



CONSERVATION LANDSCAPING



Why not design your yard or garden to emphasize healthy soil and water, native plants, and wildlife habitat? By creating Conservation Landscapes you get to know and support the plants and animals unique to this region of the Pacific Northwest.

WHAT IS CONSERVATION LANDSCAPING?

Conservation Landscaping involves the design and care of gardens that prioritize native plants, wildlife habitat creation, soil health enhancement, and water quality protection. For example, a project might convert unused lawn into a garden that creates native pollinator habitat. Conservation Landscapes often require less time, money and management than conventional landscapes after they are established.

GOALS:

1. Benefit human well-being as well as the unique ecology of the Pacific Northwest.
2. Use local native plants.
3. Check for and remove invasive plant species.
4. Include wildlife habitat (food, water and shelter) as part of garden design.
5. Promote healthy soil and water.
6. Minimize or eliminate the use of chemical pesticides and fertilizers.

WHY USE PACIFIC NORTHWEST NATIVES IN THE GARDEN?

Conservation Landscapes emphasize the use of Pacific Northwest native plants because they are adapted to growing in our soils and climate, which makes them low maintenance. Native plants offer other benefits as well. Their deep roots help them withstand summer drought and combat soil erosion. They generally resist disease and bugs more effectively than introduced ornamentals. Native plants also help to manage stormwater by slowing rain down as it falls, drinking it up and evaporating or transpiring it back into the atmosphere. Finally, native plants offer food and shelter to local animals and insects that rely on them to survive. Using native plants doesn't mean you can't include your favorite ornamentals. Conservation Landscapes simply establish a low-maintenance foundation to your garden.





DESIGN A CONSERVATION LANDSCAPE

The following guidelines provide basic steps for creating your own Conservation Landscape

1. ASSESS YOUR PROPERTY: Start by developing a simple drawing of your property.

- Identify the areas most used by your family and pets as important recreational spaces to preserve.
- Note slopes, wet areas, and areas that dry quickly after it rains.
- Mark areas that need to be treated with caution: septic systems, power lines, neighbor's gardens that need sunlight, the right-of-way along city and county roads, etc.
- Note sunny and shady areas. (You receive morning sun from the east and afternoon sun from the west; the most sun from the south, and the least from the north. Note existing features that cast shade.
- Identify areas that are already full of native plants.

2. CLARIFY GOALS + IDENTIFY OPPORTUNITIES

Start by identifying your Conservation Landscape goals.

- Are you interested in creating better bird habitat?
- Do you want to create attractive views from your porch or windows?
- Are you interested in seasonal color or do you prefer evergreen landscapes?
- Do you care most about a low-maintenance garden?
- Do you want to block views of the neighbor's "antique" car collection, or slow down winter winds?
- Do you want to shade your house in the summer?
- Do you need to remove invasive ivy, blackberry or other problem plants and replace them?

Next, using your property sketch from the first step, identify opportunities for creating a new landscape. Once you determine *where* you want to work, gather specific site information.

- Measure the total area (length x width in square feet).
- Describe the specific site conditions (wet, moist, dry, full sun, shade etc).
- List your goals for each new landscape area.

3. DESIGN YOUR NEW LANDSCAPE

WHAT SHAPE / FORM?

Decide how you want the Conservation Landscape to look.

- Should the garden have low-growing plants at the edges and increase in height as it moves deeper?
- Would you prefer a consistently mixed-height garden bed with "drifts" (groupings) of a single species for a dramatic, orderly effect?

Use garden design books or magazines for inspiration. Think about which native species can perform similar roles as those in the garden design books.





WHICH PLANTS?

Next, pick appropriate plants for your site conditions and your goals.

