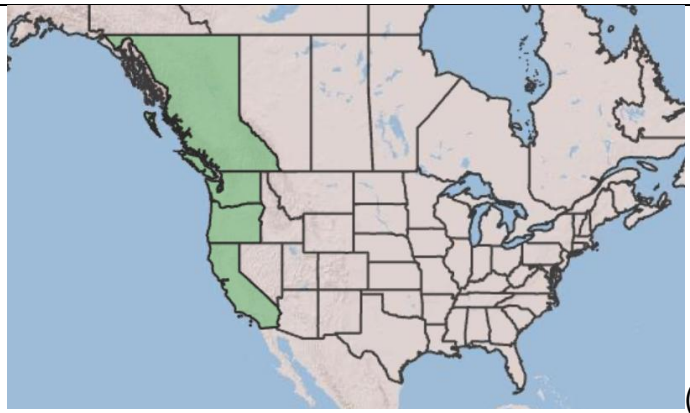
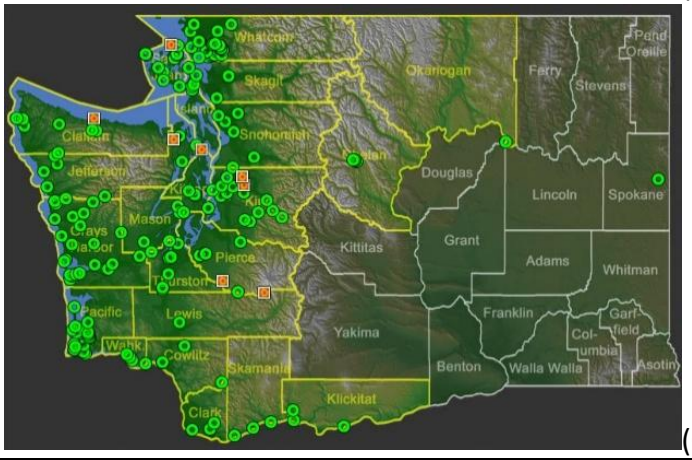
Plant Propagation Protocol for *Carex Obnupta*

ESRM 412 – Native Plant Production

URL: https://courses.washington.edu/esrm412/protocols/*2026*/*CAOB3.pdf*

TAXONOMY	
Plant Family	
Scientific Name	Cyperaceae Juss.
Common Name	Sedge family
Species Scientific Name	
Scientific Name	*Carex obnupta* L.H. Bailey
Varieties	None
Sub-species	None
Cultivar	None
Common Synonym(s)	CAMA46 - *Carex magnifica* Dewey ex Piper
Common Name(s)	slough sedge
Species Code (as per USDA Plants database)	CAOB3
GENERAL INFORMATION	
Geographical range	 (USDA)  (Giblin)

