The Case for Adding Native Plants to Our Local Gardens

What exactly is a native plant and why might gardeners of our region want to integrate some native plants into their landscape design plans? The definition of "native plant" is a bit tricky to pin down. Typically, it is a plant species that has grown in the wilderness areas of a given local region for hundreds or even thousands of years, and that has been depended on by local wildlife species and indigenous humans. However, factors such as changes in climate and human migration patterns over the centuries can make it challenging to determine what constitutes a native plant.

For example, should we consider ginkgo trees native to Washington state just because petrified ginkgo wood fossils are found at the Wanapum Recreation Area? Are the Eurasian lilacs that European settlers introduced to our region in the 19th century now considered native since they have been here for quite some time? Are species that are native to the USA's east coast considered native to *our* part of the USA? And if certain species of wild trees in our region are dying out due to climate change or invasive pest infestations, does the fact that they are from this region mean that they are still appropriate to plant here when conditions are changing? These questions can have a broad range of answers, depending on a gardener's priorities and goals. However, looking to ecological science can help inform our answers.

Before we attempt to define "native plant" we should first discuss what goals we might be trying to achieve when selecting plants for gardening and landscape design. We can then define the term in a way that makes sense in the context of these goals, which might include:

1. Improved water conservation and soil quality
2. Creation of insect pollinator pathways between fragmented natural habitat areas
3. Protection of plant, insect, and animal biodiversity
4. Preservation of plant species valued by Native American tribes of our region
5. "Natural" landscape design aesthetics and ecological restoration
6. Reconnection with forgotten local natural history

Strategies for achieving these goals must take local environmental conditions and the interconnected relationships among different insect, plant, and animal species into account.

With all of this in mind, we are ready to define the term "native plant." For the purpose of gardening in Walla Walla, we might define a native plant as any plant species that was growing wild in the Blue Mountains or Columbia Plateau ecoregions before European settlers first arrived in the 1800s. Plants that were later brought to our region from other parts of the United States or from other continents are not considered native to our region by rigorous ecological definitions. This is not to say that *only* native plants can help us achieve some of the goals listed above, but it *is* to say that only native plants can kill these six birds with one stone.

But just how zealous do we want to get here? Is it necessary to tear up every non-native plant in our gardens and start all over again with only native species? And just how narrowly should we define our local region when deciding which plants we will consider native? After all, there are subtle genetic differences between the subpopulations of Big Sagebrush growing near Walla Walla and the subpopulations growing in Wyoming, even though it is technically all the same species. Is it okay to plant Big Sagebrush sourced from a Wyoming grower in a garden in Walla Walla? A sagebrush conservationist would likely advise against it, arguing that local genetic variations are important to consider, but does an average gardener need to be so purist? Do we need to do a 23andMe genetic test on every plant we consider buying from a nursery?!

And what about cultivars derived from species that are native to our local region? Are those "native enough"? For example, Engelmann spruce—*Picea engelmannii*—is native to the Blue Mountains ecoregion. However, the popular nursery cultivar Bush's Lace Engelmann spruce—*Picea engelmannii* 'Bush's Lace'—which has a more weeping form that regular Engelmann spruce, was selectively bred on an Oregon Christmas tree farm owned by Dick Bush and is not quite the same genetically as the native species from which it was derived. Would a conservationist who is trying to restore Blue Mountain wilderness areas want to plant the Bush's Lace cultivar out in the wild? Definitely not, since it's hard to know how genetic changes through selective breeding might affect a plant's ecological function and its biochemical interactions with insect and animal species. But is Bush's Lace native enough for a local gardener's purposes? That is a personal decision for the gardener to make when thinking about the six aforementioned gardening goals.

It can be challenging for local gardeners to source native plants for our region, or to even track down a list of suitable plant species. Few commercial nurseries sell more than a handful of native plant species, and the labels on commercial cultivars often apply the term "native plant" very loosely to any cultivar derived from any plant species originating anywhere on the North American continent, which is not so helpful when trying to select plants that are appropriate for a specific local region's unique growing conditions and ecological needs. When deciding what native plants are right for your own garden, you may wish to check where your garden falls on an ecoregion map. You may also wish to do a little research in a regional plant identification guide to get a sense of what type of habitat native plant species of our local ecoregions prefer.

