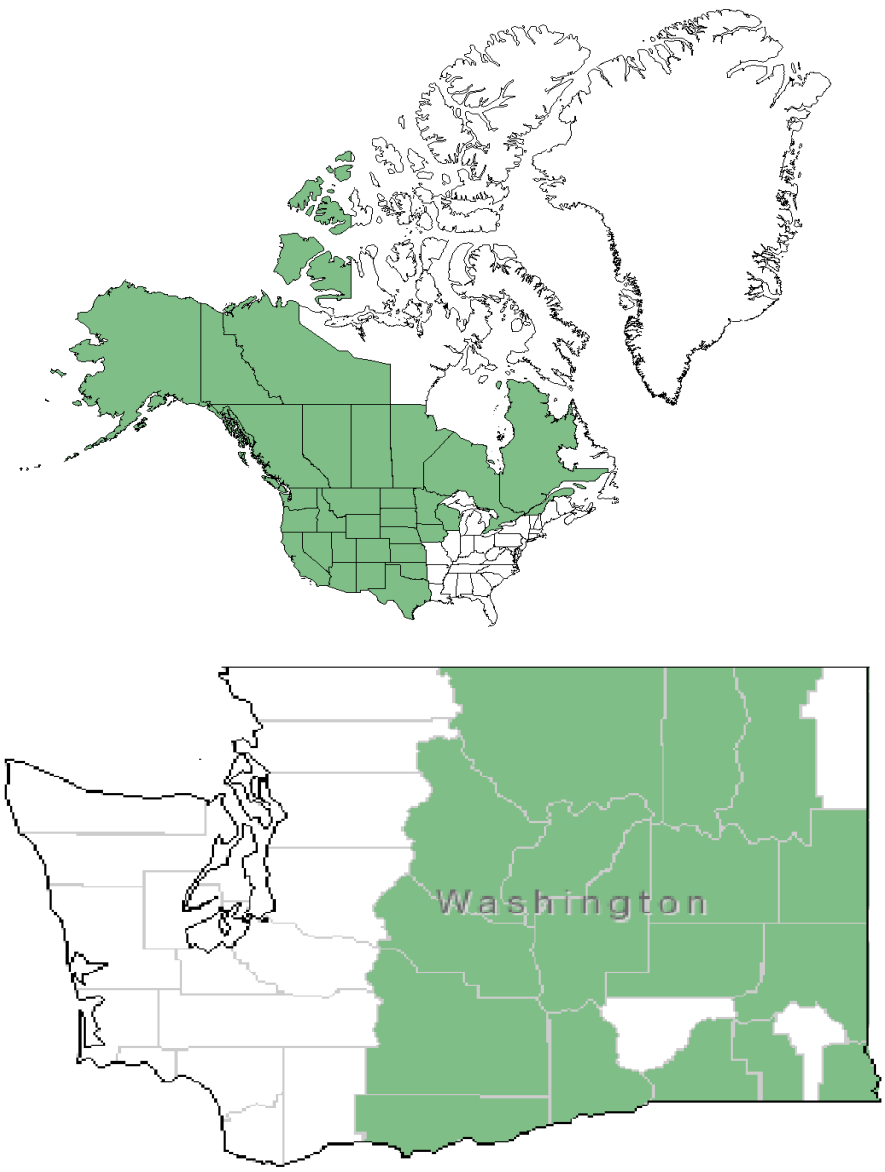
Plant Propagation Protocol for *Rosa woodsii*

ESRM 412 – Native Plant Production

Protocol URL: https://courses.washington.edu/esrm412/protocols/ROWO.pdf

Images[iii]

TAXONOMY	
Plant Family	
Scientific Name	Rosaceae
Common Name	Rose family
Species Scientific Name	
Scientific Name	*Rosa woodsii Lindl.*
Varieties	Rosa woodsii Lindl. var. glabrata (Parish) Cole Rosa woodsii Lindl. var. gratissima (Greene) Cole Rosa woodsii Lindl. var. ultramontana (S. Watson) Jeps Rosa woodsii Lindl. var. woodsii
Sub-species	
Cultivar	
Common Synonym(s)	Rosa woodsii Lindl. var. glabrata Rosa woodsii Lindl. var. gratissima Rosa woodsii Lindl. var. ultramontane Rosa woodsii Lindl. var. woodsii
Common Name(s)	Wood's rose Tehachapi rose Interior rose[i]
Species Code (as per USDA Plants database)	ROWO
GENERAL INFORMATION	
Geographical range	The species is distributed from Alaska south to California, Wisconsin and Texas, and east to Ontario.[ii]

