



BCTS
BC Timber Sales
Strait of Georgia

Bear Den BMP

VERSION 1.2

REVISED SEPTEMBER 2020

BEST MANAGEMENT PRACTICES (BMP)

BEAR DENS

WITHIN BCTS STRAIT OF GEORGIA OPERATING AREAS ON VANCOUVER ISLAND*

OVERVIEW

Black bears are presently yellow listed in BC (ranked S5, secure, 2015), and are not considered to be at risk under the Federal Species at Risk Act (SARA), the Committee On the Status of Endangered Species in Canada (COSEWIC), the Forest Planning and Practices Regulation (FPPR), nor within the Identified Wildlife Management Strategy 2004 (IWMS). Most black bear dens in the BCTS Strait of Georgia (SoG) area are located within cavities of large diameter trees. Although there is currently no direct legal protection of black bear habitat on Vancouver Island, BCTS SoG recognizes that den structures suitable for winter hibernation and maternity may be rare in some stands or landscapes.

OBJECTIVES

- Conduct forest operations in a manner that preserves post-harvest den utility by bears where suitable hibernation and maternity structures are or seem rare
- Minimize disturbance to occupied bear dens during harvest activities where possible

*Dens found within the Great Bear Rainforest area are subject to the Great Bear Rainforest Order.

PROCESS SUMMARY

Potential den is discovered → Record details and take photos → Provide information to BCTS field team → Work with BCTS to conduct any required assessments and determine management strategy for den → Ensure site plan, harvest plan & TSL documents provide clear, consistent guidance to TSL holders

The following guidelines apply to all dens. Guideline application will vary with site conditions and may be subject to recommendations from a [Qualified Environmental Professional \(QEP\)](#).

HOW DO I RECOGNIZE A DEN?

Potential bear dens within tree cavities generally have one or more of the following:

- The cavity and/or cavity entrance shows evidence of claw or bite marks
- The cavity entrance shows signs of wear from entry and egress such as trails, tracks, or trampled vegetation
- Bear hair in or around the cavity
- The cavity has suitable dry areas large enough for a bear to hibernate
- The cavity shows signs of remodeling such as claw or bite marks on the cavity walls and a bed cup
- Limbs, moss, leaves or grass have been brought into the cavity for bedding

Note that there can be instances where claw or bite marks are present around the entrance to a cavity that is not suitable for use as a black bear den. The observed claw or bite marks at unsuitable cavities are the result of exploratory or scouting activity by black bears looking for new den cavities. In cases where it is not clear whether the cavity is a den or not, a QEP should be brought in for an on-site assessment.

WHAT DO I DO IF I FIND A SUSPECTED DEN DURING FIELD LAYOUT AND DEVELOPMENT?

- **Notify BCTS**
- Contract multi-phase staff must discuss management options with BCTS prior to finalizing engineering
 - The level of protection afforded to the den will be determined by BCTS
- If there is uncertainty regarding den quality, value, or occupancy, BCTS will arrange for an assessment
- If the den is confirmed to be suitable for winter hibernation or maternity, record information listed in the [fillable PDF form or Schema KML \(Documents 2 & 3\)](#) and provide to BCTS along with photographs
- Mark the tree with flagging and/or paint

Protection of bear dens is not legally required; the prescribed level of protection may be influenced by:

- **THE LOCAL ABUNDANCE** of known dens within the landscape unit, and local abundance of trees likely to provide suitable dens, such as the presence of suitably large Cw and Yc within the stand
 - (ie. dens in second growth should be afforded more protection due to relative scarcity of suitable trees)
- **THE LOCATION** of the den, such as:
 - Near edges of blocks
 - Riparian areas
 - Other features with attributes beneficial to wildlife
 - Near key road construction locations
 - These may require removal if options are limited due to engineering constraints
- **THE QUALITY** of den:
 - Those with good future potential may be afforded greater protection than a den of marginal quality that is expected to degrade over time
 - Dens of higher value, such as dens with elevated entrances or located in cavities at the base of large trees should be managed to a higher standard where possible
 - Any required alteration or removal must not occur during the winter hibernation season if the den is occupied
 - Areas with good quality dens, potential denning cavities, or other wildlife features may be a good anchor point for the required Wildlife Tree Retention Area (WTRA)

