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# Oregon Ecoregion Invasive and Native Plant Guide

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## Introduction

This field guide can be used for remediation projects to help identify and remove invasive plants and replace them with appropriate native plants.

The guide covers each of Oregon's ecoregions:

- Willamette Valley
- Coastal Range
- West Cascade
- East Cascade
- Klamath Mountains
- Columbia Plateau
- Blue Mountains
- Northern Basin and Range



For each ecoregion, this guide tries to identify the most obvious invasive plants that are common and problematic. This would be a subset of all of the invasive plants per ecoregion.

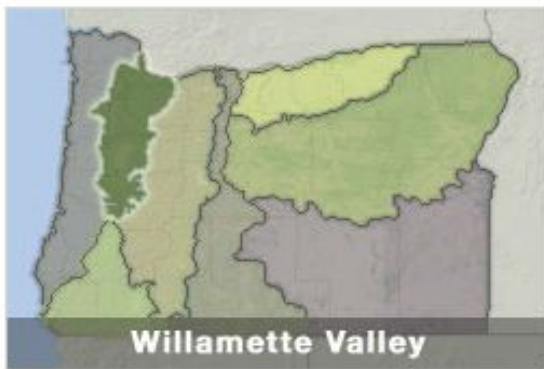
The guide also suggests native plants to use as replacement. Each native plant has specific growing conditions to consider. Since there are no exact substitutes for invasive plants, you should consider site conditions, plant size, water and sun requirements, availability, and speed of growth in considering the right replacement native plants.

It would also be advisable to check with a local resource for the target area for restoration, such as the Soil and Water Conservation District Program. Part of the Oregon Department of Agriculture, there are 45 Soil and Water Conservation Districts throughout the state.


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## Willamette Valley Ecoregion




The ecoregion covers an area of 14,900 square kilometers (5,800 sq mi), lying mostly in Oregon, with a small portion lying across the Columbia River in southern Washington. The ecoregion lies in the Willamette Valley, which runs from south to north between the Oregon Coast Range to the west and the Cascades Range to the east. The ecoregion is drained mostly by the Willamette River and its tributaries, which flows into the Columbia River straddled by Portland, Oregon.









## Primary Invasive Plants and Target Native Plant Replacement

| Invasive      | Name        | Image   | Description  | Where to Find  |
|---------------|-------------|---|--|--|
|               | English Ivy |  | Woody, evergreen vine with long, trailing stems. Waxy, green leaves with white flowers that produce black berries. | Forest areas, roadsides, widespread throughout western Oregon. |
| Target Native | Name        | Image   | Description  | Growing Conditions   |



|                      |                             |   |   |   |
|----------------------|-----------------------------|---|---|---|
|                      | <b>Allegheny Spurge</b>     |    | Low-growing perennial groundcover; spreads via long rhizomes. Fragrant white (staminate) blossoms early spring. Leaves and stems are evergreen.   | ● shade<br>💧 moist but drained                          |
|                      | <b>Sword Fern</b>           |    | A lush evergreen ground cover known for its bright green, sword-shaped fronds   | ▸ partial sun<br>💧 moderately dry<br>💧 drought tolerant |
|                      | <b>Creeping Juniper</b>     |   | Creeping juniper is a low-growing evergreen shrub that is often used as a ground cover. It features plume-like branches that extend horizontally. | ★ full sun<br>💧 moderately dry<br>💧 drought tolerant    |
| <b>Invasive</b>      | <b>Name</b>                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>                                    |
|                      | <b>Himalayan blackberry</b> |  | Blooms June to August. Stems can grow more than 20-feet per season and have sharp spines. Flowers are white to light pink.                        | Prevalent throughout Oregon                             |
| <b>Target Native</b> | <b>Name</b>                 | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>                               |

|                 |                       |   |  |  |
|-----------------|-----------------------|---|--|--|
|                 | <b>Salmonberry</b>    |    | This attractive native bramble shrub is the favourite of hummingbirds. Growing fast and erect, bushes reach 6' with a 6' spread.   | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul> |
|                 | <b>Thimbleberry</b>   |    | An excellent native bramble shrub with thornless stems. Thimbleberry grows rapidly and forms dense thickets of upright 4-6' stems.                                       | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>          |
|                 | <b>Big Leaf Maple</b> |  | Big-Leaf Maples generally reach a height between 40 and 80 feet. The burgeoning canopy may extend out to 50 feet and its massive leaves are larger than any other maple. | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> </ul>   |
| <b>Invasive</b> | <b>Name</b>           | <b>Image</b>  | <b>Description</b>   | <b>Where to Find</b>   |

|                      |                          |   |   |   |
|----------------------|--------------------------|---|---|---|
|                      | <b>Reed Canary Grass</b> |    | Perennial grass that can reach a height of 3-6 feet with stems approximately 1/2 inch in diameter. Reddish-brown color marks the top of stems and leaf blades are 1/4-3/4 inches wide.  | Wetlands, irrigation banks, drainage ditches, streams   |
| <b>Target Native</b> | <b>Name</b>              | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Douglas Spirea</b>    |    | This attractive, many-stemmed shrub does best in moist, open sunny areas. It reaches 4 ft. or more and blooms in early to mid summer with fragrant pink to purple flower plumes.  | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>☾ wet</li> </ul>                              |
|                      | <b>Tufted Hairgrass</b>  |  | It has fine, hairlike flowers rising 2 - 3' above neatly rounded, dense tussocks. The grass emerges green and turns gold late in the season, keeping good color and form for winter interest. It is useful for stabilizing disturbed sites, streambanks | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>☾ wet</li> <li>☾ moist but drained</li> </ul> |

|                      |   |   |  |   |
|----------------------|---|---|--|---|
|                      |   |   | and shorelines.  |   |
|                      | <b>Native Willows</b>                             |    | They are easy to grow and they mature rapidly. They are excellent in many landscape applications. In spring the bare branches sprout fuzzy catkins that are shades of grey and very soft to the touch. | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> </ul>            |
| <b>Invasive</b>      | <b>Name</b>                                       | <b>Image</b>  | <b>Description</b>   | <b>Where to Find</b>  |
|                      | <b>Knotweeds (Japanese, Giant, and Himalayan)</b> |   | Feathery white to cream colored flowers. Bamboo-like hollow stems up to 10 ft tall, often with purple speckles. Stems have a distinctive reddish-brown papery sheath at stem joints.                   | Riverbanks, wet seeps and open disturbed sites. Knotweeds can form large, dense stands that degrade streamside habitats for salmon and other wildlife |
| <b>Target Native</b> | <b>Name</b>                                       | <b>Image</b>  | <b>Description</b>   | <b>Growing Conditions</b>   |
|                      | <b>Red Osier Dogwood</b>                          |  | It is a 3 to 9 foot tall shrub that can be recognized by its flat, umbrella-like cluster of small  | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>                      |



|  |                       |   |  |  |
|--|-----------------------|---|--|--|
|  |                       |   | four or five-petal white flowers and oval leaves with prominent veins that gently curl to trace the shape of the leaf margin.  |  |
|  | <b>Native Willows</b> |    | They are easy to grow and they mature rapidly. They are excellent in many landscape applications. In spring the bare branches sprout fuzzy catkins that are shades of grey and very soft to the touch. | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> </ul> |
|  | <b>Oceanspray</b>     |  | It appears in such lush quantity along roadsides because it is one of the plants that is successful establishing itself in disturbed areas. It is useful in the process of reclamation.                | <ul style="list-style-type: none"> <li>* full sun</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>                                  |


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## Coast Range Ecoregion





The Coast Range ecoregion is in the U.S. states of Washington, Oregon, and California. It stretches along the Pacific Coast from the tip of the Olympic Peninsula in the north to the San Francisco Bay in the south, including the entire length of the Oregon Coast.









