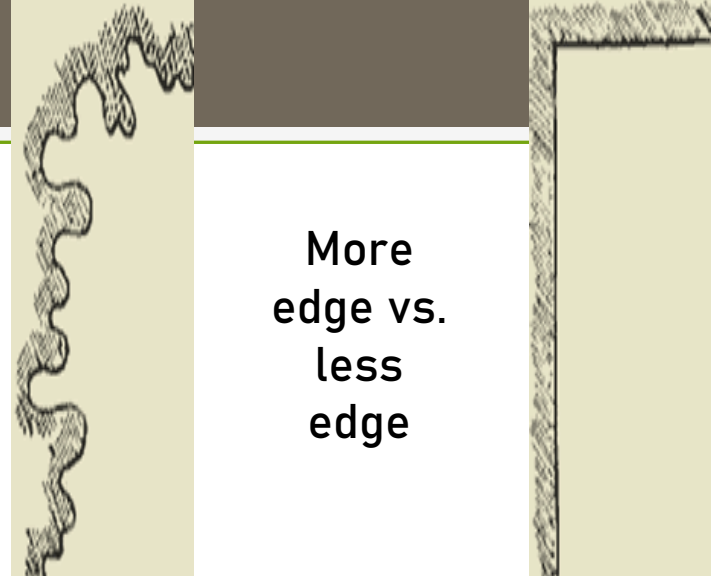
Bringing Nature Home, D. W. Tallamy, 2007

Designing a Riparian Buffer

- What kind of plants would naturally grow here?

Right Plant, Right Place!

- Soil moisture? Irrigation? Wind?
- Eastern or Western Washington, high or low elevation?
 - Eastside-adapted plants may tolerate westside environments, but westside-adapted plants may not tolerate eastside environments.
- Sun, shade, large trees nearby?
- Soil type? (Web Soil Survey and soil testing)
- Diversity and complexity is best: a variety of plant species, growth habits, with multiple canopy layers and irregular edges create the best habitat.



What about Wildfire?

- You can still have a *wild* riparian forest for *wildlife*, while reducing *wildfire* risk on your property. [Let's watch...](#)



Plant Communities - Streams

- For streamsidess:
 - Ferns (var. spp.), salal, showy milkweed
 - Willows (var. spp.), Red-osier dogwood, Pacific ninebark, Salmonberry
 - Western Red Cedar, Cascara, Oregon Ash, Quaking Aspen, Red Alder, Black Cottonwood

Douglas Spirea

Spiraea douglasii

5' x 5'

Our native spirea prefers moist soils and sun





Red Osier Dogwood

Cornus sericea

To 15' tall

Prefers moist, well-drained
soil and partial shade



Serviceberry
Amelanchier alnifolia

10' tall
Prefers sun or partial shade
drought tolerant





Pacific Ninebark
Physocarpus capitatus
15' tall
Prefers moist soils and sun



Mock Orange
Philadelphus lewisii

5-10' tall

Prefers well-drained soils

Also known as Syringa,
the state flower of Idaho





Red Flowering Currant
Ribes sanguineum
12' tall
Shade and drought tolerant



Snowberry

Symphoricarpos albus

4-7' tall

Sun, shade and drought
tolerant



Nootka Rose

Rosa nutkana

10' tall

Tolerant of sun, shade and drought, prefers moist soils



Native plant lists - from www.plantnative.org

These are printed out and available

Trees

| Common Name | Scientific Name | Sun | Soil Moist. | Height |
|-------------------|---------------------------------|-----|-------------|----------|
| Deciduous: | | | | |
| Vine Maple | <i>Acer circinatum</i> | F-S | A-W | 25' |
| Big Leaf Maple | <i>Acer macrophyllum</i> | F-P | A | 30-100' |
| Alder (Red) | <i>Alnus rubra</i> | F | W | 40-100' |
| Pacific Madrone | <i>Arbutus menziesii</i> | F | A | 40-80' |
| Paper Birch | <i>Betula papyrifera</i> | F-S | A | 80' |
| Black Hawthorne | <i>C. douglasii</i> | F | W | 20-30' |
| Pacific Dogwood | <i>Cornus nuttallii</i> | F-P | A | 30-50' |
| Oregon Ash | <i>Fraxinus latifolia</i> | F | W | 40-75' |
| Crab Apple | <i>Malus spp.</i> | F-P | A-W | 15-35' |
| Indian Plum | <i>Oemleria cerasiformis</i> | F-P | D-A | 16' |
| Aspen (Quaking) | <i>Populus tremuloides</i> | F | A-W | 40-80' |
| Black Cottonwood | <i>Populus trichocarpa</i> | F | W | 70-100' |
| Bitter Cherry | <i>Prunus emarginata</i> | F-P | A | 20-60' |
| Oregon White Oak | <i>Quercus garryana</i> | F | D-A | 30-100' |
| Cascara | <i>Rhamnus purshiana</i> | F-P | A | 30' |
| Pacific Willow | <i>Salix lasiandra</i> | F | W | 20' |
| Evergreen: | | | | |
| Grand Fir | <i>A. grandis</i> | F-P | D-A | 100-200' |
| Noble Fir | <i>A. procera</i> | F | | |
| Sitka Spruce | <i>Picea sitchensis</i> | | | 100-150' |
| Ponderosa Pine | <i>Pinus ponderosa</i> | F | D-W | 60-130' |
| Douglas Fir | <i>Pseudotsuga menzies</i> | F | D-W | 75-200' |
| Giant Sequoia | <i>Sequoiadendron giganteum</i> | F | A | 200' |
| Western Redcedar | <i>Thuja plicata</i> | P | A-W | 100-175' |
| Western Hemlock | <i>Tsuga hereophylla</i> | | | 125-200' |