- Important selection criteria include:
 - Evergreen plants or a mix of those that remain green all year and those that lose their leaves?
 - Soil moisture conditions: dry, moist, or wet
 - Sun exposure: does your garden receive full sun, partial shade, full shade
 - Mature plant size: how tall / wide plants will grow is important to consider at the beginning, or you may find yourself constantly pruning a shrub to keep it smaller than it wants to grow.
 - Don't forget about buried utilities or overhead powerlines, which will determine whether you plant a tree or a groundcover.
- Aim for 75-100% of the total as native plant species to establish your+ low-maintenance foundation. Add favorite ornamentals into the borders where they can be easily accessed and seen.
- Mix it up! Include 10-15 different native plant species to provide genuine habitat benefit.
- Plant in "layers" wherever possible, using a mix of groundcovers, shrubs, and trees. This strategy mimics natural forest conditions and is most effective for stormwater management and habitat enhancement.
- Plant in groupings of "like-minded" plants. Cluster those that like it hot and dry together, and those that prefer wet feet in a different group. This will increase your chance of success and minimize maintenance needs or losses due to locating plants in the wrong place.
- To pick plants, start with the lists found at the end of this document along with online or print resources. See the Mason Conservation District website "Native Plants" section for example planting plans.

HOW MANY PLANTS?

Use the following basic formula to determine the number of plants needed. Note that "on-center" refers to the spacing distance between plants (measured from plant center to plant center, as if planting on a grid). You may choose a denser or sparser planting pattern based on your particular site and goals.

1. PLANT NUMBERS FORMULA: Divide the total planting area by the (plant spacing distance)². For "3 ft on center," divide by 9. For "4 ft on center," divide by 16, etc.

$$\text{Total Planting Area in ft}^2 / (\text{Plant Spacing in ft})^2$$

EXAMPLE: A 100 Ft² bed will be planted with Low Oregon Grape spaced "3 feet on center."

$$100 \text{ Ft}^2 / (3 \text{ ft})^2 \rightarrow 100 \text{ ft}^2 / 9 \text{ ft}^2 = 11, \text{ so 11 plants will be needed.}$$

Standard Spacing Distances

- Trees: 10 to 25 feet on center (depending on the mature size of the tree canopy)
- Shrubs: 3 to 5 feet on center
- Groundcovers, emergents and forbs: 1 to 2 feet on center.

2. LAYERED PLANTINGS: Figure out how many trees you need using the formula. Next, use the same formula to determine how many shrubs are needed. Then subtract the total # of trees from the total # of shrubs to get a final count of shrubs. Repeat this process for groundcovers, subtracting the total # of shrubs from the total # of groundcovers to get your final count.



IMPLEMENT YOUR PLAN

SITE PREPARATION In general, prepare the site just before planting by removing weeds or unused lawn.

LAWN REMOVAL TIP: For an easy way to convert lawn to a planting bed, start in late spring/early summer:

- Mow the grass very short in the new bed area.
- Cover the lawn with a 12 inch thick layer of arborist wood chips and let the chips smother the grass.
- Leave the chips in place for several weeks to several months. Push aside the mulch and check to confirm that the grass and/or weeds are dead and decomposing, forming a natural compost layer.
- When the grass is dead, you are ready to plant. Push the chips aside and replace them after planting!
OR
- Use a sod-cutter to remove the layer of turf before planting, being careful to removal all grass roots. It helps to add a layer of wood chips after removing the sod and letting it sit for a few weeks to kill any remaining fragments of grass prior to planting.

SOIL PREPARATION TIP

Soil amendment is usually unnecessary, except for low-nutrient, compacted, or extremely gravelly soils.

- For badly compacted or very gravelly soils, add a 3 inch layer of compost to the planting area to increase available organic matter and nutrients. This will also improve soil's ability to retain moisture.
- For compacted soils:
 - (1) Loosen compacted soil by breaking the soil up with a soil rake to a depth of 8-12 inches.
 - (2) Place a 3 inch layer of high quality compost on top, and then gently till it into the soil.
 - (3) If not planting immediately, place a 2-3 inch layer of arborist chips or mulch on the surface to discourage weeds.
- For healthy soils: consider top-dressing with 2-3 inches of compost (don't till it into the soil).

PLANT YOUR CONSERVATION LANDSCAPE

TIMING: Planting in fall/winter months minimizes transplant shock as well as the need for watering.