### Primary Invasive Plants and Target Native Plant Replacement




| Invasive      | Name                    | Image   | Description  | Where to Find   |
|---------------|-------------------------|---|--|---|
|               | <b>Brooms and Gorse</b> |  | They are shrubs to 6 ft tall with green stems, small, inconspicuous green leaves and, pea-like yellow flowers. Portuguese broom has pale yellow flowers and fruit pods that are densely white-hairy. Gorse has distinctive 1 inch long thick spines. | Grasslands, prairies, pasture and rangelands, roadsides, cut-over forest lands and sand dunes. Brooms and gorse both change soil nutrients and create fire hazards. |
| Target Native | Name                    | Image   | Description  | Growing Conditions  |

|                 |                          |   |  |   |
|-----------------|--------------------------|---|--|---|
|                 | <b>Tall Oregon Grape</b> |    | An evergreen shrub, this Oregon Grape is good looking all year. After the lovely yellow flower clusters have gone by, true blue berries will take their place. This is the Oregon State Flower.  | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul> |
|                 | <b>Mock Orange</b>       |   | This open, multi-stemmed shrub has long stems which are red when new and fade to gray with age, the bark shredding in small flakes. The new leaves in spring become darker as they age, providing the perfect accent for the white flowers with their bright yellow centers. | <ul style="list-style-type: none"> <li>* full sun</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul>                        |
| <b>Invasive</b> | <b>Name</b>              | <b>Image</b>  | <b>Description</b>   | <b>Where to Find</b>  |
|                 | <b>English Ivy</b>       |  | Woody, evergreen vine with long, trailing stems. Waxy, green leaves with white flowers that produce black berries.   | Forest areas, roadsides, widespread throughout western Oregon.  |

| Target Native | Name                        | Image   | Description   | Growing Conditions  |
|---------------|-----------------------------|---|---|---|
|               | <b>Allegheny Spurge</b>     |    | Low-growing perennial groundcover; spreads via long rhizomes. Fragrant white (staminate) blossoms early spring. Leaves and stems are evergreen.   | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> </ul>                                |
|               | <b>Sword Fern</b>           |    | A lush evergreen ground cover known for its bright green, sword-shaped fronds   | <ul style="list-style-type: none"> <li>☀ partial sun</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul> |
|               | <b>Creeping Juniper</b>     |  | Creeping juniper is a low-growing evergreen shrub that is often used as a ground cover. It features plume-like branches that extend horizontally. | <ul style="list-style-type: none"> <li>☀ full sun</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul>    |
| Invasive      | Name                        | Image   | Description   | Where to Find   |
|               | <b>Himalayan blackberry</b> |  | Blooms June to August. Stems can grow more than 20-feet per season and have sharp spines. Flowers are white to                                    | Prevalent throughout Oregon   |

|               |                |   | light pink.  |  |
|---------------|----------------|---|--|--|
| Target Native | Name           | Image   | Description  | Growing Conditions   |
|               | Salmonberry    |    | This attractive native bramble shrub is the favourite of hummingbirds. Growing fast and erect, bushes reach 6' with a 6' spread.   | <ul style="list-style-type: none"> <li>● shade</li> <li>● moist but drained</li> <li>○ moderately dry</li> <li>○ drought tolerant</li> </ul> |
|               | Thimbleberry   |    | An excellent native bramble shrub with thornless stems. Thimbleberry grows rapidly and forms dense thickets of upright 4-6' stems.                                       | <ul style="list-style-type: none"> <li>● shade</li> <li>● moist but drained</li> <li>○ moderately dry</li> <li>○ drought</li> </ul>          |
|               | Big Leaf Maple |  | Big-Leaf Maples generally reach a height between 40 and 80 feet. The burgeoning canopy may extend out to 50 feet and its massive leaves are larger than any other maple. | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>● moist but drained</li> <li>○ moderately dry</li> </ul>   |
| Invasive      | Name           | Image   | Description  | Where to Find  |

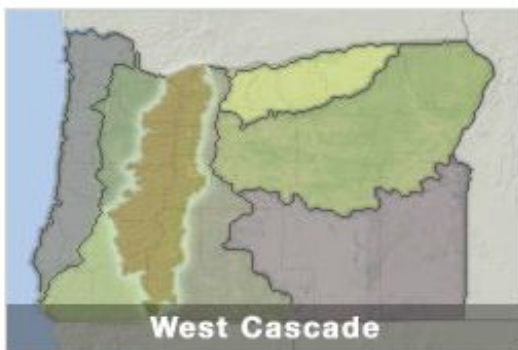
|                      |   |   |   |   |
|----------------------|---|---|---|---|
|                      | <b>Knotweeds<br/>(Japanese,<br/>Giant, and<br/>Himalayan)</b> |    | Feathery white to cream colored flowers. Bamboo-like hollow stems up to 10 ft tall, often with purple speckles. Stems have a distinctive reddish-brown papery sheath at stem joints.  | Riverbanks, wet seeps and open disturbed sites. Knotweeds can form large, dense stands that degrade streamside habitats for salmon and other wildlife |
| <b>Target Native</b> | <b>Name</b>   | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Red Osier Dogwood</b>                                      |    | It is a 3 to 9 foot tall shrub that can be recognized by its flat, umbrella-like cluster of small four or five-petal white flowers and oval leaves with prominent veins that gently curl to trace the shape of the leaf margin. | <ul style="list-style-type: none"> <li>★ full sun</li> <li>▸ partial sun</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>                      |
|                      | <b>Native Willows</b>   |  | They are easy to grow and they mature rapidly. They are excellent in many landscape applications. In spring the bare branches sprout fuzzy catkins that   | <ul style="list-style-type: none"> <li>★ full sun</li> <li>▸ partial sun</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> </ul>            |

|  |                   |   |   |   |
|--|-------------------|---|---|---|
|  |                   |   | are shades of grey and very soft to the touch.  |   |
|  | <b>Oceanspray</b> |  | It appears in such lush quantity along roadsides because it is one of the plants that is successful establishing itself in disturbed areas. It is useful in the process of reclamation. | * full sun<br> moderately dry<br> drought |


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## West Cascade Ecoregion




The West Cascade ecoregion is in the U.S. states of Washington, Oregon, and California. Somewhat smaller than the Cascade mountain range for which it is named, the ecoregion extends north to Snoqualmie Pass, near Seattle, and south to Hayden Pass, near the Oregon-California border.









