

# Species of Management Concern in the Kootenay Business Area



*Produced for:*  
BC Timber Sales  
Nelson, BC



**BCTS**  
BC Timber Sales

*Produced by:*  
Vast Resource Solutions, Inc.  
Cranbrook, BC  
[www.vastresource.com](http://www.vastresource.com)



Status updates June 2019  
(Original document July 2014)



# Species of Management Concern in the Kootenay Business Area

## Table of Contents

Species with Management Guidelines				
Species	Taxon	Forest District	BGC	Page*
Blotched Tiger Salamander	Amphibian	DAB	ICH; IDF; PP	3
Coeur d'Alene Salamander	Amphibian	DAB; DKL; DRM	ICH; IDF	4
Rocky Mountain Tailed Frog	Amphibian	DKL; DRM	ICH; IDF	5
Western Toad	Amphibian	DAB; DKL; DRM	ESSF; ICH; IDF; PP	6
Flammulated Owl	Bird	DAB; DRM	ICH; IDF; MS; PP	7
Western Screech-owl	Bird	DAB; DKL; DRM	ICH; IDF; PP	8
Common Nighthawk	Bird	DAB; DKL; DRM	ESSF; ICH; IDF; MS; PP	9
Olive-sided Flycatcher	Bird	DAB; DKL; DRM	ESSF; ICH; IDF; MS; PP	10
Williamson's Sapsucker	Bird	DAB; DRM	ICH; IDF; MS; PP	11
Lewis's Woodpecker	Bird	DAB; DKL; DRM	IDF; PP	12
White-headed Woodpecker	Bird	DAB	ICH; IDF; PP	13
Bats	Mammal	DAB; DKL; DRM	ESSF; ICH; IDF; IMA; MS; PP	14
Mountain Caribou	Mammal	DAB; DKL; DRM	ESSF; ICH; IMA	15
Rocky Mtn Bighorn Sheep	Mammal	DKL; DRM	ESSF; ICH; IDF; IMA; MS; PP	16
American Badger	Mammal	DAB; DKL; DRM	ESSF; ICH; IDF; IMA; MS; PP	17
Wolverine	Mammal	DAB; DKL; DRM	ESSF; ICH; IDF; IMA; MS	18
Grizzly Bear	Mammal	DAB; DKL; DRM	ESSF; ICH; IDF; IMA; MS	19
Whitebark Pine	Tree	DAB; DKL; DRM	ESSF	20
Spalding's Campion	Forb	DRM	PPdh2	21
Identifiable Species of Management Concern				
Western Skink	Reptile	DAB; DKL; DRM?	ICH, IDF, PP	22
Bank Swallow	Bird	DAB; DKL; DRM	PP, IDF, ICH	22
Long-billed Curlew	Bird	DAB?; DKL; DRM	PP, IDF, ICHxw	23
Great Blue Heron	Bird	DAB; DKL; DRM	PP, IDF, ICH	23
Dione Copper	Butterfly	DRM	IDF; PP	24
Mormon Fritillary	Butterfly	DAB; DRM	ESSF; MS; IDF	24
Gillette's Checkerspot	Butterfly	DRM	ESSF; MS	25

\* In digital version, click on number to navigate to page

**Identifiable Species of Management Concern (cont'd)**

<b>Species</b>	<b>Taxon</b>	<b>Forest District</b>	<b>BGC</b>	<b>Page*</b>
Arrow-leaved Rattlesnake Root	Forb	DRM	MSdk	26
Common Clarkia	Forb	DAB	ICHxw	27
Ground Plum	Forb	DRM	MSdk	28
Hairstem Groundsmoke	Forb	DAB; DRM	IDFdm, IDFxh, PPdh	29
Large-flowered Brickellia	Forb	DAB; DRM	ICHdw, MSdk	30
Least Bladdery Milk-vetch	Forb	DAB	ICHdw	31
Mock-pennyroyal	Forb	DRM	IDFdm; PPdh	2
Northern Violet	Forb	DAB	ICHdw, ICHmw, IDFxh	33
Pinewood Peavine	Forb	DRM	IDFdm	34
Piper's Anemone	Forb	DKL	ESSFwc	35
Prairie Broomrape	Forb	DRM	IDFdm, IDFxk, PPdh	36
Racemed Groundsmoke	Forb	DRM	IDFdm	37
Satinflower	Forb	DAB	ICHdw, IDFxh	38
Scarlet Globe-mallow	Forb	DAB; DRM	IDFun, IDFxh, MSdk	39
Shining Penstemon	Forb	DRM	MSdk	40
Slender Gilia	Forb	DAB	IDFdm; PPdh	41
Smooth Goldenrod	Forb	DAB	ICHxw	42
Varied-leaf Phacelia	Forb	DAB	IDFdm, IDFxh, PPdh	43
Gastony's Cliff-brake	Fern	DRM	ESSFwc, IDFdm, IDFxk, MSdk	44
Upswept Moonwort	Fern	DRM	ESSFdk, IDFdk, IDFxh, IMA	45
Lesser Brown Sedge	Sedge	DAB; DKL	ICHmw	46
Slender Muhly	Grass	DRM	ICHdm	47

\* In digital version, click on number to navigate to page

# Blotched (Western) Tiger Salamander (*Ambystoma mavortium*)



## Management Strategies

From IWMS General Wildlife Measures:

- Minimize disturbance during the breeding season.
- Avoid roads in high quality habitats
- Maintain water quality and levels
- Minimize soil disturbance and trampling of burrows.
- Maintain important habitat features (i.e., small mammal burrows, riparian and emergent vegetation, and non-compacted soils).
- Maintain or remediate riparian and aquatic habitats to a properly functioning condition.

## Description:

- Large salamander, up to 15 to 25 cm long. Mostly yellow or green with black or grey stripes / blotches

## Status:

BC	COSEWIC	SARA	IWMS
Red	E	1-E	yes

## Habitat Associations:

**BEC:** Primarily PP and IDF, also ICH

Adults: grassland, shrub-steppe and open forest

Breeding ponds: Semi- to permanent ponds near suitable adult habitat

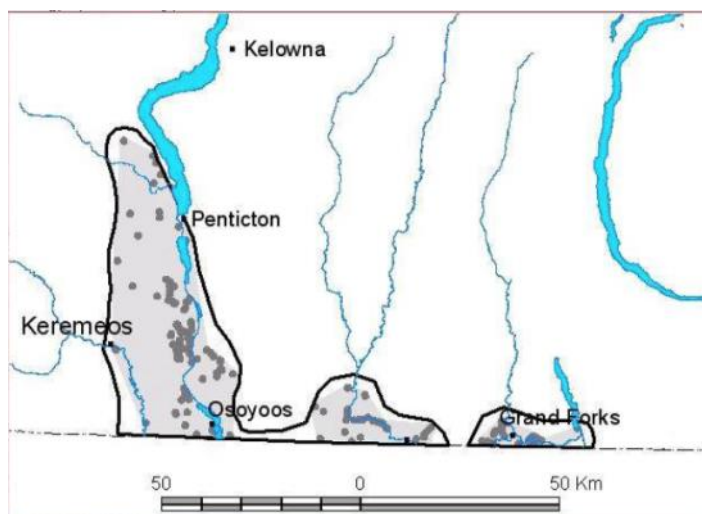
## Regional Distribution:

- Kettle River Valley.
- Two main areas in Boundary region: between Grand Forks and Christina Lake and middle Kettle Valley from Westbridge to Midway

Forest District		
DAB	DKL	DRM
X		

## Did you know?

Blotched Tiger Salamanders are one of British Columbia's largest amphibians.



Source: BC Recovery Strategy

More Info: [BC Frogwatch](#); [BC Recovery Strategy](#); [IWMS account](#)

# Coeur d'Alene Salamander (*Plethodon idahoensis*)



## Management Strategies

- Avoid new road construction, if necessary keep downslope of known occurrences to minimize sedimentation
- Avoid stream crossing wherever possible
- Do not remove or disturb rock talus
- Leave wildlife trees, understory, moss, coarse woody debris and other moisture-retaining stand structural elements in place
- Do not disturb substrate

## Description:

- Smallish salamander, about 10 cm long including tail.
- Dark brown or black body with scalloped stripe on its back, usually orange

## Status:

BC	COSEWIC	SARA	IWMS
Yellow	SC	1-SC	yes

## Habitat Associations:

**BEC:** ICH; IDF

- Moist microsites, often in fractured bedrock with permanent water; rock walls, waterfall splash zones, caves and other permanently wet areas
- Forest communities include deciduous shrub and various stages of wet coniferous forest.

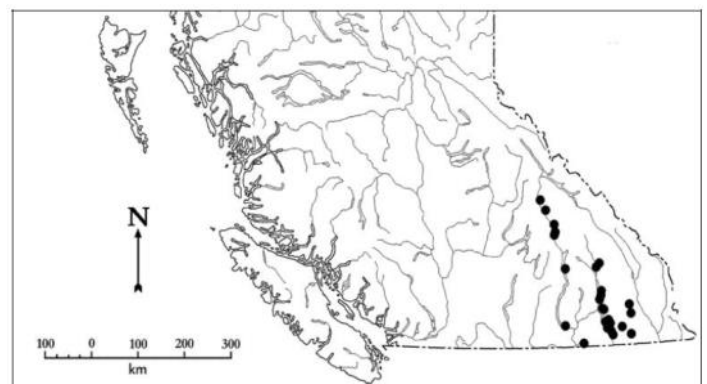
## Regional Distribution:

- Throughout much of the wetter areas of the region.

Forest District		
DAB	DKL	DRM
X	X	X

## Did you know?

Plethodontid salamander adults, including Coeur d'Alenes, have neither gills nor lungs. They respire ("breathe") through their skin. That's why they're always in moist conditions.



Distribution of Coeur d'Alene Salamander in British Columbia.  
From COSEWIC 2008

More Info: [IWMS Account](#); [BC Fact Sheet](#)



# Rocky Mountain Tailed Frog (*Ascaphus montanus*)



Stephen Corn, USGS

## Description:

- Small greenish-brown frog (adults 2 to 5 cm). Only male has “tail” (actually a copulatory organ)
- Tadpoles have a ‘sucker mouth’ to attach to substrate in often fast-flowing mountain stream habitat.

## Status:

BC	COSEWIC	SARA	IWMS
Blue	T	1-T (2018)	yes

## Habitat Associations:

**BEC:** MS, ESSF, ICH

- Mid- to high-elevation streams with step-pool morphologies and imbedded in-stream cobbles.
- Adults also in adjacent riparian stands close to streams.

## Regional Distribution:

- Found only in Flathead and Yahk River drainages

Forest District		
DAB	DKL	DRM
		X

## Management Strategies

- Avoid sediment loading into known inhabited streams.
  - Achieve this through careful road building (avoid all new roads wherever possible, upgrade existing roads to minimize sedimentation)
- Ensure suitable buffers are in place between harvested upland stands and streams
- Be extremely conservative with riparian buffer widths
- Avoid harvesting in upland areas between streams known to be inhabited to maintain connectivity corridors between streams.
- Do not disturb streams, particularly their substrate and geological features.
- Do not handle frogs or tadpoles (picture below notwithstanding!).
- Do not salvage log within known inhabited areas
- Control livestock access to all inhabited streams.

## Did you know?

Tailed Frog tadpoles do not metamorphose for 3 years. They cannot reproduce until 7 years old. Tailed frogs are among the oldest frogs on Earth.



Rocky Mountain Tailed Frog tadpole with sucker mouth morphology.

More Info: [BC Frogwatch](#); [IWMS Account](#)

# Western Toad (*Anaxyrus boreas*)



## Description:

- Large, brown toad (though recently metamorphosed individuals can be quite small) often with “warty” skin.
- Frogs are generally more sleek and smooth-skinned.