At Green Valley Gardens we have traditionally carried ornamental cultivars that are not native to our local region. However, we would like to learn more about which native species our customers are interested in growing. We are receptive to carrying more native plants if we hear that our customers would like to purchase them, though it may take us a few growing seasons to identify growers for less common native plants. Please email us at greenvalleygardensinfo@gmail.com to let us know what species you are looking for if you would like to help shape our foray into carrying more native plant stock. Attached to this resource you will find a list of native plants that are both suitable for landscaping and truly native to the Blue Mountains and Columbia Plateau ecoregions. We may not have many of these species in stock at a given point in time, but we are happy to do our best to source them wherever possible. To view images of the species in the attached list, we recommend typing their names into the University of Washington Burke Herbarium Image database or into iNaturalist, which is available in both website and smartphone app formats.

List of Native Plants Suitable for Landscaping in the Columbia Plateau and Blue Mountains Ecoregions

It is important to distinguish between a true native species and a cultivar (or "nativar") derived from that native species. For example, *Achillea millefolium* (yarrow) is a native species, but Achillea millefolium 'Moonshine' is a commercial cultivar derived from the wild yarrow species whose traits have been altered by human influence, such that the cultivar has a different flower color than the wild ancestor, and may also have different appeal to native pollinating insects or different environmental needs and functions than the wild ancestor. Note that some commercial cultivars' tags only list a genus name and it takes deeper digging in the plant patent or cultivar registry records to determine which wild species within a genus the cultivars were derived from. Some are hybrids, some are clones of mutant branches/plants, and some are derived from a non-hybrid, non-mutant cultivar of the species, so it's tricky to tell without extensive research. Note also that some plants people think of as native to Washington—such as Alaska yellow "cedar" and Western red "cedar" (which are in the cypress family, unlike the true cedars in the *Cedrus* genus that are in the pine family) or the *Ribes sanguineum* currant—are not native to our immediate ecoregions in Walla Walla. They are only native to the coast, the Cascades, and the far north of Washington. (See Pojar & Mackinnon's *Plants of the Pacific Northwest Coast* and Hitchcock & Cronquist's *Flora of the Pacific Northwest* for details and maps describing these species' actual native ranges.) A true native plant garden suitable to Walla Walla should only use plants that are native to the Blue Mountains and Columbia Plateau ecoregions.

The plant list below was compiled using the following resources to set conservative parameters for what constitutes both a truly local native plant species *and* a species that has been successfully grown by nurseries and landscapers in the past: (1) Washington Native Plant Society plant lists for Walla Walla County; (2) the book *Heritage Gardens of the Columbia River Basin*; (3) a catalogue from the now defunct Rugged Country Plants native plant nursery; and (4) the WSU guide to native aquatic plants for gardeners. For a plant species to be included in this document, it had to be included in both (1) and one or more of the following: (2), (3), or (4).

Conifers

Cypress Family (Cupressaceae)

Juniperus occidentalis, Western juniper

Pine Family (Pinaceae)

Abies amabilis, Pacific silver fir
Abies concolor, White fir
- Cultivars derived from this species: Glauca Compacta

Abies grandis, Grand fir

Larix occidentalis, Western larch
Picea engelmannii, Engelmann spruce
- Cultivars derived from this species: Bush's Lace

Pinus contorta, Lodgepole pine
Pinus ponderosa, Ponderosa pine
Pseudotsuga menziesii, Douglas fir (false fir)
Tsuga mertensiana, mountain hemlock

Yew Family (Taxaceae)

Taxus brevifolia, Western yew

Deciduous Trees & Large Tree-Like Shrubs

Birch Family (Betulaceae)

Alnus incana ssp. *tenuifolia*, Mountain alder
Alnus rhombifolia, White alder
Betula occidentalis, Water birch
Betula papyrifera, Paper birch
- Cultivars derived from this species: Prairie Dream

Buckthorn Family (Rhamnaceae)

Frangula purshiana (*Rhamnus purshiana*), Cascara

Rose Family (Rosaceae)

Prunus emarginata, Bitter cherry
Prunus virginiana, Chokecherry

Willow Family (Salicaceae)

Populus tremuloides, Quaking aspen
Populus trichocarpa, Black cottonwood
Salix amygdaloides, Peachleaf willow
Salix exigua, Coyote willow
Salix lasiandra, Pacific willow
Salix lasiolepis, Arroyo willow
Salix rigida, Mackenzie willow
Salix scouleriana, Scouler willow
Salix sitchensis var. *sitchensis*, Sitka willow

Soapberry Family (Sapindaceae)

Acer glabrum var. *douglasii*, Douglas maple

Shrubs & Sub-Shrubs

Elderberry Family (Adoxacaeae)

Sambucus cerulea, Blue elderberry
Sambucus racemosa, Red elderberry

Amaranth Family (Amaranthaceae)

Atriplex canescens, Four-wing saltbush

Cashew Family (Anacardiaceae)

Rhus glabra, Smooth sumac
(Drawback with this species: easily spreads via suckers. But works well if the goal is too fill in a large woodland border area.)

