There’s exciting news on the horizon for the Arboretum’s urban forest—the native trees and shrubs that form the backdrop of our world-class plant collection. Known internally as our “native matrix” or “native tapestry,” these plants are the remnants and offspring of the original vegetation that grew on the land before it was logged in the late 19th century. Very soon, they will become part of the Arboretum’s formal collection.

What most distinguishes a botanic garden and arboretum from a park or other urban greenspace are its documented plant collections—its plant records and mapping systems. After a multi-year effort led by our curator, Ray Larson, all our native trees greater than six inches in diameter are being placed on equal footing with our plant collections. We are giving them designated accession numbers, documenting them in BG-BASE (our plant records database), and recording them on our GIS mapping system. Eventually, they will all be labeled in the field with plant tags. This will be a game changer for our curation and plant records staff, as well as for our horticulture staff and education programs. Our native matrix will essentially become a plant collection in and of itself—just like our prized oaks, magnolias, hollies and Asian maples!

Many of the Arboretum’s beautiful native trees have inspired me throughout my 40-year horticulture career here. The following walking tour introduces you to some of my personal favorites. I chose them based on traits such as impressive size and/or their rich Arboretum lore. All of the species are members of the Puget Sound lowland riparian forest community and are vital to the ecology of our region.

Ray has kindly provided the new accession numbers, however the specimens are not yet trackable on the UW Botanic Gardens interactive online map. For the most part, the tour follows our Arboretum Loop Trail (ALT), moving clockwise, with no more than five-minute side excursions. I’ve also provided map grid references, which are keyed to the our archival collections map (see depts.washington.edu/uwbg/docs/WPAGridMap.jpg).
Let’s begin with the granddaddy of them all! Our Pacific crabapple, a.k.a. Oregon crabapple, was crowned national champion for its species on September 11, 2018 by American Forests’ National Register of Big Trees (sorry Oregon!). It was also featured in the “Growing Old Project” podcast series in 2019 (see growingoldproject.com). We don’t know the specimen’s exact age, which can only be determined by taking a core sample and counting its rings—a difficult and invasive task. We can estimate—given the tree’s size relative to other crabapples—that it pre-dates the establishment of the Arboretum in 1934 and may have even been spared the ax by the Puget Mill Company when the property was logged in 1886. I think we’re safe to say it’s at least a century old! It has recently experienced a few limb break-outs, but these shouldn’t rob it of its champion status. In the 2018 measuring, the tree was 48 feet high, with a 74-foot crown spread.

**Identification tips:** Small, deciduous tree; alternate, pointed, toothed and oval-shaped leaves; fragrant, white-to-pink apple blossoms in spring; yellow-green to reddish-purple oblong fruits, 0.5 to 0.8 inches long.

**Ethnobotany:** Local tribes use the small, tart apples of *Malus fusca* for food, the wood for making tools, and the bark for medicine.
Introducing our “Kissing Maples,” a cluster of three mature bigleaf maples, two of which have fused in what can be interpreted as eternal “lip lock!” The “third wheel” tree appears to be craning its neck (i.e. trunk) around to get a closer look! The scientific term for this natural phenomenon—akin to artificial grafting—is “inosculation.” Bigleaf maple is one of our region’s iconic large trees, and the Arboretum has many beautiful specimens, typically draped in moss and other epiphytic plants. Just a short hop, skip and jump to the west of these specimens is our Native Knoll, which displays a wide range of native trees, shrubs and groundcovers. Thanks to a King County grant in 2000, the Native Knoll was developed by the Arboretum Foundation’s Native Plant Study Group, led by volunteer stalwart Rita Rae Cloney, in collaboration with the UW Botanic Gardens horticulture manager at the time, Christina Pfeiffer. I was lead gardener back then and helped support the project. Many of the native plants on the knoll are labelled with engraved plastic signs to help with identification.

**Identification tips:** Large, deciduous tree; opposite leaves, five-lobed, up to 12 inches wide; pendant yellow flowers in spring, developing into golden-brown paired, winged fruits.