## Status:

BC	COSEWIC	SARA	IWMS
Yellow	SC	1-SC	yes

## Habitat Associations:

BEC: ESSF; ICH; IDF; MS; PP

- Adults live in a wide range of habitats from forests to meadows to wetlands. Relatively tolerant of dry conditions (compared to most amphibians)
- Lays eggs in a variety of water bodies from small ponds to lakes

## Regional Distribution:

- Broadly distributed throughout the region

Forest District		
DAB	DKL	DRM
X	X	X

## Management Strategies

- Maintain coarse woody debris, especially in wetter areas where toads are more likely and close to ponds where toads might, or are known to, breed
- Machine-free zone around ephemeral or vernal pond in which toads might breed
- Avoid ruts in roads that might attract toads for breeding. Grade roads prior to leaving areas and work to improve drainage as much as possible.
- This will avoid roads becoming population sinks and discourage toads from breeding in locations (water-filled road ruts) where success is doubtful.



*Western Toad eggs are a single, linear strand. Most frog eggs are a circular mass*

## Did you know?

The ‘warts’ are not warts, but glands that emit a sticky, foul substance when the toad feels threatened.

More Info: [BC Frogwatch](#); [FWCP’s Summit Lake Toad Program](#)

# Flammulated Owl (*Otus flammeolus*)



## Description:

- A small (17 cm) owl with indistinct ear tufts, spotted grey, rust, and white plumage
- Two forms: reddish and grey
- Only small owl with black eyes
- Call is a single or double low, hollow hoots, heard at night: [listen](#) (click on "Typical Voice" )
- Strictly nocturnal, rarely seen

## Status:

BC	COSEWIC	SARA	IWMS
Blue	SC	1-SC	yes

Migratory. In region from late May to mid September.

## Habitat Associations:

**BEC:** mostly IDF, also PP, possible in drier ICH sub-zones

- Nests and forages in dry open forests with snags and small thickets of young trees
- Uses large Py and Fd snags for nesting, and small grassy opening for foraging
- "Dry Douglas-fir dominated forests characterized by a mixed-age class, multi-layered canopy, old-growth features, and thickets adjacent to small openings." (from IWMS account)

## Management Strategies

- Minimize disturbance in breeding season (June 1 to August 31).
- Retain all high value wildlife trees >35 cm dbh in known habitat range. Use no-work zones if necessary for safety.
- Maintain a mosaic of habitat types—some dense thickets beside large veteran trees; adjacent open areas for foraging.
- Large stands of old growth should be retained in wildlife tree patches.
- Report all nests and bird sightings to provincial biologists.

## Regional Distribution:

- In lower to mid westslopes of Rocky Mountains in East Kootenay, but inventory effort has been limited.
- Known from south end of Kootenay Lake near Creston
- Through lower Kettle River areas of Boundary region.

Forest District		
DAB	DKL	DRM
X	X	X



Juvenile Flammulated Owl

## Did you know?

Flammulated Owls eat almost entirely insects, possibly one reason they migrate. Their flat, monotoned hoot ([listen](#)) can be hard to locate. Finding their nest site is challenging!

More Info: [All About Birds account](#); [Provincial Management Plan](#); [Federal Recovery Plan](#); [IWMS account](#)



## Western Screech-owl (*Megascops kennicottii macfarlanei*)



Nicky Davis

### Description:

- Small owl (20cm), grey or brownish with and black streaks and ear tufts.
- Yellow eyes (compare with Flammulated Owl)
- Call a series of are short, whistled hoots: [listen](#)

### Status:

BC	COSEWIC	SARA	IWMS
Blue	T	1-T	yes

### Habitat Associations:

BEC: ICH, IDF, PP

- Old riparian stands, particularly with large-diameter broadleaf trees typically cottonwoods.

### Management Strategies

- In suitable or known inhabited riparian areas, retain all deciduous trees. Plan for recruitment of future nest trees.
- Limit, if not exclude, harvest from riparian zones.
- Avoid road construction and limit stream / river crossings.
- Minimize disturbance in nest areas—both actual work and via access control.
- Establish Wildlife Tree Patches at least 2.5 ha or greater. Focus on areas with large diameter deciduous trees, wildlife trees with suitable nesting cavities.
- Report all nest and bird sightings to provincial biologists.

### Regional Distribution:

- Most major valleys throughout southern part of the Kootenay Business Area.
- Recently found numerous individuals in Flathead River area in addition to known sites further west

Forest District		
DAB	DKL	DRM
X	X	X



Cameron Rognan

### Did you know?

Western Screech-owls hunt mostly small mammals but occasionally take prey larger than themselves!

More Info: [All About Birds account](#); [BC Recovery Strategy](#); [IWMS account](#)

# Common Nighthawk (*Chordeiles minor*)



© 2006 Kevin T. Karlson

## Description:

- Crow-sized bird, usually seen in flight in evenings and (less often) early mornings, often very high.
- Mottled brown, grey & white
- Very long wings with distinctive white patch toward wing tip
- Nasal *peent* call when flying: [listen](#)

## Status:

BC	COSEWIC	SARA	IWMS
Yellow	SC	1-SC (2018)	no

- Migratory. In region from late May to mid September.

## Habitat Associations:

**BEC:** PP, IDF, drier ICH subzones

- Generalist— nests on ground (scrape), usually in openings with long sight-lines.

## Regional Distribution:

- Found low elevations throughout the Kootenay Region
- Late spring arrival, often not in region until June

Forest District		
DAB	DKL	DRM
X	X	X

## Management Strategies

- Will benefit from ecosystem restoration activities that provide open forest stands at low elevations
- In nesting season, may flush birds off very cryptic ground nests.
- If a nest is found, avoid area for that nesting season.
- Maintain some coarse woody debris on cutblocks.
- Report all nests and bird sightings to provincial biologists.
- Male 'wing booms' (see Did You Know below) may be done directly over nest sites. If you hear one of these, try to note location and report it to a provincial biologist.



Ian Adams

Common Nighthawk on nest (good luck finding it!)

## Did you know?

Common Nighthawk males make a "boom" noise with their wings in a fast-diving courtship display of acrobatic aeronautics

More Info: [All About Birds](#); [SARA Registry](#)

# Olive-sided Flycatcher (*Contopus cooperi*)



Bob Devlin

## Management Strategies

- Patch out all S6 to S4 streams and adjacent riparian areas including unmapped wetlands.
- Maintain all possible high value wildlife trees (snags) in reserve areas and cutblocks.
- Maintain some large mature trees in adjacent cut-blocks for hunting perches (the birds sit on the top of trees when watching for insect prey).
- Forestry can be beneficial provided perch trees are maintained as well adjacent stands for nesting.

## Regional Distribution:

- Though not numerous, they are widely distributed throughout region in mature to old, mid- to high-elevation forest stands

Forest District		
DAB	DKL	DRM
X	X	X

## Description:

- Medium-sized (20cm) songbird. Buff grey/green on back and sides, white centre of breast and throat.
- Usually shows distinct peak on top of head
- Distinctive *Quick Three Beers!* song: [listen](#)
- Nest is usually a cup placed toward the end of a horizontal tree branch. Will aggressively defend nest.

## Status:

BC	COSEWIC	SARA	IWMS
Blue	T	1-SC (2018)	

Migratory. In region from late May to mid September.

## Habitat Associations:

**BEC:** MS, ESSF, mid- to high-elevation ICH.

- Mid- to high-elevation forests, usually around wet areas, particularly wetlands
- Usually in, or near, openings and forest edges, including recent burns



Dominic Sherony

## Did you know?

Olive-sided Flycatchers have one of the lowest reproductive rates of all North American songbirds. This does not help its recovery!

More Info: [All About Birds account](#); [SARA Registry](#)



# Williamson's Sapsucker (*Sphyrapicus thyroideus*)



## Description:

- Medium-sized woodpecker (23 cm).
- Males black-backed with white wing patches, b&w striped head with yellow breast and red throat patch
- Females mottled brown / black with paler yellow breast
- Migratory. In region from mid-April to September.
- Call a scratchy “kee-ya”, drum a series of taps, not syncopated like Red-naped Sapsucker: [listen](#)

## Status:

BC	COSEWIC	SARA	IWMS
Blue	E	1-E	yes

Migratory. In region from mid April to September.

## Habitat Associations:

**BEC:** primarily IDF, also PP and MS, drier ICH subzones

- Nests in large-diameter western larch, ponderosa pine and trembling aspen
- Feeds (drills sap-wells) on mid-diameter Douglas-fir. Also catches carpenter ants from coarse woody debris to feed young
- May nest in large retention trees in cut-blocks, or natural open areas usually with mature stands immediately close by for foraging.

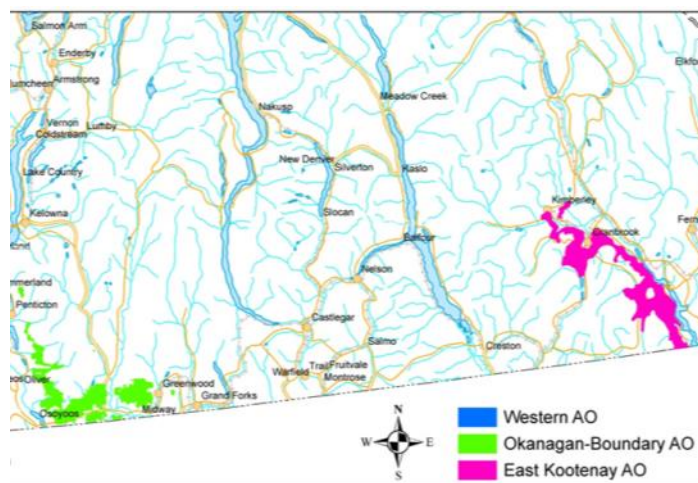
## Management Strategies

- Consult Williamson's Sapsucker Best Management Practices for Harvest and Silviculture which covers these subjects:
  - Nest tree retention and recruitment
  - Ant habitat targets
  - Live tree retention targets
  - Sap tree habitat targets
  - Timing windows
  - Wildlife Tree Patches
- Know if area falls in Area of Occupancy (where species occurs).
- Report all nests and bird sightings to provincial biologists

## Regional Distribution:

- DRM: Cranbrook / Kimberley area south to US border, west of Kootenay R. / Kootenai. Historical records from Flat-head Valley, but no recent detections there.
- DAB: west of Greenwood

Forest District		
DAB	DKL	DRM
X		X



## Did you know?

Williamson's Sapsuckers feed their young aphid-tending ants almost exclusively. Maintaining coarse woody debris that supports these ants is important to help Williamson's Sapsucker.

More Info: [All About Birds account](#); [IWMS account](#); [Provincial Recovery Plan](#);



# Lewis's Woodpecker (*Melanerpes lewis*)



## Description:

- Medium-sized woodpecker, to 28 cm
- Dark green back and head with pink belly and red face. Grey collar and bib stands out.

## Status:

BC	COSEWIC	SARA	IWMS
Blue	T	1-T	yes

Migratory. In region from mid April to September.

## Habitat Associations:

**BEC:** primarily PP, also IDF, occasionally in drier ICH zones in DKL

- Three main habitat types: open forest / savannah; riparian areas near open areas; and recent burns.
- Kettle / Boundary: primarily open PP and riparian habitats
- East Kootenay: primarily recent burns and open Py forest savannah.
- Lewis's Woodpecker is a weak excavator that generally requires wildlife trees in more advanced stages of rot than other woodpeckers.