Shrubs

| Common Name | Scientific Name | Sun | Moist. | Height |
|-----------------------|----------------------------------|-----|--------|--------|
| Vine Maple | <i>Acer circinatum</i> | | | 5-35' |
| Serviceberry | <i>Amelanchier alnifolia</i> | F | A | 4-15' |
| Hairy Manzanita | <i>Arctostaphylos columbiana</i> | | | 10-15' |
| Kinnikinnick | <i>Arctostaphylos uva-ursi</i> | F-P | A | 12" |
| Tall Oregon Grape | <i>Berberis aquifolium</i> | | | 8-10' |
| Snowbrush | <i>Ceanothus velutinus</i> | | | 9' |
| Red-osier dogwood | <i>Cornus stolonifera</i> | F-S | W | 15' |
| Western Hazelnut | <i>Corylus cornuta var. cal.</i> | | | 5-12' |
| Salal | <i>Gaultheria shallon</i> | F-S | A | 6' |
| Ocean Spray | <i>Holodiscus discolor</i> | P-S | D-W | 3-20' |
| Western Honeysuckle | <i>Lonicera ciliosa</i> | | | vine |
| Twinberry | <i>Lonicera invlucrata</i> | | | 4-8' |
| Creeping Oregon Grape | <i>Mahonia nervosa</i> | F-S | D-W | 12" |
| Indian Plum | <i>Osmaronia cerasiformis</i> | | | 15-20' |
| Mock Orange | <i>Philadelphus lewisii</i> | F-P | D-A | 4-10' |
| Pacific Ninebark | <i>Physocarpus capitatus</i> | F-S | W | 10' |
| Bald-hip rose | <i>R. gymnocarpa</i> | F | D | 5' |
| Wood rose | <i>R. woodsii</i> | | | 1-8' |
| Cascara buckthorn | <i>Rhamnus purshiana</i> | | | 1-8' |
| Red Flowering Currant | <i>Ribes sanguineum</i> | F-P | A | 10-35' |
| Nootka rose | <i>Rosa nutkana</i> | | | 8-10' |
| Salmonberry | <i>Rubus spectabilis</i> | F-P | A-W | 12' |
| Red Elderberry | <i>S. racemosa</i> | F-S | A | 1-8' |
| Western Spirea | <i>Spiraea douglasii</i> | F-P | A-W | 3-6' |
| Snowberry | <i>Symphoricarpos spp.</i> | F-P | D-W | 8-20' |
| Black Huckleberry | <i>Vaccinium membranaceum</i> | | | 2-6' |
| Evergreen Huckleberry | <i>Vaccinium ovatum</i> | | | 4' |
| Red Huckleberry | <i>Vaccinium parvifolium</i> | | | 2-8' |
| | | | | 3-12' |