	Resides in Northeast America.[1] Occurs West of Cascades in WA.[3] and along the coast of British Columbia south to northern California.[4] Occurs in all counties in Northwest Oregon.
Ecological distribution	Wetlands of variable hydroperiods.[8]
Climate and elevation range	Occurs at low elevations below 900m.[2] Grows in seasonally saturated or inundated areas.[16]
Local habitat and abundance	Sloughs, shores, wet meadows, riparian forest, and ditches, in sun or shade. [3] Also found in wet and shallow bogs, marshes, muddy areas, riverbanks, and swamps.[4] In muddy areas, it grows as a dense, single species stand. Also grows in habitats where saltwater and freshwater meet such as the mouths of rivers entering the Pacific Ocean, lagoons, or the Puget Sound.[2] Abundance decreased with increased elevation. Can be found growing near skunk cabbage (*Lysichiton americanum*).[4] Also *Carex cusickii*, *Ledum groenlandicum*, *Mimulus guttatus*, *Nuphar polysepalum*, *Oenanthe sarmentosa*, *Spiraea douglasii, Rubus spectabilis*, and *Alnus rubra*.[5]
Plant strategy type / successional stage	Drought tolerant and tolerant of waterlogged, saturated soil in winter. Aggressively spreads by rhizome so it is able to block out growth of weeds.[14] Can also be used for erosion control and streambank stabilization. Perennial sedge.[15]
Plant characteristics	Evergreen, rhizomatous sedge species.[8] Is a grasslike plant that grows 60-150 cm tall. Densely tufted with stout, creeping rhizomes. Leaves shaped like a W, are coarse, and have margins rolled under. Flowers are cylindrical in clusters of 4-8 with large, long spikes reaching 5-12 cm; loosely aggregated at the tip. Has similar characteristics to *Carex lyngbyei*.[2]
PROPAGATION DETAILS: FROM SEED	
Ecotype	Wet areas of lands including marshes, bogs, and wetlands. Low elevations; common where salt and fresh water meet.[7] Also Marin County, California.[12]
Propagation Goal	Plants[7]
Propagation Method	Seed[7]
Product Type	Container (plug)[7]
Stock Type	Deepot[12]
Time to Grow	Weeks[7]
Target Specifications	Firm plug in container.[12] Well-developed crowns, roots and rhizomes filling soil profile in container.[7]
Propagule Collection Instructions	Fruits June-August.[11] Blooms from April-July.[2] Seeds should be collected when ripe with full seed heads and are collected between July-September.[2]
Propagule Processing/Propagule Characteristics	1203 seeds per gram.[10] Mature inflorescences are brown.[12] To clean seeds, blow out light seeds.[2]

Pre-Planting Propagule Treatments	In order to break dormancy, this plant requires 45 days of cool/moist(38F) stratification.[7] Soak seeds in water for 24 hours before stratification.[12] Seeds can also be soaked in water with sphagnum moss before stratification.[2]
Growing Area Preparation / Annual Practices for Perennial Crops	Fully controlled greenhouse where primary media type is Sunshine Mix #4 Aggregrate Plus (peat moss, perlite, major and minor nutrients, gypsum, and dolomitic lime). Using Transplanting Germinants as the sowing method, seeds are mixed with media and are surface sown in flats. Automatic irrigation system used on flats and placed on heated bench.[12] Temperatures from 21 degrees C to 32 degrees C increases germination percentages.[2]
Establishment Phase Details	Seeds begin to germinate after two weeks in warm temperatures.[2] In Marin County, Ca: Seeds germinate 30 days after sowing. Transplant Survival averages 65% after 2 months.[12]
Length of Establishment Phase	2 months.[12]
Active Growth Phase	Keep in cool temperatures and moist soils.[2]
Length of Active Growth Phase	100-120 days.[2]
Hardening Phase	No information found on species, but information for closely related congener *Carex cusickii* that resides in the same habitat states that no dry-down is done to induce dormancy, and seedlings are moved to an outdoor growing area in mid-September.[17]
Length of Hardening Phase	2 weeks based on congener *Carex Cusickii.*[17]
Harvesting, Storage and Shipping	Transported and stored in a cool location before planting. For easier transport, soil can be washed from roots. Roots should always remain moist or in water until planting.[2]
Length of Storage	Minimal- should be planted as soon as possible.[2]
Guidelines for Outplanting / Performance on Typical Sites	It should be planted in fall after the first rains. Planting Is best in dormancy, cool temperatures, and moist soils. If grown in plugs, it may be sectioned into smaller units around 2.4x2.4in or bigger with healthy rhizomes and tops. Weeds should be removed beforehand and soil can be washed from the roots and kept moist/in water until planted. For the first year in good site conditions, planting densities of 1-meter centers provide full coverage or ½ meter near flowing water. In Marin County, CA, transplant Survival averages 65%.[12] Wetland sedges planted in locations with N and P supply, overall nutrient supply and species shown to be significantly increased in total biomass. Biomass is greatest with N:P supply ratio of 15 and high nutrient supply level.[13] Increased N levels increase flower stalk, seed production, seed weight, and seed viability.[2]
Other Comments	
INFORMATION SOURCES	