### Primary Invasive Plants and Target Native Plant Replacement








| Invasive      | Name                        | Image   | Description  | Where to Find               |
|---------------|-----------------------------|---|--|-----------------------------|
|               | <b>Himalayan blackberry</b> |  | Blooms June to August. Stems can grow more than 20-feet per season and have sharp spines. Flowers are white to light pink. | Prevalent throughout Oregon |
| Target Native | Name                        | Image   | Description  | Growing Conditions          |




|                      |                         |   |  |   |
|----------------------|-------------------------|---|--|---|
|                      | <b>Salmonberry</b>      |    | This attractive native bramble shrub is the favourite of hummingbirds. Growing fast and erect, bushes reach 6' with a 6' spread.   | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul>                        |
|                      | <b>Thimbleberry</b>     |    | An excellent native bramble shrub with thornless stems. Thimbleberry grows rapidly and forms dense thickets of upright 4-6' stems.   | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>                                 |
| <b>Invasive</b>      | <b>Name</b>             | <b>Image</b>  | <b>Description</b>   | <b>Where to Find</b>  |
|                      | <b>Brooms and Gorse</b> |  | They are shrubs to 6 ft tall with green stems, small, inconspicuous green leaves and, pea-like yellow flowers. Portuguese broom has pale yellow flowers and fruit pods that are densely white-hairy. Gorse has distinctive 1 inch long thick spines. | Grasslands, prairies, pasture and rangelands, roadsides, cut-over forest lands and sand dunes. Brooms and gorse both change soil nutrients and create fire hazards. |
| <b>Target Native</b> | <b>Name</b>             | <b>Image</b>  | <b>Description</b>   | <b>Growing Conditions</b>   |

|                 |   |   |  |   |
|-----------------|---|---|--|---|
|                 | <b>Tall Oregon Grape</b>                          |    | An evergreen shrub, this Oregon Grape is good looking all year. After the lovely yellow flower clusters have gone by, true blue berries will take their place. This is the Oregon State Flower.  | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul> |
|                 | <b>Mock Orange</b>                                |   | This open, multi-stemmed shrub has long stems which are red when new and fade to gray with age, the bark shredding in small flakes. The new leaves in spring become darker as they age, providing the perfect accent for the white flowers with their bright yellow centers. | <ul style="list-style-type: none"> <li>* full sun</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul>                        |
| <b>Invasive</b> | <b>Name</b>                                       | <b>Image</b>  | <b>Description</b>   | <b>Where to Find</b>  |
|                 | <b>Knotweeds (Japanese, Giant, and Himalayan)</b> |  | Feathery white to cream colored flowers. Bamboo-like hollow stems up to 10 ft tall, often with purple speckles. Stems have a   | Riverbanks, wet seeps and open disturbed sites. Knotweeds can form large, dense stands that degrade streamside habitats for               |

|               |                          |   | distinctive reddish-brown papery sheath at stem joints.   | salmon and other wildlife  |
|---------------|--------------------------|---|---|--|
| Target Native | Name                     | Image   | Description   | Growing Conditions   |
|               | <b>Red Osier Dogwood</b> |    | It is a 3 to 9 foot tall shrub that can be recognized by its flat, umbrella-like cluster of small four or five-petal white flowers and oval leaves with prominent veins that gently curl to trace the shape of the leaf margin. | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>           |
|               | <b>Native Willows</b>    |  | They are easy to grow and they mature rapidly. They are excellent in many landscape applications. In spring the bare branches sprout fuzzy catkins that are shades of grey and very soft to the touch.                          | <ul style="list-style-type: none"> <li>* full sun</li> <li>▸ partial sun</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> </ul> |
|               | <b>Oceanspray</b>        |  | It appears in such lush quantity along roadsides  | <ul style="list-style-type: none"> <li>* full sun</li> <li>💧 moderately dry</li> </ul>   |

|                      |   |   |   |   |
|----------------------|---|---|---|---|
|                      |   |   | because it is one of the plants that is successful establishing itself in disturbed areas. It is useful in the process of reclamation.          |  drought   |
| <b>Invasive</b>      | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                      | <b>Knapweeds (Spotted, Meadow, Diffuse)</b> |    | Perennial to 3 ft tall and is often many-branched . Slender cone-shaped, white to purple flowers with pointed, fringed bracts.                  | Grasslands, roadsides, reforestation sites and rights-of-way. Knapweeds can form dense infestations that devalue pastures and rangelands.   |
| <b>Target Native</b> | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Bluehead Gilla</b>                       |  | Blue-head gily-flower or globe gilia is a tall, slender annual with neat, powder-blue flower balls on 1-2 ft. stalks and finely divided leaves. | * full sun<br> moderately dry<br> drought |
|                      | <b>Jacob's Ladder</b>                       |  | Jacob's Ladders are bushy, clump forming perennials that  | * full sun<br> moderately dry  |

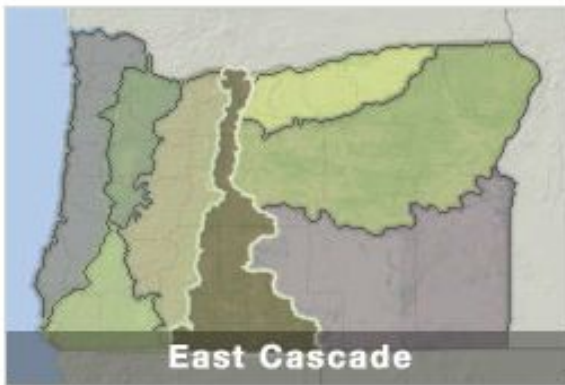
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|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  | grow in swirling rosettes of bright green or variegated, fern-like foliage. They produce loose clusters of tubular or bell shaped flowers that are most often sky blue in color. |  drought |
|--|--|--|--|---|


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## Eastern Cascade Slopes and Foothills Ecoregion




The Eastern Cascade Slopes and Foothills ecoregion is in the U.S. states of Oregon, Washington, and California. In the rain shadow of the Cascade Range, the eastern side of the mountains experiences greater temperature extremes and receives less precipitation than the west side. Open forests of ponderosa pine and some lodgepole pine distinguish this region from the Cascades ecoregion, where hemlock and fir forests are more common, and from the lower, drier ecoregions to the east, where shrubs and grasslands are predominant. The vegetation is adapted to the prevailing dry, continental climate and frequent wildfire. Volcanic cones and buttes are common in much of the region.










