

Wildlife and Species at Risk (LPCs)- DSI



Category	Species	Habitat / Range	Defining Characteristics	Action Required
Insects	Johnson's Hairstreak <i>(Callophrys johnsoni)</i>	<ul style="list-style-type: none"> Require mature or old hemlock forests with mistletoe infestations. Found at elevations from sea level to 625m. 	<ul style="list-style-type: none"> Small butterfly with a wingspan of 25-30mm. Dorsal surface of the wings is brown; chocolate shade in males, reddish in females. Small tail-like protrusion from hindwing is bluish and orange with black dots. Underside of wings brown with white stripe, bordered in black, running across both wings. Larvae are yellowish-olive green and have red, green, yellow or white markings on raised protrusions along dorsal area. 	<ul style="list-style-type: none"> Notify BCTS and document location of verified breeding area. <ul style="list-style-type: none"> Consult a qualified professional (if necessary) to verify identification and breeding area. Biologist will work with field team staff to design a reserve around dwarf mistletoe infected trees within or adjacent to the location of the confirmed sightings. Refer to Accounts & Measures for managing Identified Wildlife

Category	Species	Habitat / Range	Defining Characteristics	Action Required
Amphibians & Reptiles	Painted Turtle (<i>Chrysemys picta pop.</i>)	<ul style="list-style-type: none"> • On mainland coast Powell River and South, and Vancouver Island in Nanaimo lowlands • Generally, within 150m of shallow bodies of water and associated riparian zones 	<ul style="list-style-type: none"> • Smooth dark shell up to 25cm (10 inches) • Underside of shell orange-red with large dark central markings • Limbs and head dark green with yellow lines / spots • Can be confused with red-eared slider, which is not endangered. The slider has red mark behind eye, and underside of shell is yellow 	<ul style="list-style-type: none"> • Notify BCTS <ul style="list-style-type: none"> ○ If seen in upland area (away from a pond) – avoid that area until assessed by BCTS
Amphibians & Reptiles	Northern Red-Legged Frog (<i>Rana aurora</i>)	<ul style="list-style-type: none"> • Mainland coast, Fraser Valley, Vancouver Island, and other small coastal islands. • Adults often found in damp wooded areas. During breeding season, winter to early spring, they may be found in ponds and streams. • Elevation 0-850m. 	<ul style="list-style-type: none"> • Medium sized brown-reddish frog, with smooth skin and black 'freckles'. • Males are approximately 7 cm in length; females can be longer, approximately 10 cm. • Named after their long slender hind legs, with red colouring on the undersides. • Usually have a dark mask and upper jaw stripe running back to the shoulder. • Tadpoles: tan to brown color with specks throughout their body. Their bodies look short because they have a long tail that is at least as long as the length of their body. The tail has a dorsal fin with light spots on it. Mouth with 4 teeth rows on the bottom and 3 on the top. They reach a size of 2-7 cm before they metamorphose. 	<ul style="list-style-type: none"> • Notify BCTS and document location. Of verified breeding area. <ul style="list-style-type: none"> ○ Consult qualified professional if necessary, to verify identification and breeding. ○ Biologist will work with field team staff to design a riparian buffer ○ Refer to BCTS TSG Protocol