Where possible, the bear den should be protected by co-locating reserves that are already required on site. Beneficial attributes for these reserves include:

- **Retaining a den within a wind firm leave patch** (TLA/WTRA - preferably minimum 1ha in size)
- **Leaving a minimum 20m distance to the edge of the reserve** from the bear den
- **Retaining security and thermal cover** around the den including some larger trees or snags where adult females and cubs can “escape” from predation
- **Retaining a healthy shrub layer** around the entrance for visual security screening
- **Retaining large fallen trees > 1-meter dbh**

If uncertain regarding den status or quality, contact BCTS to arrange for an assessment.

WHAT DO I DO IF I FIND A PREVIOUSLY UNIDENTIFIED AND SUSPECTED DEN DURING HARVEST OPERATIONS?

- The licensee is required through BCTS EMS to contact BCTS immediately if a previously unidentified den is discovered during operations
- For BCTS to work with the TSL holder to develop a plan to assess and protect the den if possible; BCTS will request:
 - **The licensee adheres to the Bear Den BMP**
 - **The licensee stop work within 50m of the den until an assessment of the den and options are completed and an option is selected**
 - **Where a den is occupied the licensee stop work within 200m between November 1 and May 15**
- BCTS must be mindful of the licensee's harvesting rights under the TSL and their autonomy to direct their own operations

QEP ASSESSMENT – STANDARD INFORMATION TO BE INCLUDED

Assessments completed by a [QEP](#) should include the following content:

- All potential dens assessed should be shown on the report map in accordance with the categories in the GIS submission standard provided in the section "[Data Submission of Bear Dens to TSG GIS](#)"
- Confirmed dens should be marked with ribbon, or, if the tree is to be retained, mark with paint
- Numbered bear dens on the map that match the report and field marking
- The most current available map should be used
- Options and recommendations for block layout to protect den(s)
- Recommendations for site specific no-work areas (if required) to minimize disturbance when active operations occur within the timing window
- Quantify the value of the den based on its characteristics, location (proximity to other values such as riparian areas), and the abundance of dens or potential dens in the immediate area

MANAGEMENT PRESCRIPTIONS

SAFETY

Dens located in danger trees may require alteration or removal to allow for safe operations if a WTRA cannot be designed in such a way as to remove risk to workers. Alteration may be possible in rare instances, such as high-stumping (and capping, when necessary) a danger tree with a den in the base. **Any alterations must be completed outside of the Nov 1 – May 15 window**, or the den must be assessed by a QEP and determined to be unoccupied prior to alteration or removal.

PRESCRIPTIONS FOR DENS

Where a decision has been made to protect a den, **Site Plans must include restrictions from November 1-May 15 on activities listed below.** The Site Plan and timber sale “Safety and Highlights” should be written such that these restrictions apply **unless** a QEP has assessed the den that year and determined it is not occupied for the winter season.

DISTURBANCE IN PROXIMITY TO IDENTIFIED DENS

- Minimize disturbance from November 1 - May 15 according to disturbance type:

Table 1: Activity Restrictions near Bear Dens

Disturbance Type	Minimum Suggested Distance (m)*
Primary harvesting, falling	200
Road construction (no blasting)	200
Blasting, heli-yarding	1000
Hauling	200

**based on preliminary research done by biologists from BMP's in other jurisdictions. These guidelines are subject to revision based on new research, guidance, or site-specific recommendations from a QEP.*

If the restrictions above are not logical or practicable for a given block, contact a QEP to provide site specific recommendations. **For works commencing after November 1st and before May 15th of the following year, occupancy of known bear dens must be assessed within the distances noted in Table 1 before work begins.**

If primary harvesting including falling or road construction activities commence prior to November, then work may continue if the disturbance in the area is continuous from Nov 1 to Jan 1 (i.e. no more than 5 days without activity on site). It may be assumed that any black bear occupying a den in proximity to the area of harvest is habituated to the disturbance; the timing window for minimizing disturbance will not apply in this case. If work ceases for more than 5 days between Nov 1 and Jan 1, then the den should be assessed for occupancy prior to starting operations within the distances listed in Table 1.