### **Primary Invasive Plants** and **Target Native Plant Replacement**







| <b>Invasive</b> | <b>Name</b>     | <b>Image</b>  | <b>Description</b>   | <b>Where to Find</b>  |
|-----------------|-----------------|---|--|---|
|                 | <b>Toadflax</b> |  | Perennial that blooms summer to fall. Grows 2-3 feet tall. Leaves are waxy, green, heart-shaped and 1-3 inches long. Flowers are one inch long and similar to snapdragons. | Toadflaxes can form dense stands in grasslands, meadows, pasture and rangelands, and in the understory of dry coniferous forests. |

| Target Native | Name                 | Image   | Description   | Growing Conditions  |
|---------------|----------------------|---|---|---|
|               | Blue Flax            |    | Blue flax grows 18-20 inches tall. Flowers are pale blue, with 5 petals about 1-1 1/2 inches across, veined in darker blue. Each stem produces several flowers, blooming from the bottom upward.      | * full sun<br> moderately dry<br> drought tolerant  |
|               | Oregon Sunshine      |   | Subshrub densely covered with woolly hairs, grows low with long stems reaching upward. Flower heads on single stalks, with 8-13 yellow ray flowers or occasionally rayless, many yellow disk flowers. | * full sun<br> moderately dry<br> drought tolerant |
| Invasive      | Name                 | Image   | Description   | Where to Find   |
|               | Himalayan blackberry |  | Blooms June to August. Stems can grow more than 20-feet per season and have sharp spines. Flowers are white to light pink.  | Prevalent throughout Oregon   |

| Target Native | Name                                 | Image   | Description  | Growing Conditions   |
|---------------|--------------------------------------|---|--|--|
|               | Salmonberry                          |    | This attractive native bramble shrub is the favourite of hummingbirds. Growing fast and erect, bushes reach 6' with a 6' spread.   | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> <li>💧 drought tolerant</li> </ul> |
|               | Thimbleberry                         |    | An excellent native bramble shrub with thornless stems. Thimbleberry grows rapidly and forms dense thickets of upright 4-6' stems. | <ul style="list-style-type: none"> <li>● shade</li> <li>💧 moist but drained</li> <li>💧 moderately dry</li> <li>💧 drought</li> </ul>          |
| Invasive      | Name                                 | Image   | Description  | Where to Find  |
|               | Knapweeds (Spotted, Meadow, Diffuse) |  | Perennial to 3 ft tall and is often many-branched. Slender cone-shaped, white to purple flowers with pointed, fringed bracts.      | Grasslands, roadsides, reforestation sites and rights-of-way. Knapweeds can form dense infestations that devalue pastures and rangelands.    |
| Target Native | Name                                 | Image   | Description  | Growing Conditions   |



|                 |                       |   |   |   |
|-----------------|-----------------------|---|---|---|
|                 | <b>Bluehead Gilia</b> |    | Blue-head gily-flower or globe gilia is a tall, slender annual with neat, powder-blue flower balls on 1-2 ft. stalks and finely divided leaves.   | * full sun<br> moderately dry<br> drought |
|                 | <b>Jacob's Ladder</b> |    | Jacob's Ladders are bushy, clump forming perennials that grow in swirling rosettes of bright green or variegated, fern-like foliage. They produce loose clusters of tubular or bell shaped flowers that are most often sky blue in color. | * full sun<br> moderately dry<br> drought |
| <b>Invasive</b> | <b>Name</b>           | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                 | <b>Leafy Spurge</b>   |  | An upright, branching, perennial herb two-three feet tall. It has alternate narrow leaves, somewhat frosted and slightly wavy along the margins. The  | Disturbed areas, prairies, savannas, pastures, abandoned fields, roadside areas. Tolerates moist to dry soil conditions, but most common under dry  |

|               |           |   | flower of this weed are very small and are borne in greenish yellow structures surrounded by yellow distinctive heart-shaped bracts.   | conditions.   |
|---------------|-----------|---|--|---|
| Target Native | Name      | Image   | Description  | Growing Conditions  |
|               | Stonecrop |   | Foliage colors ranging from smoky blue to rich burgundy throughout the season.<br>The flowers of stonecrop perennial are rich with sweet nectar and attract bees, moths and butterflies. | * full sun<br> moderately dry<br> drought     |
|               | Pussytoes |  | It forms wide clumps over time and colonizes quickly. The tiny gray-haired leaves are stacked up on top of each other on slender herbaceous stalks that grow no more than 6 inches tall. | * full sun<br> moderately dry<br> drought |

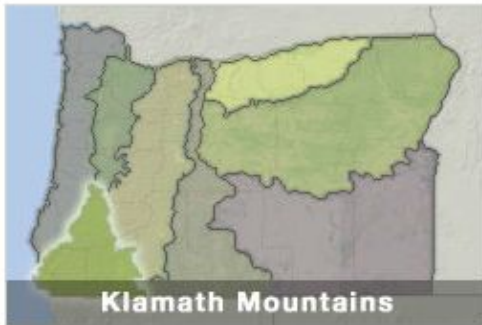
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|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  | Blooms are white to pink fuzzy clusters resembling cat feet. |  |
|--|--|--|--|--|


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## Klamath Mountains Ecoregion












The Klamath Mountains ecoregion of Oregon and California lies inland of the Coast Range ecoregion. It encompasses the highly dissected ridges, foothills, and valleys of the Klamath and Siskiyou Mountains.













### Primary Invasive Plants and Target Native Plant Replacement

| Invasive      | Name   | Image   | Description   | Where to Find  |
|---------------|--|---|---|--|
|               | <b>Thistle<br/>(Italian,<br/>Canada,<br/>Scotch)</b> |  | Often produces a rosette the first year. Can grow 2-4 feet in the first year with heights over 10 feet in the second. Soft white hair on upper leaf surface. Purple flower. | Moist wastelands or drainages in dry areas. If not controlled, can move into farmland or form dense canopies in overgrazed areas that are not under intense cultivation. |
| Target Native | Name   | Image   | Description   | Growing Conditions   |

|                      |                             |   |   |  |
|----------------------|-----------------------------|---|---|--|
|                      | <b>Milkweed</b>             |    | It has a long, narrow leaf and small, pale pink flowers. Milkweeds are a critical part of the Monarch Butterfly's life cycle.   | * full sun<br> moderately dry<br> drought            |
|                      | <b>Yarrow</b>               |    | Yarrow has showy flower heads composed of many tiny, tightly-packed flowers rising above clusters of ferny foliage. The flowers may be yellow, red, pink, or a number of shades in between. | * full sun<br> moderately dry<br> drought            |
| <b>Invasive</b>      | <b>Name</b>                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>   |
|                      | <b>Himalayan blackberry</b> |  | Blooms June to August. Stems can grow more than 20-feet per season and have sharp spines. Flowers are white to light pink.  | Prevalent throughout Oregon  |
| <b>Target Native</b> | <b>Name</b>                 | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>  |
|                      | <b>Salmonberry</b>          |  | This attractive native bramble shrub is the favourite of hummingbirds. Growing fast   | ● shade<br> moist but drained<br> moderately dry |

