

This genus has two species. It was named after Johann Beckmann, a German botanist. The species in this genus have uniquely winged, rounded glumes.

*Beckmannia syzigachne* (Steud.) ssp. *baicalensis* (Kusnez.) Koyama & Kawano  
American Sloughgrass

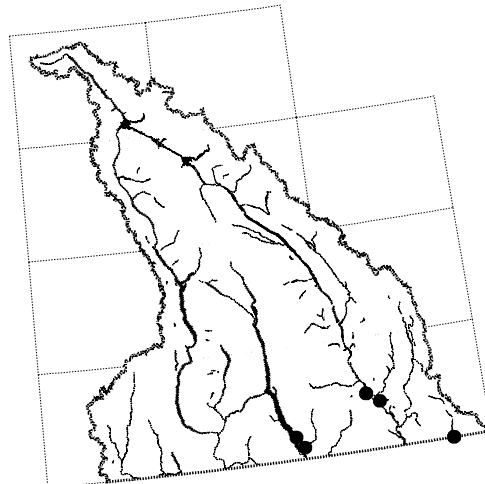
**Plant:** *Beckmannia syzigachne* is a native species that grows to 1 m tall. It is a stout annual, often with stolons, and a narrow, congested flowerhead up to 30 cm long.

**Leaves and Stem:** The sheath is open and there are no auricles. The ligule is 6–11 mm long, pointed and hairy, and has a smooth upper edge. The flat leaf blades are 5–10 mm wide.

**Flowerhead and Flowers:** The narrow flowerhead has many one-flowered overlapping spikelets pressed against the spike axis. The equal glumes are compressed, slightly wrinkled, and semi-circular with a deep keel and a pointed tip. They are shorter than the flower. Lance-shaped lemmas have a sharp tip and are much narrower than the glumes.

**Habitat:** American Sloughgrass grows along the edges of ponds and ditches and in wet meadows and marshes up to the montane zone. It is palatable to livestock and is often locally common enough to be an important hay crop. In the Columbia Basin region, American Sloughgrass occurs at Creston Flats, Baker, Sage Creek, and Cranbrook.

**Similar Species:** American Sloughgrass has a very distinctive appearance that cannot be confused with other species found in the Columbia Basin region.



*Bouteloua* species range throughout the Americas. The name honours Esteban Boutelou, a Spanish professor of agriculture. Gramma grasses thrive in deserts and grasslands, and are more widespread to the east and south of British Columbia as a major component of the grasslands. They contribute important native forage. Only a single species occurs in the Columbia Basin region of British Columbia. The only specimen in the Royal British Columbia Museum collection comes from Roosevelt. Douglas et al. (1998) have documented other sites.

Blue grama grass has been Red listed in British Columbia by the Conservation Data Centre, and can be found on the Provincial Tracking List (CDC database 1998; Douglas et al. 1998). It occurs in the southern interior, as well as along the southern section of the Alberta / British Columbia border (Cronquist et al. 1977; Kershaw et al. 1998).

This species is rare in British Columbia, due in part to a general decline in natural grassland habitat in the province, and, in part, to specialized environmental requirements. These requirements include an early summer rain to help seed germination, which is uncommon in the dry valley bottoms west of the Rocky Mountains.

***Bouteloua gracilis*** (H. B. K. ) Lag. ex Steud.  
Blue Grama

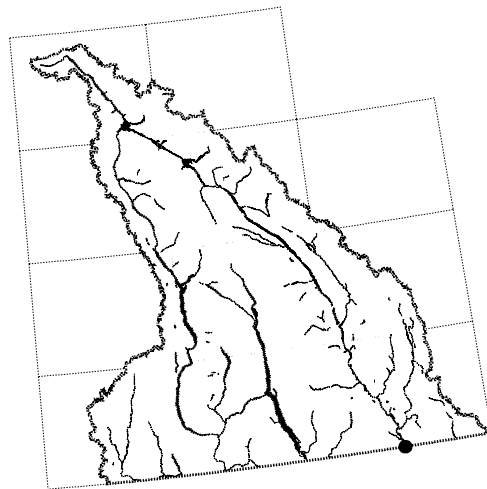
**Plant:** *Bouteloua gracilis* is a native species that grows 20–50 cm tall. It is a densely tufted, mat-forming perennial with slender stems arising out of short rhizomes. It can be distinguished by its dense, brush-like flowerhead with 20–80 spikelets per spike. On fresh plants, the purplish spikes are straight and horizontal.

