Backyard Habitat: Naturescaping with Native Plants

1. The “Why” of Native Plants
2. Plant & site conditions
3. Canopy layers
4. Pollinators
5. Calculating naturescaped areas
6. Additional learning opportunities
Naturescaping with native plants

- 5% of the yard: 3 canopy layers
- 15% of the yard: 4 canopy layers
- 50% of the yard: 5 canopy layers
What is naturescaping?

**Generally:** Gardening with techniques that emulate nature, including planting native plants in conditions they are adapted to.
What is naturescaping?

**Backyard Habitat:** Planting multiple canopy layers with primarily native plants.

*Photo Credit: Laura Taylor, West Multnomah Soil & Water Conservation District*
Native to Where?

- Lower Willamette Valley
- Portland Plant List
- Species that were here before European colonization
- Growing conditions match our weather
- Require less maintenance (watering) and no pesticides
Portland Plant List

These are the plants we’re looking for when certifying a site.

Cultivars and hybrids are considered non-native for this program.

3.1 Evergreen Trees

Grand Fir  *Abies grandis*

The Grand Fir is the only native fir that is common in the lower elevations (below 2,500') of Western Oregon. Its needles are arranged in flat sprays on opposite sides of the twig, and when crushed have a tangerine-like fragrance. Grand Fir is able to reproduce in dense shade and young seedlings may be found growing in the understory of Douglas fir forests.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>10 yr. height: 30 ft.</td>
<td>10 yr. spread: 20 ft.</td>
</tr>
</tbody>
</table>

Growth rate: Medium

Conditions: Full sun to full shade, moist to seasonally wet soil

Relocate success: Medium

Availability: High (bare root, container)

Habitat type(s): Wetland, Riparian, Forest, Forest slope

Pacific Madrone  *Arbutus menziesii*

The only broadleaf evergreen among the native trees of the Pacific Northwest, the Pacific Madrone is commonly found in forest openings or edges. It has attractive, peeling bark and clusters of creamy white, fragrant, bell-shaped flowers in the spring. The red-orange berries appear in the fall and persist into the early winter. The berries were a food source for the Northwest Indians, and are attractive to many species of birds.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>10 yr. height: 6 ft.</td>
<td>10 yr. spread: 6 ft.</td>
</tr>
</tbody>
</table>

Growth rate: Very slow

Conditions: Full sun, dry soil

Relocate success: Low

Availability: High (seed, container)

Habitat type(s): Forest
Why native species?

- Adapted to our climate
- Naturally resistant to diseases
- Often have superior stormwater functionality
- Documented to best support local wildlife
- 90% of insects depend on native plants to survive
- 96% of land birds feed on insects
- 100% of adult amphibians (and most reptiles) eat insects
Stormwater Management + Carbon Sequestration
What about cultivars?

**Cultivar**: a plant variety bred for specific traits:
- Different bloom color
- Longer bloom time
- Different bloom shape

Large-leaved lupine - *Lupinus polyphyllus* (native)
What about cultivars?

Identification:
- Different color/shape/size than native species.
- Look for quotes in the name: *Lupinus “The Chatelaine”*

*Lupinus “The Chatelaine”* (cultivar)
What about hybrids?

**Hybrid**: new species produced by cross-pollinating two different species.

Red columbine - *Aquilegia formosa* (native)
What about hybrids?

**Identification:**
- Different color/shape/size than native species.
- Look for an “x” in the name: *Aquilegia x hybridita*

Hybrid columbine - *Aquilegia x hybridita* (hybrid)
Right Plant, Right Place
Right Plant, Right Place
More Density = More Wildlife Diversity

- Mass similar plants together (i.e. group plants)
  - Group multiple plants of same species together
More Layers = More Wildlife Diversity

Flycatchers
Crossbills
Swallows
Hawks
Band-tailed pigeons
Siskins

Owls
Jays
Kinglets
Woodpeckers
Chickadees
Nuthatches

Flycatchers
Goldfinches
Juncos
Hummingbirds
Bush tits

Thrushes
Wrens
Towhees
Song Sparrows

Image courtesy of WA Dept of Fish and Wildlife, *Landscaping for Wildlife* by Russel Link (adapted for BHCP)
The Layers

- **Ground cover / Herbaceous Layer**
  - Grasses, sedges, & rushes
  - Perennials, annuals, biennials (forbs)
- **Small Shrubs & Ferns**
  (up to 5ft)
- **Large Shrubs**
  (up to 20ft)
- **Small Trees**
  (up to 30ft)
- **Large Trees**
  (30+ ft)
Plant Recommendations by Condition & Layer