Potted plants: fall (October to mid-December). If you can irrigate, you can plant year round.

Bare-root plants: mid-winter (January to March).

Potted Plants

- Arrange the plants in the new garden to confirm spacing and the look of your new landscape.
- Remove plants from pots and loosen (or cut away) roots that circle. Keep roots moist.
- Dig a saucer-shaped hole 2 to 3 times as wide as the root mass and deep enough to place your plant inside with the root flare (the area where the roots join the stem) at the same height as it was in the pot – at the soil surface, but not below. Make a mound in the center of the hole to keep the plant at the desired height. Spread the roots over the mound in all directions. The roots should not circle in the hole. Fill the hole with water and let it drain, then backfill with the soil that was in the hole originally. Water deeply. Don't add soil amendments only within the planting hole. This discourages plant roots from spreading into the surrounding soil. If soil amendment is necessary, it is best to mix compost evenly throughout the entire planting bed or beyond the hole itself (previous step) so that plants extend strong root systems beyond their initial planting site.



Bare-root plants

- Keep roots moist and store plants in a dark, cold place until planting (up to a few days) or “heel” them into the ground (temporarily store plants by covering roots with moist soil in a shady area). Plants can stay “heeled in” for several weeks. When you are ready to plant, place the bare-root plants in a bucket of water to hydrate roots until they are planted in the ground.
- Dig a hole that’s twice as wide as deep. Create a mound of soil in the center. Place the plant over the mound, spreading the roots out in all directions. Make sure the root flare is just at the soil surface (not too deep). Backfill with soil, and water deeply.

7. MULCH, MULCH, AND MULCH

- Place a 3 inch layer of arborist wood chips (often free from local arborists or powerline maintenance crews) over the soil surface around all of the plants - and wherever you don’t want weeds.
- To finish, gently move the mulch away from the stems of plants and trees to avoid moisture buildup.

8. MAINTENANCE

Be sure to water your new landscape during dry summers until established (usually 2 to 3 years). Like all growing things, Conservation Landscapes require some maintenance, even after established. In much-used garden areas, pruning, plant replacement, or adjustments might be necessary. In more natural areas you may not need to do anything at all.

- Water deeply and infrequently in the early morning or evening for the first two to three years (or as long as needed for the new plants to get firmly established). After this, water only as needed during droughts.
- Regularly remove invasive plants or weeds before they set seed. Avoid chemicals whenever possible.
- Prune shrubs or “limb up” trees to keep paths clear and to maintain important views. Never “top” trees (topping trees invites disease and usually leads to tree removal). See TAM 18 for more on tree care.
- Conduct a soil test before adding fertilizer that you might not need. Contact Mason Conservation District for a soil testing kit and guidance on where to send it.
- Soil enhancement: If needed, periodically add a 1-3 inch layer of high quality (weed-free) compost to the surface of the planting bed as fertilizer. Follow this with a new layer of arborist wood chips as mulch.
- Every few years add arborist wood chips to maintain a 3 inch layer of mulch on the planting beds.

PERMITS

No permits are required to create Conservation Landscapes. However, vegetation removal near or in critical areas such as slopes, wetlands, creeks, marine shorelines etc. is regulated because of safety and water quality concerns. Consult with Mason County staff and/or the Mason County Resource Ordinance for details.

Invasive weed control in critical areas is usually acceptable unless your work will destabilize a slope or you won’t immediately replant. If in doubt, check with Mason County to avoid penalty fees.

Professional guidance is recommended when managing vegetation on steep slopes and high marine bluffs.

