



Figure 1-29. Wildlife tree ID 29, snag.



Figure 1-30. Wildlife tree ID 30, snag.



Figure 1-31. Wildlife tree ID 31, snag.



Figure 1-32. Wildlife tree ID 32, snag.



Figure 1-33. Wildlife tree ID 33, snag.



Figure 1-34. Wildlife tree ID 34, snag.



Figure 1-35. Wildlife tree ID 35, ponderosa pine.



Figure 1-36. Wildlife tree ID 36, snag.



Figure 1-37. Wildlife tree ID 37, snag.



Figure 1-38. Wildlife tree ID 38, snag.



Figure 1-39. Wildlife tree ID 39, ponderosa pine.

2. TREE GROUPS





Figure 2-1. Very high value tree group and habitat near the pond behind the engineering building.





Figure 2-2. High value tree group 1, southern border of campus near John Hindle Drive.



Figure 2-3. High value tree group on the east side of campus near Old Pond Trail and the University House.





Figure 2-4. Medium value tree group on the north end of campus uphill from the H lot.



Figure 2-5. Medium value tree group on University Way.



Figure 2-6. Low value tree group near the north end of Nonis sports field.





Figure 2-7. Low value tree group of mostly spruce near the gymnasium.



Figure 2-8. Low value tree group between the Arts building and the central heating plant.

APPENDIX B: UBCO Campus Wildlife

Table B-1. Wildlife that utilizes ecosystems within the campus lands. Species observed on campus by Ecoscape on June 8th, 2023, are presented in **bold**. Species with an asterisk are species at risk that have not been observed on campus but rely on habitat types present on campus and thus have the potential to occur. Species without symbols have been observed by other reliable sources.

Class	Scientific Name	English Name	BC List	SARA Status
Amphibians	<i>*Anaxyrus boreas</i>	*Western Toad	Yellow	Special Concern
	<i>*Lithobates pipiens</i>	*Northern Leopard Frog	Red	Endangered
	<i>Spea intermontana</i>	Great Basin Spadefoot	Blue	Threatened
Birds	<i>Acanthis flammea</i>	Common Redpoll	Yellow	
	<i>Acanthis hornemanni</i>	Hoary Redpoll	No Status	
	<i>Accipiter cooperii</i>	Cooper's Hawk	Yellow	Not At Risk
	<i>Acipiter gentilis</i>	Northern Goshawk	No Status	Not At Risk
	<i>Actitis macularius</i>	Spotted Sandpiper	Yellow	
	<i>Aechmophorus occidentalis</i>	*Western Grebe	Red	Special Concern
	<i>Aeronautes saxatalis</i>	White-throated Swift	Blue	
	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Yellow	
	<i>Aix sponsa</i>	Wood Duck	Yellow	
	<i>Anas acuta</i>	Northern Pintail	Yellow	
	<i>Anas crecca</i>	Green-winged Teal	Yellow	
	<i>Anas platyrhynchos</i>	Mallard	Yellow	
	<i>Anser albifrons</i>	Greater White-fronted Goose	Yellow	
	<i>Anser caerulescens</i>	Snow Goose	Yellow	
	<i>Anthus rubescens</i>	American Pipit	Yellow	
	<i>Antigone canadensis</i>	Sandhill Crane	Yellow	Not At Risk
	<i>Aquila chrysaetos</i>	Golden Eagle	Yellow	Not At Risk
	<i>Ardea herodias</i>	Great Blue Heron	Yellow	
	<i>Ardea herodias herodias</i>	*Great Blue Heron, <i>herodias</i> subspecies	Blue	
	<i>Asio flammeus</i>	*Short-eared Owl	Blue	Special Concern
	<i>Aythya affinis</i>	Lesser Scaup	Yellow	
	<i>Aythya americana</i>	Redhead	Yellow	
	<i>Aythya collaris</i>	Ring-necked Duck	Yellow	
	<i>Aythya marila</i>	Greater Scaup	Yellow	
	<i>Aythya valisineria</i>	Canvasback	Yellow	
	<i>Bombycilla cedrorum</i>	Cedar Waxwing	Yellow	
	<i>Bombycilla garrulus</i>	Bohemian Waxwing	Yellow	
<i>*Botaurus lentiginosus</i>	*American Bittern	Blue		

