

Bromus commutatus Schrad.
Meadow Brome

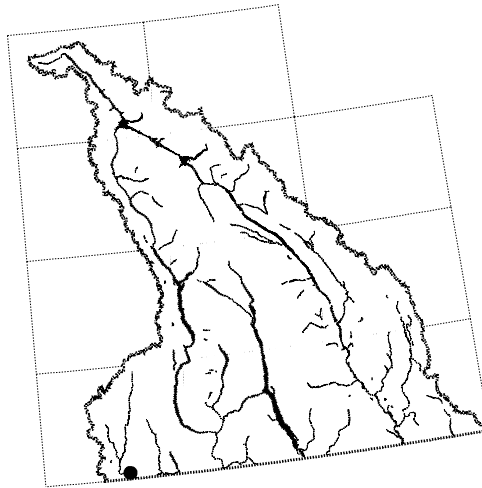
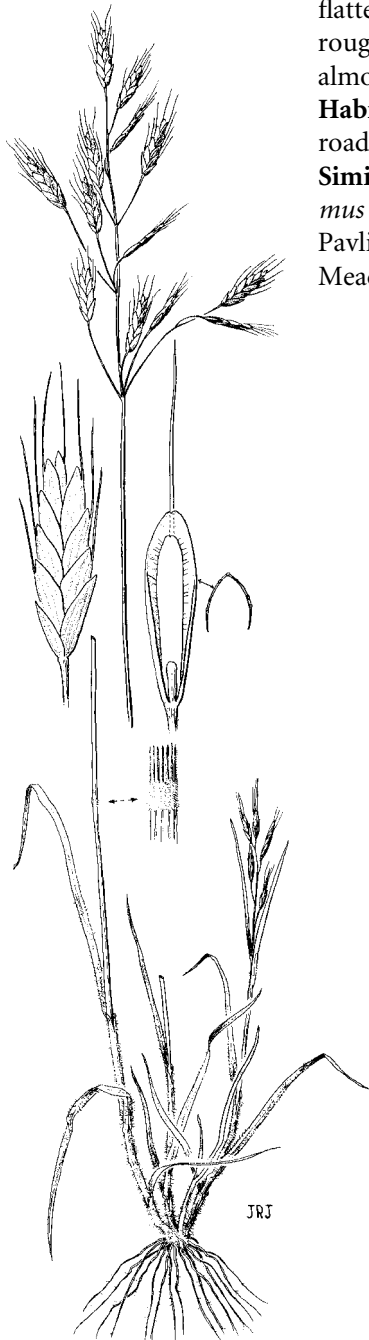
Plant: *Bromus commutatus* is an introduced species that grows 40–120 cm tall. It is an annual Brome. The flowerhead is spreading and somewhat loose, but the branches are erect or ascending and not spreading or drooping.

Leaves and Stem: The leaf sheaths are closed nearly to the top and are densely hairy, with backward-facing hairs. There is dense hairiness at and just below the nodes. The ligule is 1–2.5 cm long. The flat leaf blades are 2–5 mm wide and have long straight hairs on both sides. There are no auricles.

Flowerhead and Flowers: The flowerhead is 7–16 cm long, open, and spreading. The unequal glumes are shorter than the first flowers. The spikelets are flattened. The hardened lemmas have veins but not raised ridges. They feel rough to the touch along the margins. The awn is 3–10 mm long and appears almost hair-like.

Habitat: Meadow Brome grows in disturbed sites in fields, wastelands, and roadsides near Midway.

Similar Species: Meadow Brome resembles European Smooth Brome (*Bromus racemosus*), which has not been collected in the Columbia Basin region. Pavlick (1995) mentions that *B. racemosus* may be a poorly developed form of Meadow Brome.