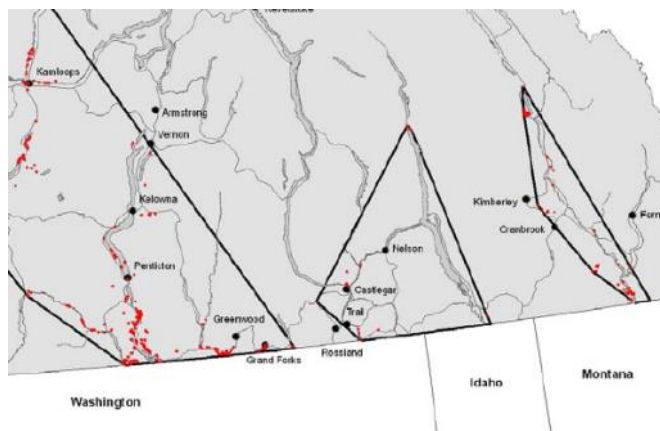
## Management Strategies

- Most Ecosystem Restoration treatments for grass-land and open range / open forest should provide necessary habitat structure for Lewis's Woodpecker.
- Maintain all large diameter trees and patch out high value wildlife trees. Particularly in Ponderosa Pine and Black Cottonwood stands.
- Maintain wildlife trees after burns, especially trees that were snags prior to the burn

## Regional Distribution:

- DRM: Rocky Mountain Trench north to Invermere
- DAB: Kettle River Valley up to Westbridge
- DKL: occasional records from lower Columbia and Meadow Creek area but rarely, if ever, nests in West Kootenay.

Forest District		
DAB	DKL	DRM
X	X	X



*Lewis's Woodpecker range in Kootenay Business Area. No nests are known from West Kootenay region. Source: (COSEWIC 2010 report)*

## Did you know?

While most other woodpeckers drill into trees to find insects, Lewis's Woodpeckers primarily glean insects off trees or catch them in mid-air. They are considered weak excavators.

More Info: [All About Birds account](#); [IWMS account](#); Federal Recovery Strategy is pending

# White-headed Woodpecker (*Picoides albolarvatus*)



## Description:

- Black-bodied woodpecker with distinctive white face.
- Males have red patch on back of head
- Wings show white patch
- Calls indistinctive from other woodpeckers. Drum is fairly soft: [listen](#)

## Status:

BC	COSEWIC	SARA	IWMS
Red	E	1-E	yes

Migratory. In region from April through October.

## Habitat Associations:

### BEC: PP

- Ponderosa pine forests.
- Nests in Ponderosa pine trees > 50cm dbh
- White-headed Woodpeckers feed mainly on ponderosa pine seeds so they need a reliable source of mature, cone-producing ponderosa pine.

## Regional Distribution:

- In Kootenay Business Area, White-headed Woodpecker occurs only in the extreme southwest corner near Rock Creek.

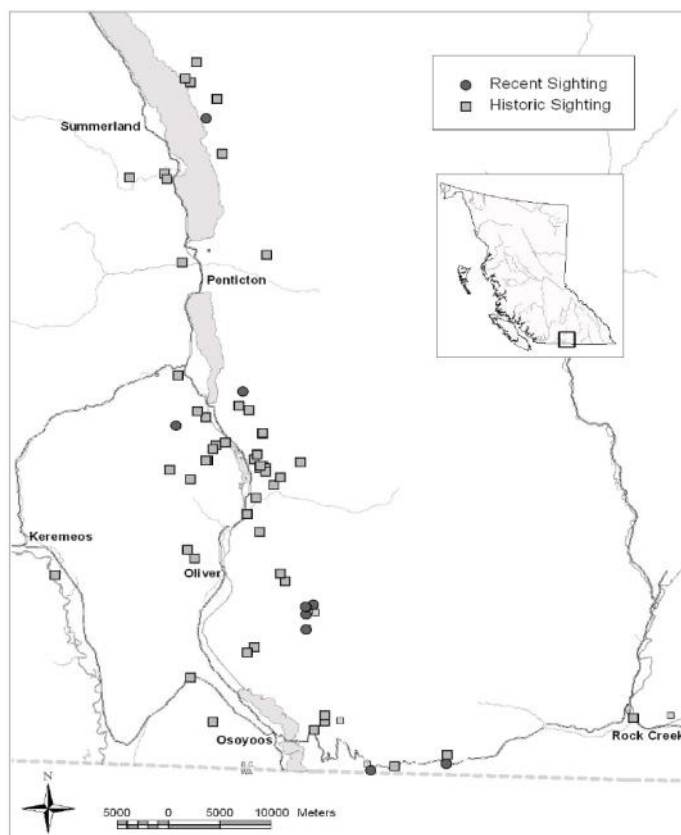
Forest District		
DAB	DKL	DRM
X		a

a = accidental

- Very rarely, birds are seen in the East Kootenay, usually in migration. No nests are known from this area.

## Management Strategies

- Maintain all large diameter Ponderosa Pine trees
- Open forest ecosystem restoration efforts will help this species, provided suitable nesting trees are maintained (large diameter Py) and mature, cone-producing trees for foraging
- White-headed Woodpeckers also glean insects off tree trunks and downed woody material to feed their young, so maintaining coarse woody debris will help too.
- Report all nests and bird sightings to provincial biologists.



## Did you know?

While most woodpeckers are noisy and distinctive, White-headed Woodpeckers tend to be quiet. Their call and drum are fairly soft, making them difficult to observe.

More Info: [All About Birds account](#); [IWMS account](#); [Federal Recovery Plan](#)

## Bats

Fringed Myotis (*Myotis thysanodes*)

Little Brown Myotis (*Myotis lucifugus*)

Northern Myotis (*Myotis septentrionalis*)

Three species of listed bats are addressed here. They are largely indistinguishable, however habitat features should be considered during forest planning. Key habitat attributes may be identified during field work.

	BC	COSEWIC	SARA	IWMS	DAB	DKL	DRM	BEC
Fringed Myotis	Blue	DD*		Yes	X	X		PP, also IDF and drier ICH
Little Brown Myotis	Yellow	E	E (2014)		X	X	X	PP, IDF, MS, ICH, ESSF
Northern Myotis	Blue	E	E (2014)		?	X	X	ICH, possibly wetter ESSF

\* Assessed by COSEWIC as Data Deficient in 2004

### Description:

These three bats are virtually impossible to tell apart using basic visual clues. All are small and brown.

Most bats have similar ecology and conservation concerns; 11 or more species occur in the region.

### Habitat Associations:

- Most bats occur close to water, often feeding on insects over the water.
- Well structured stands are usually important, providing roosts (cavities, loose bark on dead trees)

**Fringed Myotis:** Mostly associated with dry grassland and Py / Df forests; typically older aged stands.

**Little Brown Myotis:** habitat generalist, found throughout region.

**Northern Myotis:** thought to be associated with boreal / wet forest types, but poorly known.

**Hibernation Sites:** The Whitenose Syndrome conservation concern affects bats during hibernation. Most Bats in this region hibernate in caves and old mine shafts, but these sites are very poorly known.

### Regional Distribution:

**Fringed Myotis:** Known from Boundary and Creston areas, likely elsewhere but poorly documented

**Little Brown Myotis:** Throughout region, one of the more common bats, but has been decimated by White Nose Syndrome in eastern North America

**Northern Myotis:** Occurrence poorly understood. Possibly in Flathead, mostly likely in northern, wetter parts of the Kootenay Business Area.

### Management Strategies

- Maintaining roosting opportunities for bats is critical.
- Retain dead / dying trees with loose, sloughing bark for daytime roosts.

**Though field staff will not be able to identify bats to species, they can play a role in identifying key features.**

**If larger roosts / maternal roosts are found (large trees, caves, old buildings), these should be protected and left undisturbed. Report large aggregations to FLNRO biologists.**

**Any bats observed flying in winter or suspected hibernation sites should be reported to FLNRO biologists.**

More Info: [Kootenay Bat Project](#); [Bats of British Columbia](#); [Cori Lausen](#) (Kootenay bat biologist); [White Nose Syndrome](#); [Fringed Myotis IWMS account](#)

# Mountain Caribou (*Rangifer tarandus*), population 1



## Description:

- Medium sized ungulate, grey/brown body with light neck.
- Both males and females grow antlers that are shed annually, females much smaller antlers.
- Hooves are very broad (for snowshoe effect), track shows two broad crescents.

## Status:

BC	COSEWIC	SARA	IWMS
Red	E	1-T*	yes

\* Assessed by COSEWIC as Endangered in April, 2014. SARA listing not likely to change for 1-2 years.

## Habitat Associations:

**BEC:** ESSF; IMA

- Older, upper elevation stands of spruce / fir forests
- Subalpine parkland, particularly in summer.
- Tend to move to lower elevations in fall and spring.

## Management Strategies

- Follow legal Ungulate Winter Range requirements in mapped caribou zones.
- Do not build new roads into mountain caribou zones.
- Do not harvest of old-seral stands.
- Report all animal sightings to provincial biologists.

## Regional Distribution:

- Main herds in the Kootenay Business Area region are

Forest District		
DAB	DKL	DRM
	X	X

- **South Purcell** (Hellroaring, Goat drainages)
- **South Selkirk** (Salmo-Creston Pass area)



## Did you know?

In early winter, mountain caribou move to lower elevations until the snowpack is firm enough to allow them to return to high elevations. They use the high snowpack to reach lichens growing on the lower tree branches. As the snow melts, they move down again, returning to high elevations for the summer months.

More Info: [BC Government Mountain Caribou Recovery](#); [IWMS account](#); [Mountain Caribou website](#); [US F&WS info](#)



# Rocky Mountain Bighorn Sheep (*Ovis canadensis*)



## Description:

- Medium sized, stocky ungulate, primarily brown in colour with white rump.
- Males (rams) with large, thick, curled horns that increase in size with age.
- Females (ewes) with short, back-curved horns.

## Status:

BC	COSEWIC	SARA	IWMS
Blue			yes

## Habitat Associations:

**BEC:** ESSF; ICH; IDF; IMA; MS; PP

### Winter Range:

- Open forest / grasslands near steep rocky outcrops for escape terrain. Reliant on quality forage (e.g. fescues, bunchgrasses, some browse)

### Summer Range:

- High elevation (ESSF parkland & IMA) open forest and alpine with abundant grasses.

### Transitional Range:

- Traditional mid elevation corridors used to facilitate movement between summer and winter ranges. Open sightlines along ridges and close to escape terrain are preferred.

## Management Strategies

- Bighorn habitat management varies by season (winter range, summer range, transitional range) and by sex (rams vs ewes).
- Consistent themes are providing open forest / range conditions conducive to growing good forage (primarily bunchgrasses, fescues) in close proximity to rocky slopes for escape terrain. Good thermal cover near by (mature trees) is also important.
- Most bighorn habitat is maintained through targeted Ecosystem Restoration work designed to relieve in-growth and encroachment
- When working in Bighorn habitat, reduce stocking standards and ensure silvicultural activities maintain open conditions suitable for forage production and maintaining long sightlines.
- Identifying key mineral licks and water sources is also important. Maintain open conditions around these licks and water sources.

## Regional Distribution:

- Very traditional winter ranges, mostly in East Kootenay Trench, high elevation grasslands in Elk Valley watershed. Also a herd near Salmo.

Forest District		
DAB	DKL	DRM
	X	X



## Did you know?

Bighorn sheep are highly susceptible to respiratory diseases. A single contact with domestic sheep can result in catastrophic die-offs of over 90% of the affected bighorn sheep herd.

More Info: [IWMS account](#); [Wild Sheep Society of BC](#);

# American Badger (*Taxidea taxus jeffersonii*)



## Description:

- Squat carnivore with short legs and long, coarse fur of mixed white, grey and brown
- Alternating pattern of black and white stripes on the head with white stripe running down the middle of the head from nose to neck, black badge on side of head
- Long claws with black lower legs
- In Boundary, may be confused with Yellow-bellied Marmot

## Status:

BC	COSEWIC	SARA	IWMS
Red	E	1-E	yes

Two listed populations in BC. *West* includes Boundary, Okanagan; *East* includes Creston to Alberta border (East Kootenay). Both are assessed as Endangered and listed on SARA as 1-E.