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Class	Scientific Name	English Name	BC List	SARA Status
	<i>Branta canadensis</i>	Canada Goose	Yellow	
	<i>Branta hutchinsii</i>	Cackling Goose	Yellow	
	<i>Bubo virginianus</i>	Great Horned Owl	Yellow	
	<i>Bucephala albeola</i>	Bufflehead	Yellow	
	<i>Bucephala clangula</i>	Common Goldeneye	Yellow	
	<i>Bucephala islandica</i>	Barrow's Goldeneye	Yellow	
	<i>Buteo jamaicensis</i>	Red-tailed Hawk	Yellow	
	<i>Buteo lagopus</i>	Rough-legged Hawk	Blue	Not At Risk
	<i>Buteo platypterus</i>	Broad-winged Hawk	Yellow	
	<i>Buteo swainsoni</i>	Swainson's Hawk	Red	
	<i>Butorides virescens</i>	*Green Heron	Blue	
	<i>Calcarius lapponicus</i>	Lapland Longspur	Unknown	
	<i>Calidris alba</i>	Sanderling	Yellow	
	<i>Calidris alpina</i>	Dunlin	Yellow	
	<i>Calidris bairdii</i>	Baird's Sandpiper	Unknown	
	<i>Calidris fuscicollis</i>	White-rumped Sandpiper	Accidental	
	<i>Calidris himantopus</i>	Stilt Sandpiper	Unknown	
	<i>Calidris mauri</i>	Western Sandpiper	Yellow	
	<i>Calidris melanotos</i>	Pectoral Sandpiper	Unknown	
	<i>Calidris minutilla</i>	Least Sandpiper	Yellow	
	<i>Calidris pusilla</i>	Semipalmated Sandpiper	Unknown	
	<i>Callipepla californica</i>	California Quail	Exotic	
	<i>Calypte anna</i>	Anna's Hummingbird	Yellow	
	<i>Cardellina pusilla</i>	Semipalmated Sandpiper	Unknown	
	<i>Cathartes aura</i>	Turkey Vulture	Yellow	
	<i>Catharus ustulatus</i>	Swainson's Thrush	Yellow	
	<i>Catherpes mexicanus</i>	*Canyon Wren	Blue	Not At Risk
	<i>Certhia americana</i>	Brown Creeper	Yellow	
	<i>Chaetura vauxi</i>	Vaux's Swift	Yellow	
	<i>Charadrius semipalmatus</i>	Semipalmated Plover	Yellow	
	<i>Charadrius vociferus</i>	Killdeer	Blue	
	<i>Chlidonias niger</i>	Black Tern	Yellow	Not At Risk
	<i>Chordeiles minor</i>	Common Nighthawk	Blue	Threatened
	<i>Chroicocephalus philadelphia</i>	Bonaparte's Gull	Yellow	