|                      |   |   |   |   |
|----------------------|---|---|---|---|
|                      |   |   | and erect, bushes reach 6' with a 6' spread.  |  drought tolerant  |
|                      | <b>Thimbleberry</b>                         |    | An excellent native bramble shrub with thornless stems. Thimbleberry grows rapidly and forms dense thickets of upright 4-6' stems.              |  shade<br> moist but drained<br> moderately dry<br> drought |
| <b>Invasive</b>      | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                      | <b>Knapweeds (Spotted, Meadow, Diffuse)</b> |   | Perennial to 3 ft tall and is often many-branched . Slender cone-shaped, white to purple flowers with pointed, fringed bracts.                  | Grasslands, roadsides, reforestation sites and rights-of-way. Knapweeds can form dense infestations that devalue pastures and rangelands.   |
| <b>Target Native</b> | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Bluehead Gilia</b>                       |  | Blue-head gily-flower or globe gilia is a tall, slender annual with neat, powder-blue flower balls on 1-2 ft. stalks and finely divided leaves. |  full sun<br> moderately dry<br> drought   |

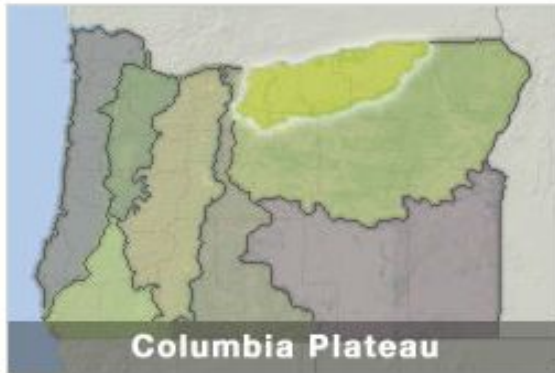
|                      |                  |  |  |   |
|----------------------|------------------|--|--|---|
|                      | Jacob's Ladder   |   | Jacob's Ladders are bushy, clump forming perennials that grow in swirling rosettes of bright green or variegated, fern-like foliage. They produce loose clusters of tubular or bell shaped flowers that are most often sky blue in color.            | * full sun<br> moderately dry<br> drought |
| <b>Invasive</b>      | <b>Name</b>      | <b>Image</b>   | <b>Description</b>   | <b>Where to Find</b>  |
|                      | Brooms and Gorse |  | They are shrubs to 6 ft tall with green stems, small, inconspicuous green leaves and, pea-like yellow flowers. Portuguese broom has pale yellow flowers and fruit pods that are densely white-hairy. Gorse has distinctive 1 inch long thick spines. | Grasslands, prairies, pasture and rangelands, roadsides, cut-over forest lands and sand dunes. Brooms and gorse both change soil nutrients and create fire hazards.   |
| <b>Target Native</b> | <b>Name</b>      | <b>Image</b>   | <b>Description</b>   | <b>Growing Conditions</b>   |

|  |                          |  |   |  |
|--|--------------------------|--|---|--|
|  | <b>Tall Oregon Grape</b> |   | <p>An evergreen shrub, this Oregon Grape is good looking all year. After the lovely yellow flower clusters have gone by, true blue berries will take their place. This is the Oregon State Flower.</p>  | <p>✱ full sun<br/>         ▸ partial sun<br/>  moderately dry<br/>  drought tolerant</p> |
|  | <b>Mock Orange</b>       |  | <p>This open, multi-stemmed shrub has long stems which are red when new and fade to gray with age, the bark shredding in small flakes. The new leaves in spring become darker as they age, providing the perfect accent for the white flowers with their bright yellow centers.</p> | <p>✱ full sun<br/>  moderately dry<br/>  drought tolerant</p>                            |











## Columbia Plateau Ecoregion








The Oregon portion of the Columbia Plateau ecoregion extends from the eastern slopes of the Cascade Mountains to the Blue Mountains ecoregion.
















### Primary Invasive Plants and Target Native Plant Replacement

| Invasive      | Name             | Image   | Description  | Where to Find   |
|---------------|------------------|---|--|---|
|               | <b>Toadflax</b>  |  | Perennial that blooms summer to fall. Grows 2-3 feet tall. Leaves are waxy, green, heart-shaped and 1-3 inches long. Flowers are one inch long and similar to snapdragons. | Toadflaxes can form dense stands in grasslands, meadows, pasture and rangelands, and in the understory of dry coniferous forests.   |
| Target Native | Name             | Image   | Description  | Growing Conditions  |
|               | <b>Blue Flax</b> |  | Blue flax grows 18-20 inches tall. Flowers are pale blue, with 5 petals about  | * full sun<br> moderately dry<br> drought |

|                      |   |   |   |  |
|----------------------|---|---|---|--|
|                      |   |   | 1-1 1/2 inches across, veined in darker blue. Each stem produces several flowers, blooming from the bottom upward.  | tolerant   |
|                      | <b>Oregon Sunshine</b>                      |    | Subshrub densely covered with woolly hairs, grows low with long stems reaching upward. Flower heads on single stalks, with 8-13 yellow ray flowers or occasionally rayless, many yellow disk flowers. | * full sun<br> moderately dry<br> drought tolerant |
| <b>Invasive</b>      | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>   |
|                      | <b>Knapweeds (Spotted, Meadow, Diffuse)</b> |  | Perennial to 3 ft tall and is often many-branched . Slender cone-shaped, white to purple flowers with pointed, fringed bracts.  | Grasslands, roadsides, reforestation sites and rights-of-way. Knapweeds can form dense infestations that devalue pastures and rangelands.  |
| <b>Target Native</b> | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>  |

|                 |                       |   |   |   |
|-----------------|-----------------------|---|---|---|
|                 | <b>Bluehead Gilla</b> |    | Blue-head gily-flower or globe gilia is a tall, slender annual with neat, powder-blue flower balls on 1-2 ft. stalks and finely divided leaves.   | * full sun<br> moderately dry<br> drought |
|                 | <b>Jacob's Ladder</b> |    | Jacob's Ladders are bushy, clump forming perennials that grow in swirling rosettes of bright green or variegated, fern-like foliage. They produce loose clusters of tubular or bell shaped flowers that are most often sky blue in color. | * full sun<br> moderately dry<br> drought |
| <b>Invasive</b> | <b>Name</b>           | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                 | <b>Leafy Spurge</b>   |  | An upright, branching, perennial herb two-three feet tall. It has alternate narrow leaves, somewhat frosted and slightly wavy along the margins. The  | Disturbed areas, prairies, savannas, pastures, abandoned fields, roadside areas. Tolerates moist to dry soil conditions, but most common under dry  |