**Leaves and Stem:** The sheaths and collars are smooth to finely hairy. The throat of the sheath has 1- to 2-mm-long stiff hairs. The ligules are 0.5 mm long. Flat 1- to 2-mm-wide leaves grow from the base of the plant and remain there after dieback. These dried leaves are twisted or curled. The leaf edges can be either flat or rolled inward—like a straw—and they are either sparsely hairy or smooth.

**Flowerhead and Flowers:** The dense flowerhead is toothbrush-like and consists of 20–80 spikelets per branch. These purplish spikelets form two rows on one side of the stem axis. Each spikelet is approximately 5–6 mm long and has one, two, or three flowers. The sharply pointed glumes are 2.5–5 mm long and have hairs along the keel. The longest glume equals the length of the spikelet. The flowers of Blue Grama consist of a fertile lemma with an awn-tipped lobe and a palea equalling the lemma. Sterile lemmas make up the rest of the spikelet, some with awns up to 5–6 mm long, and others that are unawned. The overall appearance of a fresh flowerhead is of two insects perched on a stem.

**Habitat:** Blue Grama is an important component of the grasslands to the east of the Rocky Mountains, and it grows on dry sites in the steppe zone. It most likely comes into the Columbia Basin region on hay and manure when horses are transported from southern Alberta, where it is fairly common (G. Berg, pers. comm., 1999).

**Similar Species:** None in British Columbia.



Bromes make up a very large group of common grasses. There are introduced and native species, both of which can grow in weedy disturbed settings and in naturally disturbed situations. Generally, the native species are perennials; that is, they have evidence of last year's culms or leaves still attached to the crown, whereas the introduced species are annuals. Identifying perennial habit is critical in separating *Bromus* species; however, it is not always easy to do, especially in our region. Many of the annuals establish a vigorous root system over the winter and appear to have the habit of a perennial. The leaf sheaths of *Bromus* are closed all the way up to near the throat, and form a tube that encloses the culm.

Bromes all have small teeth at the tip of the lemma (apical teeth), and Douglas et al. (1994) use the size of these apical teeth as a critical character to make the distinction between annuals and perennials. Annuals have long, obvious teeth at the end of the lemma, but in perennials you must search for these carefully. Often, especially in mature specimens, the teeth are located on the inside face of the robust awn. If you are following an identification key and you miss these, you will mistakenly follow the key into the genus *Festuca*. Do not depend on the presence of the teeth as a sole character in determining whether a grass is a brome—observe the other characters as well. There is one *Festuca* found in the Columbia Basin region, *Festuca subuliflora*, that has a forked tip on the lemma.

*Bromus* spikelets have two very noticeable and distinct forms: one form has a very compressed or flattened appearance with a prominent keel along the ridge (back) of the lemma; and the other form does not have this keel and appears to have a rounded shape across the back of the lemma. To check these, take a lemma and cut across it. Keeled lemmas appear folded along the back; rounded lemmas do not. The spread of the flowerhead also divides the bromes into two types. Some flowerheads appear to be open, spreading away from the stem with long branches that droop. The other group has a flowerhead that appears close to the stem and appressed, with very short, upright branches. Finally, *Bromus* seems to have three groupings according to height. Tall bromes are 50–180 cm, medium bromes are 40–120 cm, and short bromes are 5–90 cm. Height depends on site characteristics, so if the site is poor, size will be shorter. For example, a *Bromus sitchensis* on a marginal site may be less than 50 cm tall.