***Bromus hordeaceus* L.**

***Bromus mollis* L.**

Soft Brome

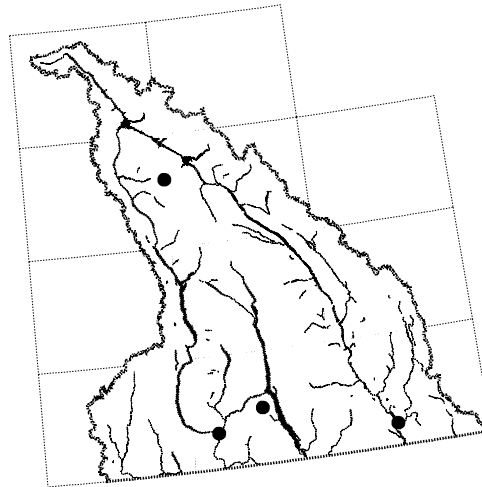
Plant: *Bromus hordeaceus* is an introduced species that grows 20–50 cm tall. It is either annual or biennial. The plant has short flowerhead branches and the spikelets appear close to the stem axis—almost sessile.

Leaves and Stem: Lower leaf sheaths appear densely to softly hairy, whereas the upper ones are less hairy. The short ligule is 1–1.5 mm high and hairy. Leaf blades are hairy on the upper side or both sides. There are no auricles.

Flowerhead and Flowers: The flowerhead is erect and the branchlets (pedicels) are pressed against the main stem. The pedicels are sometimes shorter than the spikelets and therefore it appears as if there are no branches. The glumes are short-hairy to hairless. One glume is slightly shorter than the other and both are shorter than the first flower. The papery lemma has raised ridges on the back with short hairs or without hairs. These prominent ridges are an important feature in distinguishing Soft Brome from Meadow Brome. The edge of the lemma is bluntly angled from the tip to midway along the spikelet and has a wide hyaline (transparent) margin. The 6- to 8-mm-long awns are flattened at the base. These awns can be slightly curved outward but are not strictly reflexed or bent.

Habitat: Soft Brome was introduced from Europe and has spread throughout North America from the west to east coast. Around Nelson and Castlegar, Soft Brome grows on disturbed ground, fields, and wet lakeshores in the lowland, steppe, and montane zones. One interesting record is from Waldo, which is now under water in Lake Koocanusa.

Similar Species: Soft Brome is also called *Bromus mollis* and it has been said to intergrade with Meadow Brome, but the short, spike-like flowerhead differentiates it from Meadow Brome.



***Bromus inermis* Leyss.**
Smooth Brome

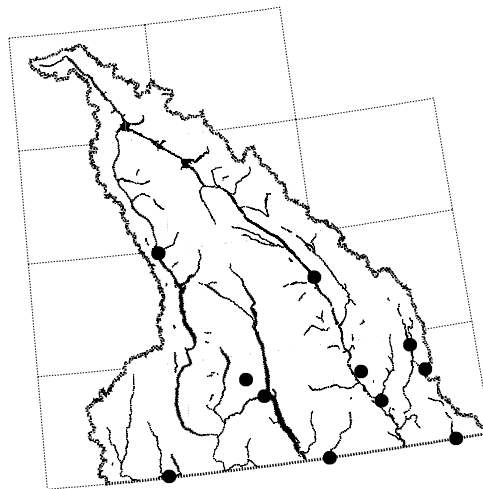
Plant: *Bromus inermis* is an introduced species that grows 50–130 cm tall. It is a rhizomatous perennial with a narrow but branched flowerhead.

Leaves and Stem: The mostly smooth stems have erect or somewhat spreading branches at the base. The sheaths are mostly smooth and closed nearly to the top. Leaf blades are flat, 5 mm wide, and usually drooping. The ligule is 3 mm high. If auricles are present, they are <0.5 mm, so a hand lens is required to see them.

Flowerhead and Flowers: The narrowed to somewhat open-branched flowerhead is 10–20 cm long. Branches are ascending to spreading. The two unequal glumes are much smaller than the spikelet. The lemma has either no awn or a very short one (<3 mm). The back of the lemma is rounded and not keeled.

Habitat: Smooth Brome was known as Hungarian Brome when it was introduced from Eurasia, around 1875. It is widespread throughout the Columbia Basin region in weedy sites everywhere except in the alpine zone.

