

The name *Agropyron* comes from the Greek word for wild wheat, and *Agropyron* species have a wheat-like appearance. There has been some controversy concerning the species included in this genus. Hitchcock et al. (1969) recognized nine species of *Agropyron*. Today there is general agreement that *Agropyron* should be restricted to the “crested wheatgrasses.” These species are perennial plants with a stem axis that does not come apart at maturity, a flowerhead that is a spike, spikelets that diverge from the stem axis at an angle of 30° or more, and one spikelet at each node. The species that were traditionally contained within *Agropyron* are now treated in *Elymus*, *Thinopyrum*, *Pascopyrum*, and *Pseudoroegneria*. There are three British Columbia species remaining in the genus *Agropyron*, and these are Crested Wheatgrass, Desert Wheatgrass, and Siberian Wheatgrass. In the Columbia Basin region, only Crested Wheatgrass and Siberian Wheatgrass have been collected.

***Agropyron*—Adapted from Douglas et al. (1994)**

- 1a. Spikelet spread from the stem axis 30° or more; the distance between the spikelets is less than 1 mm *Agropyron cristatum*
- 1b. Spikelet pressed to the stem axis; the distance between the spikelets is greater than 1 mm *Agropyron fragile*

***Agropyron cristatum* (L.) Gaertn. ssp. *pectinatum* (Bieb.) Tzvelev**
Crested Wheatgrass

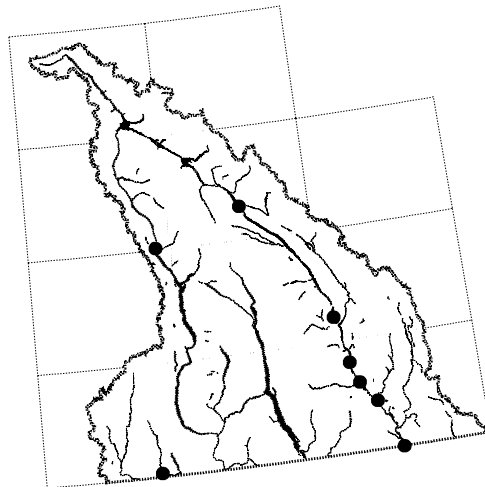
Plant: *Agropyron cristatum* is an introduced species that grows 50–100 cm tall. It is a tufted perennial with densely fibrous roots, but no rhizome. The flowerhead is composed of a flattened spike containing spikelets that resemble the teeth in a comb—thus the subspecies name *pectinatum* is from pectinate, meaning comb-like.

Leaves and Stem: The lower leaf sheaths are most often hairless, but may be occasionally soft-hairy. The slender, claw-like auricles are 1 mm long, and the hairy ligules are less than 1 mm long. Flat leaf blades are 2–5 mm, and are usually hairy on the upper surface.

Flowerhead and Flowers: The spikes are 2–6 cm long, and have spikelets that diverge from the hairy stem axis like the teeth of a comb. The spikelets overlap and spread out rather than press close to the axis. The longest glume is about the length of the first flower and the other glume is shorter. The awns of the glumes and the lemmas are 2–4 mm long, and the awns of the lemmas are slightly bent.

Habitat: Crested Wheatgrass was introduced from Russia for forage purposes and has been extensively used to revegetate rangeland. It occurs along roadsides, in fields, and on disturbed sites. In the Columbia Basin region it grows in sites from Tobacco Plains at the Canada/U.S. border, to as far north as Revelstoke.

Similar Species: In British Columbia, the three species in the genus *Agropyron* hybridize, so it is often difficult to tell them apart. In the Columbia Basin region, Desert Wheatgrass has not yet been collected. Douglas et al. (1994) distinguish Crested Wheatgrass on the basis of the spreading angle of the spikelet from the stem axis. Greater than 30° indicates *Agropyron cristatum* ssp. *pectinatum*.