|               |           |   | flower of this weed are very small and are borne in greenish yellow structures surrounded by yellow distinctive heart-shaped bracts.   | conditions.   |
|---------------|-----------|---|--|---|
| Target Native | Name      | Image   | Description  | Growing Conditions  |
|               | Stonecrop |   | Foliage colors ranging from smoky blue to rich burgundy throughout the season.<br>The flowers of stonecrop perennial are rich with sweet nectar and attract bees, moths and butterflies. | * full sun<br> moderately dry<br> drought     |
|               | Pussytoes |  | It forms wide clumps over time and colonizes quickly. The tiny gray-haired leaves are stacked up on top of each other on slender herbaceous stalks that grow no more than 6 inches tall. | * full sun<br> moderately dry<br> drought |

|                      |  |   |   |   |
|----------------------|--|---|---|---|
|                      |  |   | Blooms are white to pink fuzzy clusters resembling cat feet.  |   |
| <b>Invasive</b>      | <b>Name</b>  | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                      | <b>Thistle<br/>(Italian,<br/>Canada,<br/>Scotch)</b> |    | Often produces a rosette the first year. Can grow 2-4 feet in the first year with heights over 10 feet in the second. Soft white hair on upper leaf surface. Purple flower. | Moist wastelands or drainages in dry areas. If not controlled, can move into farmland or form dense canopies in overgrazed areas that are not under intense cultivation.  |
| <b>Target Native</b> | <b>Name</b>  | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Milkweed</b>                                      |  | It has a long, narrow leaf and small, pale pink flowers. Milkweeds are a critical part of the Monarch Butterfly's life cycle.   | * full sun<br> moderately dry<br> drought |
|                      | <b>Yarrow</b>  |  | Yarrow has showy flower heads composed of many tiny, tightly-packed flowers rising above clusters of ferny foliage. The flowers may be yellow,                              | * full sun<br> moderately dry<br> drought |

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|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  | red, pink, or a number of shades in between. |  |
|--|--|--|--|--|


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## Blue Mountains Ecoregion

The Blue Mountains ecoregion is in the Pacific Northwest, mainly in the state of Oregon, with small areas over the state border in Idaho and southeastern Washington.












### Primary Invasive Plants and Target Native Plant Replacement








| Invasive      | Name     | Image   | Description  | Where to Find   |
|---------------|----------|---|--|---|
|               | Toadflax |  | Perennial that blooms summer to fall. Grows 2-3 feet tall. Leaves are waxy, green, heart-shaped and 1-3 inches long. Flowers are one inch long and similar to snapdragons. | Toadflaxes can form dense stands in grasslands, meadows, pasture and rangelands, and in the understory of dry coniferous forests. |
| Target Native | Name     | Image   | Description  | Growing Conditions  |




|                 |   |   |   |   |
|-----------------|---|---|---|---|
|                 | <b>Blue Flax</b>                            |    | Blue flax grows 18-20 inches tall. Flowers are pale blue, with 5 petals about 1-1 1/2 inches across, veined in darker blue. Each stem produces several flowers, blooming from the bottom upward.      | * full sun<br>💧 moderately dry<br>💧 drought tolerant  |
|                 | <b>Oregon Sunshine</b>                      |   | Subshrub densely covered with woolly hairs, grows low with long stems reaching upward. Flower heads on single stalks, with 8-13 yellow ray flowers or occasionally rayless, many yellow disk flowers. | * full sun<br>💧 moderately dry<br>💧 drought tolerant  |
| <b>Invasive</b> | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                 | <b>Knapweeds (Spotted, Meadow, Diffuse)</b> |  | Perennial to 3 ft tall and is often many-branched. Slender cone-shaped, white to purple flowers with pointed, fringed bracts.   | Grasslands, roadsides, reforestation sites and rights-of-way. Knapweeds can form dense infestations that devalue pastures and rangelands. |



| Target Native | Name                  | Image   | Description   | Growing Conditions  |
|---------------|-----------------------|---|---|---|
|               | <b>Bluehead Gilla</b> |    | Blue-head gily-flower or globe gilia is a tall, slender annual with neat, powder-blue flower balls on 1-2 ft. stalks and finely divided leaves.   | * full sun<br> moderately dry<br> drought |
|               | <b>Jacob's Ladder</b> |    | Jacob's Ladders are bushy, clump forming perennials that grow in swirling rosettes of bright green or variegated, fern-like foliage. They produce loose clusters of tubular or bell shaped flowers that are most often sky blue in color. | * full sun<br> moderately dry<br> drought |
| Invasive      | Name                  | Image   | Description   | Where to Find   |
|               | <b>Leafy Spurge</b>   |  | An upright, branching, perennial herb two-three feet tall. It has alternate narrow leaves, somewhat frosted and   | Disturbed areas, prairies, savannas, pastures, abandoned fields, roadside areas. Tolerates moist to dry soil  |

|               |           |   | slightly wavy along the margins. The flower of this weed are very small and are borne in greenish yellow structures surrounded by yellow distinctive heart-shaped bracts.             | conditions, but most common under dry conditions.   |
|---------------|-----------|---|---|---|
| Target Native | Name      | Image   | Description   | Growing Conditions  |
|               | Stonecrop |   | Foliage colors ranging from smoky blue to rich burgundy throughout the season. The flowers of stonecrop perennial are rich with sweet nectar and attract bees, moths and butterflies. | <ul style="list-style-type: none"> <li>* full sun</li> <li>moderately dry</li> <li>drought</li> </ul> |
|               | Pussytoes |  | It forms wide clumps over time and colonizes quickly. The tiny gray-haired leaves are stacked up on top of each other on slender herbaceous stalks that grow                          | <ul style="list-style-type: none"> <li>* full sun</li> <li>moderately dry</li> <li>drought</li> </ul> |

|                      |  |   |   |   |
|----------------------|--|---|---|---|
|                      |  |   | no more than 6 inches tall. Blooms are white to pink fuzzy clusters resembling cat feet.  |   |
| <b>Invasive</b>      | <b>Name</b>  | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                      | <b>Thistle<br/>(Italian,<br/>Canada,<br/>Scotch)</b> |    | Often produces a rosette the first year. Can grow 2-4 feet in the first year with heights over 10 feet in the second. Soft white hair on upper leaf surface. Purple flower. | Moist wastelands or drainages in dry areas. If not controlled, can move into farmland or form dense canopies in overgrazed areas that are not under intense cultivation.  |
| <b>Target Native</b> | <b>Name</b>  | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Milkweed</b>                                      |  | It has a long, narrow leaf and small, pale pink flowers. Milkweeds are a critical part of the Monarch Butterfly's life cycle.   | * full sun<br> moderately dry<br> drought |
|                      | <b>Yarrow</b>  |  | Yarrow has showy flower heads composed of many tiny, tightly-packed flowers rising above clusters of ferny foliage.   | * full sun<br> moderately dry<br> drought |