Similar Species: Many authors consider Smooth Brome and Pumpelly Brome (*Bromus pumpellianus*) to be the same species. Pavlick (1995) considers them two separate species, distinguished by a hairy lemma in Pumpelly Brome. Both species intergrade and are fully interfertile, but we will consider them separate for the purposes of this guide. Smooth Brome resembles Alaska Brome (*Bromus sitchensis*) and California Brome. The spikelets of Smooth Brome are not flattened (compressed) like those of California Brome because the backs of the lemmas are rounded, not keeled.



***Bromus japonicus* Thunb.**
Japanese Brome

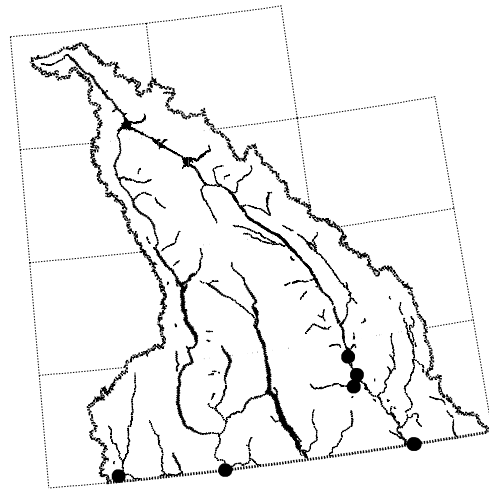
Plant: *Bromus japonicus* is an introduced species that grows 25–70 cm tall. It is an annual with a spreading, branched flowerhead.

Leaves and Stem: The leaf sheaths are soft hairy to densely hairy. The ligules are 1–2.2 mm long and are hairy or lacerate along the edges. Auricles are lacking. The softly hairy leaf blades are 1.5–3 mm wide.

Flowerhead and Flowers: The flowerhead is 10–22 cm long and the branches are spreading, sometimes nodding or drooping, and somewhat slender. The glumes are hairless to slightly rough. Glumes are shorter than the first flower and one glume is about $\frac{2}{3}$ the length of the other. The lemmas are almost leathery in texture and have seven to nine nerves. The awn is very noticeable, 8–13 mm long, often twisted, flattened at the base, and angled away from the back of the lemma. This awn arises a short distance from the tip of the lemma and appears almost reflexed.

Habitat: Japanese Brome was introduced from central and southeast Europe and Asia. It is most often found on disturbed open grasslands, roadsides, or alkaline flats. In the Columbia Basin region, this species grows near Roosville, Cranbrook, and Fort Steele.

Similar Species: Japanese Brome can look different, depending on the stage of maturity. When immature, the awns do not diverge but appear to be straight. The very hairy leaves and the sheaths are a good way to distinguish Japanese Brome in the field.



***Bromus marginatus* Nees**
Mountain Brome

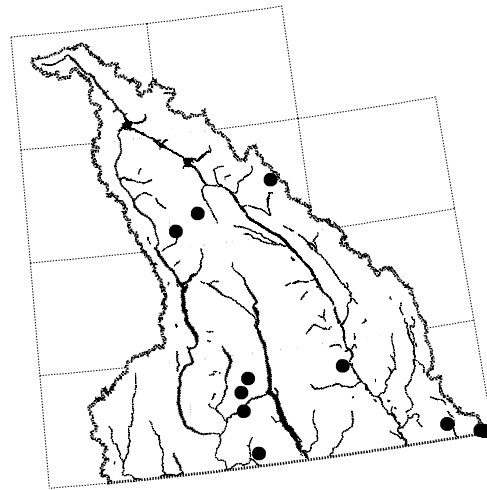
Plant: *Bromus marginatus* is a native species that grows 60–180 cm tall. It is a tufted perennial. Sometimes the culm appears very thick and is softly hairy. The pedicles are longer than the spikelets, but do not droop.

Leaves and Stem: The leaf sheaths are sparsely to densely hairy with dense hairs around the throat. The ligule is 2–3.5 mm long, and appears to be gnawed or sparsely hairy along the edge. The leaf blades are flat and 6–12 mm wide. The leaves can be hairy to hairless. There are no auricles.

Flowerhead and Flowers: The flowerhead is mostly narrow and 10–30 cm long, with erect branches. The spikelets appear compressed and large with six to nine flowers. The lemmas are leathery with seven to nine distinct nerves. The keeled lemmas are hairy along the margins and back, or hairy only on the margins and smooth on the back. The awns are 4–7 mm long.

