

BLACK BEAR

Scientific Name: *Ursus americanus*

Species Code: M-URAM

Status: Yellow-listed

Distribution

- **Provincial Range**

In British Columbia, Black Bears inhabit the entire mainland, larger adjacent islands, Vancouver Island and the Queen Charlotte Islands. They inhabit all forested regions and can be found within all biogeoclimatic zones in British Columbia.

- **Elevational Range:** Sea-Level to Alpine

- **Provincial Context**

Black Bears occur commonly throughout their range. Populations in BC are stable, and currently, approximately 120 000 - 160 000 black bears occur in the province (MOE 1997). Black Bears occur from sea level in coastal estuaries up to high elevation alpine meadows and are present in every biogeoclimatic zone in the province. The highest coastal concentrations of black bears occur in the Kitimat Range (KIR) and Nass Ranges (NAR) ecoregions, whereas, the Chilcotin and Okanagan areas have low densities.

- **Project Area:**

Ecoprovince: Central Interior

Ecoregions: Chilcotin Ranges and Fraser Plateau

Ecoregions: *Central Chilcotin Ranges (CCR), Chilcotin Plateau (CHP) and Fraser River Basin (FRB)*

Biogeoclimatic Zones: *BGxh3; BGxw2; IDFxm; IDFdk3; IDFdk4; MSxk; Msxv; ESSFxv2, ESSFxvp2; SBPSxc*

The ecoregions and biogeoclimatic zones that have been italicized indicate areas within the project area, that have suitable habitat for the species under consideration, and have therefore been rated.

Ecology and Key Habitat Requirements

Black Bears prefer forested and shrubby areas but use wet meadows, ridgetops, burned areas and riparian areas most often. Black Bears prefer mesic over dry sites and timbered over open areas. After emerging from their winter dens in spring, they seek southerly slopes at lower elevations for forage and move to northerly and easterly slopes at higher elevations as summer progresses (U.S. Forest Service 1998).

Black Bears are omnivorous and opportunistic in their feeding habits. They eat a wide variety of foods, relying most heavily on grasses, herbs and fruits. They also feed on carrion and insects such as carpenter ants, yellow jackets, bees and termites. Black Bears will also kill and eat small rodents and ungulate fawns.

Black Bears use dense cover for hiding and thermal protection, as well as for bedding. During periods of inactivity, Black Bears will occasionally utilize bed sites in forest habitat with thick understory vegetation. These sites are often a simple shallow depression in the forest leaf litter but may be a deep excavation. Bedding requirements are generally site-specific, and cannot be mapped based on TEM attributes, and so will not be rated. If located, these features will be identified in the 'Evidence of Use' section in the Wildlife Habitat Assessment form.

Breeding occurs in May and June (Stevens and Lofts 1988). On average one to three cubs are born in late November through February after a gestation of 6 to 7 months. Birth and early maternal care occurs in winter dens. Denning sites include hollow trees, rock caves and crevices, fallen logs, or underground excavations. Cubs remain with their mother for 1 to 2 years.

Seasonal movements of Black Bears are influenced by the availability of seasonally important food resources or habitat components, breeding activity, reproductive status of individuals and availability of denning habitat. Black Bears sometimes make extensive seasonal movements to areas of food abundance such as spring green-up sites or berry patches (Amstrup & Beecham 1976). Migrating Black Bears will use movement corridors such as game trails, human trails, open edges, ridges, creek beds, logging roads, sandbars or rivers (Stevens & Lofts 1988).

Adult male home ranges are generally larger than those of females and home ranges may change seasonally to account for weather and food availability (Stevens and Lofts 1988). Females have home ranges of between 12 and 50 km². Males have much larger home ranges.

Habitat Use and Life Requisites

The life requisites that will be rated for Black Bears are: feeding, security/thermal cover and hibernating which are described in detail below.

• **Feeding Habitat**

Black Bears are opportunistic omnivores and alter their food habits according to the availability of food items throughout the seasons. They depend heavily on plant foods but will feed on fish, wildlife and domestic animals when available. Black Bears will also feed on carrion, and insects such as carpenter ants, yellow jackets and termites. Black Bears will also climb trees to eat young shoots (Stevens and Lofts 1988).

Grasses, sedges and horsetails are the most commonly selected spring food items of bears. In early spring bears require high-protein, digestible forage and so feed on succulent vegetation in wet meadows and riparian areas (Stevens and Lofts 1988). They will also feed on other green vegetation, flowers, the cambium of trees, insects, mammals and berries if available. Bears eat the shoots, leaves and stems of most herbaceous plants when they are in their early stages of growth as they are easily digested and are high in nutrients.

Green leafy material and wild berries in old-growth and mid-seral, deciduous forests provide summer and fall food for Black Bears. Insects, such as ants, bees, beetles and wasps are also important food items during the growing season. Bears will feed on insects and larvae in windfalls and also from turning over rocks. Table 1 shows some of the preferred forage species of Black Bears.

Table 1. Preferred forage species for Black Bears.

• dogwood (<i>Cornus</i> spp.)	• kinnikinnick (<i>Arctostaphylos</i> spp.)
• cranberry (<i>Viburnum</i> spp.)	• <i>Vaccinium</i> spp.
• <i>Rosa</i> spp.	• <i>Lupinus</i> spp.
• Soopolallie (<i>Shepherdia canadensis</i>)	• tree cambium (<i>Abies lasiocarpa</i>)
• <i>Carex</i> sp.	