Category	Species	Habitat / Range	Defining Characteristics	Action Required
Birds	Great Blue Heron (<i>Ardea herodias fannini</i>)	<ul style="list-style-type: none"> • Generally near sea level • Near rivers, lakes & wetlands • Constructs stick nests 20-30m high in mature deciduous and coniferous forests 	<ul style="list-style-type: none"> • Large size (1+m length) • Long rounded wings • Long bill • Short tail • S-shaped neck while flying • Blue-grey plumage with white head 	<ul style="list-style-type: none"> • If a nest or nesting colony is found: <ul style="list-style-type: none"> ○ Notify BCTS ○ Stop work within 500m of nest site ○ Document occupancy, location and flag the nest tree
Birds	Marbled Murrelet (<i>Brachyramphus marmoratus</i>)	<ul style="list-style-type: none"> • Nesting is widespread in suitable old growth stands on Vancouver Island and the mainland coast. • Nests up to 30-80 km inland. • Prefer old growth forest (Sitka spruce, with an abundance of mossy platforms for landing and nesting purposes) • Forage in coastal areas, mainly in saltwater within 2 km of shore, including bays and sounds, not uncommon up to 5 km offshore. 	<ul style="list-style-type: none"> • A small (length 24-25cm, mass 190-270g) chunky seabird with a black bill and an entirely dark tail. • Breeding adult is dark brown above, heavily mottled below. • In winter, plumage is white below with white scapular streak on otherwise dark upperparts. • Solitary or in pairs, generally does not flock with other birds. 	<ul style="list-style-type: none"> • Managed under higher level planning, FRPA, WHA's OGMA's etc.
Birds	Osprey (<i>Pandion haliaetus</i>)	<ul style="list-style-type: none"> • Primarily found along rivers, lakes, reservoir and seacoasts • They typically build large stick nests on living or dead trees and also use numerous man-made structures such as utility poles, wharf pilings, windmills, microwave towers, chimneys, and channel markers. • Nests are usually near or above water. 	<ul style="list-style-type: none"> • Ospreys have long narrow wings, dark brown upper parts, white underparts, a white head with a prominent dark eye streak, and dark wrist patches (visible in flight) on the underside of the wings. • Immatures have pale buff edging on the dark feathers of the upper surface. • Average length 56-64 cm, wingspan 147-183 cm. • Similar Species <ul style="list-style-type: none"> ○ Superficial similarity to adult Northern Goshawk 	<ul style="list-style-type: none"> • If nest is found: <ul style="list-style-type: none"> ○ Retain the nest tree (protected under the Wildlife Act) ○ Default 200m vegetative buffer around nest location ○ A Qualified Professional may be able to recommend alternative buffers on a case by case basis ○ Notify BCTS, document, flag the location of the nest tree and occupation status ○ Contact a qualified professional if you are uncertain about occupancy.

Category	Species	Habitat / Range	Defining Characteristics	Action Required
Birds	Peregrine falcon (<i>Falco peregrinus anatum, pealei</i>)	<ul style="list-style-type: none"> • <i>Anatum</i> subspecies: Southwest coast of BC (CR, SI Forest Districts). • <i>Pealei</i> subspecies: Pacific Coast; Aleutian Islands to Oregon (CR, SI Forest Districts). • Nests are usually located on cliffs, 4-335m in elevation, often with overhanging cover. Must be near foraging areas (i.e. lake, ocean, river valleys). 	<ul style="list-style-type: none"> • Medium to large (crow-sized) falcon; Males are 36-49cm and 650g, females 45-58cm and 950g. • Adults have blue-grey or darker plumage on upperparts, and underparts are pale, white-grey with dark spotting/barring. • Have dark "hood" on crown of head with extended malar stripes ("sideburns"). • Immatures have pale, slate or chocolate brown upperparts, and underparts buffy with dark streaks. • Clinal differences: darker in wet areas, paler in dry, larger in south and west, smaller in north extent of range. Similar Species • Gyrfalcon: larger, with pointed and broader wings and a larger tail, lack dark hood and malar stripes. 	<ul style="list-style-type: none"> • Notify BCTS: <ul style="list-style-type: none"> ○ Document occupancy, location and flag the nest tree ○ Contact a qualified professional to verify the species and recommend reserve design and timing restrictions
Birds	Northern Goshawk (<i>Accipiter gentilis laingi</i>)	<ul style="list-style-type: none"> • Sea level to 900m • Mature forest • Structurally diverse area with large trees • Nests generally on lower 2/3 of slopes <40% • Stick nests built on lateral branches against tree in lower portion of main canopy 	<ul style="list-style-type: none"> • Raven sized bird of prey • Broad, short wings • Long tail • Bold white stripe above eyes • Blackish grey and sometimes mottled white mask • Adult call loud <i>kyke kyke kyke</i> • Aggressively defends nest 	<ul style="list-style-type: none"> • If a goshawk is seen on worksite: <ul style="list-style-type: none"> ○ notify BCTS • If a nest is found: <ul style="list-style-type: none"> ○ Stop work within 500m of nest tree ○ Document occupancy, location and flag the nest tree ○ Notify BCTS
Birds	Vancouver Island Northern Pygmy Owl (<i>Glaucidium gnoma swarthi</i>)	<ul style="list-style-type: none"> • Nests usually between 450-1200m • Most frequently along forest edges or in disturbed areas • <i>Swarthi</i> subspecies widely but sparsely distributed on Vancouver Island and Gulf adjacent islands 	<ul style="list-style-type: none"> • Very small (<17cm in length) • No ear tufts, long tail • A pair of black patches on nape • Secondary cavity nester, in snags or 'danger trees' previously used by woodpeckers 	<ul style="list-style-type: none"> • If a nest is found: <ul style="list-style-type: none"> ○ Retain the nest tree and stop work within 200m ○ Document occupancy, location and flag the nest tree ○ Notify BCTS