Agropyron fragile (Roth) P. Candargy
Agropyron sibiricum (Wild.) Beauv.
Siberian Wheatgrass

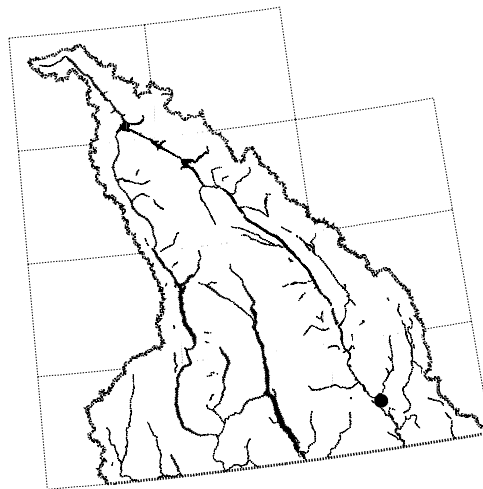
Plant: *Agropyron fragile* is an introduced species that grows to 70 cm tall. This perennial is tufted. The flowerhead is a comb-like spike that has shorter “teeth” and therefore appears less comb-like than *A. cristatum* ssp. *pectinatum*.

Leaves and Stem: The lower leaf sheaths are most often hairless but may be occasionally soft-hairy. The scarcely visible ligules are less than 0.5 mm high, consisting of a zone of hairs. The flat leaves are 4–5 mm wide.

Flowerhead and Flowers: The spike flowerhead is 3–7 cm long. Spikelets diverge from the stem axis at less than 30°. This arrangement gives the spikelets the appearance of being pressed tightly to the stem axis. The glumes are 4–5 mm long, with 1.5 mm long awns. The lemmas are awnless or short-awned. The first glume is slightly longer than the second and about equal to the first flower.

Habitat: Siberian Wheatgrass was introduced from south-central Russia and grows along roadsides, in fields, and on wastelands. It occurs only at Wardner in the Columbia Basin region.

Similar Species: Siberian Wheatgrass has awnless lemmas; however, this species interbreeds and hybridizes with Crested Wheatgrass, so it may be difficult to distinguish between these two species. The flowerhead of Crested Wheatgrass has longer spikelets and therefore appears more comb-like than Siberian Wheatgrass. Crested Wheatgrass has a wider spike than Siberian Wheatgrass: 8–10 mm, compared to 5–6 mm.



The name of the genus *Agrostis* derives from a Greek word for grass and is the basis of the name for the study of grasses called Agrostology. Bentgrasses are common meadow, pasture, and lawn grasses because they are included in seed mixtures. There are also several native species. The Columbia Basin region has at least seven species of *Agrostis* growing in it. Typical features include very small one-flowered spikelets that separate from the stem above the glumes at maturity. The lemmas are equal to, or much smaller than, the glumes. The sheaths are open and the ligules are membrane-like. Leaves vary from flat to folded and inrolled. The flowerhead is branched and relatively open to fully open, not spike-like (except in *Agrostis exarata*). The branches of the flowerhead do not droop. In *Agrostis* there are no obvious stiff hairs at the base of the lemma, whereas in the closely related *Calamagrostis* (Reed-grass) there are.

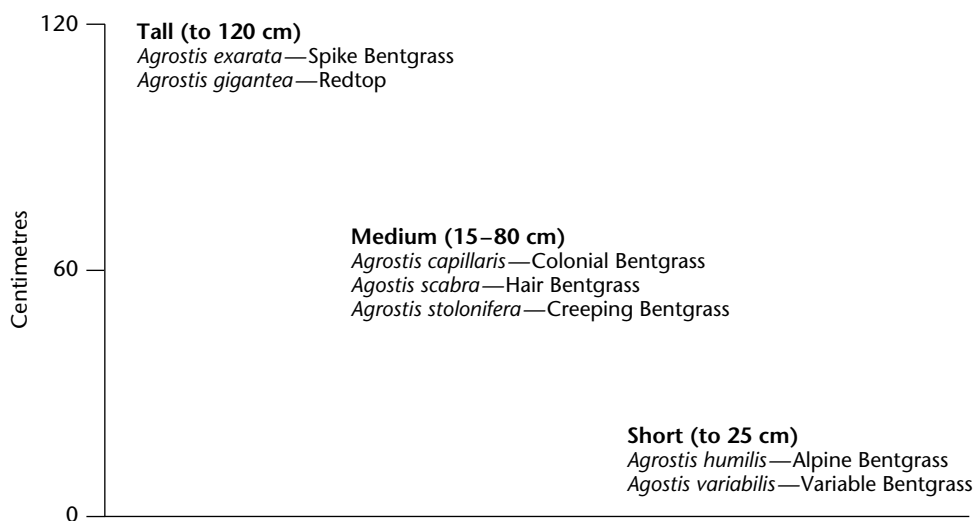
Two groups of *Agrostis* occur in the Columbia Basin region. One group has stolons (above-ground horizontal stems) or rhizomes (below-ground or at-ground root-stems) and includes only introduced species including *Agrostis capillaris*, *A. gigantea*, and *A. stolonifera*. The second group generally lacks stolons or rhizomes. If rhizomes or stolons are present, they are less than 2 cm long.