**Ethnobotany:** Local tribes use bigleaf maple wood for construction, and for carving bowls, canoe paddles and other implements, as well as for smoking salmon. The bark is used for rope, and the big leaves for covering food.

These two Arboretum sentinels, featured on the cover of the Winter 2023 “Bulletin,” are widely loved and aptly named our “Dancing Maples”—or more recently, “Fred and Ginger.” Unfortunately, I’m not sure which maple is Fred and which is Ginger! In any case, this “limb-to-limb” maple pair appear to be in a suspended ballroom-style dance. While admiring their gyrating forms, check out their extensive formal wear of licorice ferns and moss. Stunning!! Bigleaf maples carry a greater load of mosses and other plants than any other tree in our region. A visit to the Hall of Mosses in the Hoh Rain Forest at the Olympic National Park—and its spectacular moss-draped *Acer macrophyllum*—is a must for any plant lover in the Pacific Northwest.

**Identification tips and ethnobotany:** See above.
This western hemlock’s claim to fame goes back to 2008, when pioneering entomologist Dr. Richard McDonald—aka Dr. McBug—first observed the conifer ladybug beetle, *Scymnus coniferarum*, in its foliage. This beetle is a voracious predator of the hemlock woolly adelgid (HWA), an invasive sap-sucking insect that has devastated native hemlocks in eastern North America. Unfortunately, our notable hemlock specimen is now declining and may not be long for this world. The sad truth is that western hemlocks throughout our lower Puget Sound area are succumbing to stressors associated with climate change, especially longer, drier summer periods. The Arboretum’s native hemlocks are no exception. On the bright side, thanks to Dr. McBug and the efforts of many other research entomologists, biocontrol methods—using predator beetles from the western U.S. and Japan—are being developed to help tackle the HWA and slow the demise of our eastern hemlock forests!

**Identification tips:** Large, evergreen conifer, with downward sweeping branches and lacy foliage; cones small (0.8 inches long), oblong, light brown; bark reddish-brown, scaly.

**Ethnobotany:** Local tribes use the bark for tanning hides, and for dye; the durable wood is carved to make poles, spoons, and other implements; hemlock twigs are used to make baskets; hemlock pitch is used medicinally.

I would be remiss not to include a madrona on the tour. Born and raised a Hoosier, I first moved to Seattle in 1982, and when I arrived, *Arbutus menziesii* was one of two tree species that had my head constantly turning. (The other, of course, was the Chilean monkey puzzle tree, which grows so well here.) I recall the thrill of discovering the Arboretum’s largest concentration of madronas in the undeveloped “south woods,” while scouting for invasive hollies, long before this area became the Cascadia Forest. Sadly, the largest specimen of the group gradually declined due to root zone disturbance (which madronas are quite sensitive to) that happened during the 2009 Cascadia Forest construction. Leaning over a pathway, it became a high-risk hazard and was eventually removed in 2021. We were able to leave a snag, however, that is now supporting wildlife in the area. Moreover, there are several other large madronas that are doing well nearby.

**Identification tips:** Medium-sized broadleaf evergreen; leaves alternate, oval, leathery; panicles of urn-shaped white flowers in spring; fruits small, round, orange-red; young bark chartreuse and smooth; older bark brownish-red, peeling.

**Ethnobotany:** Tribes eat the berries and use the bark for medicine; the leaves are also used medicinally and smoked.
**Abies grandis | Grand fir**

**Location:** Along Arboretum Creek, between the Loop Trail and Lake Washington Boulevard, south of the Viburnum Collection.