Category	Species	Habitat Range	Defining Characteristics	Action Required
Birds	Western Screech Owl (<i>Megascops kennicotti kennicotti</i>)	<ul style="list-style-type: none"> • Throughout Vancouver Island and Coast Mainland • Found at low elevation in variety of coniferous/ mixed forests • Often associated with riparian zones 	<ul style="list-style-type: none"> • Small, with yellow eyes, tufts over ears • Nests in tree cavities • Small – average height 23 cm (9 in.) Wingspan approx 56cm (22 inches) 	<ul style="list-style-type: none"> • If a nest is found: <ul style="list-style-type: none"> ○ Retain the nest tree ○ Document occupancy, location and flag the nest tree ○ Notify BCTS
Birds	Bald Eagle (<i>Haliaeetus leucocephalus</i>)	<ul style="list-style-type: none"> • Throughout Vancouver Island and the Coast Mainland 	<ul style="list-style-type: none"> • Large raptor with white face and head • Juveniles all brown • Largest stick nests 	<ul style="list-style-type: none"> • If a nest is found: <ul style="list-style-type: none"> ○ Retain the nest tree and stop work within 200m ○ Document occupancy, location and flag the nest tree ○ Notify BCTS
Birds	Any bird species	<ul style="list-style-type: none"> • Throughout Vancouver Island and the Coast Mainland 	<ul style="list-style-type: none"> • Any nest occupied by a bird or egg 	<ul style="list-style-type: none"> • If a nest is found: <ul style="list-style-type: none"> ○ Retain the nest tree ○ Document occupancy, location and flag the nest tree ○ Notify BCTS
Mammals	American Water Shrew (<i>Sorex navigator brooksi</i>)	<ul style="list-style-type: none"> • Assumed to be found throughout Vancouver Island; there are only 67 records from 38 locations. • South Island and Campbell River Forest Districts • As the shrews spend up to half of their time hunting underwater, they stay very close to water. • Habitat includes riparian areas, creeks, streams and possibly bogs and marshes. • Found at all elevations. 	<ul style="list-style-type: none"> • Large water shrew with an average length of 152 mm of which 75 mm is tail; average weight of 10.6 grams. • The water shrew has a bi-coloured body, with glossy black fur on its dorsal surface and silvery white fur on its ventral surface. • Similar Species <ul style="list-style-type: none"> ○ Pacific Water Shrew, although ranges do not over-lap. ○ Terrestrial shrews. 	<ul style="list-style-type: none"> • If a shrew is found: <ul style="list-style-type: none"> ○ Notify BCTS, contact a qualified professional to verify species and assist in retention design. ○ Maintain a 5m buffer along streams in the vicinity of where the shrew was found.