To identify native species you will need a hand lens or dissecting microscope because many of the distinguishing features are small. For example, to identify whether you have *Agrostis humilis* or *A. variabilis* you must determine whether or not there is a palea. *A. variabilis* has either a rudimentary palea or no palea at all.

***Agrostis*—Adapted from Douglas et al. (1994)**

- 1a.** Rhizomes or stolons absent 2
 - 2a.** Flowerhead open with branches spreading; has very few spikelets on lower 1/2 of the branches; palea absent or less than 1/4 as long as lemma *Agrostis scabra*
 - 2b.** Flowerhead constricted or with branches pressed close to the axis; branches may be barely visible 3
 - 3a.** Palea present, 1/2 as long as lemma. Plants of subalpine and alpine zones *Agrostis humilis*
 - 3b.** Palea absent; if present, a minute membrane 4
 - 4a.** Lemmas awnless *Agrostis variabilis*
 - 4b.** Lemmas awned from the back *Agrostis exarata*
- 1b.** Rhizomes or stolons present; flowerhead open with branches spreading; very few spikelets on lower 1/2 of the branches. Palea present, 1/2 as long as lemma 5
 - 5a.** Stolons present, no rhizomes *Agrostis stolonifera*
 - 5b.** Stolons absent, rhizomes present 6
 - 6a.** Ligules 2–6 mm; rhizomes abundant and long ... *Agrostis gigantea*
 - 6b.** Ligules up to 2 mm *Agrostis capillaris*

Heights of *Agrostis* species



Agrostis capillaris L.
Colonial Bentgrass

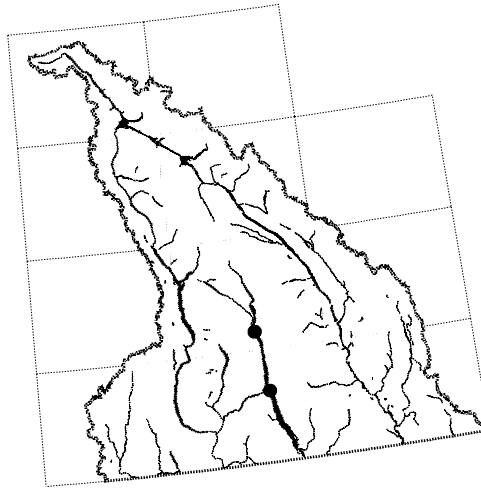
Plant: *Agrostis capillaris* is an introduced species that grows 20–50 cm tall. It has a short rhizome and is a perennial with a broad, open flowerhead with tiny spikelets.

Leaves and Stem: A few short rhizomes can occur within the root mass. The stems are slender with open sheaths. The flat to folded leaves are 2–5 mm wide. Most ligules are 1–2 mm long, more or less of even height, and wider than they are long. There are no auricles.

Flowerhead and Flowers: The flowerhead is 5–15 cm long, sparse, and very open. The branches are delicate and bear spikelets only toward the ends. The one-flowered spikelets are usually purple. The two almost equal, pointed glumes are relatively large, and as long or longer than the first flower. The lemma is shorter than the glumes and is either awnless or has a short awn. The palea is 1/2 to 2/3 as long as the lemma.

Habitat: Colonial Bentgrass grows in lawns, fields, roadsides, meadows, and moist open sites. It is a common component of lawn, turf, and pasture seed mixes.

Similar Species: Creeping Bentgrass (*Agrostis stolonifera*), another grass used in seed mixtures, has no rhizomes but has stolons. Its ligules are longer (3–6 mm) than those of Colonial Bentgrass. Creeping Bentgrass occurs in moister habitats (ditches, pond edges, moist fields and meadows) than does Colonial Bentgrass.



