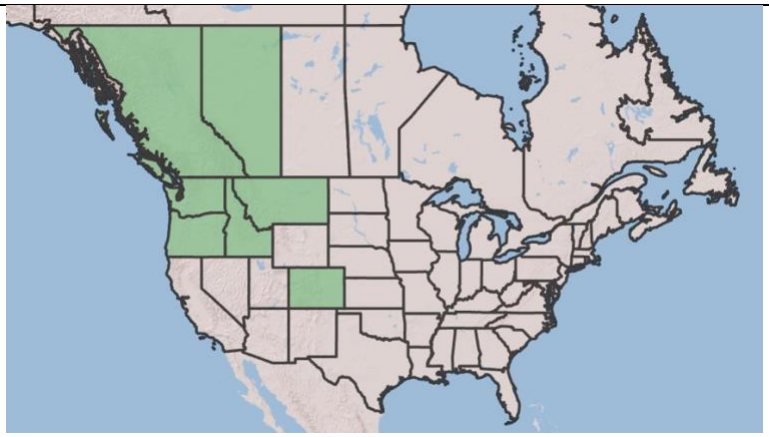
Plant Propagation Protocol for *Rhododendron albiflorum*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/2022/*RHAL2.pdf*

TAXONOMY	
Plant Family	
Scientific Name	Ericaceae
Common Name	Heath
Species Scientific Name	
Scientific Name	*Rhododendron albiflorum* Hook.
Varieties	*Rhododendron albiflorum* Hook. var. *albiflorum* *Rhododendron albiflorum* Hook. var. *warrenii* (A. Nelson) M.A. Lane
Sub-species	Not applicable.
Cultivar	Not applicable.
Common Synonym(s)	*Azaleastrum albiflorum* (Hook.) Rydb. (USDA 2022) *Azaleastrum albiflorum* (Hook.) Rydb. ssp. *warrenii* (A. Nelson) W.A. Weber (USDA 2022) *Azalea albiflora* Kuntze (IPNI 2022)
Common Name(s)	Cascade azalea (USDA 2022) white-flowered rhododendron, white rhododendron (Pojar & MacKinnon 2016)
Species Code (as per USDA Plants database)	RHAL2
GENERAL INFORMATION	
Geographical range	 *R. albiflorum* distribution map (USDA 2022) Ranges from Alberta and British Columbia south in the Olympics and Cascades to Oregon and east to the Rocky Mountains of Montana and Colorado (Rose et al. 1998).
Ecological distribution	Moist coniferous forests, tree clumps in parkland, wet glades and along streams. Also, on relatively dry, well-drained sites. (Pojar & MacKinnon 2016).

Climate and elevation range	Common at mostly subalpine elevations (Pojar & MacKinnon 2016). 800–3500 m (eFloras 2008). Climate type for this species in British Columbia is alpine tundra & boreal (Klinkenberg 2020).
Local habitat and abundance	Commonly associated species include *Menziesia ferruginea* and *Cladothammus pyroliflorus* (Pojar & MacKinnon 2022). Other commonly associated species include *Vaccinium membranaceum*, *Barbilophozia floerkei*, *Rhytidiopsis robusta*, and *B. lycopodioides* (Klinka et al. 1998). Higher elevation associated species include *Pinus albicaulis*, *Abies lasiocarpa*, and *Tsuga mertensiana* (USDA 1988). Grows on colluvial or morainal deposits and can frequently be found on shallow bedrock (Rose et al. 1998). Common and often dominant on water-shedding sites in open canopy coniferous forests in the coast-interior ecotone (Klinkenberg 2020).
Plant strategy type / successional stage	Oxylophyte. Often found on decaying coniferous wood and on moderately dry to fresh, nitrogen-poor soils where mor humus forms (Klinkenberg 2020). Reproduce vegetatively by sprouting from the root collar and lower stem or by layering. Regeneration from seed is rare. Rhizomatous and produce thickets or clones for a long period of time in the forest understory (Forest Practices Branch 1997).
Plant characteristics	Erect, slender, and branched deciduous shrub growing up to 3 meters in height. The bark peels and young twigs are covered with coarse reddish hairs. Alternate leaves, which are yellowish-green and oblong to elliptic in shape with fine rusty hairs on upper surface, found in clusters along branch, especially at the tips. The end of the midvein does not protrude at the tip of the leaf. White to creamy, large, showy, bell-shaped flowers 1–2 cm across, in clusters of 2–4 on previous year's growth. Fruit are dry, oval capsules 6–8 mm long (Pojar & MacKinnon 2016).
PROPAGATION DETAILS	
Ecotype	Not applicable.
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	Seed
Time to Grow	*Rhododendron* spp. in general have very slow growth the first year but if they are collected early and sown right away maximum first year growth can be achieved (Thompson 2005). No specific information found for *R. albiflorum*.
Target Specifications	No specific information found for *R. albiflorum*.
Propagule Collection Instructions	*R. albiflorum* fruit and seed period is summer through fall (USDA 2022).