Where to find:
- Volunteer Manual
  - Appendix, p. 26-36

### APPENDIX

<table>
<thead>
<tr>
<th>CONDITION: Full Sun</th>
<th>LARGE TREES (More than 30ft)</th>
<th>Moisture Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td></td>
</tr>
<tr>
<td>Grand Fir</td>
<td>Abies grandis</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Bigleaf Maple</td>
<td>Acer macrophyllum</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Red Alder</td>
<td>Alnus rubra</td>
<td>Any moisture</td>
</tr>
<tr>
<td>Pacific Madrone</td>
<td>Arbutus menziesii</td>
<td>Dry</td>
</tr>
<tr>
<td>Pacific Dogwood</td>
<td>Cornus nuttallii</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Oregon Ash</td>
<td>Fraxinus latifolia</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Ponderosa Pine</td>
<td>Pinus ponderosa</td>
<td>Dry</td>
</tr>
<tr>
<td>Quaking Aspen</td>
<td>Populus tremuloides</td>
<td>Moist</td>
</tr>
<tr>
<td>Black Cottonwood</td>
<td>Populus trichocarpa</td>
<td>Any moisture</td>
</tr>
<tr>
<td>Douglas-fir</td>
<td>Pseudotsuga menziesii</td>
<td>Any moisture</td>
</tr>
<tr>
<td>Oregon Oak</td>
<td>Quercus garryana</td>
<td>Dry</td>
</tr>
<tr>
<td>Pacific Willow</td>
<td>Salix lasiandra</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Scouler’s Willow</td>
<td>Salix scouleriana</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Pacific Yew</td>
<td>Taxus brevifolia</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Western Hemlock</td>
<td>Tsuga heterophylla</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Western Red Cedar</td>
<td>Thuja plicata</td>
<td>Moist-seasonally wet</td>
</tr>
</tbody>
</table>

### CONDITION: Full Sun | SMALL TREES (Up to 30ft) | Moisture Conditions |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td></td>
</tr>
<tr>
<td>Vine Maple</td>
<td>Acer cinnatum</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Black Hawthorn</td>
<td>Crataegus subdorfi/douglasii</td>
<td>Any moisture</td>
</tr>
<tr>
<td>Western Crabapple</td>
<td>Malus fuscida</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Bitter Cherry</td>
<td>Prunus emarginata</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Cascara</td>
<td>Rhamnus purshiana</td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Sitka Willow</td>
<td>Salix sitchensis</td>
<td>Moist-seasonally wet</td>
</tr>
</tbody>
</table>
# Large Trees

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Moisture Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Fir</td>
<td><em>Abies grandis</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Pacific Dogwood</td>
<td><em>Cornus nuttallii</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Pacific Yew</td>
<td><em>Taxus brevifolia</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Western Hemlock</td>
<td><em>Tsuga heterophylla</em></td>
<td>Moist-seasonally wet</td>
</tr>
</tbody>
</table>
Small Trees

**CONDITION:** Part Sun/Part Shade

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Moisture Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vine Maple</td>
<td><em>Acer circinatum</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Black Hawthorn</td>
<td><em>Crataegus suksdorfii/douglasii</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Western Crabapple</td>
<td><em>Malus fusca</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Cascara</td>
<td><em>Rhamnus purshiana</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Sitka Willow</td>
<td><em>Salix sitchenis</em></td>
<td>Moist-seasonally wet</td>
</tr>
</tbody>
</table>
# Large Shrubs

**CONDITION:** Full Sun 🌞

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Moisture Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serviceberry</td>
<td><em>Amelanchier alnifolia</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Hairy Manzanita</td>
<td><em>Artostaphylos columbiana</em></td>
<td>Dry-moist</td>
</tr>
<tr>
<td>Red-osier Dogwood</td>
<td><em>Cornus stolonifera</em></td>
<td>Moist-perennially wet</td>
</tr>
<tr>
<td>Hazelnut</td>
<td><em>Corylus cornuta</em></td>
<td>Moist</td>
</tr>
<tr>
<td>Western Wahoo</td>
<td><em>Euonymus occidentalis</em></td>
<td>Moist</td>
</tr>
<tr>
<td>Oceanspray</td>
<td><em>Holodiscus discolor</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Black Twinberry</td>
<td><em>Lonicera involucrate</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Tall Oregon Grape</td>
<td><em>Mahonia (Berberis) aquifolium</em></td>
<td>Dry-moist</td>
</tr>
<tr>
<td>Osoberry (Indian Plum)</td>
<td><em>Oemleria cerasiformis</em></td>
<td>Dry-moist</td>
</tr>
<tr>
<td>Mock Orange</td>
<td><em>Philadelphus lewisii</em></td>
<td>Dry-moist</td>
</tr>
</tbody>
</table>
## Small Shrubs / Ferns