## Habitat Associations:

**BEC:** primarily PP; IDF, but possible in all BEC zones

- Open, dry habitats such as grasslands, open forests, and burned areas and select areas of loose soil for burrowing
- Also use human-dominated habitats such as fields, clearcuts or golf courses
- Commonly use Forest Service roads as movement corridors, burrowing in exposed cut-banks with suitable soils.

## Management Strategies

- Species will benefit from grassland and open forest ecosystem restoration activities
- Removal of tree cover should encourage prey species and badgers, if present, will follow.
- Avoid road construction as much as possible.
- Avoid creating favourable habitat conditions for badger or their prey (Columbia Ground Squirrels, Yellow-bellied Marmots) in close proximity to highways or other busy roads.
- If maternal dens are located, avoid all disturbance while in use
- Avoid soil compaction and destruction of burrows, especially recently dug / used ones.

## Regional Distribution:

- In DAB limited to Boundary Region
- Throughout East Kootenay but most common in Trench and Elk Valley
- In both areas, most common at lower elevations, but may be found anywhere.

Forest District		
DAB	DKL	DRM
X	Rare	X



Badger burrows are horizontally oval, while ground squirrel burrows tend to be circular. Source: [Weir & Almuedo 2010](#)

## Did you know?

In the summer, male badgers in British Columbia have an average home range of 50 to 100 km<sup>2</sup> and may be up 500 km<sup>2</sup> or more! Female home ranges are smaller, averaging 5 to 20 km<sup>2</sup>. Although badgers are active all year, they move much less in the winter.

More Info: [BC Badger website](#); [Badger habitat Decision Aid](#); [Recovery Strategy](#); [IWMS account](#)

# Wolverine (*Gulo gulo luscus*)



## Description:

- Medium to large, stocky member of weasel family. Dark fur with lighter stripes along sides and forehead.
- Sometimes confused for a small bear

## Status:

BC	COSEWIC	SARA	IWMS
Blue	SC	SC (2018)	yes

## Habitat Associations:

**BEC:** primarily ESSF in winter and IMA in summer also in MS, ICH, very rare in IDF.

- Typically late seral stands (age class 7-9), females with young typically in younger stands
- Remote mountain areas, often near avalanche chutes in late winter; alpine areas in summer, feeding on marmots and other prey / carrion.
- Only specific habitat features are for denning females: snow tunnels leading to masses of dead fall large woody debris or rocky colluvium. Sources may include avalanches, windthrow or insect outbreak debris.

## Regional Distribution:

- Found throughout backcountry of Kootenay Boundary region in very low densities.

Forest District		
DAB	DKL	DRM
X	X	X

- Avoids valley bottoms and developed areas.

## Management Strategies

- Wolverines don't have a set of stand-level habitat attributes. Rather their habitat is better described at the regional or landscape scale.
- For forest management, this requires larger scale planning at the watershed, or broader, level should ensure well connected, broad areas of undisturbed habitat is available to maintain wolverines.
- Operate on one side of a drainage where possible to provide refugia from disturbance.
- Access management is important. Limit new roads into backcountry, avoid drainages without any roads.
- De-activate roads when finished operating in an area, particularly where access to entire upper drainages can be removed.



Wolverine den site in downed woody debris pile.

## Did you know?

Wolverines have a very slow reproductive rate. Harvested populations almost are always in decline, supported by source populations in large protected areas or very remote regions.

More Info: [IWMS Account](#); [Wolverine Foundation](#)



# Grizzly Bear (*Ursus arctos*)



## Description:

- Large bear, colour varies from light to dark brown
- Compare with Black Bear—look for shoulder hump and concave / disc face
- Long claws (for digging)

## Status:

BC	COSEWIC	SARA	IWMS
Blue	SC	SC (2018)	yes

## Habitat Associations:

**BEC:** ESSF; ICH; IDF; IMA; MS

- Found in a wide variety of habitats from alpine to valley bottoms
- Most common in higher elevation meadows, avalanche chutes.

## Regional Distribution:

- Found throughout region
- Usually distant from human settlement, though recently more frequent in rural and interface habitats.

Forest District		
DAB	DKL	DRM
X	X	X

## Management Strategies

- In “Grizzly Bear Specified Area” (south of Hwy 3, west of Kootenai to Yahk) follow approved WHA guidelines in [IWMS account](#)
- Limit road density in high value areas
  - Deactivate roads and limit access wherever possible
  - Consider high value habitat areas that have open-road density of  $<0.6 \text{ km per km}^2$ .
- Limit new roads as much as possible
- Buffer at least 50m around High value avalanche chutes
  - High value contain grasses & forbs, with small seeps and Cow Parsnip (used for foraging)
  - Moderate value are shrubby (used for bedding)
  - Ensure these are windfirmed
  - Avoid road crossings wherever possible
  - Deactivate roads when necessary
  - Timing restriction from April 1 to July 15 for adjacent blocks—no logging or road building
- Retain ‘hedging’ between roads and cutblocks. Avoid skidding through these. Minimize skidding to a few areas where necessary.
- Retain large coarse woody debris ( $>30 \text{ cm}$ )
- Consider high value habitat areas that have open-road density of  $<0.6 \text{ km per km}^2$ .
- Retain security cover buffers (where bears cannot be seen) key foraging areas
  - cow parsnip, skunk cabbage, horsetail, sedge meadows
  - huckleberry patches
- No scarification / herbicide use in huckleberry producing areas. Some shade tree in drier huckleberry sites helps production

## Did you know?

Grizzlies use rub trees, scratching their backs on trees, in part to mark areas with their scent. They also eat bark off [Whitebark Pine](#), particularly in spring, and feed on their cones.

More Info: [BC Grizzly Bear Management](#); [IWMS account](#)



# Whitebark Pine (*Pinus albicaulus*)



Jan Adams

## Description:

- Modertate to large 5-needle pine tree, needles 4-9 cm long.
- Bark chalky-white when young and smooth, becoming brown / grey and ridged with age.
- In open conditions grows to 20 m tall, though often wind-blown / krummholz.

## Status:

BC	COSEWIC	SARA	IWMS
Blue	E	1-E	

## Habitat Associations:

**BEC:** ESSFdc, ESSFdk, ESSFdm, ESSFvc

- High ESSF / subalpine
- Dry to moderately moist conditions, tolerant of rocky outcrops and other poor soil conditions.

## Management Strategies

- Main threats are introduced blister rust and exclusion of fire.
- Limiting mortality from harvest is essential to maintain Whitebark Pine populations.
- Avoid all incidental harvest when operating at high elevations.
  - Especially avoid harvesting healthy trees and regen
  - “Wave” upper block boundaries, rather than a straight line (facilitates Clark’s Nutcracker use of stands)
- Do not harvest Pa-leading stands.
- Plant to minimum densities in stands Pa-containing stands
- Treat Whitebarks Pine as “acceptable” species for silviculture so that it does not get brushed out.
- Check for Whitebark Pine seedling availability to include in planting.
- Consider post-harvest burns at higher elevations.

## Regional Distribution:

- At higher elevations throughout most mountain ranges in the region.

Forest District		
DAB	DKL	DRM
X	X	X



## Did you know?

Whitebark pine seeds are an important food source for at least 13 species of birds and 8 species of mammals.

More Info: [Whitebark Pine Foundation](#); [Whitebark Pine Founda-](#)

# Spalding's Campion (*Silene spaldingii*)



## Description:

- Perennial herb with an erect stem 20–60 cm tall, and several greenish-white flowers in a leafy cluster.
- 4 to 7 pairs of opposite, lance-shaped leaves that are light green. Stalk and leaves covered dense 'hairs'.
- Flowers from mid July to September. Most other flowers in this habitat have finished blooming by the time Spalding's Campion flowers, making it easier to identify and notice.

## Status:

BC	COSEWIC	SARA	IWMS
Red	E	1-E	

## Habitat Associations:

BEC: PPdh

- Grassland, open Ponderosa Pine forest, associated with Idaho and Rough Fescue.
- Mesic soil conditions

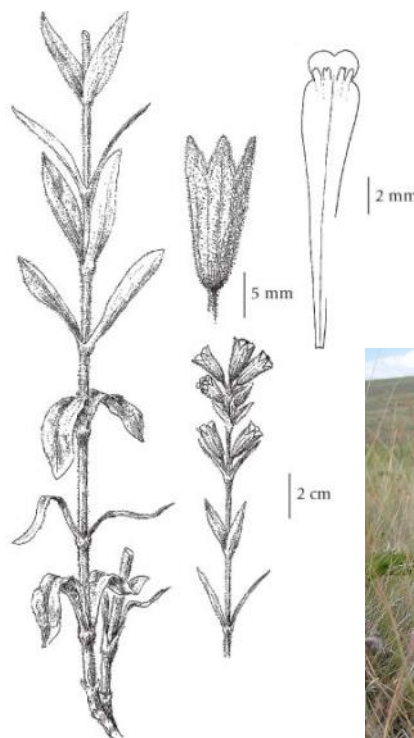
## Management Strategies

- Maintain open range conditions
- Following ER prescriptions to maintain grassland and open forest ecosystems will benefit Spalding's Campion.
- Operations should be in winter to avoid soil compaction and damage to plants
- Avoid any opportunity for invasive weeds to establish—control any invasive plants present with care not to disturb Campion.
- Limit or exclude grazing from known population areas.

## Regional Distribution:

- Known from Tobacco Plains Indian Reservation in the Rocky Mountain Trench near the US border.

Forest District		
DAB	DKL	DRM
		X



*Silene spaldingii*

Illustrated Flora of BC

- Also found on crown land tenures immediately adjacent to the Tobacco Plains IR.



## Did you know?

Spalding's Campion is a regional endemic. It only occurs in BC, WA, MT, ID and OR.

More Info: [BC Recovery Strategy](#); [USDA Fact Sheet](#)

## Western Skink (*Plestiodon skiltonianus*)



### Description:

- Slender lizard up to 20 cm in length, including tail
- Striped body with brilliant blue tail. Blue fades as animal ages, brightest as juveniles.

### Status:

BC	COSEWIC	SARA	IWMS
Blue	SC*	1-SC	

\* scheduled for status update assessment in November, 2014.

### Habitat Associations:

BEC: ICH, IDF, PP

- South-facing slopes with plant cover, rocks, stumps, logs and rock crevices for nesting and hibernating

### Regional Distribution:

- From Creston west. Unconfirmed reports in Moyie Lake area of DRM.

Forest District		
DAB	DKL	DRM
X	X	?

More Info: [Reptiles of BC](#)

## Bank Swallow (*Riparia riparia*)



Peter LaTourrette

### Description:

- Brown back and collar with white belly and throat. Short, notched tailed.

### Status:

BC	COSEWIC	SARA	IWMS
Yellow	T	T (2017)	no



Bank Swallow burrows  
N of Benton City, WA  
30 May 2010

### Habitat Associations:

BEC: PP, IDF, ICH

- Bank swallows usually nest in clay or silt cutbanks, hoodoos or similar formations. Often in very large colonies.
- These can be found in many habitat types, but are almost always close to water.

### Regional Distribution:

- Throughout region at low elevations

Forest District		
DAB	DKL	DRM
X	X	X

More Info: [All About Birds account](#)



## Long-billed Curlew (*Numenius americanus*)



### Description:

- Large (60cm), mottled brown shorebird with long, downward-curving bill.
- Distinct *Ker-lee* call and harsh *Whit Whit Whit*: [listen](#)

### Status:

BC	COSEWIC	SARA	IWMS
Blue	SC	1-SC	yes

Migratory. In region from late April to September.

