

Plant Propagation Protocol for *Synthyris pinnatifida*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/SYPI.pdf>



Source #3



Source #5

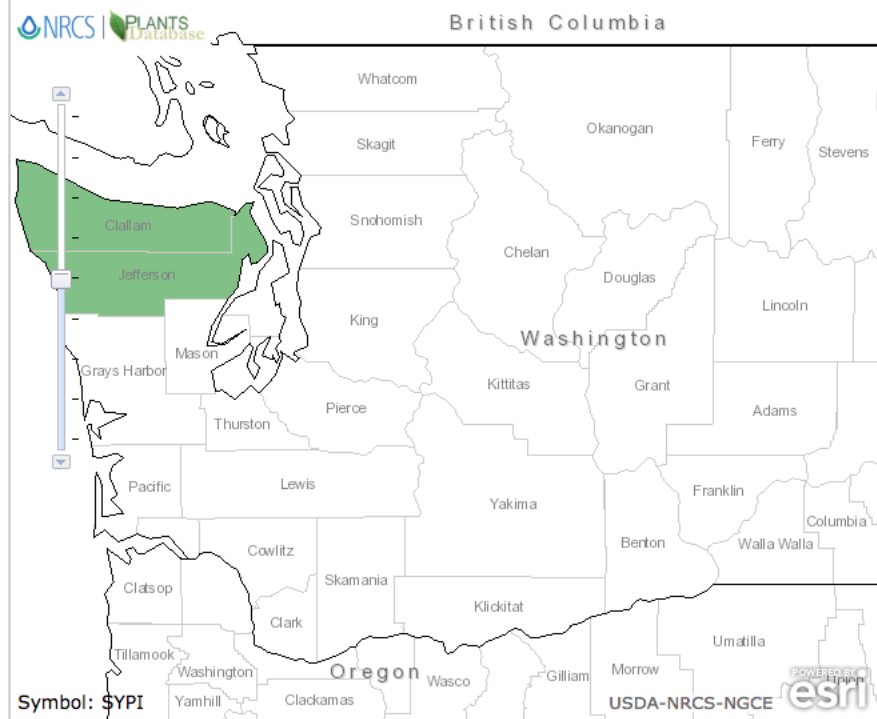
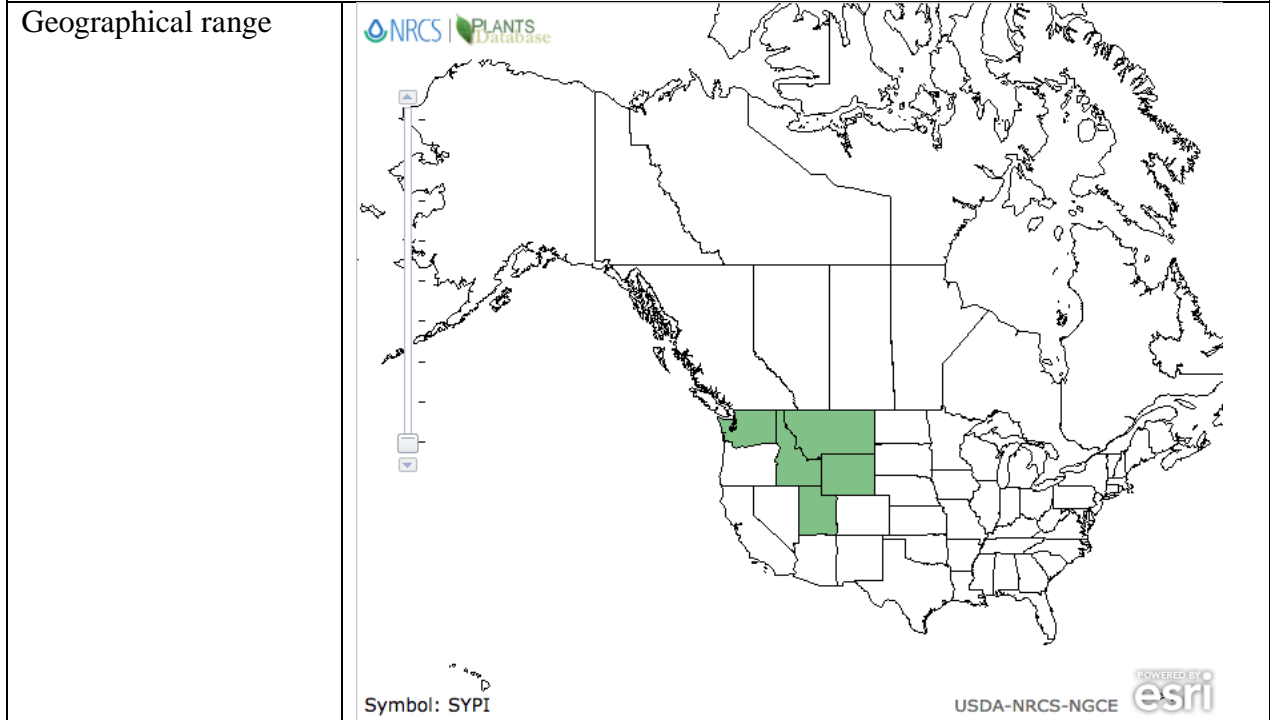
TAXONOMY

Information from Source #8 unless otherwise annotated


Plant Family	
Scientific Name	Scrophulariaceae
Common Name	Figwort
Species Scientific Name	
Scientific Name	<i>Synthyris pinnatifida</i> S. Watson
Varieties	
Sub-species	<i>Var. canescens</i> , hairy kittentails <i>Var. lanuginosa</i> (Washington state threatened, BLM and USFS sensitive ¹¹) <i>Var. pinnatifida</i>
Cultivar	
Common Synonym(s)	<i>Synthyris pinnatifida</i> var. <i>pinnatifida</i> ¹⁰ <i>Veronica paysonii</i> ⁹
Common Name(s)	Featherleaf kittentails Cut-leaf kittentails ⁵ Cut-leaf synthyrus ¹¹