Aster Family (Asteraceae)

Artemisia ludoviciana, White sagebrush, or Western mugwort
Artemisia tridentata, Big sagebrush
Ericameria viscidiflorus (*Chrysothamnus viscidiflorus)*, Green rabbit-brush
Ericameria nauseosa (*Chrysothamnus nauseosus*), Grey rabbit-brush, rubber rabbit brush

Birch Family (Betulaceae)

Corylus cornuta, Hazelnut

Honeysuckle Family (Caprifoliaceae)

Lonicera involucrata var. *involucrata*, Black twinberry
Symphoricarpos albus, Common snowberry
Symphoricarpos mollis var. *hesperius*, Creeping snowberry
Symphoricarpos rotundifolius var. *oreophilus* (*Symphoricarpos oreophilus*), Mountain snowberry

Staff-Vine Family (Celastraceae)

Paxistima myrsinites (*Pachistima myrsinites*), Mountain boxwood, boxleaf myrtle

Dogwood Family (Cornaceae)

Cornus sericea (*stolonifera*), Red-osier dogwood

Gooseberry Family (Grossulariacae)

Ribes aureum, Golden currant
Ribes cereum, Wax currant
Ribes hudsonianum, Northern black currant

Hydrangea Family (Hydrangaceae)

Philadelphus lewisii, Mock-orange
- Cultivars derived from this species: Snow White

Mint Family (Lamiaceae)

Salvia dorrii var. *incana*, Gray ball sage

Buckthorn Family (Rhamnaceae)

Ceanothus sanguineus, Redstem ceanothus
Ceanothus velutinus, Snowbrush

Rose Family (Rosaceae)

Amelanchier alnifolia, Saskatoon Serviceberry
- Cultivars derived from this species: Regent

Cercocarpus ledifolius, Curl-leaf mountain-mahogany
Crataegus douglasii, Black hawthorn
(Drawback: has thorns, but otherwise very pretty.)
Holodiscus discolor var. *discolor*, Ocean spray
Physocarpus malvaceus, Mallow ninebark
Purshia tridentata, Bitterbrush
Rosa gymnocarpa, Baldhip rose
Rosa nutkana, Nootka rose
Rosa woodsii, Wood's rose
(Note that while *Rosa rugosa* is often called "wild rose," it is a wild rose from Europe that was introduced to the Americas.)
Rubus parviflorus (*Rubus nutkanus*), Thimbleberry
Sorbus scopulina, Cascade mountain-ash
Spiraea douglasii, Hardhack spirea
Spiraea lucida (*Spiraea betulifolia*), Birch-leafed spirea
Spiraea splendens (*Spiraea densiflora*), Rosy spirea

Groundcover Shrubs

Dogwood Family (Cornaceae)

Cornus canadensis (*Chamaepericlymenum canadense*), Bunchberry

Heather Family (Ericaceae)

Arctostaphylos uva-ursi, Bearberry

Perennial Forbs

Amaryllis Family (Amaryllidaceae)

Allium robinsonii, Robinson's onion

Carrot Family (Apiaceae)

Cymopterus terebinthinus, Turpentine spring-parsley
Lomatium dissectum, Fern-leaf biscuit-root
Lomatium grayi, Gray's desert-parsley

Birthwort Family (Aristolochiaceae)

Asarum caudatum, Wild ginger

(Fun fact: members of this genus are more closely related to magnolias and avocados than they are to familiar flowering perennials. They are from a very early lineage of flowering plants that emerged before the majority of the flowering plants we know today.)

Milkweed Family (Asclepiadaceae)

Asclepias fascicularis, narrowleaf milkweed

Asparagus Family (Asparagaceae)

Camassia quamash, Common camas

Aster Family (Asteraceae)

Achillea millefolium, Yarrow
Anaphalis margaritacea, Pearly everlasting
Antennaria microphylla, Rosy pussy-toes
Balsamorhiza careyana, Carey's balsamroot
Balsamorhiza sagittata, Arrow-leaf balsamroot

(This is a beautiful genus with one drawback: it is a very long-lived perennial that typically takes five or more years to mature and start flowering. However, that is the time from sowing. One would want to ask growers if giving the plant a head start in a grower's nursery would shorten that time.)

