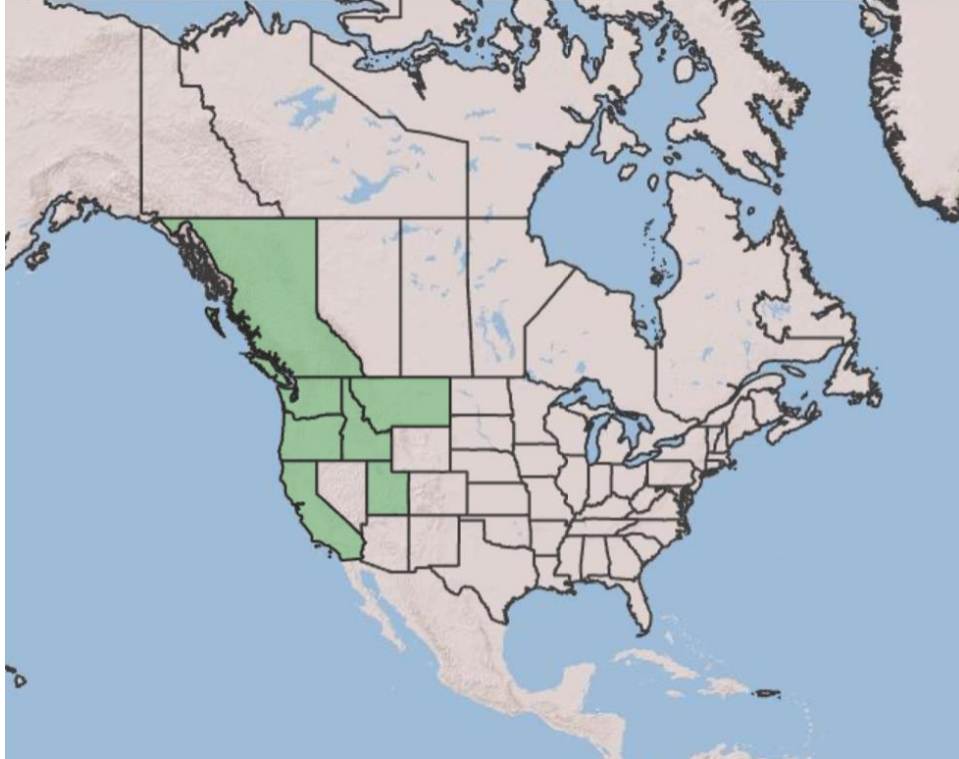


Plant Propagation Protocol for *Claytonia cordifolia*

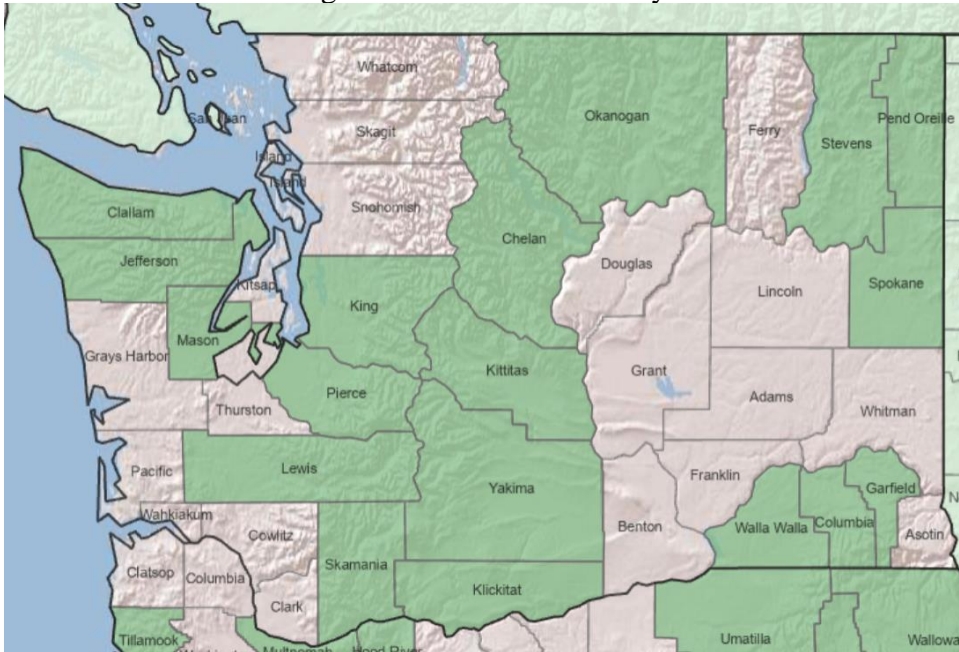
ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2025/CLCO3.pdf>