**CONDITION: Full Shade ●**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Common Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salal</td>
<td><em>Gaultheria shallon</em></td>
<td>Dry-moist</td>
</tr>
<tr>
<td>Cascade Oregon Grape</td>
<td><em>Mahonia (Berberis) nervosa</em></td>
<td>Dry-moist</td>
</tr>
<tr>
<td>Badlhip Rose</td>
<td><em>Rosa gymnocarpa</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Dewberry</td>
<td><em>Rubus ursinus</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Common Snowberry</td>
<td><em>Syphoricarpos albus</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Creeping Snowberry</td>
<td><em>Syphoricarpos mollis</em></td>
<td>Any moisture</td>
</tr>
<tr>
<td>Orange Honeysuckle VINE</td>
<td><em>Lonicera ciliosa</em></td>
<td>Moist</td>
</tr>
<tr>
<td>Maidenhair Fern</td>
<td><em>Adiantum pedatum</em></td>
<td>Moist</td>
</tr>
</tbody>
</table>
### Groundcover / Herbaceous Layer

**Western columbine**

**Douglas aster**

**Common yarrow**

### CONDITION: Full Sun 

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<tr>
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<th>Scientific Name</th>
<th>Moisture Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Yarrow</td>
<td><em>Achillea millefolium</em></td>
<td>Dry</td>
</tr>
<tr>
<td>Hooker’s Onion/Taper-tip onion</td>
<td><em>Allium accuminatum</em></td>
<td>Dry</td>
</tr>
<tr>
<td>Nodding Onion</td>
<td><em>Allium cernuum</em></td>
<td>Dry</td>
</tr>
<tr>
<td>Pearly Everlasting</td>
<td><em>Anaphalis margaritacea</em></td>
<td>Dry</td>
</tr>
<tr>
<td>Western Red Columbine</td>
<td><em>Aquilegia Formosa</em></td>
<td>Dry-moist</td>
</tr>
<tr>
<td>Great Northern Aster</td>
<td><em>Aster modestus</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Douglas’ Aster</td>
<td><em>Aster subspicatus</em></td>
<td>Moist</td>
</tr>
<tr>
<td>Tall Boykinia</td>
<td><em>Boykinia major</em></td>
<td>Moist-seasonally wet</td>
</tr>
<tr>
<td>Hyacinth Broadiaeca</td>
<td><em>Brodiaea hyacinthia</em></td>
<td>Dry-moist</td>
</tr>
</tbody>
</table>
From a bird’s perspective...
Fun with Plants!

Projects to build bird and pollinator habitat
Native Hedgerow

Closely spaced shrubs and/or trees planted in a row.

Western serviceberry
Red osier dogwood
Salal
Douglas spirea
Oceanspray
Oregon grape
Red-flowering currant
Blue and Red elderberry
Sitka and Scouler willow
Native Hedgerow

60% of regional bird species nest in the SHRUB layer. Beneficial insects LOVE rows of blooming shrubs.
Plant for Pollinators

- Varied bloom times throughout spring/summer/fall
- Bare ground/Rock
- Yellow and white flower preference
- Shrubs with hollow stems for nesting
- Access to water
Spring Plants for Pollinators

- Large-leaved lupine
- Common yarrow
- Heal-all
- Blue-headed gilia
- Camas
- Red Flowering Currant
- Farewell to spring
- California poppy
Summer Plants for Pollinators

Douglas spirea

Showy fleabane

Western columbine

Foamflower

Meadow checker mallow

Snowberry
Fall Plants for Pollinators

- Pearly everlasting
- Harebell
- Goldenrod
- Douglas aster
- Yarrow

Goldenrod
Douglas aster
Harebell
Yarrow
What to do with those extra Benjamins?
Best Bang for your Buck

**TREES**
- Vine Maple  
  (17 birds, 3 mammals)
- Pacific Dogwood  
  (20 birds, 10 mammals)
- Chokecherry  
  (35 birds, 4 mammals)
- Oregon white oak  
  (24 birds, 10 mammals)

**SHRUBS**
- Blue Elderberry  
  (30 birds, 4 mammals)
- Red Osier Dogwood  
  (20 birds, 10 mammals)
- Serviceberry  
  (21 birds, 5 mammals)
- Salmonberry  
  (33 birds, 3 mammals)

