

Sisyrinchium idahoense var. *segetum* – Cornfield Blue-eyed Grass

English name Cornfield Blue-eyed Grass

Other English name

Scientific name *Sisyrinchium idahoense* E. P. Bicknell var. *segetum* (E. P. Bicknell)
Douglass M. Henderson

Other scientific name *Sisyrinchium segetum* E. P. Bicknell

Family *Iridaceae* (Iris Family)

Risk status

BC: critically imperilled (S1); red-listed

Canada: T

Global: not ranked (G5TNR)

Elsewhere: Washington, Oregon, Nevada not ranked (SNR)

Taxonomic note The genus *Sisyrinchium*, a complex polyploid group, has long been known to be taxonomically challenging. Many of the taxa described by Bicknell in the late 19th and early 20th century were difficult to distinguish and as late as 1969, the genus was described as a ‘chaotic mess’. Henderson (1976) untangled some of the mess for species found in the Pacific Northwest and in 2002 Cholewa and Henderson provided a general treatment of all North American taxa in the genus.

The best characters when identifying Blue-eyed Grasses, the flowers and spathes, are best examined with fresh material (although carefully-pressed specimens are useful). Branching in the inflorescence, the width of the stems, the relative lengths of the spathe bracts and degree of fusion in the outer bract of the spathe may be hard to distinguish except in the field or using the most carefully-pressed specimens, and flower colour quickly fades.

Range/Known distribution In Canada, Cornfield Blue-eyed Grass has been reported from a single location, on North Pender Island. The limited value of herbarium specimens means that we may currently underestimate the distribution of Cornfield Blue-eyed Grass in British Columbia.

In the United States, Cornfield Blue-eyed Grass occurs in the Puget Trough and the south side of the Olympic Peninsula, and perhaps into Oregon and Nevada although Cholewa and Henderson (2002) state that Cornfield Blue-eyed Grass only occurs in BC and Washington.

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Field description Cornfield Blue-eyed Grass is a bunch-forming perennial up to 45 cm tall with short rhizomes. Each shoot has a single flattened, winged stem that is less than 1.2 mm wide. The 2-6 leaves, which are long and narrow with sharp edges and a pointed tip, all arise from near the base of the stem, and are folded below, enclosing the base of the next higher leaf. The foliage is not hairy.

The 2-5 flowers are borne in single terminal umbel. Two large, hairless, folded, sheathing bracts called spathe enfold the base of the inflorescence, the larger spathe is at least twice as long (10-17 mm) as the shorter one. The keels of the spathes, and the stems, are lined with tiny teeth. The flowers have six tepals that are light to deep bluish violet, with yellow bases. The three outer tepals are 10-17 mm long and have rounded to flat tips with a small bristle emerging from the middle of each tepal tip. The capsules are round to pear-shaped, on 3-6 mm long, erect stalks. The seeds are 0.8 – 1.8 mm long, globose, and usually have a granular exterior.

Identification tips Within its range in BC, Cornfield Blue-eyed Grass is only likely to be confused with Alaska Blue-eyed Grass (*S. littorale*) and Macoun's Blue-eyed Grass (*S. idahoense* var. *macounii*). Alaska Blue-eyed Grass tends to have longer capsules (6.2-8.0 mm). Macoun's Blue-eyed Grass has slightly longer tepals (18-20 mm) and the outer spathe is longer (18-20 mm) and more than twice the length of the inner one. In Macoun's Blue-eyed Grass the keels of the spathes, and the stems, are entire (i.e., not lined with tiny teeth).

Life history The life history of Cornfield Blue-eyed Grass is not well documented, but it is probably like that of the closely related Macoun's Blue-eyed Grass (*Sisyrinchium idahoense* var. *macounii*), whose life history is as follows.

On southern Vancouver Island, seeds germinate in the spring, after a period of cold wet weather that breaks seed dormancy. The plant grows quickly and may even flower in its first year. Plants will remain green all winter. It flowers in late April, May and early to mid June. The flowers are short-lived and are probably self-compatible. It is also cross-pollinated by Sweat Bees (*Halictidae*), Bumble Bees (*Bombus* spp.), Bee Flies (*Bombyliidae*), and Hoverflies (*Syrphidae*). It produces abundant seeds. Clumps grow larger as they develop offsets, but it does not produce long rhizomes or stolons.

Habitat Around the Salish Sea, Cornfield Blue-eyed Grass grows in meadows and prairies, often with well-drained soils. It may be associated with Roemer's Fescue (*Festuca roemerii*), Blue Wildrye (*Elymus glaucus*), Woolly Sunflower (*Eriophyllum lanatum*), and Bicolored Lupine (*Lupinus bicolor*).

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Why this species is at risk The greatest threats to habitat suitable for Cornfield Blue-eyed Grass come from habitat loss and invasive species, while altered fire and hydrological regimes and trampling are significant secondary threats. Several populations may have been destroyed as properties were developed, without ever being reported. The only population reported from Canada may be at risk from agricultural activities.

Several invasive species have become abundant in habitat suitable for Cornfield Blue-eyed Grass and would compete with it for space, water, and nutrients. These include shrubs such as Scotch Broom* (*Cytisus scoparius*) and English Ivy* (*Hedera helix*, which forms creeping mats); a diverse assemblage of forbs including Hairy Cat's-ear* (*Hypochaeris radicata*), Ribwort Plantain* (*Plantago lanceolata*), Sheep Sorrel* (*Rumex acetosella*), Small Hop-clover* (*Trifolium dubium*), and Common Vetch* (*Vicia sativa*); and several grasses including Orchard Grass* (*Dactylis glomerata*), Common Velvet Grass* (*Holcus lanatus*), Kentucky Bluegrass* (*Poa pratensis*), Sweet Vernal Grass* (*Anthoxanthum odoratum*), Barren Fescue* (*Vulpia bromoides*), Soft Brome* (*Bromus hordeaceus*), Ripgut Brome* (*Bromus diandrus* ssp. *rigidus*), Barren Brome* (*Bromus sterilis*), Hedgehog Dogtail* (*Cynosurus echinatus*), and hairgrasses* (*Aira praecox* and *A. caryophyllea*).

Altered fire regimes allow forest ingrowth, which could shade out habitat suitable for Cornfield Blue-eyed Grass.

What you can do to help this species Very little is known about population fluctuations, its life cycle, and its habitat needs. A better understanding of the species basic biology is essential to its management.

Further surveys would help clarify the distribution and abundance of Cornfield Blue-eyed Grass and assess the level of threats it faces, as well as actions that can be taken to address these threats. If the threats are significant, and if extensive surveys confirm that there are few viable populations in Canada, a COSEWIC status report should be prepared to provide a basis for its legal protection.

Regular inventories should be conducted to monitor the status and identify any negative impacts to the known population, and any new discovered populations.

A reliable seed source is needed, and this can be achieved by establishing a vigorous captive population. This seed can be used to augment the existing population and establish new ones.

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For further information, contact the Garry Oak Ecosystems Recovery Team, or see the web site at: www.goert.ca

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*Refers to non-native species