Habitat: Mountain Brome grows in grasslands, open slopes, shrublands, and openings in the forests. This species is located at Six Mile Lake and Nelson, and along the Flathead River in the Columbia Basin region.

Similar Species: Mountain Brome resembles California Brome, and is considered by Douglas et al. (1994) to be synonymous. Pavlick (1995) distinguishes California Brome from Mountain Brome by the amount of spreading on the lower branches of the flowerhead. California Brome appears to spread more widely. See description for California Brome (*Bromus carinatus*).



Bromus pumpellianus Scribn.
Pumpelly Brome

Plant: *Bromus pumpellianus* is a native species that grows 50–120 cm tall. It is an erect perennial with a rhizome. The stout culm can have hairy or hairless nodes. The flowerhead has a narrow to open form. The spikelets do not appear to be strongly compressed.

Leaves and Stem: The nodes are densely hairy to lightly hairy, and even sometimes hairless. There are short auricles on the lower leaves but these may be missing on the upper leaves. The leaves are flat, the leaf sheaths have soft long hairs, and the ligules are 3 mm long.

Flowerhead and Flowers: The flowerhead is 10–20 cm long and stands erect or nods slightly. The erect branches are longer than the spikelets. The lemmas are hairy along the margins and are silky-hairy across the back; but the glumes are hairless, so the overall appearance is one of having no hairs because the glumes almost cover the lower lemma. Glumes are shorter than the first flower. The awn is less than 6 mm long and in many cases is not visible. In this species it is difficult to see the two tiny teeth at the tip of the lemma.

Habitat: Pumpelly Brome has been collected on sandy or gravelly stream-banks and lakeshores along the Flathead River.

Similar Species: Pumpelly Brome is considered by some authors to be the same as Smooth Brome. Pumpelly Brome ranges from the Arctic southward along the Cordillera to Colorado. Specimens of Pumpelly Brome may superficially appear to be a smooth brome such as Smooth Brome, except that its lemmas are hairy.



Bromus richardsonii Link
Richardson's Brome

Plant: *Bromus richardsonii* is a native species that grows 50–145 cm tall. It is a tufted perennial with hairless nodes and internodes. The flowerhead is open, with the spikelets drooping from fine branchlets.

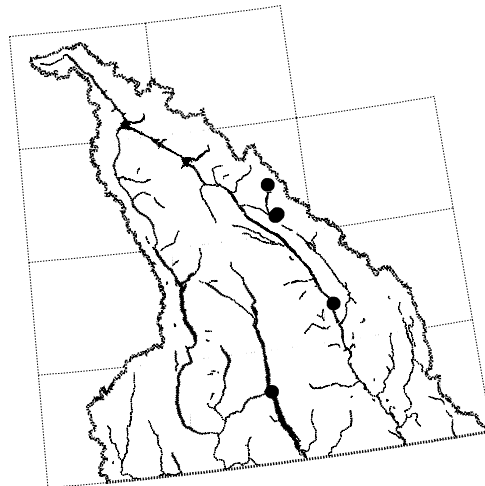
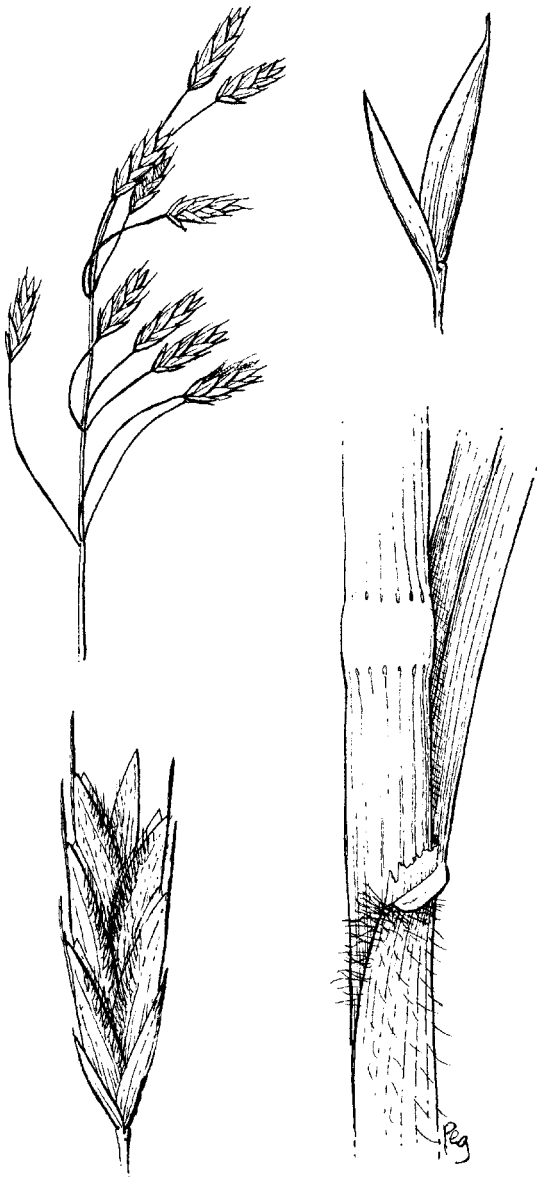
Leaves and Stem: Leaf sheaths are variously finely hairy to hairless, but often tufted-hairy at the ligule. The ligules are 0.4–2 mm long and appear to be hairy or gnawed. The flat leaf blades are 3–12 mm wide and hairless. There are no auricles.

