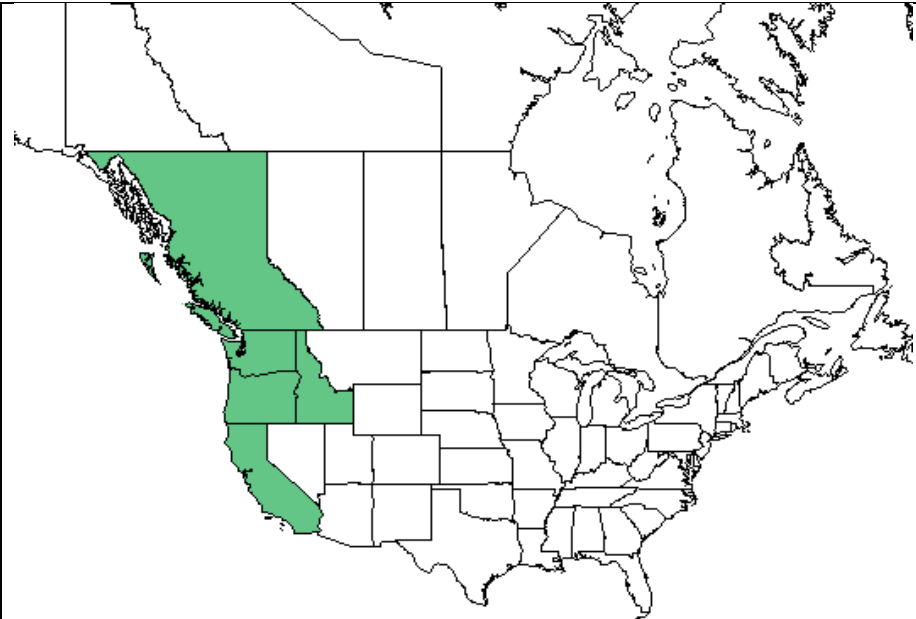


**Plant Propagation Protocol for [Insert Species]**  
 ESRM 412 – Native Plant Production

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<b>TAXONOMY</b>	
Plant Family	
Scientific Name	Cyperaceae <sup>1</sup>
Common Name	Sedges <sup>2</sup>
Species Scientific Name	
Scientific Name	<i>Carex hendersonii</i> L.H. Bailey <sup>1</sup>
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	Henderson's sedge <sup>2</sup>
Species Code (as per USDA Plants database)	CAHE7 <sup>3</sup>
<b>GENERAL INFORMATION</b>	
Geographical range	



Ecological distribution	Moist, mixed deciduous-evergreen forests <sup>4</sup>
Climate and elevation range	Moist climate, 5-1,000m <sup>4</sup>
Local habitat and abundance	Heavily abundant in deciduous and evergreen forests <sup>4</sup>
Plant strategy type / successional stage	Considered a stable species due to abundant habitats to thrive in, especially along the coast of Washington and throughout the Puget Sound region. <sup>4</sup>
Plant characteristics	<p>Culms densely tufted, ascending, lax or decumbent, 45–87 cm × 2–2.2 mm brownish. Leaves: basal sheaths; sheaths green, lighter toward base, 7–55 mm; blades ascending, green, corrugate, 19–52 cm × 3–16 mm, blades of overwintering leaves smooth abaxially.</p> <p>Inflorescences: peduncles of lateral spikes 0–15 cm; of terminal spike 0.2–4 cm; bracts 2.5–13 × 3–10 mm, blade of distal lateral spike linear. Spikes (3–)4(–5) per culm; lateral spikes erect, 12–27 × 2.7–3 mm; terminal spike linear-clavate, 15–21 × 2–2.7 mm, usually from sheath of distal lateral spike. Pistillate scales 2.7–3.1 × 1.9–2.3 mm, apex aristate to acute. Staminate scales obovate, 5.7–6.2 × 2.7–3 mm, margins hyaline and brownish, apex acute. Anthers 3–3.2 mm.</p> <p>Perigynia 7–12 per spike, scattered on proximal spikes, ratio of longer lateral spike length to perigynia number 1.9–3.4, aggregated on distal spikes, (22–)25–32-veined, linear, 4.6–6 × 1.8–2.3 mm; beak slightly concave at maturity, 0.5–1.8 mm. Achenes ellipsoid, 4.5–5 × 1.6–2 mm.<sup>4</sup></p>

**PROPAGATION DETAILS**

Ecotype	N/A
Propagation Goal	To produce <i>C. hendersonii</i> plants to be outplanted.
Propagation Method	Propagation by seed <sup>3</sup>
Product Type	Container (plugs)
Stock Type	<i>C. herndersonii</i> seed
Time to Grow	With ideal conditions, it will take around 2 months before it can be outplanted. <sup>4</sup>
Target Specifications	Until the plant resembles common characteristics. (see Plant characteristics)
Propagule Collection Instructions	Collect seeds in late spring. Fruit are identifiable on plant from June to August. Pick seeds directly from plant, but follow collection procedure as to not deplete the mother population of seeds. <sup>5</sup>
Propagule Processing/Propagule Characteristics	Fruit are 1.2 to 1.7mm in size. Seeds are oval and are considered orthodox, meaning they can be dried and stored for long periods of time. <sup>5</sup>
Pre-Planting Propagule Treatments	Clean fruit to extract seeds. Methods for cleaning depend on amount of desired seeds. Seeds are dormant until stratified. <sup>5</sup>
Growing Area Preparation / Annual Practices for Perennial Crops	To replicate forest environments, the growing media should contain some top-soil and fine bark. Small, shallow pots are ideal. Place planted seeds and containers in a greenhouse or warm, humid area to germinate.
Establishment Phase Details	Once potted, <i>C. hendersonii</i> requires daily watering and basic light and soil requirements. Dormancy is not hard to break if forest like conditions are mimicked in the greenhouse. <sup>5</sup>
Length of Establishment Phase	1.5-3 weeks <sup>3</sup>
Active Growth Phase	Continue same watering and light amounts. After germination, <i>Carex</i> often experience rapid growth, so just keep the water, light, and temperature constant.
Length of Active Growth Phase	1.5-2 months <sup>3</sup>
Hardening Phase	Not associated with tough winters, just very moist winters. No particular instructions for this phase.
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	Harvest into different containers, whichever are easiest for transportation. Outplanting should be done soon after harvesting.
Length of Storage	1 week <sup>4</sup>
Guidelines for Outplanting / Performance on Typical Sites	Choose sites most similar to where the seeds were harvested. These plants do well typically in forests and moist, low-elevation settings. Flowering may not occur for 2 years as they are perennials. <sup>5</sup>
Other Comments	N/A
<b>INFORMATION SOURCES</b>	
References	See below

Other Sources Consulted	N/A
Protocol Author	Daniel Neyman
Date Protocol Created or Updated	05/2017

1 "Carex hendersonii." Encyclopedia of Puget Sound. Puget Sound Institute, University of Washington, n.d. Web. 24 May 2017.

2"Carex hendersonii." Plants Profile for Carex hendersonii (Henderson's sedge). USDA, n.d. Web. 24 May 2017.

3WTU Herbarium Image Collection - Burke Museum. Burke Museum, n.d. Web. 24 May 2017.

4Calflora: Carex hendersonii. Calflora, n.d. Web. 24 May 2017.

5"Henderson's sedge." Washington Native Plant Society: Photograph of Carex hendersonii. Washington Native Plant Society, n.d. Web. 24 May 2017.