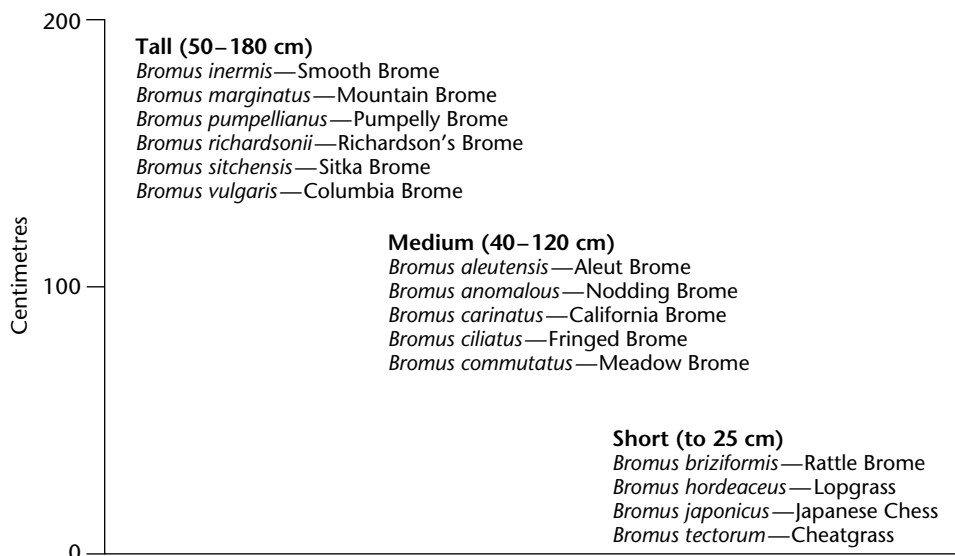
Pavlick's (1995) treatment of *Bromus* is the most recent and comprehensive in North America.

#### ***Bromus*—Adapted from Pavlick (1995)**

- 1a. Spikelets compressed, lemmas keeled. . . . . 2
  - 2a. Plants annual or biennial . . . . . *Bromus carinatus*
  - 2b. Plants perennial . . . . . 3
    - 3a. Lowermost flowerhead branches over 10 cm long and spreading; bearing one or two large spikelets at the branch ends. . . . . *Bromus sitchensis*
    - 3b. Lowermost flowerhead branches shorter, bearing spikelets along the branch . . . . . 4
      - 4a. Plants of disturbed areas inland . . . . . *Bromus aleutensis*
      - 4b. Plants of native grasslands . . . . . *Bromus marginatus*

- 1b. Spikelets not compressed, lemmas more or less rounded. . . . . 5
- 5a. Plants perennial . . . . . 6
  - 6a. Creeping rhizomes present; lemma awnless or with awn up to 6 mm long; auricles present. . . . . 7
    - 7a. Stem nodes smooth; leaves smooth . . . . . *Bromus inermis*
    - 7b. Stem nodes hairy; leaves with short dense hairs. . . . . *Bromus pumpellianus*
  - 6b. Creeping rhizomes absent; lemmas awned . . . . . 8
    - 8a. Awns 6–12 mm long . . . . . *Bromus vulgaris*
    - 8b. Awns less than 6 mm long. . . . . 9
      - 9a. Sheaths often hairy near the junction of leaf blades and sheaths . . . . . *Bromus richardsonii*
      - 9b. Sheaths not hairy near the junction of leaf blades and sheaths . . . . . 10
        - 10a. Lemmas smooth across the back . . . . . *Bromus ciliatus*
        - 10b. Lemmas hairy across the back . . . . . *Bromus anomalus*
  - 5b. Plants annual . . . . . 11
    - 11a. Spikelets wedge-shaped and wider at the top; awn usually longer than the lemma. . . . . *Bromus tectorum*
    - 11b. Spikelets oval to lance-shaped; awn as long as or shorter than the lemma . . . . . 12
      - 12a. Lemmas awnless; spikelets oval-shaped . . . . . *Bromus briziformis*
      - 12b. Lemma awn 2–13 mm long; spikelets narrower . . . . . 13
        - 13a. Lemmas papery with prominent raised ridges. . . . . *Bromus hordeaceus*
        - 13b. Lemmas leathery with ridges but not raised ridges . . . . 14
          - 14a. Flowerhead branches not flexuous but stiffly spreading; awns straight . . . . . *Bromus commutatus*
          - 14b. Flowerhead branches lax or flexuous; awns bent away from the axis . . . . . *Bromus japonicus*