Flowerhead and Flowers: The open, slightly nodding flowerhead is 10–25 cm long, with slender branches that spread or droop. One glume is about $\frac{2}{3}$ the length of the other, and both are shorter than the first flower. The glumes are hairless and often have a small toothlike point at the tip. The lemmas are more or less covered in long straight hairs on the lower half of the margins.

The lower spikelets may also be hairless on the back. The uppermost spikelets have short, appressed hairs. The awn is 2–5 mm long.

Habitat: Richardson's Brome occurs on open sites such as creek beds, eroding banks, and alluvial fans in the montane and subalpine zones, such as those around Fairmont Hot Springs, Emerald Lake, and Kootenay Lake.

Similar Species: Hitchcock et al. (1969) considered Richardson's Brome to be similar to Fringed Brome, but Pavlick (1995) distinguishes the two species by the fact that the culm nodes of Richardson's Brome are mostly hairless and the leaf sheaths often have tufts of long straight hairs. Fringed Brome has hairy nodes (although sometimes the lower nodes are smooth), and the leaf sheaths are mostly hairless, but sometimes with short, backward-facing hairs.



***Bromus sitchensis* Trin.**
Alaska Brome

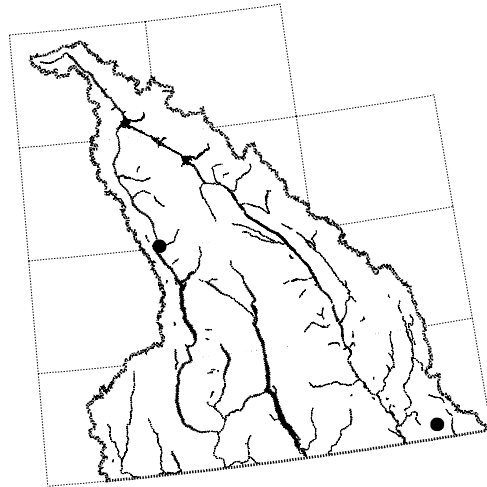
Plant: *Bromus sitchensis* is a native species that grows 50–180 cm tall. It is a stout perennial without rhizomes, and has a large, branched, open flower-head.

Leaves and Stem: The leaf sheaths are hairless or covered by long scattered hairs. The sheaths are closed nearly to the top. There are no auricles. The ligules are 3–4 mm long with a ragged to hairy margin. The flat leaves are 8–15 mm broad and sparsely hairy with long hairs on the upper or both sides.

Flowerhead and Flowers: The flowerhead in Sitka Brome is very open and 10–35 cm long. The pedicels or stalklets spread and droop somewhat. Strongly flattened spikelets often hang from the ends of the branches. The first glume is about $1/2$ – $2/3$ the length of the other, and both are much shorter than the first flower. Keeled lemmas bear 5- to 12-mm-long awns, have seven to nine nerves, and scattered hairs cover the back.