Species Code (as per USDA Plants database)	SYPI
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GENERAL INFORMATION



Source: USDA PLANTS Database⁸

Ecological distribution	<p>High alpine ecosystems with exposed ridgetop fellfields¹³ or dry rocky areas¹¹</p> <p>Endemic to the Olympic Peninsula¹¹, it is only found east of the Elwha River and north of the Dosewallips River¹³</p>
Climate and elevation range	<p>Ideal elevation ranges from 1400 to 2100 meters¹¹ with an average elevation of 1922 meters¹³. This plant is only found in narrow environmental conditions of alpine climates. Amongst rocks, its soil should be well drained¹²</p>
Local habitat and abundance	<p>Local communities are comprised of the following dense cushion plants¹¹:</p> <ul style="list-style-type: none"> • Cushion buckwheat • Spreading phlox • Roemer's fescue • Grasses • Cut-leaf daisy • Alpine smelowskia • Shrubby cinquefoil • Locoweed • Pacific lupine • Yarrow <div data-bbox="602 1094 1365 1612" style="text-align: center;">  </div> <p>Source #5</p>
Plant strategy type / successional stage	<p>Habitat specialist blooming in June through August as a perennial dicot^{8, 5, 13}</p>
Plant characteristics	<p>This forb has herbaceous white or silvery green foliage shooting up from a short rhizome. Basal leaves are pinnately dissected and grow about four centimeters long, half as wide with petioles that are longer</p>

than the blades. The stem grows from five to twenty centimeters tall with bract like alternate leaves and ends with a purple raceme flower. These four to seven millimeter long inflorescences have a few small bracts, a calyx of four sepals. These sepals are the only part of that plant that is not covered in soft, fine hairs. Its small round fruits are also hairy and can reach 8 millimeters in size.^{5, 11}

This genus is long lived and can reproduce both by self-fertilizing in asexual reproduction and by outcrossing.⁶



Source #11

PROPAGATION DETAILS

Ecotype	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	
Stock Type	
Time to Grow	
Target Specifications	
Propagation Collection Instructions	Seeds are flat and thin margined ¹¹

Propagule Processing/Propagule Characteristics	
Pre-Planting Propagule Treatments	
Growing Area Preparation / Annual Practices for Perennial Crops	
Establishment Phase Details	
Length of Establishment Phase	
Active Growth Phase	
Length of Active Growth Phase	
Hardening Phase	
Length of Hardening Phase	
Harvesting, Storage and Shipping	
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	Outplant in the spring onto northwest or southeast aspects ^{7, 1}
Other Comments	Protocol author sorted through many sources on characteristics and genetics to find the limited propagation information
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Propagules, divisions
Stock Type	
Time to Grow	
Target Specifications	Established plant with healthy crown that is down flowering for the season ^{4, 2}
Propagule Collection Instructions	

Propagule Processing/Propagule Characteristics	
Pre-Planting Propagule Treatments	
Growing Area Preparation / Annual Practices for Perennial Crops	
Establishment Phase Details	
Length of Establishment Phase	
Active Growth Phase	
Length of Active Growth Phase	
Hardening Phase	
Length of Hardening Phase	
Harvesting, Storage and Shipping	
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	Outplant in the autumn onto northwest or southeast aspects ^{12, 1}
Other Comments	Protocol author sorted through many sources on characteristics and genetics to find the limited propagation information
PROPAGATION DETAILS	
Application Based on <i>Synthyris</i> genus, specifically <i>Synthyris missurica</i> and <i>bullii</i>	
Ecotype	Pacific Northwest or Midwestern USA
Propagation Goal	Plants
Propagation Method	Seed
Product Type	
Stock Type	
Time to Grow	
Target Specifications	
Propagule Collection Instructions	

Propagule Processing/Propagule Characteristics	
Pre-Planting Propagule Treatments	Seeds should be stored in dry conditions just below room temperature. Germination rates decrease with seed age with diminished germination success after four years of storage. No stratification is needed. ¹⁵ Sow seeds in the late spring time. ^{14, 16}
Growing Area Preparation / Annual Practices for Perennial Crops	Germination is best in media that retains moisture and has a good nutrient balance of nitrogen, phosphorus and potassium. Media like Fafard Super-fine Germinating Mix is recommended. Seedlings should be grown in full sun to partial sun conditions. ¹⁵
Establishment Phase Details	Sown seeds should be watered everyday ¹⁵
Length of Establishment Phase	Two weeks ¹⁵
Active Growth Phase	
Length of Active Growth Phase	
Hardening Phase	
Length of Hardening Phase	
Harvesting, Storage and Shipping	
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	
Other Comments	This method was derived from information on the <i>Synthyris</i> genus, specifically <i>Synthyris missurica</i> and <i>bullii</i> . It is not known if <i>Synthyris pinnatifida</i> will germinate the same. Use caution and experiment before applying at a large scale.
INFORMATION SOURCES	
References	See Below
Other Sources Consulted	Center for Natural Lands Management. Strategy for the Cooperative Recovery of Rare Species Affecting Training Ranges: Native Seed Production Strategy A Key Piece of South Puget Sound Prairie Conservation. DoD Environment, Safety and Occupational Health Network and Information Exchange, 2011. Accessed June 4, 2018.

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Protocol Author	Ariana Winkler
Date Protocol Created or Updated	06/04/18

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