Plant Propagation Protocol
ESRM 412 – Native Plant Production
JD Bakker Spring 2007

TAXONOMY	
Family Names	
Family Scientific Name:	*Ericaceae*
Family Common Name:	Heath
Scientific Names	
Genus:	*Rhododendron*
Species:	*albiflorum*
Species Authority:	Hook
Variety:	*Rhododendron albiflorum* var. *albiflorum*
Authority for Variety/Sub-species:	
Common Synonym(s)	
Genus:	*Azaleastrum*
Species:	*albiflorum*
Genus:	*Azalea*
Species:	*albiflora*
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Name(s):	• white rhododendron • white-flower rhododendron, *Rhododendron albiflorum* Hook, (USDA, 2007) • Cascade azalea (Kruckeberg, 1982; USDA, 2007) • False-azalea, small azalea, Rocky mountain Rhododendron and snowbrush (USDA, 1998) • White Rhododendron (Pojar et al., 2004).
Species Code (as per USDA Plants database):	RHAL2
GENERAL IN.FORMATION	
General Distribution (geographical range (states it occurs in), ecosystems, etc):	Ranges from Alberta and British Columbia south in the Cascase and Olympic mountains down to Oregon and then east to the Rocky mountains of Montana an Colorado (Rhode et al., 1998; Cox, 1979). USDA reports it in Washington, Oregon, Idaho, Montana and Colorado (USDA, 2007).
Climate and elevation range	Found from1200 to 5000 feet to the timberline (Cox, 1979; Rode et al., 1998). Primarily in Subalpine

	Boreal climates. Often found on decaying conifers and may be the dominant plant in forests with open canopies along the coast interior (Klinka et al., 1998)	
Local habitat and abundance; may include commonly associated species	A common plant of montane to alpine habitats. Found in parklands and moist coniferous forests. Moist to well-drained soil and often in moist coniferous forests (Pojar et al., 2004). *Commonly associated* species include *Vaccinium membranaceum Barbilophozia floerkei, Rhytidiopsis robusta* and*, B. lycopodioides*" (Klinka et al., 1998). At higher elevations with *Pinus albicauli,s Abies lasiocarpa and Tsuga mertensiana*. (USDA, 1988)	
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)		
PROPAGATION DETAILS		
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):		
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):		Plants
Propagation Method (Options: Seed or Vegetative):	Seed	
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	Container (Plug) and seeds	
Stock Type:	Seed	
Time to Grow (from seeding until plants are ready to be outplanted):	Rhododendrons 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).	
Target Specifications (size or characteristics of target plants to be produced):	Can grow to 3m in height (Rode et al., 1998)	
Propagule Collection (how, when, etc):	The seed and fruiting season is Summer to the fall (USDA, 2007). Rhododendron seeds in general 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, 1995; Young et al., 1986). Early collections of green capsules will also be viable and may even increase its growth the first year (Thompson, 1995). If left until the open naturally put them in a warm, dry room to dry thoroughly and release the seeds" (Thompson, 2005).
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	Green pods will open if placed in a warm dry room to dry thoroughly (Thompson, 1995). The 6-8mm oval seeds occur at about 2,000,000 per pound (Rode et al., 1998; USDA, 2007). Seeds and fruit do not persist (USDA, 2007). remain viable for long
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	No stratification or pre-treatment is needed for germination but do require light (USDA, 2007; Young et al., 1986; Haeussler et al., 1990).
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	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 15 degrees C. Use lime-free, attenuated potting mixes. and dilute potassium permanganate should be used to suppress growth of mosses and liverworts" (Rhododendron in general; Thompson, 2005)
Establishment Phase (from seeding to germination):	Rhododendron growth the first year is very slow (Thompson, 1995)
Length of Establishment Phase:	Unknown
Active Growth Phase (from germination until plants are no longer actively growing):	Unknown
Length of Active Growth Phase:	Moderate growth rate (USDA, 2007)
Hardening Phase (from end of active growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	Unknown
Length of Hardening Phase:	Unknown
Harvesting, Storage and Shipping (of seedlings):	Unknown
Length of Storage (of seedlings, between nursery and outplanting):	Seeds and fruit do not persist (USDA, 2007).
Guidelines for Outplanting /	Unknown

Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	
Other Comments:	This plant does not have much horticultural value and all parts of this plant are poisonous (Cox, 1979; Hartmann et al., 2002; Its horizontal branches are known to trip people and thus in Canada it is known as 'Mountain Misery' (Cox, 1979). Arther Kruckberg (1982) said "Successful establishment of *Rhododendron Albiflorum* seems next to impossible… why it is so difficult is a mystery".
INFORMATION SOURCES	
References:	Bowes, B. 1999. A color Atlas of Plant Propagation and Conservation. New York Botanical Garden Press. Broynx, NY. Cox, P.A. 1979. The Larger Species of Rhododendron. B.T. Batsford. London, England. Dirr, M.A., and C.W. Heuser Jr. 1987. *The reference manual of woody plant propagation: from seed to tissue culture*. Varsity Press, Athens, GA. Druse, K. 2000. Making more plants: The science, art and joy of propagation. Clarkson Potter Publishers. New York, NY. Haeussler, S., Coates, D. and Mather, J. 1990. Autecology of common plants in British Columbia: A literature review. British Columbia Ministry of forests. FRDA Report-158. p.272. Kruckeberg, A.R. 1996. *Gardening with native plants of the Pacific Northwest*. University of Washington Press, Seattle, WA. Klinka, K., V.J. Krajina, A. Ceska, and A.M. Scagel. 1989. *Indicator plants of coastal British Columbia*. University of British Columbia Press, Vancouver, BC. Pojar, J., and A. MacKinnon. 2004. *Plants of the Pacific Northwest coast*. Lone Pine Press, Vancouver, BC.

Rode, R., Chachilski, C. and Hasse, D. 1998. Propagation of Pacific Northwest Native Plants. Oregon State University Press. Corvalis, OR

Rose, R., C.E.C. Chachulski, and D.L. Haase. 1998. *Propagation of Pacific Northwest native plants*. Oregon State University Press, Corvallis, OR.
Thompson, P. 2005. Creative Propagation. Timber Press. Portland, OR.

Thompson, P. 1993. The propagator's Handbook. Trafalgar Square Publishing. North Pomfret, VT.

Toogood, A. 1999. American Horticultural Society Plant Propagation. DK Publishing. New York, NY.

USDA, ARS, National Genetic Resources Program. *Germplasm Resources Information Network - (GRIN)* [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland.
URL: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?410411 (24 April 2007)

USDA Forest Service. 1988. *Range plant handbook*. Reprint of 1937 report. Dover Publications, New York, NY.

USDA Natural Resource Conservation Service. http://plants.usda.gov/java/charProfile?symbol=AQFO accessed April 7, 2007.

Other Sources Consulted (but that contained no pertinent information):

Brickell, C
Horticultu
plants. DK

Bryant, Ge
Technique
Mechanics

Davidian,
Volume 1

Heuser, C
Propagatio

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		Northwest York, NY Smith, M. by step gu garden. Ro Stevens, C Cyclopedi York, NY Young, J.A *processing* *plants*. Tir
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