#### Heights of *Bromus* species



***Bromus aleutensis*** Trin. ex Griseb.  
Aleut Brome

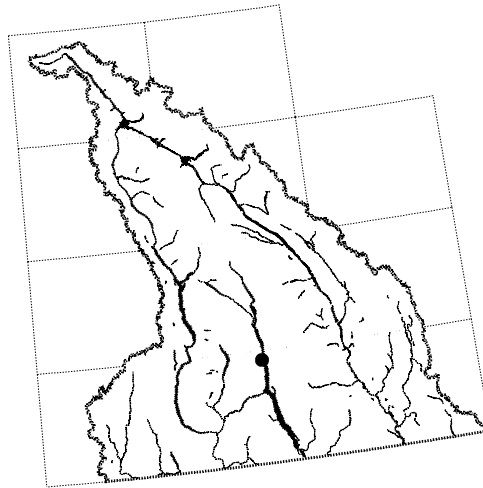
**Plant:** *Bromus aleutensis* is a native species that grows 40–130 cm tall. It is a perennial with no rhizome. The flowerhead is erect and slightly lax, with compressed (flattened) spikelets at the end of the branches. Sometimes it has a droopy appearance, but mostly it appears to have short, upright branches.

**Leaves and Stem:** The leaf sheaths are hairless to moderately hairy with short hairs that are slanted backwards toward the base of the sheath. The lower portions of the nodes are hairy. There are rarely any auricles, and if they are visible they are very small. The ligule is 3.5–5 mm high.

**Flowerhead and Flowers:** The flowerhead is 10–28 cm long and erect, but can have spreading, not drooping, branches. The spikelets are 2–4 cm long and appear flattened. The lemma is keeled with a prominent nerve up the centre. Usually there are four to eight flowers per spikelet. One glume is two or more times longer than the other, and both glumes are much shorter than the first flower. The lemma is softly hairy, with a wide, almost transparent or translucent (hyaline) margin. The awn is 3–10 mm long and straight.

**Habitat:** Aleut Brome occurs in the Columbia Basin region near Kaslo, scattered on sandy and disturbed soil. More commonly, Aleut Brome grows along the coast from Alaska to the Olympic Mountains.

**Similar Species:** This species is very similar to Alaska Brome (*Bromus sitchensis*). In Douglas et al. (1994), Aleut Brome is considered to be the same as Alaska Brome. Pavlick (1995) describes Alaska Brome as having longer branches at the base of the flowerhead (>10 cm) and with an angle of branching greater than 90°.



***Bromus anomalus*** Rupr. ex Fourn.  
Nodding Brome

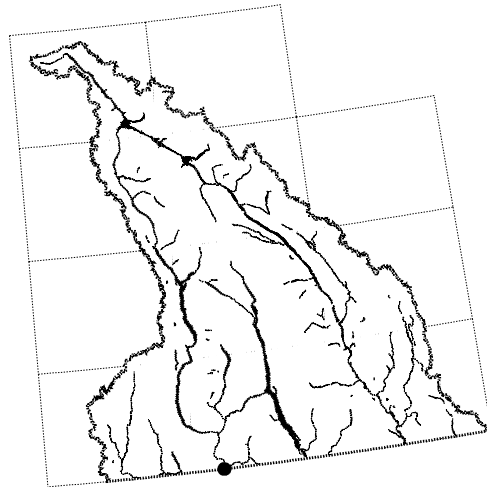
**Plant:** *Bromus anomalus* is a native species that grows 40–90 cm tall. It is a perennial Brome with an open, spreading flowerhead.

**Leaves and Stem:** The leaf sheaths are hairless to hairy, with long soft hairs. The nodes are hairy to hairless. There may or may not be auricles. The ligules are 1 mm long and blunt (squared). The 3- to 5-mm-wide leaf blades have various amounts of hairiness.