|                      |                             |   |  |  |
|----------------------|-----------------------------|---|--|--|
|                      |                             |   | The flowers may be yellow, red, pink, or a number of shades in between.  |  |
|                      | <b>Himalayan blackberry</b> |    | Blooms June to August. Stems can grow more than 20-feet per season and have sharp spines. Flowers are white to light pink.         | Prevalent throughout Oregon  |
| <b>Target Native</b> | <b>Name</b>                 | <b>Image</b>  | <b>Description</b>   | <b>Growing Conditions</b>  |
|                      | <b>Salmonberry</b>          |   | This attractive native bramble shrub is the favourite of hummingbirds. Growing fast and erect, bushes reach 6' with a 6' spread.   | <ul style="list-style-type: none"> <li>● shade</li> <li>● moist but drained</li> <li>○ moderately dry</li> <li>○ drought tolerant</li> </ul> |
|                      | <b>Thimbleberry</b>         |  | An excellent native bramble shrub with thornless stems. Thimbleberry grows rapidly and forms dense thickets of upright 4-6' stems. | <ul style="list-style-type: none"> <li>● shade</li> <li>● moist but drained</li> <li>○ moderately dry</li> <li>○ drought</li> </ul>          |


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## Northern Basin and Range Ecoregion








The Northern Basin and Range ecoregion is in the U.S. states of Oregon, Idaho, Nevada, Utah, and California. It contains dissected lava plains, rolling hills, alluvial fans, valleys, and scattered mountain ranges in the northern part of the Great Basin. Although arid, the ecoregion is higher and cooler than the Snake River Plain to the north and has more available moisture and a cooler climate than the Central Basin and Range to the south.









### Primary Invasive Plants and Target Native Plant Replacement

| Invasive      | Name            | Image   | Description  | Where to Find   |
|---------------|-----------------|---|--|---|
|               | <b>Toadflax</b> |  | Perennial that blooms summer to fall. Grows 2-3 feet tall. Leaves are waxy, green, heart-shaped and 1-3 inches long. Flowers are one inch long and similar to snapdragons. | Toadflaxes can form dense stands in grasslands, meadows, pasture and rangelands, and in the understory of dry coniferous forests. |
| Target Native | Name            | Image   | Description  | Growing   |








|                 |   |   |   | Conditions   |
|-----------------|---|---|---|--|
|                 | <b>Blue Flax</b>                            |    | Blue flax grows 18-20 inches tall. Flowers are pale blue, with 5 petals about 1-1 1/2 inches across, veined in darker blue. Each stem produces several flowers, blooming from the bottom upward.      | * full sun<br> moderately dry<br> drought tolerant |
|                 | <b>Oregon Sunshine</b>                      |   | Subshrub densely covered with woolly hairs, grows low with long stems reaching upward. Flower heads on single stalks, with 8-13 yellow ray flowers or occasionally rayless, many yellow disk flowers. | * full sun<br> moderately dry<br> drought tolerant |
| <b>Invasive</b> | <b>Name</b>                                 | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>   |
|                 | <b>Knapweeds (Spotted, Meadow, Diffuse)</b> |  | Perennial to 3 ft tall and is often many-branched. Slender cone-shaped, white to purple flowers with pointed, fringed bracts.   | Grasslands, roadsides, reforestation sites and rights-of-way. Knapweeds can form dense infestations that devalue pastures and  |

|               |                       |   |   | rangelands.  |
|---------------|-----------------------|---|---|--|
| Target Native | Name                  | Image   | Description   | Growing Conditions   |
|               | <b>Bluehead Gilla</b> |    | Blue-head gily-flower or globe gilia is a tall, slender annual with neat, powder-blue flower balls on 1-2 ft. stalks and finely divided leaves.   | * full sun<br> moderately dry<br> drought  |
|               | <b>Jacob's Ladder</b> |    | Jacob's Ladders are bushy, clump forming perennials that grow in swirling rosettes of bright green or variegated, fern-like foliage. They produce loose clusters of tubular or bell shaped flowers that are most often sky blue in color. | * full sun<br> moderately dry<br> drought |
| Invasive      | Name                  | Image   | Description   | Where to Find  |
|               | <b>Leafy Spurge</b>   |  | An upright, branching, perennial herb two-three feet tall. It has alternate narrow leaves,  | Disturbed areas, prairies, savannas, pastures, abandoned fields, roadside areas.   |



|                      |                  |   |   |  |
|----------------------|------------------|---|---|--|
|                      |                  |   | <p>somewhat frosted and slightly wavy along the margins. The flower of this weed are very small and are borne in greenish yellow structures surrounded by yellow distinctive heart-shaped bracts.</p> | <p>Tolerates moist to dry soil conditions, but most common under dry conditions.</p>   |
| <b>Target Native</b> | <b>Name</b>      | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>  |
|                      | <b>Stonecrop</b> |   | <p>Foliage colors ranging from smoky blue to rich burgundy throughout the season. The flowers of stonecrop perennial are rich with sweet nectar and attract bees, moths and butterflies.</p>          | <p>* full sun<br/>  moderately dry<br/>  drought</p>  |
|                      | <b>Pussytoes</b> |  | <p>It forms wide clumps over time and colonizes quickly. The tiny gray-haired leaves are stacked up on top of each</p>  | <p>* full sun<br/>  moderately dry<br/>  drought</p> |



|                      |  |   |   |   |
|----------------------|--|---|---|---|
|                      |  |   | other on slender herbaceous stalks that grow no more than 6 inches tall. Blooms are white to pink fuzzy clusters resembling cat feet.                                       |   |
| <b>Invasive</b>      | <b>Name</b>  | <b>Image</b>  | <b>Description</b>  | <b>Where to Find</b>  |
|                      | <b>Thistle<br/>(Italian,<br/>Canada,<br/>Scotch)</b> |    | Often produces a rosette the first year. Can grow 2-4 feet in the first year with heights over 10 feet in the second. Soft white hair on upper leaf surface. Purple flower. | Moist wastelands or drainages in dry areas. If not controlled, can move into farmland or form dense canopies in overgrazed areas that are not under intense cultivation.  |
| <b>Target Native</b> | <b>Name</b>  | <b>Image</b>  | <b>Description</b>  | <b>Growing Conditions</b>   |
|                      | <b>Milkweed</b>                                      |  | It has a long, narrow leaf and small, pale pink flowers. Milkweeds are a critical part of the Monarch Butterfly's life cycle.   | * full sun<br> moderately dry<br> drought |
|                      | <b>Yarrow</b>  |  | Yarrow has showy flower heads composed of many tiny,  | * full sun<br> moderately dry<br> drought |