***Agrostis exarata* Trin.**
Spike Bentgrass

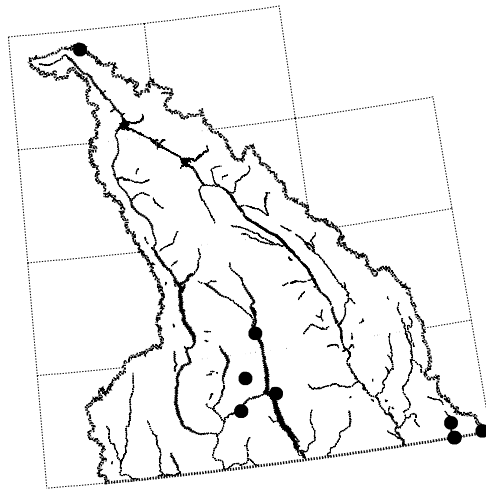
Plant: *Agrostis exarata* is a native species that grows to 1.2 m, but is usually shorter. It is a tuft-forming perennial with a spike-like flowerhead and mostly erect stems that may root at the lowest nodes.

Leaves and Stem: Sheaths are open. Leaf blades are flat, rough, and 2–10 mm wide. Ligules are 3–8 mm high and somewhat torn at the tip. There are no auricles.

Flowerhead and Flowers: The flowerhead is 5–18 cm long, narrow, spiky, and somewhat open. The axis may be exposed between the clusters of branches. The tiny spikelets are generally clustered toward the base of the side branches. The small, nearly equal glumes are rough on the back and much longer than the first flower. They usually come to a point or have a small awn. There is a single lemma, which may or may not have an awn. If there is an awn, it is attached above the midpoint and may reach 5 mm long. The palea is less than 1/3 the length of the lemma.

Habitat: Spike Bentgrass grows at low to mid elevations in moist sites such as rocky beaches, river bars, and moist meadows. In the Columbia Basin region it has been collected from Pilot Bay Provincial Park, Nelson, and Kokanee Glacier Park.

Similar Species: Mountain Bentgrass (*Agrostis variabilis*) is similar to Spike Bentgrass, but it is much smaller and has a tight, but not spike-like, flowerhead that grows to 2–6 cm long. Its leaves are narrow and it grows generally in alpine and subalpine environments.



Agrostis gigantea Roth
Redtop

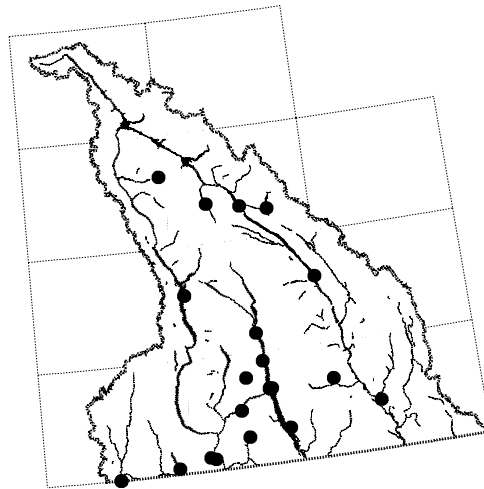
Plant: *Agrostis gigantea* is an introduced species that grows to 1.2 m tall. It is a perennial with numerous rhizomes. The open-branched flowerheads are densely covered in spikelets to the base.

Leaves and Stem: One to two stalks arise from the nodes of rhizomes that are 10 cm+ long. Sheaths are open. Leaf blades are flat to folded and rarely > 4 mm wide. Ligules are 2–6 mm high. There are no auricles.

Flowerhead and Flowers: The flowerheads are purplish, up to 30 cm long, branched, somewhat narrow, and densely covered by one-flowered spikelets. Glumes are almost of equal size and longer than the flower. The lemma is $1/2$ – $2/3$ the length of the glumes and is awnless. The palea is 0.7–1.4 mm long ($1/2$ the size of the lemma).

Habitat: Redtop grows in dry, disturbed sites, fields, and roadsides. A large number of specimens have been collected throughout the Columbia Basin region.

Similar Species: Redtop differs from Colonial Bentgrass by having ligules that are longer than they are wide. Redtop differs from Creeping Bentgrass by having rhizomes, and an open flowerhead.



Agrostis humilis Vasey

Agrostis thurberiana auct. non A.S. Hitchc.

