

## 9. A Grizzly Bear Den

### 1) Definition

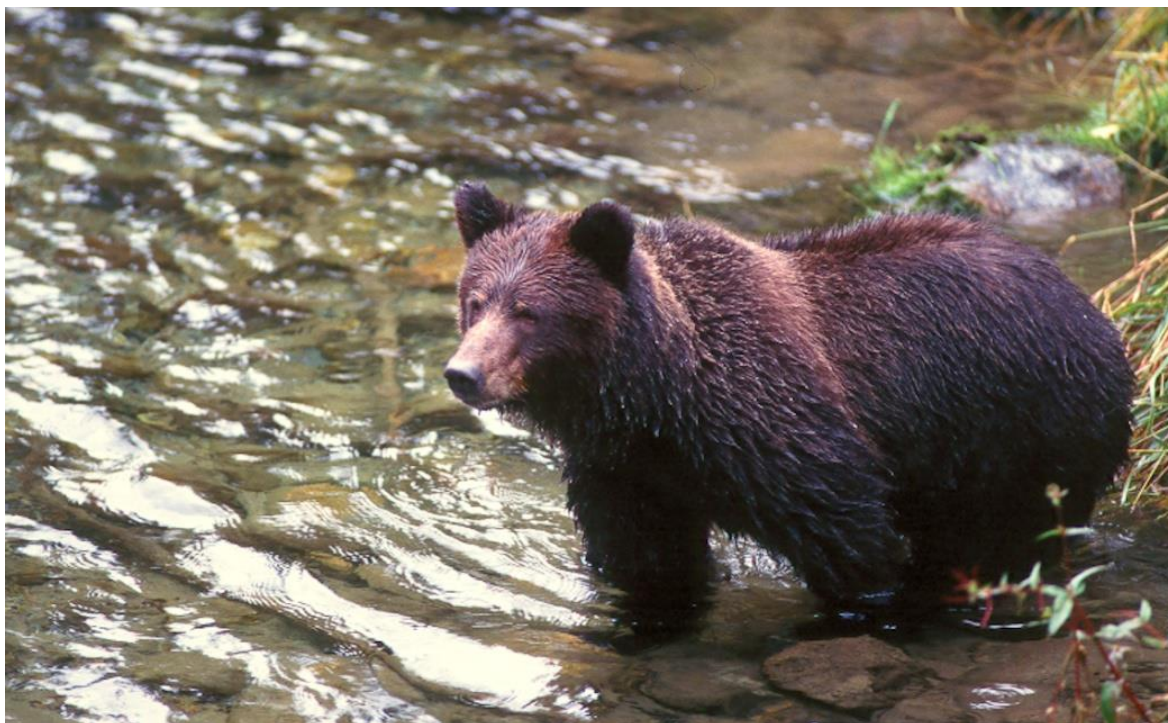
A **Grizzly Bear** (*Ursus arctos*) **den** means an excavated hole that descends below ground or under a tree root system or is a naturally occurring tree cavity that either (1) is currently used for winter denning, or (2) is habitually used and still capable of providing for winter denning (Figure 34).



**Figure 34. Grizzly Bear ground den in alpine.** (Photo: Stefan Himmer)

### 2) Species Description

Grizzly Bears are large carnivores that average 160–225 kg in weight and stand approximately 1 m at the shoulder (Figure 35). They vary in colour from blonde to black, although most are a medium to dark brown. Grizzlies have long guard hairs that often have lighter tips, giving some bears their “grizzled” appearance. They are distinguished from Black Bears by a distinct shoulder hump, large claws (5–10 cm long), and a facial profile that has a clear depression between the eyes and the nose. Black Bears have a straighter facial profile, lack a shoulder hump, and tracks that do not show the long front claw marks often visible in grizzly tracks.



**Figure 35. Grizzly Bear.** (Photo: Jared Hobbs)

The Grizzly Bear is a *Species at Risk* under the *Forest and Range Practices Act* and is Blue-listed in British Columbia. It is designated as a species of *Special Concern* by COSEWIC.

### **3) What to Look For**

Grizzly Bear ground dens are typically located on moderate to steep (approximately 40–90%) mountain slopes in alpine, subalpine, or montane environments. Ground dens are usually located on cooler north or east-facing aspects where insulating snow accumulations are greater. In flat topography, ground dens may be located on high spots or small knolls, as the sides of these features provide easier digging conditions. Where conditions are optimal (i.e., slope, soil texture, aspect, snow cover, security), more than one den site may be found in a relatively small area (1–2 ha). Grizzly Bears may use these areas year after year as hibernation sites.

In contrast, Black Bear dens are more often found in valley-bottom environments on the forest floor, often under root mats and fallen logs or in hollow tree cavities; however, Black Bears will excavate ground dens in areas with suitable soil substrates. In general, Grizzly Bear ground dens usually have larger entrances and larger inside chambers (Figure 36) than the dens of Black Bears, Wolves, or Coyotes.