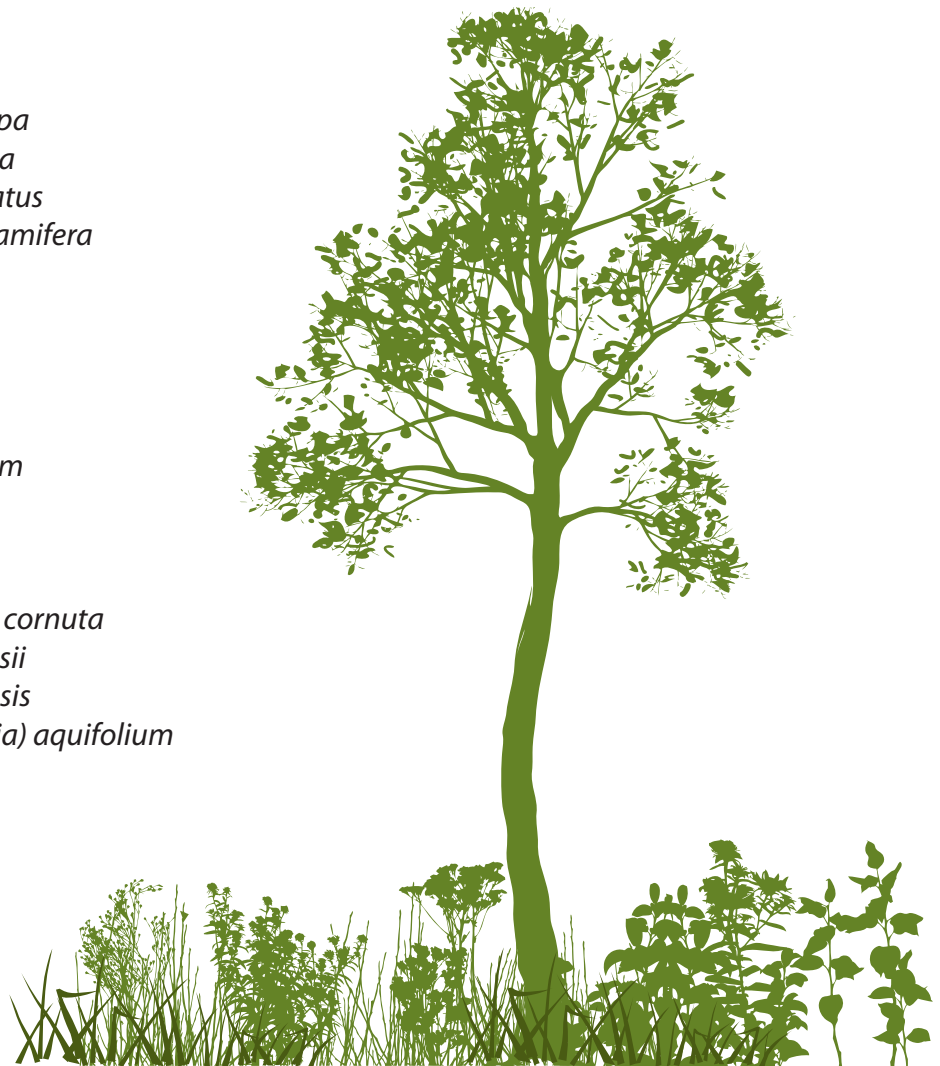
NATIVE SPECIES RECOMMENDATIONS FOR SPECIFIC SITE CONDITIONS

On the next pages you will find lists of native plant species organized by specific growing conditions. Unless otherwise noted, each list starts with trees (note the "T" following the common name), then shrubs, then groundcovers. Additional resources for plant selection are listed at the end.

STANDOUT NATIVES - GROW WELL UNDER ALL CONDITIONS

(*This list begins with plants that handle wet conditions and ends with those that handle dry conditions)