North America Distribution¹



Washington Distribution – County level¹



TAXONOMY	
Plant Family	
Scientific Name	Portulacaceae
Common Name	Purslane family
Species Scientific Name	
Scientific Name	<i>Claytonia cordifolia</i> S. Watson
Varieties	None
Sub-species	None
Cultivar	None
Common Synonym(s)	<i>Claytonia sibirica</i> L. var. <i>cordifolia</i> (S. Watson) R.J. Davis <i>Montia cordifolia</i> (S. Watson) Pax & K. Hoffm.
Common Name(s)	Heartleaf springbeauty, Broadleaf springbeauty, Broadleaf Claytonia
Species Code (as per USDA Plants database)	CLCO3
GENERAL INFORMATION	
Geographical range	Native Distribution in Southern British Columbia south to northern California, western Montana, east to northern Utah, Idaho, Oregon, and Washington. ² See maps above for distribution on North America and Washington state.
Ecological distribution	Typically occurs in wet soils, often along streams, seeps, and moist meadows at moderate to mid-elevations in montane environments. ³
Climate and elevation range	Cool temperate and cool mesothermal climates on very shallow, calcium-rich soils. ⁴ Elevation range from 500-2000m. ⁵
Local habitat and abundance	Wet soil near springs and streams; more abundance in mountains. ² Less frequent eastward; amphiberian, S to MT, UT and CA; E Asia. ⁴ Commonly associated with moist spruce or redcedar forests. ⁶
Plant strategy type / successional stage	Stress-tolerator and seral species, based on its ecological preference for moist, saturated soils in montane to subalpine habitats. Not a strong competitor or early colonizer, but persists in relatively stable, moisture-stressed environments. ^{1, 5}
Plant characteristics	Somewhat succulent perennial herb/forb from a horizontal rhizome from which arise, at distinct intervals, several clumps of 1-several erect, simple stems 1-3 dm. tall. ³ Leaves are triangular-ovate and often cordate, 3-6 cm. broad and somewhat shorter, with petioles 2-3 times as long as the blade. ³

	Flowers are 10–15 mm diam.; sepals 4–8 mm; petals white, 8–12 mm; ovules 6. ⁵
PROPAGATION DETAILS	
Ecotype	Alpine fellfield, Glacier National Park, Glacier Co., MT. ⁷
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	160 ml container
Time to Grow	8 months
Target Specifications	Height: 4 to 6 true leaves, 2 cm Root System: firm plug in container. ⁷
Propagule Collection Instructions	Seeds are collected in late summer when the capsules turn tan. Seeds are shiny black at maturity. ⁷ Seed collection process is unknown.
Propagule Processing/Propagule Characteristics	Seed Storage is at least 5 years under cool, dry conditions. Seed dormancy is classified as physiological dormancy. Seeds/Kg: unknown % Purity: 100% % Germination: 20%. ⁷
Pre-Planting Propagule Treatments	Seeds are hand cleaned at the nursery. 5 month outdoor cold moist stratification, Germination occurs at 21C in an outdoor nursery growing facility. ⁷
Growing Area Preparation / Annual Practices for Perennial Crops	Growing medium used is 6:1:1 milled sphagnum peat, perlite, and vermiculite with Osmocote controlled release fertilizer and Micromax fertilizer per 172 ml container. ⁷
Establishment Phase Details	Direct Seeding. Seeds are covered with medium. Containers are filled and sown in late fall and irrigated thoroughly prior to winter stratification. Seedlings germinate in spring under fluctuating outdoor temperatures and are grown under full sun exposure. True leaves appeared 3 weeks after germination. ⁷
Length of Establishment Phase	4 weeks
Active Growth Phase	Plants produced 4 to 6 true leaves in a tight rosette with a fleshy taproot. Plants were root tight in containers 5 weeks after germination. Seedlings must dry down between irrigations. ⁷
Length of Active Growth Phase	8 weeks
Hardening Phase	Claytonia cordifolia is generally winter-hardy. In colder climates, it may benefit from a layer of mulch to protect roots from freezing. ⁸