**HERBACEOUS**
- Miner’s lettuce  
  (12 birds)
- Wood strawberry  
  (13 birds, 3 mammals)
- Red columbine  
  (7 birds, 1 mammal)
- Wood sorrel  
  (9 birds, 1 mammal)
- Slough Sedge  
  (21 birds, 5 mammals)
Certification Visits – The Math

Why do plants hate math?
It gives them square roots.
Calculating Plantable Area

Total Lot Size - Impervious Surface = Plantable Area

Impervious surfaces:
- house
- garage
- patio
- shed
- paved sidewalks

Example: 5,000 sf lot - 700 sf home - 100 sf paved patio = 4,200 plantable area

DON’T WORRY – THIS IS ABOVE YOUR PAY GRADE!
Plantable Area

Red = impervious
Not red = plantable
What about planting strips?

Extra credit!

Not counted in plantable area.

If naturescaped, include in naturescaped area and/or as a native pollinator meadow.
Measure it all in stride

3 feet
Measure Area SF

Length of area: 10 steps x 3' = 30'

Width of area: 5 steps x 3' = 15'

Total SF of naturescaped area: 30' x 15' = 450 SF
How do I calculate a naturescaped area?
Calculating Naturescaped Area

1. Count beds that are mostly (50% or greater) PPL Native Plants

- **Orange** = Ornamental plant
- **Green** = Native plant

*Example to the left:*
Naturescaped area = 48 sq. ft (6ft x 8ft)
Calculating Naturescaped Area

2. Determine that 3 or more canopy layers are present in the area.

5 Canopy Layers include:
- H – Herbaceous Layer
- SS – Shrub, small
- SL – Shrub, large
- TS – Tree, small
- TL – Tree, large

Example to the left:
4 canopy layers are present
(Herbaceous layer, small shrub, large shrub, & small tree)
Example A: Calculating the Naturescaped Area

Total plantable area = 500 sq ft.
- **Silver**: 5% = 25 sq ft
- **Gold**: 15% = 75 sq ft
- **Platinum**: 50% = 250 sq ft
Example B:

Total plantable area = 500 sq ft.
- **Silver**: 5% = 25 sq ft
- **Gold**: 15% = 75 sq ft
- **Platinum**: 50% = 250 sq ft
II. Naturescaping with Native Plants

1. Percentage Naturescaped:
   
   Approximate naturescaped area (\[ \square \ 500 \square \] square feet) ÷ by total plantable area from Site Report (\[ \square \ 125 \square \] square feet), \( \times \) 100 = \( \square \ 25 \% \) Naturescaped

2. How many NATIVE trees and shrubs did the participant planted since enrolling in the program?
   
   # NATIVE trees added \( \square \ 3 \)  
   
   # NATIVE shrubs added \( \square \ 18 \)

3. Any Oregon white oak (\( Quercus \) garryana) present in the property (any size)?
   
   □ No oak tree present  
   □ Oak tree(s) present. No oakscape.  
   □ Oak tree(s) present with oakscape.

4. Canopy Layers (3 needed for Silver, 4 for Gold, 5 for Platinum):
   
   X Ground Cover  
   ✗ Small/Medium Shrub  
   ✗ Large Shrub  
   □ Large Tree
Phew. That’s a lot of info. Now what?
Additional Learning Opportunities

- BHCP Online Resource Library
- Classes (Native plant & noxious weeds)
  - EMSWCD, TSWCD, etc
- Willamette Valley native plant lists
  - Willamette Valley Native Plants posters (easiest)
  - EMSWCD Native Plant Database
  - Metro’s Native plants for Willamette Valley yards booklet
  - Portland Plant List (most comprehensive)
- Books
  - Plants of the Pacific Northwest Coast
Learning Opportunities Continued

- App for identifying plants
  - PictureThis

- Visit natural areas
  - Leach Botanical Garden, Portland Audubon, Hoyt Arboretum, Ridgefield Wildlife Refuge, PCC Rock Creek, etc

- Other
  - BHCP Virtual Open Gardens tour
  - Native plant nurseries
  - Native plant sales
Certification Volunteer Next Steps

- Mock Certification Training
- Q&A session
- Shadowing
  - Volunteers
  - Technicians
- Certification partner?
- Name tags
Next Steps

- Register for Better Impact (via link in follow up email)
- Complete Background Check (you’ll be invited by Portland Audubon via email)
- Review volunteer manual
- Review additional resources provided
- Share your feedback
- Stay tuned for emails from Megan with the plan for mock cert trainings
Questions?
Comments?
You can find us at

- www.BackyardHabitats.org
- Facebook
- Come to our table!