Sitka Willow – *Salix sitchensis*
Hooker's Willow – *Salix hookeriana*
Pacific willow (T) – *Salix lasiandra*
Slough sedge – *Carex obnupta*
Red-osier dogwood – *Cornus sericea*
Peafruit (swamp) rose – *Rosa pisocarpa*
Black twinberry – *Lonicera involucrata*
Pacific ninebark – *Physocarpus capitatus*
Black cottonwood (T) – *Populus balsamifera*
Red alder – *Alnus rubra*
Shore pine (T) – *Pinus contorta*
Nootka rose – *Rosa nutkana*
Cascara (T) – *Rhamnus purshiana*
Vine maple – *Acer circinatum*
Big leaf maple (T) – *Acer macrophyllum*
Snowberry – *Symphoricarpos albus*
Thimbleberry – *Rubus parviflorus*
Woods strawberry – *Fragaria vesca*
Western / Beaked hazelnut – *Corylus cornuta*
Douglas fir (T) – *Pseudotsuga menziesii*
Coastal Strawberry – *Fragaria chiloensis*
Tall Oregon grape – *Berberis (Mahonia) aquifolium*





MOIST + SUNNY SITES

Big leaf maple (T) - *Acer macrophyllum*
Black cottonwood (T) - *Populus balsamifera*
Black hawthorn (T) - *Crataegus douglasii*
Douglas fir (T) - *Pseudotsuga menziesii*
Paper birch (T) - *Betula papyrifera*
Red alder - *Alnus rubra*
Shore pine (T) - *Pinus contorta*
Sitka spruce (T) - *Picea sitchensis*

Black twinberry - *Lonicera involucrata*
Cascara (T) - *Rhamnus purshiana*
Highbush cranberry - *Viburnum edule*
Nootka rose - *Rosa nutkana*
Pacific ninebark - *Physocarpus capitatus*
Pacific wax myrtle - *Myrica californica*
Peafruit (swamp) rose - *Rosa pisocarpa*
Red elderberry - *Sambucus racemosa*
Red flowering currant - *Ribes sanguineum*
Red-osier dogwood - *Cornus sericea*
Salmonberry - *Rubus spectabilis*
Serviceberry - *Amelanchier alnifolia*
Snowberry - *Symphoricarpos albus*
Sword fern - *Polystichum munitum*
Thimbleberry - *Rubus parviflorus*
Vine maple - *Acer circinatum*
Western / Beaked hazelnut - *Corylus cornuta*

MOIST + SHADE /PART-SHADE SITES

Paper birch (T) - *Betula papyrifera*
Big leaf maple (T) - *Acer macrophyllum*
Cascara (T) - *Rhamnus purshiana*
Douglas fir (T) - *Pseudotsuga menziesii*
Western red cedar (T) - *Thuja plicata*
Western hemlock (T) - *Tsuga heterophylla*

Baldhip rose - *Rosa gymnocarpa*
Evergreen huckleberry - *Vaccinium ovatum*
Indian plum - *Oemleria cerasiformis*
Low Oregon grape - *Berberis nervosa*
Nootka rose - *Rosa nutkana*
Oceanspray - *Holodiscus discolor*
Peafruit (swamp) rose - *Rosa pisocarpa*
Red elderberry - *Sambucus racemosa*
Red-osier dogwood - *Cornus sericea*
Salal - *Gaultheria shallon*
Salmonberry - *Rubus spectabilis*
Snowberry - *Symphoricarpos albus*
Sword fern - *Polystichum munitum*
Thimbleberry - *Rubus parviflorus*
Vine maple - *Acer circinatum*
Western / Beaked hazelnut - *Corylus cornuta*





VERY WET SITES

(plants below are listed starting with those that handle permanently saturated sites to those that handle seasonally wet sites)

- Hardstem bulrush – *Scirpus acutus*
- Tapered rush – *Juncus acuminatus*
- Beaked sedge – *Carex utriculata*
- Small-fruited bulrush – *Scirpus microcarpus*
- Slough sedge – *Carex obnupta*
- Sawbeak sedge – *Carex stipata*
- Common spikerush – *Eleocharis palustris*
- Shore sedge – *Carex lenticularis*
- Pacific willow (T)– *Salix lasiandra*
- Sitka willow - *Salix sitchensis*
- Hooker's willow – *Salix hookeriana*
- Oregon ash – *Fraxinus latifolia*
- Red-osier dogwood – *Cornus sericea*
- Peafruit (swamp) rose – *Rosa pisocarpa*
- Black twinberry – *Lonicera involucrata*
- Dagger-leaf rush – *Juncus ensifolius*
- Pacific ninebark – *Physocarpus capitatus*
- Black cottonwood – *Populus balsamifera*
- Salmonberry – *Rubus spectabilis*
- Shore pine (T) – *Pinus contorta*
- Sitka spruce (T) – *Picea sitchensis*