Habitat: Alaska Brome occurs on rocky soil, stream-banks and exposed rocky bluffs. The specimens at the Royal BC Museum were collected along Cabin Creek and in Revelstoke Park.

Similar Species: Alaska Brome closely resembles Aleut Brome and is considered to be the same species. Douglas et al. (1994) separates Alaska Brome from California Brome based on the degree of panicle spreading and whether auricles are present. Alaska Brome has spreading panicle branches and no auricles. California Brome has tiny auricles and a spreading to drooping flowerhead.



***Bromus tectorum* L.**
Cheatgrass

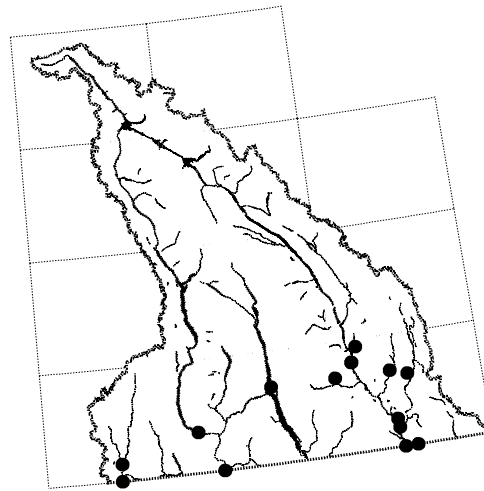
Plant: *Bromus tectorum* is an introduced species that grows 5–90 cm tall. It is an annual brome with an open, spreading, and often-drooping flowerhead. Spikelets have long, prominent awns.

Leaves and Stem: The sheaths are softly hairy, though those of the upper leaves sometimes are hairless. The leaves are flat, 2–4 mm wide, and softly hairy on both leaf surfaces. Ligules are 2–3 mm long with a lacerate margin. There are no auricles.

Flowerhead and Flowers: The flowerhead is 5–20 cm long and more or less lax. The branches are flexuous and the spikelets are often purplish. The first glume is $\frac{1}{2}$ to $\frac{2}{3}$ the length of the second glume, and both are much shorter than the first flower. The lemmas are hairy to long-hairy over the back and often have a few longer hairs on the margins. The spikelet appears to be brushlike, and the various awns tend to terminate at the same level. The 10- to 18-mm-long awns appear longer than the spikelet.

Habitat: Cheatgrass was introduced from Europe and now occurs throughout much of the U.S. and Canada. Cheatgrass grows in wasteplaces and disturbed soils, and is a particular problem on overgrazed rangelands.

Similar Species: Cheatgrass is distinct from most of the other species in the Columbia Basin region.



Bromus vulgaris (Hook.) Shear
Columbia Brome

Plant: *Bromus vulgaris* is a native species that grows 60–120 cm tall. It is a perennial that grows in loose tufts with a slender, narrow, drooping flower-head.

Leaves and Stem: The long, slender stems have few leaves along the culm and often droop. The leaf sheaths are hairy to smooth, and the culm nodes are hairy. The flat, lax leaf blades are hairy on at least one surface, and are up to 14 mm wide. The ligules are 2–6 mm long, blunt, and gnawed-looking. There are no auricles.

Flowerhead and Flowers: The open, narrow, drooping flower-head has slender branches with few-flowered spikelets and is 10–15 cm long. The first glume is about 1/2 the length of the second, both being much shorter than the first flower. The lemmas are 8–15 mm long and coarsely hairy on the margins. The awn is 6–12 mm long and arises at the tip.

Habitat: Columbia Brome grows in the Columbia Basin region in open forests of Douglas-fir or lodgepole pine. In particular, it has been collected near Nelson, at Long Beach, and near Morrisay.

Similar Species: The relatively small, few-flowered, drooping flowerheads with rounded spikelets are distinct features of Columbia Brome. Smooth Brome is like Columbia Brome, but it has fat spikelets and the awns are much shorter. Smooth Brome is also like Columbia Brome, but it has rhizomes rather than tufted roots.