• **Security/Thermal Habitat**

During the growing season Black Bears use dense trees and shrubs for cover. Shrub structural stage forests and mature forests provide the most cover for Black Bears. After feeding Black Bears will often utilize bed sites. The areas chosen for these sites varies, but they will often be in cool, dense vegetation, especially in forests which offer bears cover during hot weather. They will also seek relief from heat by using ponds, lakes and streams. Black Bears will temporarily seek shelter from precipitation under forests with low canopy or rock overhangs. Generally they do not move more than 100 m from cover (Stevens and Lofts 1988).

• **Hibernating Habitat**

Black Bears hibernate between October and May. Typically dens are underground and in locations that catch early snow and maximize the snow's insulative qualities. Black Bears normally den on the forest floor and sometimes dens are excavated under the roots of trees. Denning sites have also been found in

hollow trees, rock caves and crevices, fallen logs, or underground excavations (Stevens and Lofts 1988).

Seasons of Use

Food and security are required throughout the growing season while hibernating habitats are the only requirements for the winter months. Table 2 summarizes the life requisites required for each month of the year.

Table 2. Monthly Life Requisites for Black Bears.

Life Requisite	Month	Season
Hibernation	January	Winter
Hibernation	February	Winter
Hibernation	March	Winter
Hibernation	April	Winter
Feeding, Security/Thermal	May	Spring
Feeding, Security/Thermal	June	Spring
Feeding, Security/Thermal	July	Summer
Feeding, Security/Thermal	August	Summer
Feeding, Security/Thermal	September	Fall
Feeding, Security/Thermal	October	Fall
Hibernation	November	Winter
Hibernation	December	Winter

Habitat Use and Ecosystem Attributes

Table 3 outlines how each life requisite relates to specific ecosystem attributes (e.g., site series/ecosystem unit, plant species, canopy closure, age structure, slope, aspect, terrain characteristics).

Table 3. Terrestrial Ecosystem Mapping (TEM) Relationships for each Life Requisite for Black Bears.

Life Requisite	TEM Attribute
Feeding Habitat	- site: site disturbance, elevation, slope, aspect, structural stage - soil/terrain: bedrock, terrain texture, flooding regime - vegetation: % cover by layer, species list by layer, cover for each species, for each layer, coarse woody debris
Security/Thermal Habitat	- site: elevation, slope, aspect, structural stage - soil/terrain: terrain texture - vegetation: % cover by layer - mensuration: tree species, dbh, height
Hibernating Habitat	- site: site disturbance, elevation, slope, aspect, structural stage - soil/terrain: bedrock, terrain texture, flooding regime - mensuration: tree species, dbh, height

Ratings

There is a detailed level of knowledge of the habitat requirements of Black Bears in British Columbia to warrant a 6-class rating scheme.

- **Provincial Benchmark**

Ecosection: Kitimat Ranges

Biogeoclimatic Zone: CWHvm1

Habitats: Skunk cabbage; floodplains; wetlands; estuaries / beaches; zonal sites for hibernating (Cw and Yc).

Highest densities of Black Bears are associated with extensive areas of early seral stages associated with logged areas (less than 15 years old), when combined with salmon streams and marine beach habitats.

- **Ratings Assumptions**

1. Submesic thickets will serve as travel corridors as well as feeding and cover habitat in all of the growing seasons and if closed canopy and dense understory shrub layer, then rate up to 2 for feeding and cover.
2. Riparian areas and other ecosystems with preferred grasses and herbs are rated ≤ 2 in spring, as these areas should provide abundant, new, succulent forage.
3. Units with preferred species of herbs and berry-producing shrubs are rated ≤ 3 in summer. Structural stages 2-3 may provide abundant forage and have good spring and summer values.
4. Young to mature forests on cool aspects with deep medium textured soils rate up to 3 for hibernating due to the fact that snow cover will be greatest here, thereby providing insulation to the den.
5. Grasslands generally provide very limited feeding habitat. Use will be concentrated in spring on succulent new growth and will rate 4-5 if succulent species present. Occasionally bear will dig for ant and wasp grubs, although this food source is too variable to qualify here.
6. Areas with an abundance of berry producing shrubs (soopolallie and huckleberry) will rate 2-3 (subsequently higher than spring) for summer and fall feeding. In Churn Creek study area these units are most commonly found in the ESSF.

- **Ratings Adjustment Considerations**

Final capability and suitability map products may incorporate 1) landscape heterogeneity and connectivity; 2) habitats adjacent to significant anthropogenic disturbance regimes (e.g. roads, settlements); 3) interspersions of different structural stages within the landscape.

Please note that even though structural stage substage or modifiers and stand composition modifiers were employed in the original mapping, these units (other than structural stage modifier 3a and 3b) have not been included in the final ratings tables. This is because the ratings for the modified and unmodified ecosystem units are the same and including these units in the final ratings table would in turn make the ratings table too cumbersome. In instances where the modified ecosystem unit (either structural stage substage or modifiers and stand composition modifiers) is mapped, please use the wildlife habitat rating for the same unmodified ecosystem unit.

References

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