Alpine Bentgrass

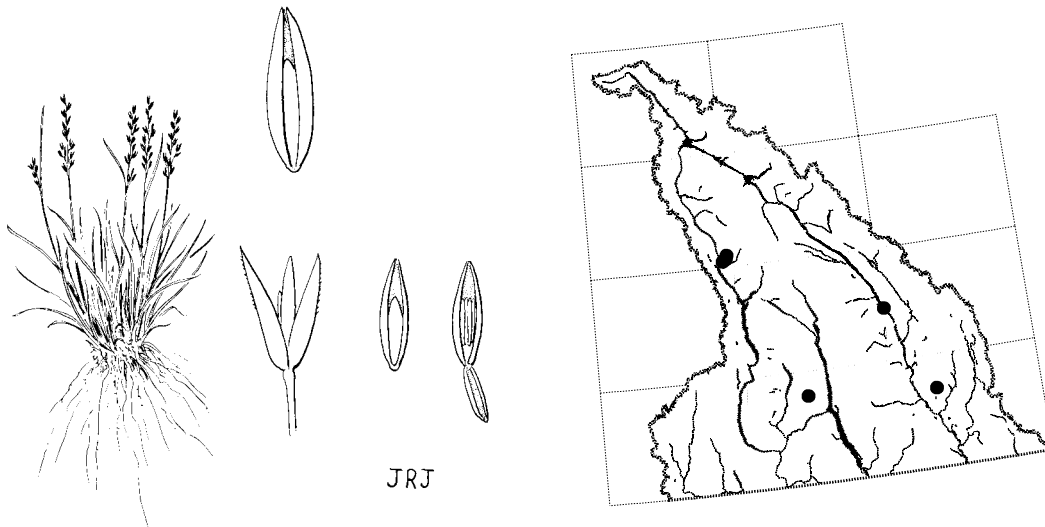
Plant: *Agrostis humilis* is a native species that grows to 15 cm tall. It is a tuft-forming perennial with a small, narrow flowerhead.

Leaves and Stem: Sheaths are open and there are no auricles. The short, extremely narrow (1 mm) leaves form a tuft at the base. Leaves are flat to folded and smooth. The ligule is 0.5–1 mm long and somewhat toothed.

Flowerhead and Flowers: The flowerhead is deep purple, and usually 0.5 cm wide and 1.5–2.5 cm long. There are two more or less equal glumes that are 2 mm long and enclose a single lemma of about the same length. The palea is 1–1.5 mm long.

Habitat: Alpine Bentgrass grows in subalpine to alpine meadows and stream-banks. It can be found at Kokanee Glacier Provincial Park and Mount Revelstoke National Park in the Columbia Basin region.

Similar Species: Alpine Bentgrass is similar to Mountain Bentgrass (*Agrostis variabilis*), except that Mountain Bentgrass has no palea.



***Agrostis scabra* Willd.**
Hair Bentgrass

Plant: *Agrostis scabra* is a native species that grows 20–70 cm tall. It is a clump-forming perennial with rough-feeling stems and open-branched drooping flowerheads. *Scabra* means rough in Latin.

Leaves and Stem: The numerous, very fine, short leaves grow mostly at the base. Occasionally, short rhizomes or stolons occur. Sheaths are open. Leaf blades are mostly folded and 1–3 mm wide. Ligules are 2–3 mm long and there are no auricles.

Flowerhead and Flowers: The flowerhead is purple, open, 15–30 cm long, and has rough upward-reaching to drooping branches. The branches, however, are not densely packed at maturity. Single-flowered spikelets occur mostly at the branch tips. The glumes are 2–3 mm long, more or less equal in length, and much longer than the flower. Lemmas are 1–2 mm long, and may or may not have an awn. If present, the awn is 2 mm long and attached to the middle of the outside. There is no palea.

Habitat: Hair Bentgrass grows on dry to moist, disturbed sites such as clearings and roadsides. It also invades dry, rocky slopes and gravel bars. In the Columbia Basin region, Hair Bentgrass occurs in Glacier National Park, Yoho National Park, the Flathead area, and Trail.

Similar Species: Hair Bentgrass has a very open, diffuse flowerhead with branches that sometimes are rather lax, and there is no palea. Within the *Agrostis* genus, Hair Bentgrass looks distinctive, but it can have a superficial resemblance to other genera with an open, diffuse flowerhead, such as Silver Hairgrass (*Aira caryophyllea*).