	 Source: USDA PLANTS Database
Ecological distribution	Wood's rose is found on bluffs, dry grassy slopes, and on sand hills throughout the prairies. Additionally, it's found on riverbanks and clearings in boreal and subalpine forests. It is common on disturbed sites throughout the eastern slopes of the Rocky Mountains and is especially prevalent along roadsides and south-facing cut banks. Wood's rose is found throughout the Great Basin, but prefers rather moist sites along streams or in seepage areas along fences. When conditions are favorable, it grows in nearly impenetrable thickets along mountain streams.[iii , ii, vii]
Climate and elevation range	Wood's rose is seldom found where the average annual precipitation is less than 12 inches (260 mm). It is variable in hardiness and climatic tolerance. It will grow in moderate climates as well as alpine environments, which suggests that some plants can tolerate a

	cold, snowy climate with a short growing season. Elevation varies from 3,500 to 11,700 feet.[ii]
Local habitat and abundance	Generally, found in Eastern Washington, it is also found in moist open ground and open woods in the east Columbia River Gorge. It is plentiful and of no concern. The variety most found in Washington State is Rosa woodsii Lindl. var. ultramontane.[ii,viii]
Plant strategy type / successional stage	In many cases Wood's rose occurs as a dominant or codominant under story species in dry or moist forest communities. In terms of ecological succession, Woods' rose follows in several stages of succession. This includes early seral stages. The species is reasonably accepting of drought and seasonal flooding.[iv,ii]
Plant characteristics	The species is a branched, long lived deciduous shrub. It can grow between 2 to 10 feet tall, often growing in thickets. The stems are red and straight, may be unarmed, but when armed have paired thorns. The leaves are alternate and pinnately compound. Flowers have five pink petals and fruits are orange-red hips. Wood's rose reproduces sexually be seed and vegetatively by sprouts, rhizomes and layering[v,iv] The flowers produce little nectar, therefore the primary insect pollinators are bees gathering pollen.[xi]
PROPAGATION DETAILS [vi] **As outlined by RNGR and Dave Dreesen** ***unless cited with different source***	
Ecotype	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	
Time to Grow	0
Target Specifications	Stock Type: One-Gallon Tree Pot, 4"x4"x14". Root System: Consolidated root mass sufficient to prevent root ball disintegration during out planting.
Propagule Collection Instructions	Collect seed after they turn bright red and kept separated according to site, elevation and source. Keep hips refrigerated prior to cleaning.[iv]
Propagule Processing/Propagule Characteristics	
Pre-Planting Propagule Treatments	2-3 months of cold moist stratification at 40 F. Following with a period of warm moist stratification may improve germination.[iv] Treat seed by wet tumbling, some species may benefit from severe imbibition or leaching of germination inhibitors. Wet tumbling should be accomplished as follows: place seed in rubber line rock tumbler and jar along with tap water. Duration of tumbling is based on the appearance of seed and the leach water. The water in the tumbler is changed daily.

	Dried seeds can be stored in air-tight containers. They will remain viable for 2-4 years.[iv]
Growing Area Preparation / Annual Practices for Perennial Crops	Environment for propagation will ideally be in a Greenhouse with 70° F day temperatures and 55° F night temperatures during winter. Maximum summer temperatures of 85° F. A watering bench with mini-sprinklers automatically waters plug trays once a day in early morning. During extremely hot periods during summer, twice a day watering is required. Root egress from plugs cell may be prevent by covering the watering bench in a copper-coated fabric (Texel Forestry Fabric). Dry or pretreated seed are sown in plug flats with square deep cells (288 or 512 cells per flat). Growing media is the commercially available Sunshine #1. Trays should be loosely filled with media that is slightly moist to dry, leveled, and compressed with an empty plug tray. The number of seed sown will depend on the size of seed and estimated germination. Smaller or fluffy seed should be dispersed as evenly as possible while large seed should be sown with a goal of 2 to 5 seeds per cell. Small seed is not covered if small enough to be washed into media by water. Fluffy receive a light covering of pearlite, while larges seed are slightly covered with pearlite. Ray Leach Super Cell (10 cubic inch volume, 1.5 diameter, and 8.25-inch depth) containers. Growing media mix is 2 parts Sunshine #1 or #2 with 1-part perlite. Additives to soil mix are 2-4 kg controlled release fertilizer, Osmocote Plus 15-9-12 per cubic yard of mix. For plants started in the greenhouse during winter, 8-9-month release CRF is used, but for spring grown material 3-4-month release CRF is used.
Establishment Phase Details	Filled super cells are dibbled which affords a hole to plug seedlings. The root ball is removed by a flat powder spatula. The blade of the spatula is plunged along the side of the root ball. The seedling plug is pried out of the cell. The seedling is then dropped in to the hole of the super cell. The cells are watered which fills and firms any voids around the plug. During the transplanting process, excess germinant are cut off. These require transplanting shortly after germination and radicle elongation. The seedling in the Super Cell are watered with fertilizer (soluble fertilizer: Peters Peat Lite Special 20-10-20 at 200-mg/l nitrogen) every other watering period. Seedlings may be thinned to one per container during this phase, when seedling are about 2 – 4 cm tall.
Length of Establishment Phase	
Active Growth Phase	Fertilizing of Super Cells continues as outlined in the Establishment Phase.