Table 35 summarizes what to look for when identifying a Grizzly Bear den. Table 36 provides information to consider when conducting primary forest activities adjacent to a den.





**Figure 36. Interior of Grizzly Bear ground den.** (Photo: Stefan Himmer)

**Table 35. Grizzly Bear ground dens: what to look for.**

Grizzly Bear Ground Den Description
<ul style="list-style-type: none"> <li>• Ground den entrances are usually about 75 cm in diameter.</li> <li>• Den chambers may be 150–225 cm in diameter with a height of 125 cm.</li> <li>• Dens are usually lined with shrub branches, tree boughs, duff, or grass; however, some dens may be unlined.</li> <li>• Hair is often visible at the den entrance and in bedding material.</li> <li>• Because the Grizzly Bear’s long front claws and powerful shoulder muscles adapted for digging, many dens are excavated. In these cases, large piles of soil, rocks, or wood (called a “porch”) are found downslope of the den entrance (Figure 34).</li> <li>• Fresh material, with little or no vegetation growing on a debris pile, may indicate a freshly dug den.</li> <li>• Unexcavated dens are often located under root wads of large trees and occasionally in sheltered, dry caves or rock cavities.</li> <li>• Den sites are often most visible in spring during snowmelt when soil from the den gets tracked onto the surrounding snow; this enhances snowmelt immediately around the den (i.e., the den area becomes more visible in contrast to the adjacent snow).</li> <li>• Tracks in the snow or trails on the ground may lead to or from den sites.</li> </ul>

**Table 36. Information to consider when conducting primary forest activities near Grizzly Bear ground dens.**

Information to Consider
<ul style="list-style-type: none"> <li>• Because Grizzly Bear dens are often located in alpine and subalpine habitats, few trees may occur immediately around a den. Bears may reuse suitable den sites or excavate new dens in the vicinity. Therefore:             <ul style="list-style-type: none"> <li>○ Establish a buffer zone around a recently used den (see Table 35); a buffer size of approximately 1 ha is suggested.</li> <li>○ Restrict resource activities (e.g., forestry, mining, helicopter landing pads, road construction) to areas outside the buffer zone.</li> </ul> </li> <li>• Establish a wildlife tree patch or other retention area around a recently used den discovered in a forested area.</li> <li>• Develop access management plans to minimize potential disturbance to den areas.</li> <li>• If more than one den site is confirmed in a relatively small area (1–2 ha), then bears may regularly (and repeatedly) use this area for winter denning.</li> </ul>

#### 4) Regional Information – Kootenay Boundary

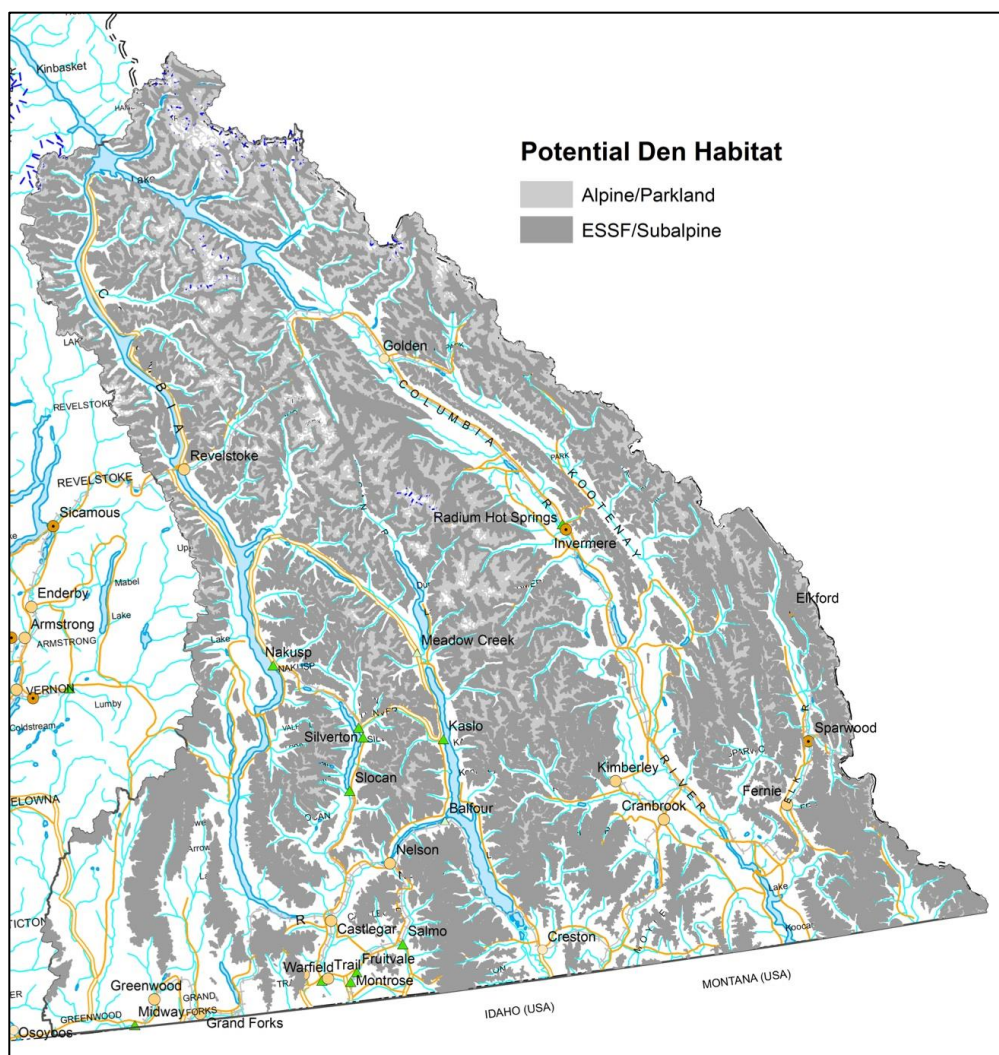
In this section, we provide specific timing windows and guidance on disturbance buffers for the Kootenay Boundary Region. This information may vary from provincial guidance and may not be applicable outside of the Kootenay Boundary Region because of regional specificity.