References	[1]*Carex obnupta L.H. Bailey*. USDA plants database. (n.d.). https://plants.sc.egov.usda.gov/plant-profile/CAOB3/characteristics [2]Stevens, M. (n.d.). *Slough Sedge*. SLOUGH SEDGE. https://plants.sc.egov.usda.gov/DocumentLibrary/plantguide/pdf/cs_caob3.pdf [3]Giblin, D. (n.d.). *Carex Obnupta*. Carex obnupta - Burke Herbarium Image Collection. https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Carex+obnupta [4]colliek2. (2024, August 21). *Slough Sedge (Carex obnupta)*. Oregon Sea Grant Sustainable Tourism. https://blogs.oregonstate.edu/coastaltourism/slough-sedge-carex-obnupta/ [5]Kunze, L. M. (1994, March). *Preliminary classification of native, low-elevation, freshwater wetland vegetation in western Washington*. Washington State Department of Natural Resources, Natural Heritage Program. https://dnr.wa.gov/sites/default/files/2025-03/amp_nh_wetland_class.pdf [6]Catching, P. (2000, August). *Carex obnupta - slough sedge*. Northwestern Oregon Wetland Plants Project. https://web.pdx.edu/~maserj/ESR410/Carexobnupta.html [7]2015. Propagation protocol for production of Container (plug) *Carex obnupta* plants USDA NRCS - Corvallis Plant Materials Center Corvallis, Oregon. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/04/27). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources. [8]Hough-Snee, N. W. (2010). *The effects of flooding depth, fertilization and initial seedling size on the growth and biomass allocation of two wetland sedges, Carex obnupta and Carex stipata*. University of Washington. https://depts.washington.edu/uwbg/research/theses/Nate_Hough-Snee_2010.pdf [9]Stanley, G. B., & Verlinde, S. (n.d.). *Carex obnupta*. Washington Native Plant Society. https://www.wnps.org/native-plant-directory/78:carex-obnupta [10]Gillespie, Q. (n.d.). Updated 2025. *Suggested purity and/or germination testing methods for species without AOSA Rules testing procedures*. Association of Official Seed Analysis. https://analyzeseeds.com/wp-content/uploads/2020/07/Species-without-Rules-Revised-6-2020.pdf

	[11]Flora of North America online: Volume 23: Cyperaceae. Accessed 27 April 2026 from http://www.efloras.org/volume_page.aspx?volume_id=1023 [12]Young, Betty. 2001. Propagation protocol for production of Container (plug) *Carex obnupta* Bailey plants Deepot 16; San Francisco, California. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/04/27). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources. [13]Güsewell, S. Responses of wetland graminoids to the relative supply of nitrogen and phosphorus. *Plant Ecol* **176**, 35–55 (2005). https://doi.org/10.1007/s11258-004-0010-8 [14]*Carex obnupta (Slough sedge)*. Native Plant Salvage Foundation. (n.d.). https://www.nativeplantsalvage.org/native-plant-database/p/carex-obnupta-slough-sedge [15]*Carex obnupta - Slough sedge*. Friends of Buford Park & Mt. Pisgah. (n.d.). https://bufordpark.org/pages/carex-obnupta-slough-sedge [16]Leigh, M. (1999). Grow You Own Native Landscape. Native Plant Salvage Project: WSU Cooperative Extension—Thurston County. https://wpcdn.web.wsu.edu/wp-ecommerce/uploads/sites/2/woocommerce_uploads/MISC0273-new-Logo24-jmv4rn.pdf [17]Riley, Lee E.; Klocke, Allison. 2018. Propagation protocol for production of Container (plug) *Carex cusickii* Plants 107 ml (6.5 in3) container; USDA FS - Dorena Genetic Resource Center Cottage Grove, Oregon. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/06/03). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.
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Date Protocol Created or Updated	06/3/26