SITE PLAN AND TSL PREPARATION

The den, and any areas subject to operational timing restrictions need to be **clearly identified on the Site Plan and harvest plan maps.** Timing restrictions must state the time period and which activities are restricted. The plan must note that the den must be assessed for occupancy each year before any work can take place within the area subject to timing restrictions (November 1-May 15). An exception to timing restrictions should be noted for operations that commence prior to November 1st and are continuous through January 1 without work ceasing for more than 5 days.

The “Safety and Highlights” document should clearly indicate the timing restrictions and the requirement for annual checking of occupancy if the TSL holder wishes to operate within the restricted area during the specified time period. **It should be clearly stated who is responsible for providing a professional to determine den occupancy.**

If the plan requires the den to be removed or altered, it must be done outside of the Nov 1-May 15 denning window or be assessed by a QEP and determined to be unoccupied.

DATA SUBMISSION OF BEAR DENS TO TSG GIS

All den locations (including any that are altered or removed) must be submitted to GIS to be included in the wildlife spatial layer. Assessed trees are recorded as:

- Known bear den
- Potential bear den
- Cavity assessed - unsuitable

DATA COLLECTION RESOURCES FOR THE FIELD

The assessment report or memo should be added to the den’s attributes as a link. The attached excel file shows the criteria that should be recorded for each potential den assessed. The fillable PDF or Schema contains the information that will be recorded as attribute data for each den recorded in the spatial layer.



TSL A93468 Block L038C49W bear Den.

Document 1: Example Spatial Data



Bear_Den_Assessment_Schema_20200914.ki

Document 2: Schema for use in Avenza



Bear_den_assessment_form_fillable_2020-09

Document 3: PDF Form for iPad

Approved by:

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BCTS Strait of Georgia
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ADDITIONAL REFERENCES

Bear Den Identification Manual:

<G:\BCTS\TSG Records Management System\12190-Wildlife Mgmt\20-Wildlife Interactions\AWC Bear Den ID manual v1 feb2020.pdf>

http://artemiswildlife.com/AWC_Bear_Den_ID_manual_v1.pdf

BCTS SoG Field Cards for Species At Risk (SAR):

[EMS Species at Risk Field Card, Black Bear and Grizzly Bear](#)

Definitions further explained:

"Qualified professional/ Qualified Environmental Professional (QEP)" means an applied scientist or technologist, acting alone or together with another professional, if

- (a) the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, is acting under that association's code of ethics and is subject to disciplinary action by that association; and
- (b) the individual is acting within that individual's area of expertise.

"Practicable" is defined as "capable of being carried out in action", also could be described as "feasible" or "possible". The "Practicable" option may not be the most practical, however in the context of this BMP, the direction is to carry out the action when it could be expected to be successful. See FRPA General Bulletin #3 for further explanation see the FRPA General Bulletin on defining "practicable":

<http://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/integrated-resource-bulletins/frpa-general-no-3-defining-practicable-under-frpa-jun-9-2005.pdf>

Black Bear Description from the BC Conservation Data Centre's Species and Ecosystems Explorer:

<http://a100.gov.bc.ca/pub/eswp/speciesSummary.do?id=14550>

January 2020 Forest Practices Board Investigation: Conservation of Black Bear Dens on Vancouver Island:

<https://www.bcfpb.ca/wp-content/uploads/2020/01/IRC229-Black-Bear-Dens.pdf>