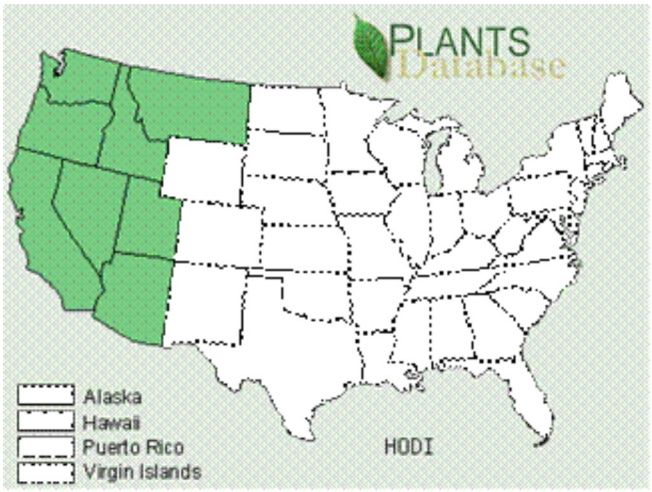
Species

Oceanspray, *Holodiscus discolor* (Pursh) Maxim. (Rosaceae)

Spreading deciduous shrub 1-6 m tall with slender arching branches with forms ranging from bushy individuals only 0.75 m tall to arborescent coastal forms which may reach heights over 6 m; leaves alternate, ovate to ovate-elliptic or oblong, 4-7 cm long, 2-7 cm wide with 15 to 25 shallow lobes to deep teeth with prominent veins; flowers 5 mm wide white to cream in pyramidal terminal panicles that may reach up to 30 cm in length; fruit tiny brown hairy achenes 2 mm wide, mature fruit/flower clusters persist throughout winter. (3,6,9,10)

Range

Oceanspray occurs at low to middle elevations from the western Cascades to the Pacific coast, from British Columbia south to California, east to northeastern Oregon, northern Idaho and eastern and western Montana. (3,6,9,10)



Climate, elevation

Oceanspray occupies a variety of sites ranging from moist, coastal bluffs and mountains to the dry, coniferous forests of the Intermountain region. Oceanspray favors mostly dry environmental zones, from sea level to 1700 m in elevation

and exists primarily at the hot, dry end of the moisture gradient in the Pacific Northwest. (3,6,9,10)

Local occurrence

Common throughout Puget Sound in dry to moist open forests, clearings, bluffs, thickets and ravine edges from sea level to mid elevations. (3,6,9,10)

Habitat preferences

Dry southern exposures in stony, shallow soils in full sun to partial shade typically associated with coniferous stands. (3, 6, 9, 10)

Plant strategy type/successional stage

Oceanspray may occupy many successional stages. In the intermountain west it is commonly mid to late succession or climax though it has been observed to be seral after fire regenerating readily from seeds and underground parts. West of the Cascades oceanspray is seral occurring approximately 20 years after a disturbance and then declining. Given it's propensity for dry sites oceanspray is most likely a stress tolerator. (10)

Associated species

Widely associated with droughty coniferous forests throughout its range it occurs locally with Douglas-fir (Pseudotsuga menziesii), grand fir (Abies grandis), Engelmann spruce (Picea engelmannii), subalpine fir (Abies lasiocarpa), ponderosa pine (Pinus ponderosa), Sitka spruce (Picea sitchensis), western hemlock (Tsuga heterophylla), western red cedar (Thuja plicata), logdepole pine (Pinus contorta) and western larch (Larix occidentalis). Also commonly found with big-leaf maple (Acer macrophyllum) on drier sites. Occurs with many other understory species tolerant of summer drought such as California hazelnut (*Corylus cornuta*), salal (*Gaultheria shallon*), low Oregon-grape (*Berberis nervosa*), snowberry (*Symphoricarpos album*), and vine maple (*Acer circinatum*). (10)

May be collected as:

Seed – (up to 12 x 10^6 seeds/kg) ripens October or once seed heads are brown and dry. Seed can be stripped from shrubs by hand into a paper bag or entire seed heads collected to be processed later. Seeds are tiny and hand rubbing of inflorescences through sieve may produce best results. (5,7,8)

Cuttings – One source says summer softwood cuttings 15 cm long with 30% of leaves retained taken in early July root best. Another says softwood cutting do poorly and hardwood cuttings taken in late January to early February work best. Either way, cuttings should be stored in moist cool conditions until potted. (5,7,8)

Perennating buds from the root crowns also can be collected for rooting. (5,7,8)

Collection restrictions or guidelines

Typical conservative collection methods for genetic integrity and minimal ecosystem impact apply.

Seed germination

Seed requires three hour soaking in fresh water and then cold stratification with peat moss at 4-5°C for 3-5 months or until germination begins. (5, 7)

Seed life (can be stored, short shelf-life, long shelf-life)

Not found in literature. May not store well since fresh seed germination rates average 5-10%. Oceanspray is a profuse seeder and long term storage may not be necessary given its ready availability. (5,7,8,10)

Recommended seed storage conditions

Typical low temp, low humidity conditions.(5,7,8)

Propagation recommendations

Sow post-stratified germinated seed in flats filled with a 6:1:1 peat, perlite, vermiculite mixture with 30% sand. After 2 weeks to a month or sometime after May 1st seedlings may be transplanted to individual pots with standard potting

media and moved outside. Plants are mature enough for outplanting 18 months after germination. (5)

Cuttings may have their rooting accelerated by 2 minute pre-treatment in a fungicide bath followed by dusting with rooting hormone (IBA, etc.). When available rooting occurs more rapidly in a mist bed with 21°C bottom heat using a 1:1 perlite:sand media. Over misting may result in rot. Otherwise keeping cuttings moist in the perlite/sand media may result in rooted cuttings. After 8 weeks rooted cuttings maybe potted up and placed under shade cloth outside for 4 weeks. After that they may be put in full sun. gradually begin reducing irrigation in the first fall. Cuttings are generally ready 18 months after rooting (5).

Soil or medium requirements

None in particular though Oceanspray has been noted to be mycorrhizal (vesicular-arbuscular) so may benefit from native soil inoculation. (10)

Installation form

18 month old nursery stock from seed or cuttings in gallon size pots. Seed can be directly sown but has low germination rates and competes poorly with aggressive fast growing species. (5,7,8)

Recommended planting density

4-5 m apart (1)

Care requirements after installed

Moderate watering through first dry season. (1)

Normal rate of growth or spread; lifespan

Oceanspray is a moderately fast grower with a lifespan noted to 30 years or more. (9,10)

Sources cited

(1) Dave's Garden, Inc. 2003. Plants Database. http://www.plantsdatabase.com

(2) Franklin, Jerry F. & C. T. Dyrness. Natural Vegetation of Oregon and Washington. 1988. Oregon State University Press, Corvallis OR.

(3) Hitchcock, C. Leo and Cronquist, Arthur. Flora of the Pacific Northwest. 1998. University of Washington Press, Seattle and London.

(4) Leigh, Michael. Grow Your Own Native Landscape. 1999. Washington State University Cooperative Extension – Thurston County, WA.

(5) Native Plants Journal and Network. http://www.nativeplantsnetwork.org

(6) Pojar, Jim and McKinnon, Andy, eds. Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia and Alaska. 1994. Lone Pine Press, British Columbia.

(7) Potash, Laura and Aubry, Carol. Mt. Baker-Snoqualmie National Forest Native Plant Notebook. 1997. North Cascades Institute. Sedro-Woolley WA.

(8) Rose, Robin, Chachulski, Caryn and Haase, Diane. Propagation of Pacific Northwest Native Plants. 2000. Oregon State University Press, Corvallis.

(9) USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (http://plants.usda.gov) National Plant Database Center, Baton Rouge, LA 70874-4490 USA.

(10) USDA Forest Service Fire Effects Information System (FEIS) database. http://www.fs.fed.us/database/feis/plants/

Data compiled by

Rodney Pond 04.30.03