	Rhododendron spp. tend to ripen in the late winter to early spring. The minute seeds can be collected as soon as their pods turn brown. They may be tapped out when they open or separated by screening or air threshing to separate chaff (Thompson 1993; Young JA & Young CG 2009). Early collections of green capsules will also be viable and may even increase its growth the first year (Thompson 1993). No specific information found for *R. albiflorum*.
Propagule Processing/Propagule Characteristics	*Rhododendron* spp. green pods will open if placed in a warm dry room to dry thoroughly (Thompson 1993). *R. albiflorum* seed density is 2,000,000 seeds/lbs. (USDA 2007).
Pre-Planting Propagule Treatments	Most *Rhododendron* spp. do not require stratification or scarification and only require light for germination (Rose et al. 1998). No specific information found for *R. albiflorum*.
Growing Area Preparation / Annual Practices for Perennial Crops	*Rhododendron* spp. seeds can be sown on finely sieved [peat, bark]:[sand, grit] on top of sphagnum moss that is misted or on a lime-free potting mix. Shaded and cool temperatures are best. Temperature should not exceed 15ºC. Use lime-free, attenuated potting mixes. Dilute potassium permanganate should be used to suppress growth of mosses and liverworts (Thompson 2005).
Establishment Phase Details	No specific information found for *R. albiflorum*.
Length of Establishment Phase	No specific information found for *R. albiflorum*.
Active Growth Phase	No specific information found for *R. albiflorum*.
Length of Active Growth Phase	No specific information found for *R. albiflorum*.
Hardening Phase	No specific information found for *R. albiflorum*.
Length of Hardening Phase	No specific information found for *R. albiflorum*.
Harvesting, Storage and Shipping	No specific information found for *R. albiflorum*.
Length of Storage	No specific information found for *R. albiflorum*.
Guidelines for Outplanting / Performance on Typical Sites	No specific information found for *R. albiflorum*.
Other Comments	"Successful establishment of [*R.*] *albiflorum* seems next to impossible. The one recorded success in Scotland was compounded by luck, sunny position, and rather poor stoney soil… Why it is so difficult is a mystery" (Kruckeberg & Chalker-Scott 2019). *R. albiforum* is known for spreading by rhizomes and layering so experimentation with propagation by layering and cuttings (shoots & rhizomes) may be beneficial for the further development of propagation methods.

INFORMATION SOURCES	
References	Forest Practices Branch. 1997. Operational Summary for Vegetation Management: Ericaceous Shrub Complex. Victoria, BC: Forest Practices Branch, Ministry of Forests. eFloras. 2008. St. Louis, MO: Missouri Botanical Garden; Cambridge, MA: Harvard University Herbaria. http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250065642. IPNI. International Plant Names Index. 2022. The Royal Botanic Gardens, Kew, Harvard University Herbaria & Libraries and Australian National Botanic Gardens; [accessed 2022 May 4]. https://powo.science.kew.org/taxon/27625-2. Klinka K, Krajina VJ, Ceska A, Scagel AM. 1989. Indicator plants of coastal British Columbia. Vancouver, BC: University of British Columbia Press. Klinkenberg, B (Editor). 2020. E-Flora BC: Electronic Atlas of the Plants of British Columbia. Vancouver, BC: Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia. [accessed 2022 May 4]. http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Rhododendron+albiflorum Kruckeberg AR, Chalker-Scott L. 2019. Gardening with Native Plants of the Pacific Northwest. Seattle, WA: University of Washington Press. Pojar J, MacKinnon A. 2016. Plants of the Pacific Northwest coast. Vancouver, BC: Lone Pine Publishing. Shrubs; p 61–61. Rose R, Chachulski C, Hasse D. 1998. Propagation of Pacific Northwest Native Plants. Corvallis, OR: Oregon State University Press. Thompson P. 1993. The Propagator’s Handbook. North Pomfret, VT: Trafalgar Square Publishing. Thompson P. 2005. Creative Propagation. Timber Press. Portland, OR. USDA Forest Service. 1988. Range plant handbook. Reprint of 1937 report. New York, NY: Dover Publications.

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Other Sources Consulted	Pollock M, Griffiths M. 2005. The Royal Horticultural Society: Illustrated Dictionary of Gardening. London, England: The Penguin Group.
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