### Habitat Associations:

**BEC:** PP, IDF, ICHxw nearCreston

Nests in grasslands where short grasses early provide long sightlines. Grass then grows taller to provide cover for young post-hatching

### Regional Distribution:

- Mostly in southern Rocky Mountain Trench
- Also near Creston, rare in Boundary

Forest District		
DAB	DKL	DRM
?	X	X

### Guidance:

- see IWMS account.
- ER prescriptions benefit Long-billed Curlew
- Highly susceptible to disturbance while nesting.
- Avoid activity during nesting season.
- Avoid insecticide use in nesting areas
- No roads in nesting areas

More Info: [All About Birds account](#); [IWMS account](#)

## Great Blue Heron (*Ardea Herodias herodias*)



### Description:

- Large wading bird. Blue-grey colour with black legs and large orange bill.

### Status:

BC	COSEWIC	SARA	IWMS
Blue			yes

### Habitat Associations:

**BEC:** PP, IDF, ICH

- Forages at water edge, usually

ponds, small lakes and larger rivers.

- Colonial nester ("heronries") in mature tree stands (usually broadleaf) with stick nest at tree top.

### Regional Distribution:

- Throughout region, forages to mid-elevations.
- Heronries usually in valley bottoms.

Forest District		
DAB	DKL	DRM
X	X	X

### Guidance:

- see IWMS account.
- Primarily nest colony protection
- Large buffer around colony
- Avoid disturbance and activity close to colony while actively nesting
- Retain all trees in and around colony

More Info: [All About Birds account](#); [IWMS account](#)



## Dione (Grey) Copper (*Lycaena dione*)



### Description:

- 30 to 35 cm wingspan. Upper wing side grey, underside whitish with black spots. Orange dots on margin of hind wing.
- Females have more extensive orange on underside of hind wing

### Status:

BC	COSEWIC	SARA	IWMS
Red			no

### Habitat Associations:

BEC: IDF; PP

- Often in disturbed sites including roadsides along wet or moist meadows
- Caterpillars feed on Dock plants

Forest District		
DAB	DKL	DRM
		X

### Regional Distribution:

More Info: [Butterflies of the World](#)

## Mormon Fritillary, *erinna* and *eurynome* subspecies (*Speyeria mormonia*)



### Description:

- Small, with large rounded antennal clubs. Upperside tawny to orange-brown; male with no black scales on veins. Unique black zig-zags and spots.
- Underside of hindwing orange-brown; base sometimes slightly darker or greenish. Spots are usually silvered.

### Status:

BC	COSEWIC	SARA	IWMS
Red (both)			

### Habitat Associations:

BEC: *erinna*: ESSF; MS; IDF; *eurynome*: ESSF; MS

- Mid- to high-elevation meadows; larval host plant is violets

### Regional Distribution:

- *erinna* in western Boundary
- *eurynome* in Rocky Mountains along Continental Divide

Forest District			
	DAB	DKL	DRM
<i>erinna</i>	X		
<i>eurynome</i>			X



More Info: [Butterflies and Moths of North America](#)

## Gillette's Checkerspot (*Euphydryas gillettii*)



Bill Boutin

### Description:

- Upper sides of both wings are mostly dark brown with orange and red spots and an orange band near the margins.
- Underside of wings a 'stained glass' look of white and orange patches lined in dark brown
- 3.5 to 4.5 cm wingspan

### Status:

BC	COSEWIC	SARA	IWMS
Red			yes

### Habitat Associations:

**BEC:** ESSF; MS

- Primarily ESSF woodland openings with a small stream, often recently burned.
- Abundant shrub cover, especially Black Twinberry (*Lonicera involucrata*)

### Regional Distribution:

- Only known from Rocky Mountains from Elk Lakes Provincial Park south to US Border in Flathead R. wa-

Forest District		
DAB	DKL	DRM
		X



Bill Boutin

More Info: [IWMS account](#); [Butterflies and Moths of North America](#)

# Arrow-leaved Rattlesnake-root (*Prenanthes sagittata*)

**Other Names:** Arrowleaf Snakeroot; Arrowleaf Rattlesnake-root

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb from 15 to 70 cm tall.
- Arrowhead-shaped leaves, mostly opposite, slightly toothed with fairly long stems.
- Flowers white in a cluster at top of plant with several petals in a broadly circular form.
- Flowers Jul–Aug

## Status:

BC	COSEWIC	SARA	IWMS
Red			

## Habitat Associations:

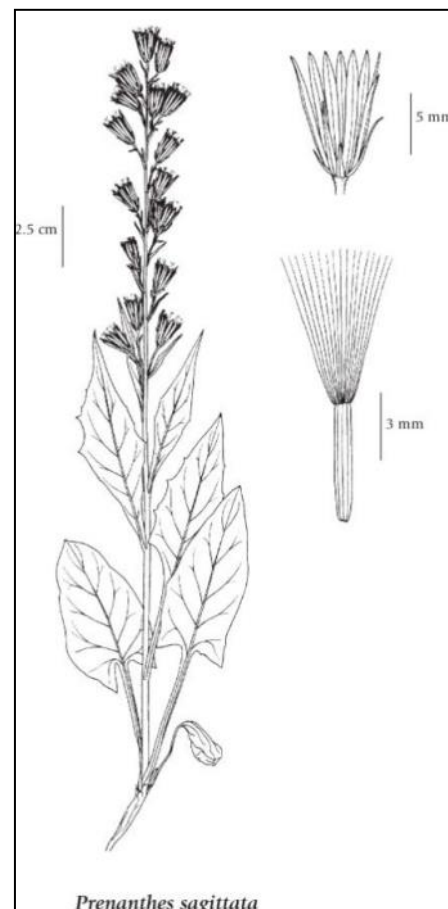
**BEC:** MSdk

- Stream banks, terraces, moist shady places, talus, rock crevices, mixed conifer woodlands occurs along fen/stream/river, on cliff, and talus slopes in moist/wet conifer forests

## Regional Distribution:

- 1 known record (1976) from Akamina Creek area.

Forest District		
DAB	DKL	DRM
		X



*Illustrated Flora of B.C.*

More Info: [BC eFlora account](#); [Montana Field Guide](#); [Flora of North America](#)



# Common Clarkia (*Clarkia rhomboidea*)

**Other Names:** Diamond Clarkia

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Annual forb from 15 to 50 cm tall, occasionally up to 1 m.
- Has few, mostly opposite, finely-toothed leaves that are elliptic to lanceolate.
- Nodding flower at the end of the stalk. 4 separate, spoon-shaped petals that are purple-pink, often with purple dots.
- Flowers late May through June

## Status:

BC	COSEWIC	SARA	IWMS
Red			

## Habitat Associations:

**BEC:** ICHxw

- pine forests, dry woodlands, open areas

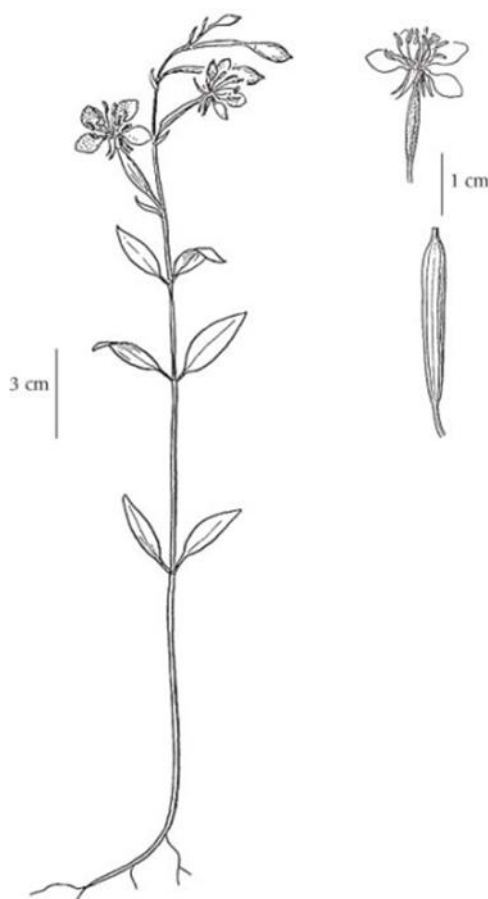
## Regional Distribution:

- Known from Trail / Pend d’Oreille region

Forest District		
DAB	DKL	DRM
X		



Curtis Bjork



*Clarkia rhomboidea*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [PNW Wildflowers](#); [Montana Field Guide](#)

# Ground Plum (*Astragalus crassicarpus*)

**Other Names:** Groundplum Milkvetch, Buffalo Plum

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb in the pea family with 5 to 40 cm long stem that is on the ground to slightly ascending.
- Alternate, compound leaves comprising 13 to 21 short, narrow leaflets each 0.5 to 2 cm long.
- Flowers purple or white / purple-tipped, often crowded 5 – 20 per plant, typical pea.
- Pods ellipsoid to globe-shaped (rounded), becoming leathery hard and purple-tinged (looking like plums, usually on the ground, from which the plant gets its name).

## Status:

BC	COSEWIC	SARA	IWMS
Red			

## Habitat Associations:

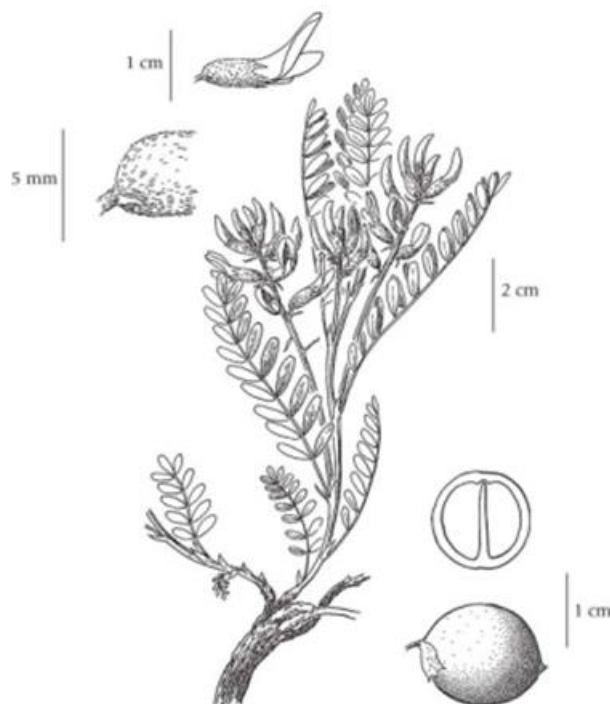
**BEC:** MSdk

- Mesic Conifer Forest, Dry Conifer Forest, Grassland

## Regional Distribution:

- Known from Alexander Creek area near Alberta border

Forest District		
DAB	DKL	DRM
		X



*Astragalus crassicarpus*

Illustrated Flora of B.C.



More Info: [BC eFlora](#); [Montana Field Guide](#)

## Hairstem Groundsmoke (*Gayophytum ramosissimum*)

**Other Names:** Pinyon Groundsmoke, Much-branch Groundsmoke

**Description:**

- See detailed [eFlora account](#) under “Species Information”
- Annual forb, highly branched, 10 to 40 cm tall.
- Small, linear spreading leaves 1 to 4 cm long
- Very small, numerous white to pinkish flowers.

