

Awned Cyperus (*Cyperus squarrosus*)

Cyperaceae (Sedge Family)

Status: Blue / Not Assessed

Best Survey Time: Jul to Aug

General Habitat: Foreshore

RANGE

- Occurs in North America across most of southern Canada, the United States and into Mexico
- In British Columbia, occurs from Vancouver Island to Castlegar, with its distribution centred on about a dozen sites in the Okanagan Valley

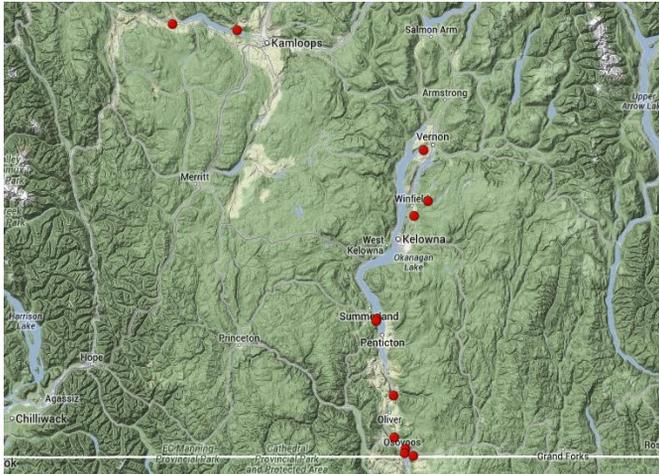


Figure 1 Thompson Okanagan Region distribution of *Cyperus squarrosus* (BC CDC 2014)

HABITAT

- In the Okanagan, occurs on sandy lakeshores, seasonally flooded channels and silty backwater creek margins in the Bunchgrass, Ponderosa Pine and Interior Douglas-fir Biogeoclimatic Zones
- Associates include hairy water-clover (*Marsilea vestita*), toothcup meadow-foam (*Rotala ramosior*), small-flowered lipocarpa (*Lipocarpa micrantha*), spike-rushes (*Eleocharis* spp.), horsetails (*Equisetum* spp.) and rushes (*Juncus* spp.)



Figure 2 Sandy vegetated habitat on Ellison Lake, Kelowna, B.C.



Figure 3 Sandy lakeshore habitat adjacent to Osoyoos Lake, B.C.

LIFE HISTORY

- Annual, wind-pollinated species that grows each year from seed, flowering in the summer
- Germination and development seem to depend on the recession of spring high water levels, which exposes the mudflats and sandy shorelines on which the species depends
- Mature achenes are produced in the late summer and fall, then float to new sites during the winter inundation period or are distributed by waterfowl
- May not appear in some years due to persistent high water levels



Figure 4 Comparison of *C. squarrosus* (circled) and *C. erythrorhizos* growing together at Ellison Lake, Kelowna, B.C.; *C. squarrosus* is easily distinguished by its recurved awn-tips and is generally a smaller plant than *C. erythrorhizos*

Cyperus squarrosus (continued)

DESCRIPTION

General

- Tufted annual from fibrous roots, 3 to 20 cm tall

Leaves

- Leaves mostly basal, either flat or channeled, 0.5 to 2.5 mm wide

Flowers

- Flowers found at tops of stems in dense clusters of one or many spikes, each spike composed of numerous spikelets; spikelets 6 to 20+ flowered, 4 to 10 mm long, 1 to 2 mm wide, flattened
- Inflorescences subtended and greatly surpassed by long, unequal, leaf-like bracts
- Scales conspicuously 5 to 9 nerved, lanceolate to egg-shaped, green and turning brown at maturity, 1 to 1.7 mm long excluding the recurved awn-tips, the scales falling at maturity, stamens 1

Fruits

- Fruits are achenes, 3-angled, pale brown to black, and 0.6 to 1 mm long



Figure 5 Typical plant growing in by Vernon Creek, Vernon, B.C.

IDENTIFICATION TIPS

- Easily distinguished from most other plants in habitat by clusters of spikes and spikelets at tops of stems
- Distinguished from similar species of *Cyperus* by its small size, annual habit and recurved scale tips
- Red-rooted cyperus (*C. erythrorhizos*) overlaps in distribution with *C. squarrosus*, but has scales with fewer nerves that lack recurved awn-tips, and is usually a much larger plant overall
- Yellow nut-grass (*C. esculentus* var. *leptostachyus*) is a perennial with a much larger stature



Figure 6 Close-up of spikelets showing long bracts

GENERAL THREATS AND GUIDANCE

- **Avoid development in areas with known occurrences of *Cyperus squarrosus* through project relocation or redesign**
- Protect open, sandy lakeshore habitats from disturbance and development, including exclusion of livestock and ATVs through fencing and/or signage
- Preventing the spread of weeds is crucial, as this species has low competitive ability
- Follow provincial methods for when and how to conduct plant species at risk surveys
- Follow provincial policy and guidance on how to avoid, minimize, restore and offset impacts to plant species at risk and their habitats
- Report any sightings to the B.C. Conservation Data Centre (cdcddata@gov.bc.ca) and FLNR Ecosystems Section (josie.symonds@gov.bc.ca)

REFERENCES

- B.C. Conservation Data Centre. 2013. <http://a100.gov.bc.ca/pub/eswp/>
- Douglas et al.. 2001. *Illustrated Flora of British Columbia*. Vol. 6. B.C. Min. Environ., Lands and Parks, and Min. For., Victoria, B.C. 361 pp
- Klinkenberg, Brian (Editor). 2013. E-Flora BC <http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Cyperus%20squarrosus>
- Tucker, G.C. et. al. 1997. *Cyperus*. In: Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford. Vol. 23, pp. 165.

ACKNOWLEDGEMENTS

Cyperus squarrosus Plant Species at Risk Fact Sheet developed by Josie Symonds, based on content produced under contract by Enlivened Consulting