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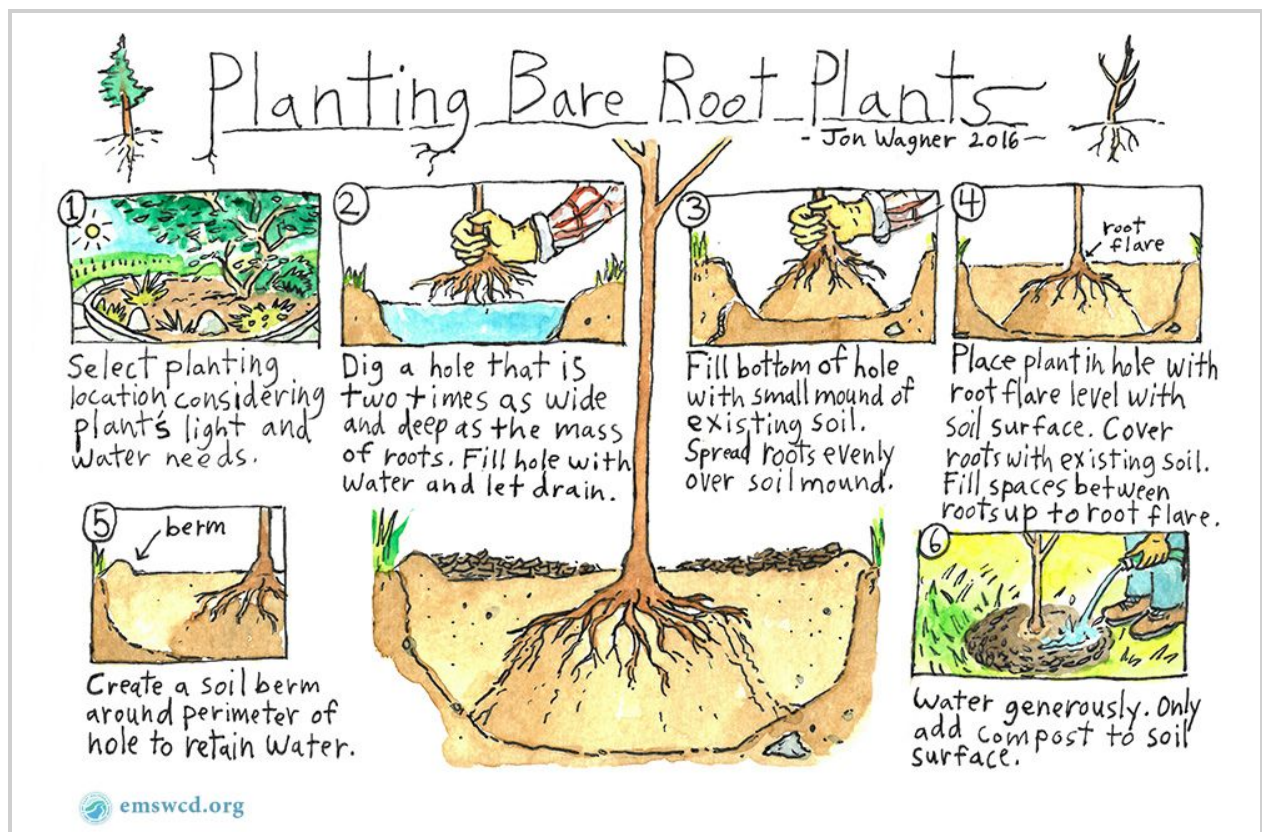
|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  | tightly-packed flowers rising above clusters of ferny foliage. The flowers may be yellow, red, pink, or a number of shades in between. |  |
|--|--|--|--|--|

## Tips on How to Plant Native Plants

### For Potted Plants:

- Ensure the soil in the pot is moist, then tip the pot on its side and gently press on the pot to loosen the plant. Gently pull the plant by holding on to the base of the stem.
- Most plants will have roots exposed. Pull loose roots outward and cut or straighten any that are encircling the root ball (circling roots will continue to grow in a circle and cause the plant to grow poorly and possibly die).
- Place plant in hole and arrange roots so they point outward.
- Make sure the plant is placed at its original depth. Do not plant too deeply.

### For Bare Root Plants:



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### *How to plant bare root plants in six easy steps!*

- Keep the roots moist until planting by storing them in moist compost or soil. In addition, you may soak them in water for 1-2 hours (never longer than 6 hours).
- Before planting, prune back any badly bruised, broken, kinked, or jagged roots to sound wood.
- Make a small mound of soil in the bottom of the hole.
- Arrange the roots around the mound so they all point outward from the plant.
- Place the plant so that soil covers the roots, but doesn't cover the stem above the roots.

---

## **Replacing the Soil**

- Backfill using the native soil that was dug out of the hole (or a hole nearby if more soil is needed). Do not fill hole with store-bought soil, this may cause the roots to extend only to the edge of the hole.
- Ensure that only soil goes back into the hole. No large rocks, sticks, clumps of grass, sawdust, leaves.
- Do not add any soil amendments (fertilizer or compost) to the planting hole.
- Push soil around the roots in the hole without disturbing root arrangement.
- Push soil down firmly to remove any air pockets.
- Use any extra soil to build a ring around the periphery of the planting hole to hold water and adjust the soil so that water drains away from the immediate trunk area. Gently pull the plant by holding on to the base of its stem.

---

## **Finishing Up**

- Water the plant immediately to settle the soil and eliminate any air pockets. Add more soil to any holes that appear.
- If using compost or mulch, apply it to the top of the soil in a circle at least as wide as the roots, but not touching the stem.

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## Resources

Native Plants for Willamette Valley Yards, Metro

GardenSmartOregon, A Guide to To Non-Invasive Plants

Vern Holm, Western Invasives Network

Lucas Nipp, East Multnomah Soil and Water Conservation District

Chris Aldassy, East Multnomah Soil and Water Conservation District

Field Guide to Weeds of the Willamette Valley, Institute for Applied Ecology

Native plants for Willamette Valley yards booklet, METRO

Remove Invasive Plants!, Environmental Services, City of Portland

Gardening with Native Plants, Clean Water Services

Patrick Gaynor, DOWL

Bob Meinke, Oregon Dept. of Agriculture

Matt Baum, Institute for Applied Ecology

The Oregon Conservation Strategy,

<http://oregonconservationstrategy.org/ecoregion/willamette-valley/>

The Silent Invasion, OPB, <http://www.opb.org/programs/invasives/index.php>

Crystalyn Bush, Columbia Soil and Water Conservation District

Tim Butler, Oregon Dept. of Agriculture