**Status:**

BC	COSEWIC	SARA	IWMS
Blue			

Forest District		
DAB	DKL	DRM
X		X

**Habitat Associations:**

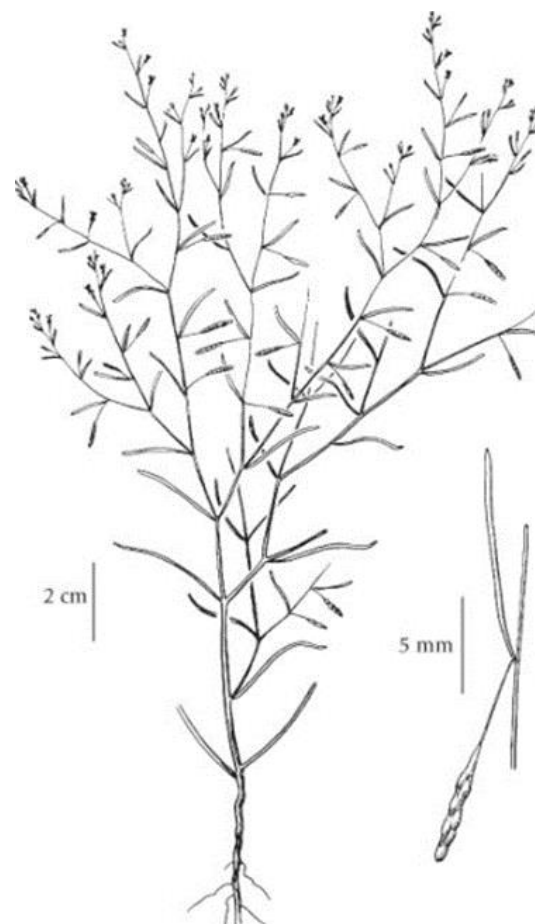
**BEC:** IDFdm, IDFxh, PPdh

- Dry slopes and forest openings in the steppe and lower montane zones

**Regional Distribution:**

- Known from Marysville and Wasa area of DRM; east of Osoyoos near DAB

No Image available



*Gayophytum ramosissimum*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#)



# Large-flowered Brickellia (*Brickellia grandiflora*)

**Other Names:** Tasselflower Brickellbrush;

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb on unbranched stem, 25-70 cm tall.
- Leaves on stem only, opposite lower on stem, more alternate toward bloom. Lance-shaped to heart-shaped, edges toothed.
- Flowers at tip in small cluster, erect to nodding, whitish.
- Blooms late summer into autumn

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		X

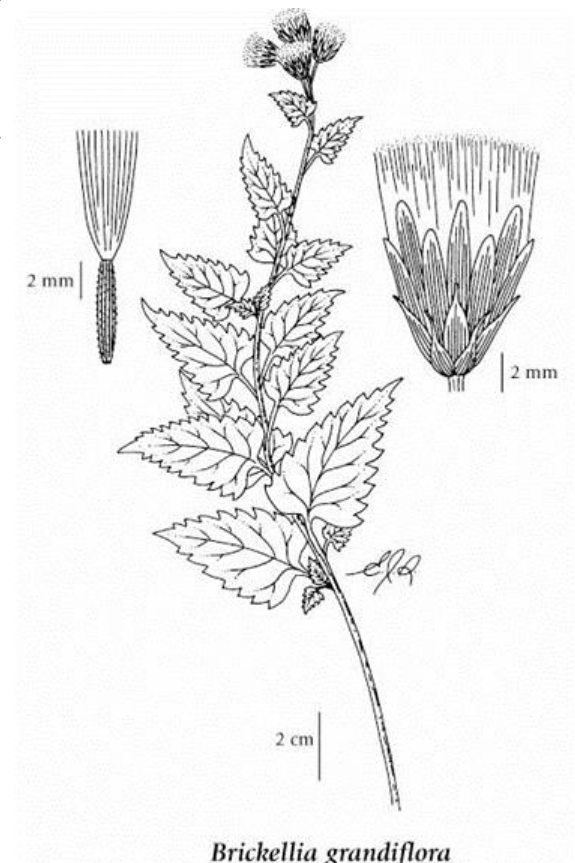
## Habitat Associations:

**BEC:** ICHdw, MSdk

- Rocky soil of open forest, eroding slopes, stream banks; montane, subalpine.

## Regional Distribution:

- Known from Flathead (Sage Ck) and between Castlegar and Christina Lake (Paulson Ck).



*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#); [PNW Wildflowers](#); [Flora of North America](#)

# Least Bladdery Milkvetch (*Astragalus microcystis*)

**Other Names:** Dwarf Milkvetch

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Low perennial herb with many branches at base, 10 to 50 cm long
- Alternate, pinnate compound leaves, 3-6 cm long with leaflets 1 to 1.5 cm long
- Purple/pink and white flowers form a nodding cluster of 4 to 12 pea-like blooms on 4cm long stems

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		

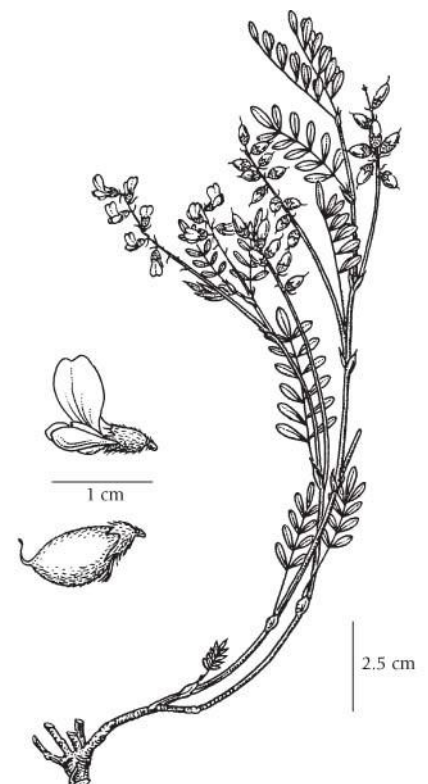
## Habitat Associations:

**BEC:** ICHdw

- Dry grassy slopes to open forests in the steppe and lower montane zones

## Regional Distribution:

- Single record from Pass Ck north of Castlegar



*Astragalus microcystis*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#)

# Mock-pennyroyal (*Hedeoma hispida*)

**Other Names:** Ground-ivy; Rough False Pennyroyal; Rough Pennyroyal

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Annual forb, 5 to 25 cm tall; strong scent (belongs to Mint family)
- Leaves: opposite, oblong to 2 cm long, sometimes with fine hairs
- 2 to 12 very small flowers in tight whorls around stem at leaf axils, light purple to blue (lavender). Blooms tubular with notched upper lip and three-lobed lower

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
		X

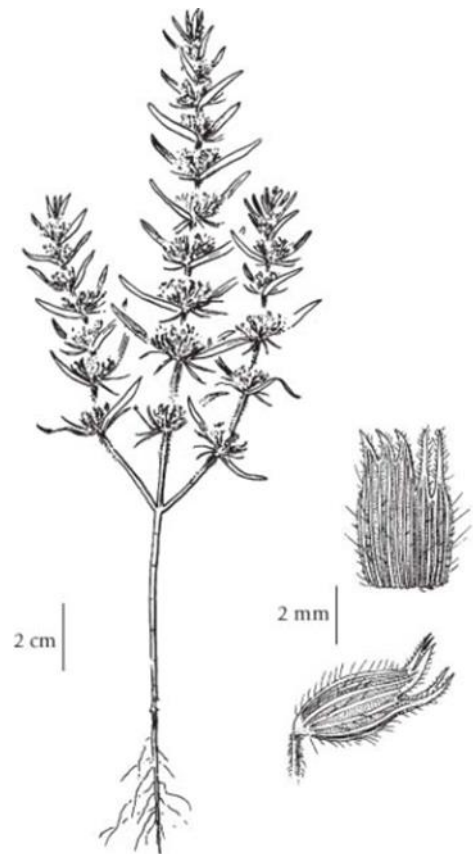
## Habitat Associations:

**BEC:** IDFdm; PPdh; PPxh

- Meadow, Grassland, Dry Conifer Forest

## Regional Distribution:

- Known from East Kootenay Trench



*Hedeoma hispida*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [Montana Field Guide](#); [Minnesota Wildflowers](#)



# Northern Violet (*Viola septentrionalis*)

**Other Names:** Northern Blue Violet; Northern Woodland Violet

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb up to 20 cm long
- Leaves 2 to 4 cm wide, heart-shaped to triangular
- Blue-purple (violet!) flowers on 5 to 10 cm long peduncle (‘stem’ that supports the flower). White at base.

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		

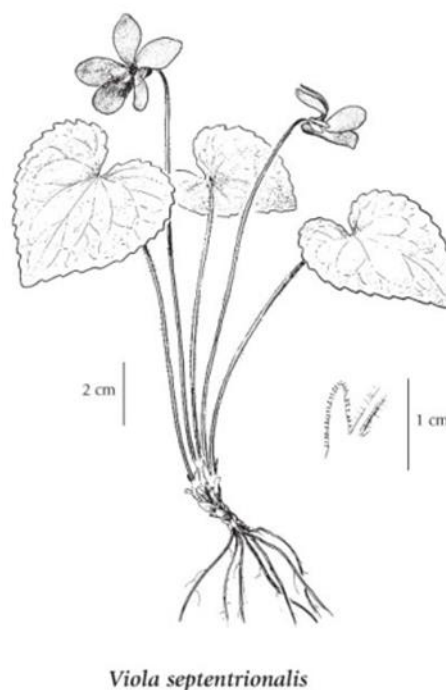
## Habitat Associations:

**BEC:** ICHdw, ICHmw, IDFxh

- Moist to wet, often riparian forest

## Regional Distribution:

- Known from King George VI Provincial Park and near Vernon.



*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#)

# Pinewood Peavine (*Lathyrus lanszwertii* var. *sandbergii*)

**Other Names:** Mountain Pea

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb with slender, erect stem, 10 to 30 cm tall, sparse, short hairs
- Alternate compound leaves 2 to 15 cm long. Each with usually 2 to 4 leaflets (but up to 10), usually but not always paired.
- 2 to 10 pea-like flowers, white to purplish/lavender, 1 to 1.5 cm long blooms.
- Flowers in June

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
		X

## Habitat Associations:

**BEC:** IDFdm

- dry and mesic open conifer forest and clearings

## Regional Distribution:

- known from south of Elko



*Lathyrus bijugatus*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [PNW Wildflowers](#)

# Piper's Anemone (*Anemone piperi*)

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb 10 to 35 cm high on erect stem
- Leaves have 3 leaflets, often lobed and coarsely toothed
- Single white flower with 5 to 7 sepals, each 7 to 20 mm long
- Flowers in May—June

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
	X	

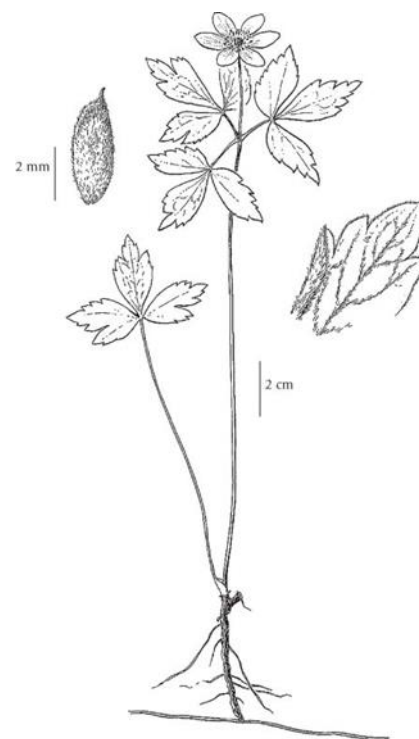
## Habitat Associations:

BEC: ESSFwc

- mesic, moist, and wet conifer forest habitats in montane to lower sub-alpine

## Regional Distribution:

- One report north of Kaslo on Mt Buchanan.