DRY + SUNNY

Shore pine (T) – *Pinus contorta*
Douglas fir (T) – *Pseudotsuga menziesii*
Garry (White) Oak (T) - *Quercus garryana*

Mock orange – *Philadelphus lewisii*
Oceanspray – *Holodiscus discolor*
Red flowering currant- *Ribes sanguineum*
Serviceberry – *Amelanchier alnifolia*
Snowberry – *Symphoricarpos albus*
Tall Oregon grape – *Berberis aquifolium*

Coastal Strawberry - *Fragaria chiloensis*
Kinnikinnick - *Arctostaphylos uva-ursi*
Wild strawberry – *Fragaria virginiana*

STEEP SLOPES

Big leaf maple (T) - *Acer macrophyllum*
Cascara (T) – *Rhamnus purshiana*
Douglas fir (T) – *Pseudotsuga menziesii*
Grand fir (T) - *Abies grandis*
Pacific willow (T)– *Salix lasiandra*
Pacific Madrone (T) – *Arbutus menziesii*
Scouler’s willow (T) – *Salix scouleriana*
Shore pine (T) – *Pinus contorta*

Hookers willow – *Salix hookeriana*
Indian plum – *Oemleria cerasiformis*
Oceanspray – *Holodiscus discolor*
Red flowering currant- *Ribes sanguineum*
Red-osier dogwood – *Cornus sericea*
Salmonberry – *Rubus spectabilis*
Serviceberry – *Amelanchier alnifolia*
Sitka willow – *Salix sitchensis*
Snowberry – *Symphoricarpos albus*
Tall Oregon grape – *Berberis aquifolium*
Thimbleberry – *Rubus parviflorus*
Vine maple – *Acer circinatum*

Kinnikinnick – *Arctostaphylos uva-ursi*
Strawberries – *Fragaria vesca, F. or chiloensis*
Sword fern – *Polystichum munitum*

DRY + SHADE/ PART SHADE

Big leaf maple (T) - *Acer macrophyllum*
Cascara (T) – *Rhamnus purshiana*
Western red cedar (T)- *Thuja plicata*
Western hemlock (T) – *Tsuga heterophylla*

Baldhip rose – *Rosa gymnocarpa*
Cascara – *Rhamnus purshiana*
Evergreen huckleberry – *Vaccinium ovatum*
Indian plum – *Oemleria cerasiformis*
Low Oregon grape – *Berberis nervosa*
Nootka rose – *Rosa nutkana*
Oceanspray – *Holodiscus discolor*
Peafruit (swamp) rose – *Rosa pisocarpa*
Red elderberry – *Sambucus racemosa*
Red-osier dogwood – *Cornus sericea*
Salal – *Gaultheria shallon*
Salmonberry – *Rubus spectabilis*
Snowberry – *Symphoricarpos albus*
Sword fern – *Polystichum munitum*
Thimbleberry – *Rubus parviflorus*
Vine maple – *Acer circinatum*
Western / Beaked hazelnut – *Corylus cornuta*





MARINE SHORELINE FAVORITES

(ST = Salt Spray Tolerant)