Length of Active Growth Phase	
Hardening Phase	Ideally Super Cell seedlings are ready to move outside in early May. This after the last freeze but for excessively hot outdoor temperatures. Larger seedlings in outdoor nurseries may require daily watering. While smaller seedlings generally require watering every other day. The seedlings are fertigated about once a week with Peters Peat Lite Special 20-10-20 at a rate of 200-mg/l nitrogen.
Length of Hardening Phase	
Harvesting, Storage and Shipping	Fertilizing of Super Cells continues as outlined in the Establishment Phase.
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	In the field, young plants may need protection from rodents, livestock and wildlife. [x]
Other Comments	Seedling growth is moderate, as well as moderate to fast later growth. Moderate water requirement. It has also been reported that the specie can be reproduced by hardwood cuttings, softwood cuttings, root suckers and layering.[ix, x]
INFORMATION SOURCES	
References	[i] Sierra Nevada Wildflowers, Karen Wiese, 2nd ed, 2013, p 89 [ii] "US Forest Service Fire Ecology". Fs.fed.us. Retrieved 04/25/2016. [iii] "The Wild Garden: Hansen's Northwest Native Plant Database". www.nwplants.com. Retrieved 04/25/2016. [iv]The Pullman Plant Materials Center, Pullman, Washington. "USDA" (pdf). *Rosa woodsii*.Retrieved 04/26/2016. [v] "Lady Bird Johnson Wildflower Center - The University of Texas at Austin". www.wildflower.org. Retrieved 04/26/2016. [vi] "Rosaceae (Rosa) — Reforestation, Nurseries and Genetics Resources". npn.rngr.net. Retrieved 04/26/2016. [vii] Utah, Range Plants of. "Woods Rose - Range Plants of Utah - extension.usu.edu". *extension.usu.edu*. Retrieved 04/26/2016. [viii] "WTU Herbarium Image Collection - Burke Museum". biology.burke.washington.edu. Retrieved 04/25/2016. [ix] Rose, R., C.E.C. Chachulski, and D.L. Haase. 1998. Propagation of

	Pacific Northwest Native Plants. Oregon State University Press, Corvallis, OR. Retrieved 04/26/2016. [x] Shaw, N.L., S.B. Monsen, and R. Stevens. 2004. Rosaceous shrubs. In: S.B. Monsen, R. Stevens and N.L. Shaw, eds. Restoring western ranges and wildlands. USDA Forest Service Gen Tech Rep. RMRS-GTR-136-vol-2., USDA Forest Service Rocky Mountain Research Station, Fort Collins, CO. Retrieved 04/26/2016. [xi] Mader, E., M. Shepherd., M. Vaughan, S.H. Black, and G. LeBuhn. 2011. Attracting Native Pollinators. The Xerces Society. Storey Publishing, North Adams, MA. Retrieved 04/26/2016.
Other Sources Consulted	-"Southwest Colorado Wildflowers" *www.swcoloradowildflowers.com*. Retrieved 04/26/2016. -"Rosa woodsii Western Wild Rose, Woods' rose, Tehachapi rose PFAF Plant Database". www.pfaf.org. Retrieved 04/26/2016. -Qian, Hong; Klinka, K. (1998-01-01). Plants of British Columbia: Scientific and Common Names of Vascular Plants, Bryophytes, and Lichens. UBC Press. ISBN 9780774806527. Retrieved 04/25/2016. - Washington, WTU Herbarium, Burke Museum, University of. "CPNWH Search Results". www.pnwherbaria.org. Retrieved 04/26/2016.
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Previous protocol: http://depts.washington.edu/propplnt/Plants/rosa%20woodsii.htm