Chaenactis douglasii var. *douglasii*, Dusty maidens

Erigeron filifolius, Thread-leaf fleabane
Erigeron poliospermus, Cushion fleabane
Erigeron pumilus, Shaggy fleabane
Erigeron speciosus, Showy fleabane
Eriophyllum lanatum, Oregon sunshine
(This would be a fantastic native alternative that is similar in many ways to *Coreopsis*.)
Gaillardia aristata, Blanket-flower
Helianthella uniflora var. *douglasii*, Little-sunflower
Helenium autumnale, Sneezeweed
Heterotheca villosa (Chrysopsis villosa), Hairy golden-aster
Rudbeckia occidentalis, Black head

Legume Family (Fabaceae)

Astragalus succumbens, Columbia locoweed
Astragalus purshii, Pursh's milk-vetch
Dalea ornata (*Petalostemon ornatum*), Western prairie-clover
Lupinus leucophyllus, Velvet lupine
Lupinus polyphyllus, Big-leaf lupine
Lupinus sericeus, Silky lupine
Thermopsis montana (*gracilis*), Mountain golden-pea

Geranium Family (Gerianaceae)

Geranium viscosissimum, Sticky geranium

Iris Family (Iridaceae)

Iris missouriensis, Western blue flag

Mint Family (Lamiaceae)

Agastache urticifolia var. *urticifolia*, Nettle-leaf horse-mint
Mentha canadensis, Field mint
Monardella odoratissima, Coyote Mint

Lily Family (Liliaceae)

Fritillaria pudica, Yellow bell

Flax Family (Linaceae)

Linum perenne, Wild blue-flax

Honeysuckle Family or Sub-Family of Honeysuckle (Caprifoliaceae/Linnaeaceae)

Linnaea borealis ssp. *longiflora*, Twinflower

Mallow Family (Malvaceae)

Iliamna rivularis, Streambank globemallow
Sphaeralcea munroana, Munro's globemallow

Evening Primrose Family (Onagraceae)

Oenothera pallida ssp. *pallida*, White-stemmed evening primrose

Lopseed Family (Phrymaceae)

Erythranthe guttata, Common monkey-flower

Plantain Family (Plantaginaceae)

Penstemon acuminatus var. *acuminatus*, Sand-dune penstemon
Penstemon attenuatus var. *attenuatus*, Sulfur penstemon
Penstemon davidsonii, Davidson's penstemon
Penstemon fruticosus, Shrubby penstemon
Penstemon richardsonii, Richardson's penstemon
Penstemon venustus, Blue mountain penstemon

Phlox Family (Polemoniaceae)

Ipomopsis aggregata ssp. *aggregata* (*Gilia aggregata*), Skyrocket
Phlox longifolia, Long-leaf phlox

Buckwheat Family (Polygonaceae)

Eriogonum compositum, Northern buckwheat
Eriogonum douglasii, Douglas' buckwheat
Eriogonum heracleoides, Parsnip-flowered buckwheat
Eriogonum niveum, Snow buckwheat
Eriogonum sphaerocephalum, Rock buckwheat
Eriogonum strictum, Strict buckwheat
Eriogonum umbellatum, Sulfur buckwheat, sulfur flower

Buttercup Family (Ranunculaceae)

Aquilegia formosa var. *formosa*, Red columbine
Delphinium nuttallianum, Upland larkspur

Rose Family (Rosaceae)

Fragaria vesca, Wild strawberry
Fragaria virginiana ssp. *glauca*, Woods strawberry
Geum triflorum, Prairie smoke
(This one has a very unusual and interesting flower)
Potentilla argentea, Silvery cinquefoil
Potentilla gracilis, Graceful cinquefoil

Saxifrage Family (Saxifragaceae)

Heuchera cylindrica, Lava alumroot

Graminoids (Sedges, Rushes, Grasses)

Sedge Family (Cyperaceae)

+ = not verified to be appropriate for landscape setting

+*Carex amplifolia*, Big-leaf sedge
+*Carex deweyana*, Dewey's sedge
+*Carex geyeri*, Elk sedge
+*Carex hoodia*, Hood's sedge
+*Carex hystericina* (*Carex hystricina*), Porcupine sedge
+*Carex laeviculmis*, Smooth-stemmed sedge
+*Carex microptera* (*Carex limnophila*), Small-winged sedge
+*Carex pachycarpa*, Many-ribbed sedge
+*Carex pachystachya*, Pachystachy sedge
+*Carex phaeocephala*, Mountain hare sedge
+*Carex retrorsa*, Knot-leaf sedge
+*Carex rossii*, Ross' sedge
Carex stipata var. *stipata*, Sawbeak sedge
+*Carex subfusca*, Rusty sedge
+*Cyperus erythrorhizos*, Red-root flatsedge
+*Cyperus squarrosus* (*Cyperus aristatus*), Awned flatsedge
+*Eleocharis ovata*, Ovoid spike-rush sedge
Scirpus microcarpus, Small-flowered bulrush sedge