**Accession number:** 3153-20-A

**Map grid:** 22-4W

At 145 feet high, this grand fir is one of the tallest trees in the Arboretum (currently ranked #11). It is certainly one of our most impressive native trees, towering over all the other specimens in the surrounding area. (That being said, it’s just of middling size compared to what you find in the wilds of the Olympic Peninsula, where mature grand firs reach upwards of 260 feet tall.) Another interesting fact about our specimen is that it now has two co-dominant leaders, which is not an uncommon occurrence in tall, mature grand firs. One might speculate that a bird broke off the main leader years ago for a better “bird’s-eye view” of the Arboretum! This tree has become something of a rite of passage among our arborist staff: Several of them have ascended the fir so they could claim bragging rights to having climbed it. A word of caution: Due to ongoing restoration in the sensitive wetland area along the creek, please stay on the Loop Trail path when viewing this specimen.

**Identification tips:** Tall, stately, evergreen conifer; needles flat, up to 2 inches long and arranged in two, distinct rows; seed cones yellow-green, standing erect.

**Ethnobotany:** Local tribes weave the branches into ceremonial costumes and burn them for incense; the wood is used for canoes, and the bark is used for dye and medicine; the needles are boiled for medicinal tea.

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**Pseudotsuga menziesii | Douglas fir**

**Location:** Pinetum, northeast side, along the trail above the Willcox footbridge parking lot.

**Accession number:** 3003-20-E

**Map grid:** 41-4W

This massive Douglas fir is one of the largest in our collection and could have been a sapling during the 1886 logging. Measuring four feet in diameter at breast height and 100 feet high, it is taller than the adjacent giant sequoias, which unfortunately also have little known documentation. In October 2021, staff arborist Shea Cope discovered fruiting bodies (conks) of *Phaeolis schweinitzii*, or velvet-top cowpie fungus, sprouting on the specimen’s lower trunk bole. This fungus is the causal organism of “brown cubical butt rot.” Yikes! The promising news is that no additional fruiting bodies have been detected, and we suspect the decay is in early stages and isolated on its current trunk location. Obviously, this tree is on Shea’s “watch list” for regular monitoring. We’ll keep our fingers crossed that this oldster will stand for many more years to come!

**Identification tips:** Large evergreen conifer with a conical crown; needles flat, pointed, yellowish-green; oval seed cones three-to-four inches long, with pointed bracts; thick, furrowed, dark-brown bark.

**Ethnobotany:** Wood used by local tribes for fuel, and to make various tools; pitch used as medicinal salve and chewed for gum; the cones are thought by several tribes to have magical qualities, such as the ability to stop rain.
Choosing one western red cedar to highlight was most difficult for me: There are so many beautiful specimens of this iconic native tree in the Arboretum! I decided to go with this one because it’s a “wolf tree” in the making. A wolf tree is defined as a forest tree with large girth and great, spreading branches. Typically it is much older than any of the surrounding trees, and it offers a structural complexity that’s visually interesting and beneficial for wildlife. This specimen has two very pronounced lower “arm” branches that—to me—give it the character of a wolf tree.

**Identification tips:** Large evergreen conifer with conical crown and lustrous-green, scale-like foliage; bark is fibrous, reddish-brown, vertically ridged; cones are very small, egg-shaped.

**Ethnobotany:** A hugely important tree to coastal tribes; the rot-resistant wood is used to make canoes, house planks, totem poles and more; the tree limbs are used to make rope; the bark is used for clothing, mats, and dye; roots are used to make baskets; and the leaves have many medicinal uses.

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**Conclusion**

And here we are at a good spot to end our tour—with a short walk back along the Loop Trail to the Visitors Center from where we started.

I hope you enjoy visiting the Arboretum and learning more about our wonderful native tree specimens. The native tapestry is one of the Arboretum’s most distinctive and celebrated features, and we are pleased that it now—at long last—has been officially recognized as a component of our plant collection.

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**References**


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David Zuckerman is the manager of Horticulture for the UW Botanic Gardens. He will retire this summer, after more than 40 years of service at the Arboretum. Look for our interview with David in the Fall 2023 issue of the “Bulletin.”

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*Thuja plicata* | Western red cedar

**Location:** Loop Trail, intersection of Lake Washington Boulevard and Foster Island Road, above rock retaining wall.

**Accession number:** 3052-20-P

**Map grid:** 43-1W

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