**Flowerhead and Flowers:** The flowerhead is 10–20 cm long and open. The glumes are hairy, and the lemmas are hairy across the back and along the margins. This 7- to 11-flowered spikelet is not compressed and the lemma is rounded across the back. The first glume is much longer than the second glume, which is scarcely 1–3 mm long. Both are shorter than the first flower. The teeth at the tip of the lemma are tiny, so they are easy to miss on this species. The awn is 1–3 mm long.

**Habitat:** Nodding Brome occurs in the Columbia Basin region on dry, open, rocky slopes such as those along the Pend'Oreille River.

**Similar Species:** Nodding Brome can initially be confused with Fringed Brome (*Bromus ciliatus*), especially because of the hairs along the margin of the lemma and the open flowerhead in both species—but Fringed Brome has no hairiness on the back of the lemma.



***Bromus briziformis*** Fisch. & C.A. Mey.  
Rattle Brome, Rattle Chess

**Plant:** *Bromus briziformis* is an introduced species that grows 30–62 cm tall. It is an annual with an open, and often nodding, flowerhead. This grass has wedge-shaped spikelets and short awns on the lemma.

**Leaves and Stem:** The leaf sheaths are softly hairy and closed nearly to the top. The leaf blades are 2–5 mm wide and hairy on both sides. The ligules are 0.5–2 mm long, and have a rough edge or hairs along the edge. There are no auricles.

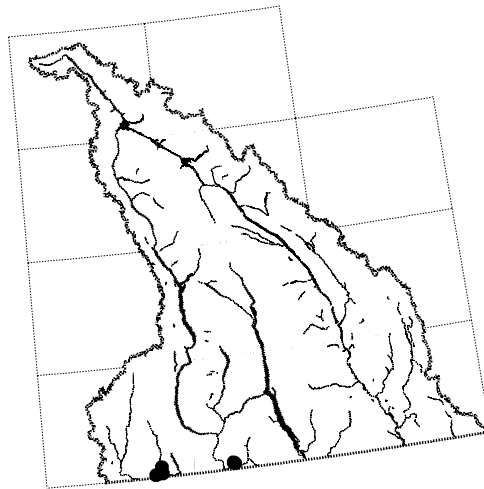
**Flowerhead and Flowers:** The flowerhead has long branches with one spikelet at the end of each branch. The spikelets are approximately 15–27 mm long. One glume is almost half the size of the other and both are shorter than the first flower. The lemma is smooth or has a slightly bumpy feeling. The margin of the lemma forms a wide angle from the lemma tip to midway along the lemma and has a wide transparent (hyaline) margin. If there are awns, they are less than 0.8 mm long.

**Habitat:** Rattle Brome was introduced from southwest Asia and Europe. In the Columbia Basin region this grass grows in open, disturbed grasslands such as overgrazed rangelands and eroding hills. In particular, it occurs along Charbonneau Creek and near Grand Forks.

**Similar Species:** The flowerhead of Rattle Brome has a unique look and does not resemble any of our native species. It looks like an ornamental grass, and the stylized shape is perfect for flower arrangements.



JRJ





***Bromus carinatus* Hook. & Arn. var. *hookerianus* (Thurb.) Shear**  
California Brome

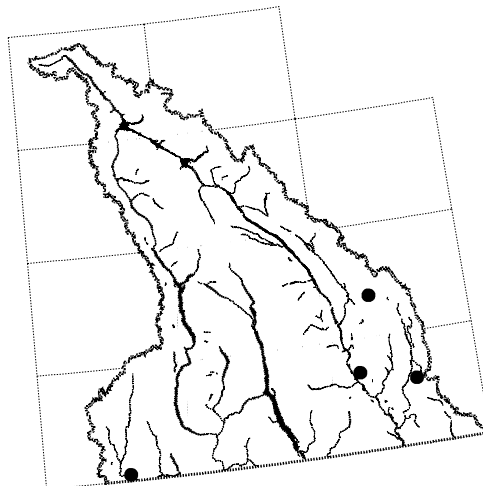
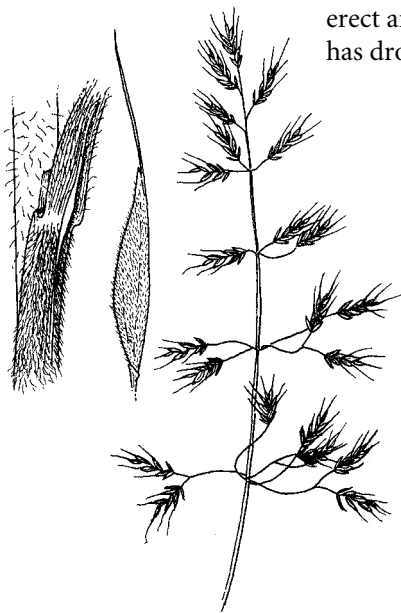
**Plant:** *Bromus carinatus* is a native species that grows 50–100 cm tall. It is a tuft-forming annual, biennial, or perennial with a large, open, somewhat drooping flowerhead. Biennial grasses will still have a build-up of dead leaves at the end of the growing season (like a perennial), but usually do not have a culm—this forms in the second year.