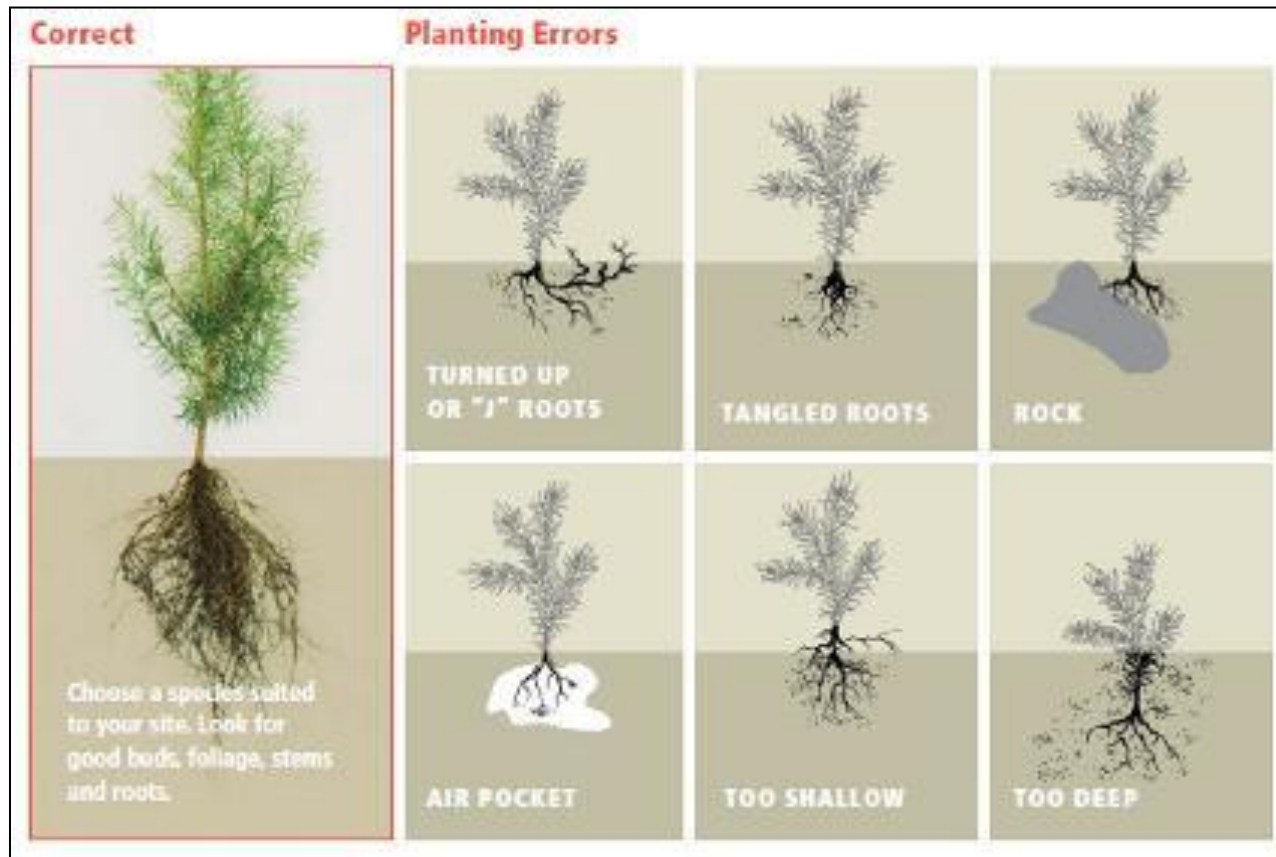
Perennials - Sun

| Common Name | Scientific Name | Sun | Moist. | Height | |
|-------------------|--------------------------------|-----|--------|--------|--|
| Red Columbine | <i>Aquilegia formosa</i> | F-P | A-W | to 3' | Soft foliage, drooping red to yellow flowers. |
| Shooting Star | <i>Dodecatheon hendersonii</i> | F | A-W | | Magenta to lavender flowers on singular stalk. |
| White Fawn Lily | <i>Erythronium oregonum</i> | F-S | A | | Lance-shaped leaves, white nodding flower. |
| Tiger Lily | <i>Lilium columbianum</i> | F | | | Bright orange flowers with red or purple spots. |
| Big Leaf Lupine | <i>Lupinus polyphyllus</i> | F | A-W | 3-4' | Nitrogen fixer. Blue to violet pea-like flowers. |
| Oregon Stonecrop | <i>Sedum oregonum</i> | F-P | A-W | | Yellow to pink flowers. Good for rock gardens. |
| Yellow-Eyed Grass | <i>Syrinchium californicum</i> | F-P | W | | Yellow flowers on short stalks. Spreads easily. |

Plant for Success... But How?

- Right Plant, Right Place.
- Plant in the Fall or early Spring, as soon as the ground is workable.
- Mulch your plants and other bare ground (with grass clippings, wood chips, newspaper, etc.)
- Irrigate until plants are established (2 years).
- Work within the shoreline buffer or critical area requires consultation with the County.

Plant for Success...



Source: DNR Webster Forest Nursery

Discounted seedlings



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UCD's Native Plant Sale & TreeFest

Every year, Underwood Conservation District (UCD) offers low-cost tree and shrub seedlings to residents in the Columbia Gorge. We offer a variety of conifers, deciduous trees and shrubs. They come ready to plant as 1-3 year-old, bare-root or plug seedlings. Customers place orders online through the winter, then pick up plants at our annual TreeFest event the third week of March.

Shop for native plants, on-line until Feb. 29: www.ucdwa.org/shop

Shop in-person at **TreeFest, March 21, 9am – 12pm,**
at Rheingarten Park in White Salmon, WA

Landowner Incentives for Best Management Practices

- UCD cost share funding and project support for:
 - livestock exclusion fencing along streams
 - off-stream water troughs
 - manure management
 - soil health
 - roof runoff catchment
 - ditch piping and other irrigation efficiencies
 - riparian planting projects and invasives removal
 - instream habitat



An opportunity to go deeper:



2020 Eastern Washington Riparian Planting Symposium

*Embracing the unique
challenges of riparian
restoration in the
Columbia Basin through
shared knowledge,
ideas, and collaboration.*

Date: March 19, 2020, Pre-registration required to attend!!!

NEW LOCATION: Le Château, 15 North Naches Ave., Yakima, WA

- Contact UCD or Dept. of Ecology to register

Credits

- Hood River SWCD's "Landscaping with Less" Program
- Columbia Land Trust's "Backyard Habitat Certification" Program
- Dan Richardson, Resource Technician at UCD



*For more information or on-site consultation,
contact:*

Underwood Conservation District
509-493-1936

tova@ucdwa.org or info@ucdwa.org



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