Rush Family (Juncaceae)

+ = not verified to be appropriate for landscape setting

+*Juncus articulatus* ssp. *articulates*, Jointed rush
+*Juncus confuses*, Colorado rush
+*Juncus drummondii*, Drummond's rush
Juncus effusus, Soft rush

- Cultivars derived from this species: Big Twister

Juncus ensifolius, Daggerleaf rush
[+]*Juncus longistylis* (*Juncus longistylus*), Long-beaked rush
[+]*Juncus mertensianus*. Merten's rush
[+]*Juncus parryi*, Parry's rush
[+]*Juncus regelii*, Regel's rush
Juncus tenuis, Slender rush
[+]*Juncus torreyi*, Torrey's rush
Luzula campestris, Field woodrush
[+]*Luzula parviflora*, Small-flowered woodrush

Grass Family (Poaceae)

Achnatherum hymenoides (*Oryzopsis hymenoides*), Indian ricegrass
Bouteloua gracilis, blue grama grass
Deschampsia cespitosa, Tufted hairgrass
Deschampsia danthonioides, Annual hairgrass
Deschampsia elongata, Slender hairgrass
Elymus elymoides (*Sitanion hystrix*), Squirreltail grass
Elymus glaucus, Western ryegrass
Festuca idahoensis, Blue bunchgrass
Glyceria striata, Fowl mannagrass
Koeleria macrantha (*Koeleria cristata*), Prairie junegrass
Leymus cinereus (*Elymus cinereus*), Giant rye grass
Pseudoroegneria spicata (*Agropyron spicatum*), Bluebunch wheatgrass
Sporobolus cryptandrus, Sand dropseed grass

Succulents

Stonecrop Family (Crassulaceae)

Sedum lanceolatum (*rupicola*), Lance-leaved stonecrop
Sedum stenopetalum ssp. *stenopetalum*, Worm-leaf stonecrop

Spring Beauty Family (Montiaceae)

Lewisia pygmaea, Dwarf lewisia

Ferns

Athyriaceae

Athyrium filix-femina ssp. *cyclosorum*, Lady fern

Cystopteridaceae

[+]*Cystopteris fragilis*, Fragile fern
[+]*Gymnocarpium disjunctum*, Pacific oak fern
[+]*Gymnocarpium dryopteris*, Oak fern

Dennstaedtiaceae

[+]*Pteridium aquilinum* ssp. *pubescens*, Bracken fern

Dryopteridaceae

Dryopteris filix-mas, Male fern
[+]*Polystichum andersonii*, Anderson's sword-fern
[+]*Polystichum lonchitis*, Holly fern
Polystichum munitum, Western sword fern

Pteridaceae

Adiantum aleuticum (*Adiantum pedatum* var. *aleuticum*), Maidenhair fern
[+]*Myriopteris gracillima* (*Cheilanthes gracillima*), Lace fern

Salviniaceae

[+]*Azolla filiculoides*, Pacific water-fern
[+]*Azolla microphylla* (*mexicana*), Mexican water-fern

Woodsiaceae

[+]*Woodsia oregana* ssp. *oregana*, Oregon woodsia

Aquatic & Wetland Plants + Clubmosses

A couple of these species were identified using the WSU guide to native aquatic plants for gardeners, with attention to which species are native to Eastern Washington. However, it is challenging to find extensive native aquatic plants lists for our narrow Columbia Basin and Blue Mountains regions.

Horsetail Family (Equisetaceae)

Equisetum arvense, Common horsetail
Equisetum fluviatile, Swamp horsetail
Equisetum hyemale ssp. *affine*, Scouring rush
Equisetum laevigatum, Smooth scouring-rush
Equisetum palustre, Marsh horsetail
Equisetum scirpoides, Dwarf scouring-rush

Equisetum telmateia ssp. *braunii*, Giant horsetail

Frogbit Family (Hydrocharitaceae)

Elodea canadensis, American waterweed

Grass Family (Poaceae)

Catabrosa aquatica, Brookgrass

Buckwheat Family (Polygonaceae)

Persicaria amphibia (*Polygonum amphibium*), Water Smartweed

Buttercup Family (Ranunculaceae)

Ranunculus aquatilis, Water buttercup

Clubmoss Family (Selaginellaceae)

Selaginella scopulorum, Compact selaginella
Selaginella wallacei, Wallace's selaginella