**Leaves and Stem:** The soft hairy to smooth sheaths are closed nearly to the top. The thick, tough, flat leaf blades are generally 3–6 mm wide (range 2–15 mm) and 10–30 cm long. The ligule is 2–3 mm long with a tattered edge. Small auricles may be present, but are difficult to see without a hand lens.

**Flowerhead and Flowers:** The loose, open flowerhead ranges from 15 to 40 cm long. The ascending to drooping branches of the flowerhead usually end with several spikelets. The large, very flattened spikelets are 2–4 cm long and have several (more than seven) flowers. The two glumes are slightly unequal in length and much shorter than the spikelet. The lemmas are 12–20 mm long and keeled on the back, and have two tiny teeth at the tip. A 6- to 15-mm-long awn projects between the two teeth of the lemma.

**Habitat:** Pavlick (1995) recognizes two varieties of California Brome in British Columbia. Variety *carinatus* occurs west of the Cascades from southeastern Vancouver Island southward, and is an annual. Variety *hookerianus* occurs in the Columbia River Basin to southeastern British Columbia, and is a perennial. It occurs on grassy openings or dry slopes on Martin Ridge and near Midway

**Similar Species:** California Brome closely resembles Alaska Brome (*Bromus sitchensis*). Alaska Brome has a more spreading and drooping appearance than California Brome. Alaska Brome has no auricles, whereas California Brome does, though they may be minute. Spikelets of California Brome occur nearly to the base of the flowerhead, whereas in Alaska Brome they spread out toward the tips. The leaf blades of Alaska Brome are mostly greater than 10 mm wide, whereas they are mostly less than 10 mm wide in California Brome. California Brome intergrades with Mountain Brome (*Bromus marginatus*), and many authors consider them to be the same species. Mountain Brome has wider leaf blades (6–12 mm) and the flowerhead has erect and ascending lower branches compared to California Brome, which has drooping branches.



***Bromus ciliatus* L.**  
Fringed Brome

**Plant:** *Bromus ciliatus* is a native species that grows 45–150 cm tall. It is a tuft-forming perennial with no rhizomes and an open, drooping flowerhead.

**Leaves and Stem:** The sheaths are hairless, but sometimes may have short backward-facing hairs. The nodes are hairy, but sometimes the lower nodes may be smooth. Leaf blades are 4–10 mm wide, with scattered hairs on both surfaces or just on the upper surface. There are no auricles.

**Flowerhead and Flowers:** The flowerhead is 15–25 cm long with long ascending-to-drooping open branches. The first glume is slightly shorter than the second, and both are much shorter than the first flower. The lemma of this

species has obvious hairs along the margin of the lower half but is smooth across the back. This character can be observed with a good hand lens and is visible without dissection.

**Habitat:** Fringed Brome ranges widely across all of British Columbia in damp meadows, thickets, and moist woods, and along streambanks. In the Columbia Basin region it grows near Nelson, and along the Flathead River and Otto Creek.

**Similar Species:** Richardson's Brome (*Bromus richardsonii*), is similar to Fringed Brome in that it has hairs on the margin of the lemma, but, in the lower flower of the spikelet, the back of the lemma is smooth, whereas the lemma of Fringed Brome is rough across the back.