*Anemone piperi*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [Montana Field Guide](#); [Flora of North America](#)



# Prairie Broomrape (*Orobanche ludoviciana* var. *ludoviciana*)

**Other Names:** Louisiana Broomrape

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Parasitic forb without chlorophyll. 7 to 20 cm tall
- Stem leaves scaly and alternate
- Tubular flowers are densely clustered in a spikes, each bloom up to 2 cm long. Densely haired ranging from deep pink to rosy purple. Shows yellow inside lower lip.
- Numerous scaly bracts and lack of chlorophyll give plant an overall brownish appearance.
- Flowers mainly in June

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
		X

## Habitat Associations:

**BEC:** IDFdm, IDFxk, PPdh

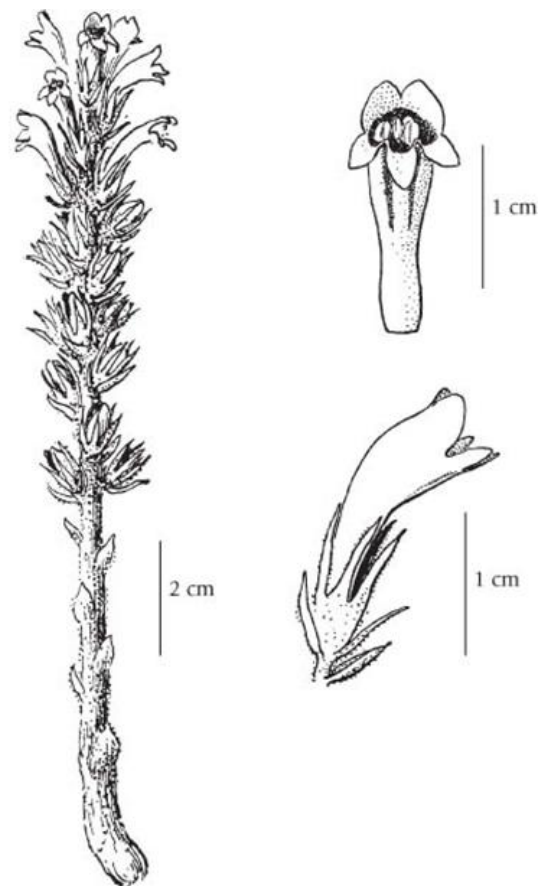
- Parasitic on *Artemisia* asters.
- open forests, grasslands, shrublands

## Regional Distribution:

- one report north of Bull River townsite in EK trench



Jerry Oldenettel



*Orobanche ludoviciana* ssp. *ludoviciana*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [Montana Field Guide](#); [Minnesota Wildflowers](#)

# Racemed Groundsmoke (*Gayophytum racemosum*)

**Other Names:** Blackfoot Groundsmoke

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Annual forb, 10 to 40 cm tall. Usually branched from base or below ground
- Much of stem and leaves reddish-tinged giving almost scarlet appearance to plant (see [Paul Slichter photographs](#))
- Narrow, linear leaves 1 to 3 cm long
- Numerous tiny, white flowers

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
		X

## Habitat Associations:

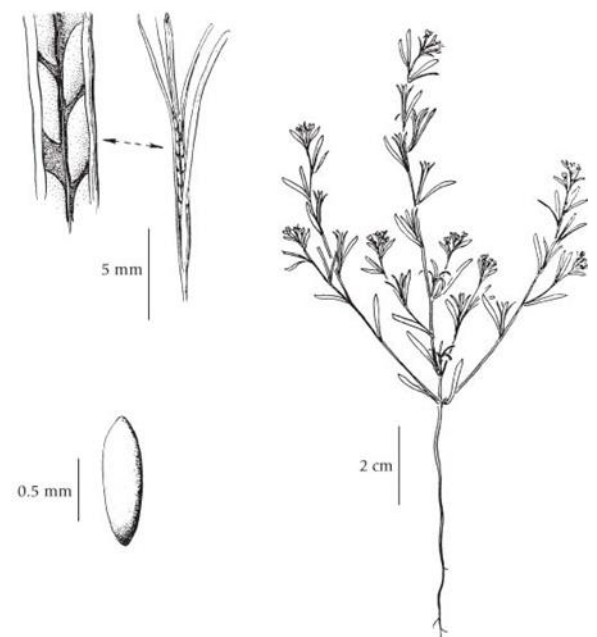
**BEC:** IDFdm

- Meadows, sagebrush steppe; upper montane, subalpine
- dry conifer forest, vernal pools/seasonal seeps and grassland habitats

## Regional Distribution:

- known from Marysville area (note from BC CDC: “Single collection made was the only specimen identified as *G. racemosum*, but there were many hundreds of immature *Gayophytum* spp, almost all probably *G. diffusum* or *G. ramosissimum*.”)

No Image available



*Gayophytum racemosum*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#); [Paul Slichter photographs](#)

# Satinflower (*Olsynium douglasii* var. *inflatum*)

**Other Names:** Inflated Grasswidow

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb, 10 to 30 cm tall in lily family
- Flowers intense purple, sometimes white. Usually two per stem (1 to 3). Nodding; 6 spoon-shape petals with yellow anthers. Overall flower 3 to 5 cm in diameter
- Blooms in early spring

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		

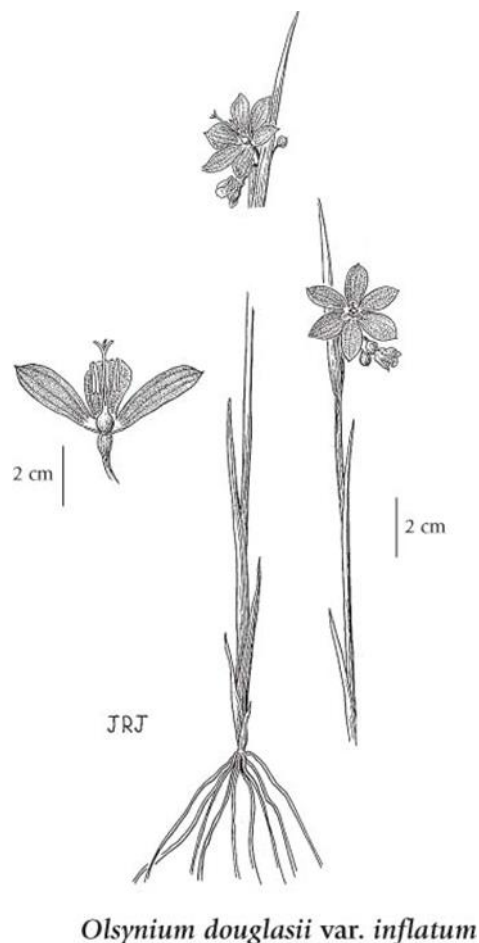
## Habitat Associations:

**BEC:** ICHdw, IDFxh

- dry conifer forest, grasslands, and sagebrush steppe habitats

## Regional Distribution:

- One report in Syringa Provincial Park



*Olsynium douglasii* var. *inflatum*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [PNW Wildflowers](#); [Flora of North America](#)



# Scarlet Globe-mallow (*Sphaeralcea coccinea*)

**Other Names:** Scarlet Globemallow

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb that grows 10-20 cm high.
- Leaves alternate off stem, deeply grooved into 3 to 5 parts, almost compound. Leaflets lobed, 2 to 5 cm long. Upper surface yellowish to green, underside almost grey.
- Large 5-petal, orange-red flowers, in clusters at end of stem of few to many blooms. Petals 1 to 2 cm long. Green centre of flower with long, yellow-tipped stamens
- Blooms in spring

## Status:

BC	COSEWIC	SARA	IWMS
Unknown			

Forest District		
DAB	DKL	DRM
X		X

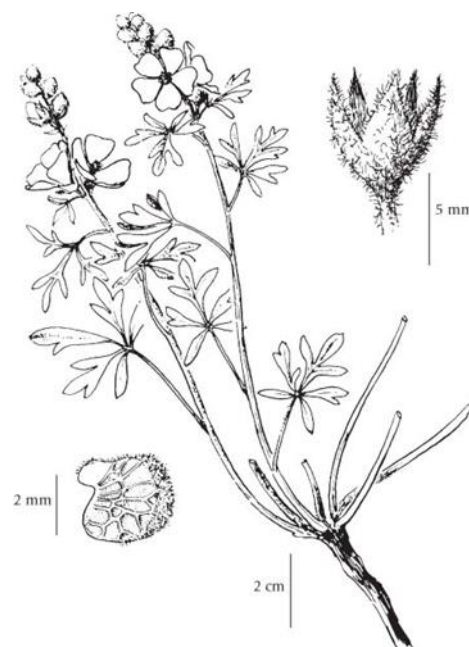
## Habitat Associations:

**BEC:** IDFun, IDFxh, MSdk

- Primarily a prairie species that grows in Dry Conifer Forest, Grassland, Shrub, Sagebrush Steppe, Antelope-brush Steppe.

## Regional Distribution:

- Records from East Kootenay near Invermere and Kimberley, also from east of Grand Forks and south Okanagan.



*Sphaeralcea coccinea*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [Montana Field Guide](#); [Minnesota Wildflowers](#)

## Shining Penstemon (*Penstemon nitidus* var. *nitidus*)

**Other Names:** Waxleaf Penstemon; Waxleaf Beardtongue

### Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial forb with erect stem, 10 to 30 cm high
- Leaves waxy, thick, firm almost succulent. Opposite off stem without petiole, heart- to triangular shaped
- Flowers a dense cluster of long (1.5 to 2 cm) blue tubular blooms. 3 lower lobes, 2 above,

### Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
		X

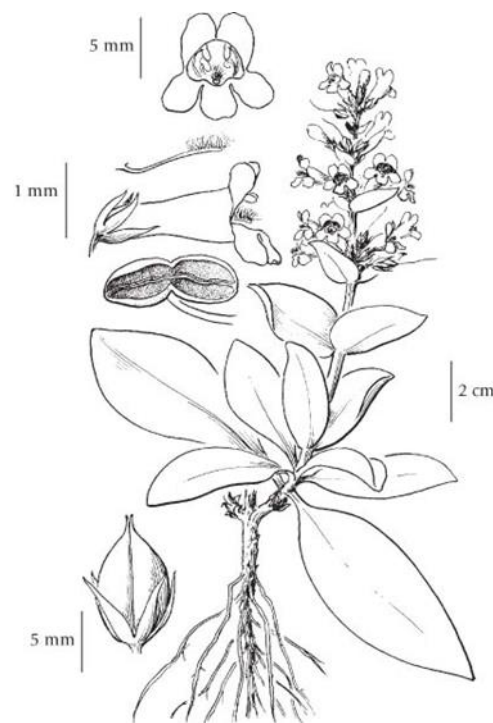
### Habitat Associations:

**BEC:** MSdk

- open forests, grasslands, and bunchgrass prairie habitats, often on slopes

### Regional Distribution:

- Known from east of Sparwood: 2 locations near Alexander Creek and 1 near Michel Ck.



*Penstemon nitidus* var. *nitidus*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#)

# Slender Gilia (*Lathrocasis tenerrima*)

**Other Names:** Delicate Gilia

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Annual forb, diffusely branched, 5 to 20 cm long / high
- Small lanceolate leaves (1 to 2 cm), sparsely alternate
- 2 or 3 small flowers per branch on stalks. Bell-shaped blooms white to yellowish. 1.5 to 3 mm long, flaring to 5 lobes.
- Blooms May—June.