Length of Hardening Phase	This high elevation species is adapted to very rapid growth and development following germination and plants are outplanted during its first year. ⁷
Harvesting, Storage and Shipping	Seedlings are kept cool and roots stay moist (wrapped in damp paper towels or kept with moist medium),
Length of Storage	Short-term storage (up to 1–2 weeks) is typically safe. ⁸
Guidelines for Outplanting / Performance on Typical Sites	No exact percent of survival, but this species is cold adapted and stress tolerant when in its ideal climate. Flowers from Jun-Aug. ⁹ ~8 months from outplanting
Other Comments	Some aspects of this protocol are based on collective information of other Claytonia Genus where information on this specific species could not be found.
INFORMATION SOURCES	
References	See Below
Other Sources Consulted	¹⁰ Baskin, Carol, and Jerry Baskin. “Native Plant Network — Reforestation, Nurseries and Genetics Resources.” Claytonia (megarhiza), 2002. Accessed May 23, 2025, https://npn.rngr.net/ .
Protocol Author	Lexi Nakamura
Date Protocol Created or Updated	05/24/25

References:

¹ “Claytonia Cordifolia S. Watson,” (n.d.), USDA plants database, accessed May 22, 2025, <https://plants.sc.egov.usda.gov/plant-profile/CLCO3>.

² “Plant Database,” Lady Bird Johnson Wildflower Center - The University of Texas at Austin, May 2, 2023, accessed May 22, 2025, https://www.wildflower.org/plants/result.php?id_plant=CLCO3.

³ Legler, Ben, and David Giblyn. “Claytonia Cordifolia Broadleaf Springbeauty, Heart-Leaf Springbeauty.” (n.d.), Claytonia cordifolia - Burke Herbarium Image collection. Accessed May 22, 2025. <https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Claytonia+cordifolia#:~:text=Distribution%3A%20Occurring%20on%20both%20sides,mid-elevations%20in%20the%20>

⁴ Klinkenberg, Brian. (Editor) 2020.” E-Flora BC: Electronic Atlas of the Plants of British Columbia” [eflora.bc.ca]. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. Accessed May 22, 2025. <https://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Claytonia%20sibirica&noTransfer=0>

⁵ Miller, John M. “Claytonia Cordifolia.” Claytonia cordifolia - FNA, July 30, 2020. Accessed May 22, 2025. https://floranorthamerica.org/Claytonia_cordifolia.

⁶Heart-leaf Springbeauty — *Claytonia cordifolia*.” (n.d.), Montana Field Guide. Montana Natural Heritage Program. Accessed May 22, 2025, from <https://FieldGuide.mt.gov/speciesDetail.aspx?elcode=PDPOR03050>

⁷Luna, Tara, Jeff Evans, and Dale Wick. “Native Plant Network — Reforestation, Nurseries and Genetics Resources.” *Claytonia (megarhiza)*, 2008. Accessed May 23, 2025. <https://nnp.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=portulacaceae-claytonia-130&referer=wildflower>.

⁸Sowtrueseed.com. “Planting Guide and Seed Saving Notes for Claytonia.” (n.d.), Sow True Seed. Accessed May 23, 2025. <https://sowtrueseed.com/pages/planting-guide-and-seed-saving-notes-forclaytonia#:~:text=Sow%20seeds%20%C2%BD%22%20deep%20and,summer%20for%20a%20fall%20crop>.

⁹*Claytonia cordifolia*. (n.d.), Accessed May 23, 2025. https://ucjeps.berkeley.edu/eflora/eflora_display.php?name=Claytonia%2Bcordifolia.