Category	Species	Habitat Range	Defining Characteristics	Action Required
Mammals	Little Brown Myotis (bat) <i>(Myotis lucifugus)</i>	<ul style="list-style-type: none"> • Wide range of habitats and often use human-made structures for resting and maternity sites; they also use caves and hollow trees. • Winter hibernacula typically have stable temperatures between 2-10°C and relative humidity >80%. 	<ul style="list-style-type: none"> • Little Brown Myotis is a small (7-9 g) brown bat with black ears, black wings, and a black tail membrane. • Cinnamon-buff to dark brown above, buffy to pale gray below. • Hairs on back have long glossy tips. • Ear when laid forward reaches approximately the nostril. • Its wingspan is approximately 22-27 cm. Females tend to be slightly larger than males. • Compared to other mammals, Little Brown Myotis has a long lifespan; some individuals live more than 30 years • Myotis bats are difficult to identify in the field and often hibernate in mixed aggregations so all small bats should be managed to the level of the most conservatively regulated species possibly present 	<ul style="list-style-type: none"> • If myotis bats are found or suspected in summer or winter: <ul style="list-style-type: none"> ○ Notify BCTS and document the location ○ Contact a qualified professional to assist in reserve design ○ Hibernacula are protected as Critical Habitat during winter (October 1- May 31) under the Species at Risk Act. ○ All cave karst features should be considered potential hibernacula and assessed for use by a qualified Professional Biologist.
Mammals	Vancouver Island Marmot <i>(Marmota vancouverensis)</i>	<ul style="list-style-type: none"> • Isolated VI populations (Mount Washington, Nanaimo, Cowichan, Nitinat, Cameron River drainages) • >700m • Non vegetated/low shrub areas 	<ul style="list-style-type: none"> • Dark chocolate brown coat • White patch on muzzle & abdomen • Black patch on rump • Size of a large house cat • Burrows under boulders/tree roots on downhill side (30-45cm entrance). 	<ul style="list-style-type: none"> • If a marmot or burrow is found: <ul style="list-style-type: none"> ○ Stop work within 20m of burrow ○ Notify BCTS

Mammals	Black Bears <i>(Ursus americanus)</i>	<ul style="list-style-type: none"> • Throughout Vancouver Island 	<ul style="list-style-type: none"> • Ground den: on steep slope with large pile of earth at entrance, evidence of bedding material • Tree base den: sheltered hollow beneath tree • Arboreal den: large diameter trees with large limb scars (den in tree trunk) 	<ul style="list-style-type: none"> • Under the 2018 BCTS TSG Bear Den BMP If a den is found: <ul style="list-style-type: none"> ○ • Notify BCTS and document location of the den and whether it is occupied. ○ • Contact a qualified professional if you are uncertain about occupancy. ○ • Retain den site within a windfirm WTRA (preferably 1 ha or tied to a riparian reserve); ensure there is security and thermal cover around the den, some larger trees or snag where adult females and cubs can “escape” to and a healthy shrub layer for forage. ○ • If den is active, non-disturbance buffers defined in the protocol are applicable in the between Nov 1 and May 15. ○ • 200m buffer around the den(s) for falling, primary harvesting activities, hauling, road building (no blasting) ○ • 1000m buffer around dens for blasting or helicopter yarding
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Mammals	Roosevelt Elk (<i>Cervus elaphus roosevelti</i>)	<ul style="list-style-type: none"> Population estimates are approximately 6900 in BC, approximately 5500 of which are on VI On VI there are two main populations, southern and northern. The southern is centered near Cowichan Lake and Nanaimo River watershed. The northern population is found within the loose boundaries of Woss, Gold River, Campbell River and the Tsitika River. 	<ul style="list-style-type: none"> Large member of the deer family. Dark head and neck with a yellow-brown or cream-coloured rump patch with a short tail. Large males may reach more than 400 kg, while females are approximately 250 kg in weight. Males grow antlers, ranging from simple spikes & forks on yearlings to large branched structures, with up to 5 or 6 ivory-tipped tines on mature bulls. Antlers usually have a brownish main beam & can be more than 1m long. Generally, antlers are shed from March through May. 	<ul style="list-style-type: none"> Document any high use foraging and wintering areas. Consult the BCTS TSG Roosevelt Elk Management Protocol for former TFL 44 areas. Determine if Landscape Unit you are working in requires a specific management strategy to protect or enhance for-age, security cover or winter thermal cover.
Plants	White-lip rein orchid (<i>Platanthera ephemerantha</i>)	<ul style="list-style-type: none"> Known to occur in the South Island Natural Resource District Dry conifer forests and Garry oak woodlands 	<ul style="list-style-type: none"> Perennial herb from tubers, 1-2.5 cm long, with a few fibrous roots; stems 20-55 cm tall. Leaves: Basal 2 or 3 (4), linear to mostly oblanceolate, 10-18 cm long, 2-3.5 cm wide, dull to glossy green below, glossier above, withering before or during flowering; stem leaves bract-like, mostly 3 or 4 (2-10). Flowers Inflorescence terminal, spike-like, 7-30 cm long, usually densely flowered, the flowers small, white. 	<ul style="list-style-type: none"> When a plant is found: <ul style="list-style-type: none"> notify BC Timber Sales, who will report occurrence info to CDC