SHRUBS/ SMALL TREES

- Bald hip rose (*Rosa gymnocarpa*) - shade
- Beaked hazelnut (*Corylus cornuta*)
- Clustered Wild Rose (*Rosa pisocarpa*)
- Douglas Maple (*Acer glabrum*)
- Evergreen huckleberry (*Vaccinium ovatum*) *shade
- Hairy Manzanita (*Arctostaphylos columbiana*) ST
- Indian Plum (*Oemleria cerasiformis*)
- Mock Orange (*Philadelphus lewisii*)
- Nootka Rose (*Rosa nutkana*) ST
- Oceanspray (*Holodiscus discolor*)
- Pacific Crabapple (*Malus fusca*)
- Red-flowering Currant (*Ribes sanguineum*) ST
- Red-twig Ceanothus (*Ceanothus sanguineus*)
- Salal (*Gaultheria shallon*) – ST, *shade
- Salmonberry (*Rubus spectabilis*)
- Serviceberry (*Amelanchier alnifolia*)
- Snowberry (*Symphoricarpos albus*) ST
- Sticky-laurel/Snowbrush (*Ceanothus velutinus*) ST
- Sweet gale (*Myrica gale*)
- Sword fern (*Polystichum munitum*) – *shade
- Tall Oregon-Grape (*Mahonia (Berberis) aquifolium*) ST
- Thimbleberry (*Rubus parviflorus*)
- Vine Maple (*Acer circinatum*)
- Wax Myrtle (*Myrica californica*)

LARGE TREES

- Big-leaf maple (*Acer macrophyllum*)
- Douglas-fir (*Pseudotsuga menziesii*)
- Garry Oak (*Quercus garryana*)
- Grand fir (*Abies grandis*)
- Hooker’s willow (*Salix hookeriana*)
- Pacific madrone (*Arbutus menziesii*)
*beautiful but difficult to establish
- Red Alder (*Alnus rubra*)
- Red Elderberry (*Sambucus racemosa*)
- Scouler’s Willow (*Salix scouleriana*)
- Shore Pine (*Pinus contorta v. contorta*)
- Sitka Spruce (*Picea sitchensis*)
- Western Hemlock (*Tsuga heterophylla*)
*shade
- Western Redcedar (*Thuja plicata*) *shade
- Western White Pine (*Pinus monticola*)



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SELECTING NATIVE PLANTS: WEB RESOURCES

Sound Native Plants "Species Selection Guide"

<http://www.soundnativeplants.com/catalogselection/> [Accessed August 2012]

King County Department of Natural Resources "Native Plant Guide"

<http://green.kingcounty.gov/gonative/Index.aspx> [Accessed August 2012]

Washington Native Plant Society "Native Plants for Western Washington Gardens and Restoration Projects"

<http://www.wnps.org/landscaping/herbarium/index.html> [Accessed August 2012]

GENERAL CONSERVATION LANDSCAPING RESOURCES

Native Plant Salvage Project:

<http://www.nativeplantsalvage.org/>

Brooklyn Botanic Garden Links to Sustainable Techniques:

http://www.bbg.org/gardening/category/sustainable_gardening

U.S. Forest Service, Native Gardening Web site:

<http://www.fs.fed.us/wildflowers/nativegardening/index.shtml>

U.S. Forest Service, Wild Ones: Landscaping with Native Plants:

http://www.epa.gov/greenacres/wildones/wo_2004b.pdf

LAWN CARE & REMOVAL

Alternative to "Lasagna Gardening," The Garden Professors website: <https://sharepoint.cahnrs.wsu.edu/blogs/urbanhort/archive/2011/03/30/is-quote-lasagna-gardening-quote-really-worth-the-effort.aspx>

[Accessed August 2012]

Washington Toxics Coalition "Removing a Lawn Without Herbicides" <http://watoxics.org/healthy-living/healthy-homes-gardens-1/factsheets/removinglawn>

[Accessed August 2012]

Thurston County Environmental Health "Common Sense Gardening Guides:" <http://www.co.thurston.wa.us/health/ehcsg/index.html>

[Accessed August 2012]

Seattle Public Utilities, Natural Lawn Care: <http://www.seattle.gov/util/services/yard/mylawnngarden/lawn-care/index.asp>

[Accessed August 2012]

Natural Yard Care, King County: <http://your.kingcounty.gov/solidwaste/naturalyardcare/index.asp>

BUYING NATIVE PLANTS: Check with local nurseries, the Native Plant Salvage Project, and local Conservation District annual bare-root plant sales (each fall/winter).