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		

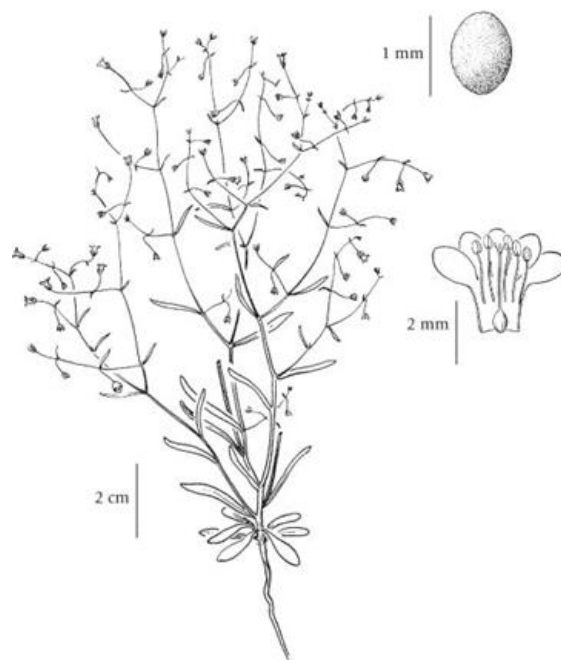
## Habitat Associations:

**BEC:** IDFdm; PPdh

- Steep, eroding slopes of grasslands, sagebrush steppe, woodlands; valleys

## Regional Distribution:

- Known from “Kettle Valley” townsite east of Rock Creek



*Gilia tenerrima*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#); [Tree of Life](#)



# Smooth Goldenrod (*Solidago gigantea*)

**Other Names:** Giant Goldenrod

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Large goldenrod, 0.5 to 2 metres tall
- Stem leaves elongated, 8 to 15 cm long, toothed
- Flowers in short, golden rays at the end of stalks. Forms an overall pyramind shape at end of stalk.
- More shiny / lustrous than common Canadian Goldenrod, *S. canadensis*.
- Blooms in late summer / autumn.

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		

## Habitat Associations:

**BEC:** ICHxw

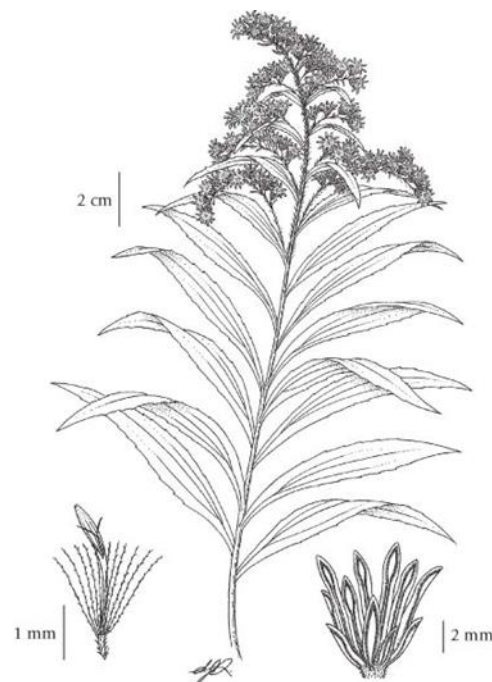
- Grows in streamsides, lakeshores, in moist soils

## Regional Distribution:

- Known from Pend d'Oreille and lower Columbia



Calimo



*Solidago gigantea* ssp. *serotina*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#); [PNW Wildflowers](#); [Flora of North America](#)

## Varied-leaf Phacelia (*Phacelia heterophylla* ssp. *virgata*)

**Other Names:** Virgate Scorpion-weed; Variable-leaved Scorpionweed; Varied-leaf Phacelia; Varileaf Phacelia

### Description:

- See detailed [eFlora account](#) under “Species Information”
- Perennial to biennial forb on erect stem, 20 to 80 cm tall. Usually hairy.
- Oval leaves at base and tight to stem, prominent veins, smooth-edged
- Flowers hairy, often purple-tinged, mostly yellow- or greenish-white with long stamens.
- Blooms mid-summer

### Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
X		

### Habitat Associations:

**BEC:** IDFdm, IDFxh, PPdh

- Sparsely-vegetated soil of grasslands, sagebrush steppe, pine woodlands, roadsides; plains, valleys, montane

### Regional Distribution:

- Known from near Bridesville



Bob Danley

*No line drawing available*

More Info: [BC eFlora](#); [Montana Field Guide](#); [PNW Wildflowers](#)

# Gastony's Cliff-brake (*Pellaea gastonyi*)

**Other Names:** Purple-stem Cliff-brake

## Description

- See detailed [eFlora account](#) under “Species Information”
- Evergreen, perennial fern in short clusters from a short stem
- Two leaf types, sterile (non-spore producing) shorter than fertile (with spores). Leathery.
- Leaves / fronds, 5 to 25 cm long by 2 to 7 cm wide
- Petiole (leaf stem) reddish purple to brown.

## Status:

BC	COSEWIC	SARA	IWMS
Blue			

Forest District		
DAB	DKL	DRM
		X

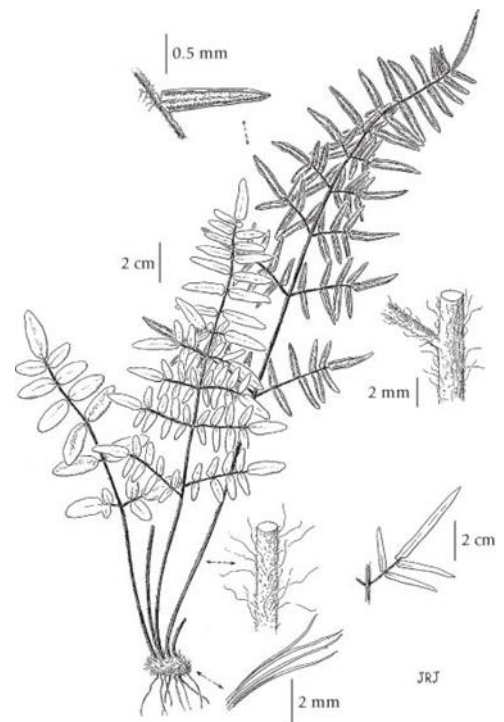
## Habitat Associations:

**BEC:** ESSFwc, IDFdm, IDFxk, MSdk

- Dry calcareous cliffs and crevices, usually limestone, in the montane and subalpine zones

## Regional Distribution:

- Known from east side of Columbia Lake.



*Pellaea gastonyi*

*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Flora of North America](#)



# Upswept Moonwort (*Botrychium ascendens*)

**Other Names:** Upward-lobed Moonwort; Triangle-lobed Moonwort

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Deciduous fern, 5 to 13 cm tall
- single frond above ground that divides into two segments; sections triangle-shaped and deeply margined.
- Fertile segment longer with ‘grape-like’ sporangia (spore-producing bodies).
- Fronds mature in June to July.

## Status:

BC	COSEWIC	SARA	IWMS
Blue			

Forest District		
DAB	DKL	DRM
		X

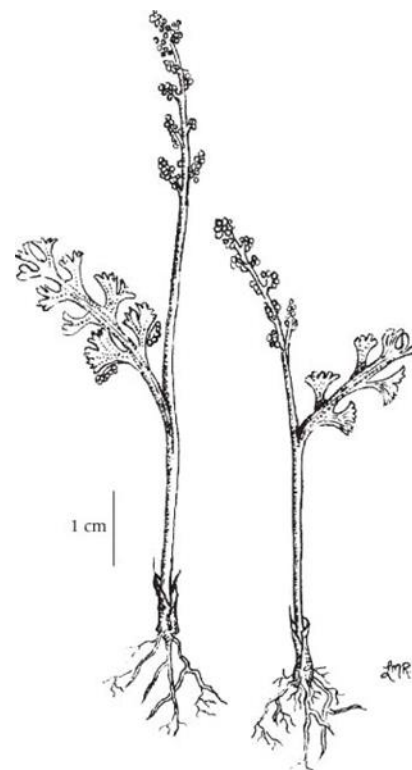
## Habitat Associations:

**BEC:** ESSFdk, IDFdk, IDFxh, IMA

- riparian forest, meadow, alpine/subalpine meadow

## Regional Distribution:

- One report from Shuswap Ck in East Kootenay



*Botrychium ascendens*

Illustrated Flora of B.C.

More Info: [BC eFlora](#); [Montana Field Guide](#); [Flora of North America](#)

## Lesser Brown Sedge (*Carex adusta*)

**Other Names:** Crowded Sedge; Brown Oval Sedge

**Description:**

- See detailed [eFlora account](#) under “Species Information”
- Tufted sedge from 30 to 100 cm high
- Flat blades 2 to 5 mm wide
- ‘flower’ spikes 4 to 8

**Status:**

BC	COSEWIC	SARA	IWMS
Blue			

Forest District		
DAB	DKL	DRM
X	X	

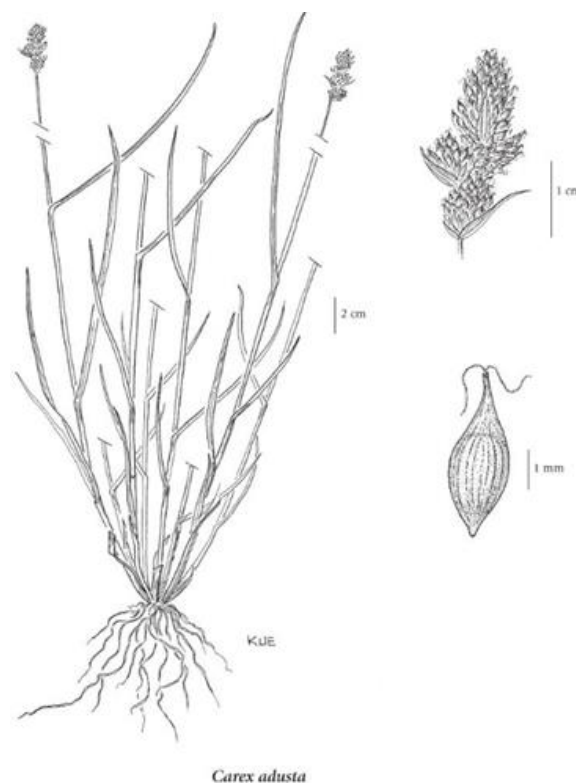
**Habitat Associations:**

**BEC:** ICHmw

- Dry disturbed sites and open forests in the montane zone

**Regional Distribution:**

- One report near Sirdar (Kootenay Lake); a historic record near Nakusp



*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Flora of North America](#)

# Slender Muhly (*Muhlenbergia filiformis*)

**Other Names:** Pullup Muhly

## Description:

- See detailed [eFlora account](#) under “Species Information”
- Small, annual grass, stems 5 to 18 cm high and thin
- Sheaths smooth or barely rough
- Flower heads compact and spikelike

## Status:

BC	COSEWIC	SARA	IWMS
Red			

Forest District		
DAB	DKL	DRM
		X

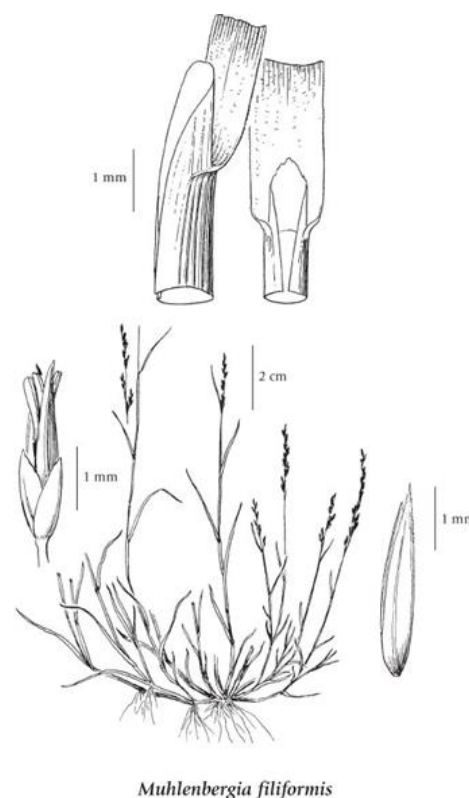
## Habitat Associations:

**BEC:** ICHdm

- Moist well-drained soils, around hot springs, and edges of montane meadows

## Regional Distribution:

- known from Dewar Hot Springs and vicinity in Purcell Mts



*Illustrated Flora of B.C.*

More Info: [BC eFlora](#); [Montana Field Guide](#)