Plant Data Sheet

Species (common name, **Latin name**)
Wood's rose**, Rosa woodsii**

Range
Wood's rose occurs from Minnesota west and northwest to Alaska and British Columbia, south to Arizona, northern Mexico and western Texas and north to western Kansas and North Dakota. It is the most widespread native rose in Alberta.[3]

Climate, elevation
Wood's rose is seldom found where the average annual precipitation is less than 12 inches (260 mm). It is variable in hardiness and climatic tolerance. It will grow in moderate climates as well as alpine environments, which suggests that some plants can tolerate a cold, snowy climate with a short growing season. Elevation varies from 3,500 to 11,700 Feet.[3]

Local occurrence (where, how common)
Generally found in Eastern Washington, it is also found in moist open ground and open woods in the east Columbia River Gorge. It is plentiful.[3]

Habitat preferences
Wood's rose occurs on bluffs, dry grassy slopes, and on sandhills throughout the prairies. It is also found on riverbanks and clearings in boreal and subalpine forests. It is common on disturbed sites throughout the eastern slopes of the Rocky mountains and is especially prevalent along roadsides and south-facing cutbanks. Wood's rose is found throughout the Great Basin but prefers rather moist sites along streams or in seepage areas along fences. When conditions are favorable, nearly impenetrable thickets of Wood's rose are formed along mountain streams. [1,3]

Plant strategy type/successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)
Wood's rose is an aggressive pioneer of abandoned fields, disturbed sites, gullies, and land cuts and fills. In many cases Wood's rose occurs as a dominant or codominant under story species. [2,3]

Associated species
Western snowberry (Symphoricarpos occidentalis), common chokecherry (Prunus virginiana), hawthorn (Crataegus spp.), serviceberry (Amelanchier alnifolia), Kentucky bluegrass (Poa pratensis), fowl bluegrass (P. palustris), quackgrass (Agropyron repens), big sagebrush (Artemisia tridentata), western river alder (Alnus incana), virginsbower (Clematis ligusticifolia), golden currant (Ribes aureum), coyote willow (Salix exigua), cheatgrass (Bromus tectorum), beardless wildrye (Elymus triticoides), sweet scented bedstraw (Galium triflorum), quaking aspen (Populus tremuloides), and Canada thistle (Cirsium arvense). [3]

May be collected as: (seed, layered, divisions, etc.)
Seed[3]

Collection restrictions or guidelines
Generally first flower and produce seed when they are 2 to 5 years old. [3]

Seed germination (needs dormancy breaking?)
The seeds have a seed coat dormancy and require warm or cold stratification.

Seed life (can be stored, short shelf-life, long shelf-life)
The seeds remain viable for 2 to 5 years. [3]

Recommended seed storage conditions
Refrigerated in sealed containers. [3]

Propagation recommendations (plant seeds, vegetative parts, cuttings, etc.)
Cuttings, seed. [3]

Soil or medium requirements (inoculum necessary?)
Shallow, extremely sandy, dry or overly acidic or alkaline, it will succeed in difficult soils. [1,3]

Installation form (form, potential for successful outcomes, cost)
The Wood's Rose is an excellent species for erosion control, and regenerating troubled areas. For this reason they are very useful in stabilizing stream banks where erosion is highly detrimental. Furthermore, it is not adversely affected by competition with grasses. [1,3]

Recommended planting density
2.0 to 2.5 feet apart so a dense canopy forms[2]

Care requirements after installed (water weekly, water once etc.)
Regular watering[1]

Normal rate of growth or spread; lifespan
The Wood's Rose is a rapid grower, even in areas with a very short growing season. [3]

Sources cited
1) Hansen, W. Native Plants of the Northwest. http://www.nwplants.com. April 12, 2006

2) Topeka, Lynn. *Lewis & Clark's Columbia River.* http://englishriverwebsite.

com/LewisClarkColumbiaRiver. April 12, 2006

3) USDA Forest Service. *Fire Effects Information System*. http://www.fs.fed.us. April 12, 2006

Data compiled by (student name and date)
Patrick Keegan April 12, 2006.