Grizzly Bears reside within the entire Kootenay Boundary Region (Figure 37), occupying all regional habitat types. These bears generally den above the treeline. In areas with no alpine, bears are expected to den in upper-elevation forests (i.e., Engelmann Spruce–Subalpine Fir [ESSF] habitat). This is most likely to occur in the Boundary and South Purcells.

Grizzly Bears are sensitive to disturbance. Table 37 provides suggested minimum buffer sizes. Additional protection or alternative measures may be needed, depending on the nature of the disturbance, existing landscape and cover, or other factors.

Grizzly Bears are most sensitive during denning season. They usually enter dens in November after snow begins to fall and emerge in March when the snow melts. This creates a potential **sensitive period of November 1–March 31**.<sup>1</sup> The length of this sensitive period is flexible and will depend on seasonal changes in denning activity. The period of **least risk is April 1–October 31**.

<sup>1</sup> Identified Wildlife Management Strategy – Species Accounts and Measures (2004).



**Figure 37. Potential Grizzly Bear denning habitats in the Kootenay Boundary Region.**

**Table 37. Guidance on disturbance buffers for a Grizzly Bear den.**<sup>2</sup>

A Grizzly Bear Den – Guidance on Buffers
<ul style="list-style-type: none"> <li>• If you find dens that have been used in the last 2 years, consult a qualified professional about how to manage the area within 200 m of a den. If you find no recently used dens, proceed with development as the area is apparently of relatively low importance as den habitat. Maintaining the integrity of the den structure and access are primary considerations.</li> <li>• Rehabilitate road surfaces within 500 m of an area with important Grizzly Bear habitat (i.e., areas with two or more recently used dens). This will prevent access and reduces road density, a known factor in Grizzly Bear habitat suitability.</li> <li>• Do not disturb a bear during the winter hibernation period (while snow is present):             <ul style="list-style-type: none"> <li>○ Establish a minimum 250 m no machine zone for low machine activity during the winter, and up to 500 m for higher-level machine activity.</li> <li>○ Buffers may be altered if topography will reduce the transmission of sounds and vibrations, or if existing disturbance is already within 500 m of the den.</li> </ul> </li> </ul>

<sup>2</sup> BC Timber Sales Cariboo–Chilcotin Field Guide to Wildlife Habitat Management (2009).

**5) Additional Information**

BC Species and Ecosystems Explorer – Species Summary for Grizzly Bear:

<http://a100.gov.bc.ca/pub/eswp/speciesSummary.do?id=16065>

BC Timber Sales Cariboo–Chilcotin Field Guide to Wildlife Habitat Management:

<https://www.for.gov.bc.ca/ftp/tcc/external/!publish/ems2/SFM/TCC-Field-Guide.pdf>

Grizzly Bear COSEWIC Status Report:

[http://www.registrelep-sararegistry.gc.ca/virtual\\_sara/files/cosewic/sr%5Fours%5Fgrizz%5Fbear%5F1012%5Fe%2Epdf](http://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr%5Fours%5Fgrizz%5Fbear%5F1012%5Fe%2Epdf)

Identified Wildlife Management Strategy – Grizzly Bear Species Account:

[http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Mammals/m\\_grizzlybear.pdf](http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Mammals/m_grizzlybear.pdf)