Log Handling Sites

Category	Species	Habitat Range	Defining Characteristics	Action Required
Marine	Northern Abalone (<i>Haliotis kamtschatkana</i>)	<ul style="list-style-type: none"> Sheltered bays to exposed coastlines Require full salinity (no brackish water) Require source of macro algae such as kelp <10m depth Ample habitat available on coast of BC 	<ul style="list-style-type: none"> Single ear shaped shell with row of perforations along one side Usually mottled reddish or greenish with areas of white and blue. Orange variant seen rarely Often overgrown with various encrusting organisms Inside shell is pearly white with faint iridescence Large foot usually tan coloured 	<ul style="list-style-type: none"> Contact a Qualified Registered Professional to develop mitigation strategy for any activities taking place in foreshore or near shore areas
Marine	Olympia Oyster (<i>Ostrea conchaphila</i>)	<ul style="list-style-type: none"> primarily found in lower intertidal and subtidal areas of estuaries and saltwater lagoons also found on mud-gravel tidal flats, splash pools, near freshwater seepage and in tidal channels on outer coast only found in protected locations documented from intertidal to 50m in depth 	<ul style="list-style-type: none"> Small oyster with two oval shells connected by a hinge Generally, 6-9 cm long lower shell is larger and rounded while slightly smaller upper shell is flat with edges tucked inside bottom shell Similar Species— Pacific Oysters are larger with a more heavily ridged shell 	<ul style="list-style-type: none"> Contact a Qualified Registered Professional to develop mitigation strategy for any activities taking place in foreshore or near shore areas
Marine	Killer Whale (<i>Orcinus orca</i>)	<ul style="list-style-type: none"> Canadian Range of Southern Resident Pod: Strait of Georgia to Esperanza Inlet Canadian Range of Northern Resident Pod: Dixon Entrance – Johnstone Straits (East Coast of Vancouver Island) and Barkley Sound (W Coast Van Island) 	<ul style="list-style-type: none"> The killer whale, or orca, is the largest member of the dolphin family. Its size, striking black and white colouring, and tall dorsal fin are unmistakable. Males reach lengths of 8 or 9 metres and weigh up to 5 tonnes. Females are smaller at 7 metres and 4 tonnes. Killer whales are mainly black above and white below, with an oval white patch behind each eye. 	<ul style="list-style-type: none"> Must be given consideration when developing and operating log handling facilities Contact a Qualified Registered Professional to develop mitigation strategy as a part of the operational plan for the log handling facility

Painted Turtle



Great Blue Heron



Northern Goshawk



Painted Turtle (underside)



Great Blue Heron nest colony



Northern Goshawk nest



Bald Eagle nest



Vancouver Island Pygmy Owl



Western Screech Owl



Juvenile Bald Eagle



Little Brown Myotis



Vancouver Island Marmot



American Water Shrew



Arboreal bear den



Tree base bear den