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Class	Scientific Name	English Name	BC List	SARA Status
	<i>Circus hudsonius</i>	Northern Harrier	Yellow	Not At Risk
	<i>Cistothorus palustris</i>	Marsh Wren	Yellow	
	<i>Clangula hyemalis</i>	Long-tailed Duck	Blue	
	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Yellow	Special Concern
	<i>Coccyzus americanus</i>	*Yellow-billed Cuckoo	Red	
	<i>Colaptes auratus</i>	Northern Flicker	Yellow	
	<i>Columbia livia</i>	Rock Pigeon	Exotic	
	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Yellow	Threatened
	<i>Contopus sordidulus</i>	Western Wood-Pewee	Yellow	
	<i>Corvus brachyrhynchos</i>	American Crow	Yellow	
	<i>Corvus corax</i>	Common Raven	Yellow	
	<i>Cyanocitta stelleri</i>	Steller's Jay	Yellow	
	<i>Cygnus buccinator</i>	Trumpeter Swan	Yellow	
	<i>Cygnus columbianus</i>	Tundra Swan	Blue	
	<i>Cygnus olor</i>	Mute Swan	Exotic	
	<i>Cypseloides niger</i>	Black Swift	Blue	Endangered
	<i>Dolichonyx oryzivorus</i>	*Bobolink	Red	Threatened
	<i>Dryobates albolarvatus</i>	*White-headed Woodpecker	Red	Endangered
	<i>Dryocopus pileatus</i>	Pileated Woodpecker	Yellow	
	<i>Dumetella carolinensis</i>	Gray Catbird	Yellow	
	<i>Egretta thula</i>	Snowy Egret	Accidental	
	<i>Empidonax hammondii</i>	Hammond's Flycatcher	Yellow	
	<i>Empidonax traillii</i>	Willow Flycatcher	Yellow	
	<i>Empidonax wrightii</i>	*Gray Flycatcher	Blue	
	<i>Eremophila alpestris</i>	Horned Lark	Blue	
	<i>Eremophila alpestris merrilli</i>	*Horned Lark, <i>merrilli</i> subspecies	Red	
	<i>Euphagus carolinus</i>	Rusty Blackbird	Blue	Special Concern
	<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	Yellow	
	<i>Falco columbarius</i>	Merlin	Yellow	Not at Risk
	<i>Falco mexicanus</i>	Prairie Falcon	Red	
	<i>Falco peregrinus</i>	Peregrine Falcon	No Status	Special Concern
	<i>Falco peregrinus anatum</i>	*Peregrine Falcon, <i>anatum</i> subspecies	Red	Special Concern
	<i>Falco sparverius</i>	American Kestrel	Yellow	

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	<i>Fulica americana</i>	American Coot	Yellow	Not at Risk
	<i>Gallinago delicata</i>	Wilson's Snipe	Yellow	
	<i>Geothlypis tolmiei</i>	MacGillivray's Warbler	Yellow	
	<i>Geothlypis trichas</i>	Common Yellowthroat	Yellow	
	<i>Haemorhous cassinii</i>	Cassin's Finch	Yellow	
	<i>Haemorhous mexicanus</i>	House Finch	Yellow	
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Yellow	Not at Risk
	<i>Himantopus mexicanus</i>	Black-necked Stilt	Not Reviewed	
	<i>Hirundo rustica</i>	Barn Swallow	Yellow	Threatened
	<i>Hydroprogne caspia</i>	Caspian Tern	Blue	Not at Risk
	<i>*Icteria virens</i>	<i>*Yellow-breasted Chat</i>	Red	Endangered
	<i>Icterus bullockii</i>	Bullock's Oriole	Yellow	
	<i>Ixoreus naevius</i>	Varied Thrush	Yellow	
	<i>Junco hyemalis</i>	Dark-eyed Junco	Yellow	
	<i>Lanius borealis</i>	Northern Shrike	Yellow	
	<i>Larus argentatus</i>	Herring Gull	Yellow	
	<i>Larus californicus</i>	California Gull	Red	
	<i>Larus canus</i>	Mew Gull	Yellow	
	<i>Larus delawarensis</i>	Ring-billed Gull	Yellow	
	<i>Larus fuscus</i>	Lesser Black-backed Gull	Accidental	
	<i>Larus glaucescens</i>	Glaucous-winged Gull	Yellow	
	<i>Larus glaucoides</i>	Iceland Gull	Yellow	
	<i>Larus hyperboreus</i>	Glaucous Gull	Yellow	
	<i>Leucophaeus pipixcan</i>	Franklin's Gull	Unknown	
	<i>Limnodromus griseus</i>	Short-billed Dowitcher	Blue	
	<i>Limnodromus scolopaceus</i>	Long-billed Dowitcher	Yellow	
	<i>Limosa haemastica</i>	Hudsonian Godwit	Red	Threatened
	<i>Lophodytes cucullatus</i>	Hooded Merganser	Yellow	
	<i>Loxia curvirostra</i>	Red Crossbill	Yellow	
	<i>Loxia leucoptera</i>	White-winged Crossbill	Yellow	
	<i>Mareca americana</i>	American Wigeon	Yellow	
	<i>Mareca penelope</i>	Eurasian Wigeon	Not Reviewed	
	<i>Mareca strepera</i>	Gadwall	Yellow	
	<i>Megaceryle alcyon</i>	Belted Kingfisher	Yellow	
	<i>Megascops kennicottii macfarlanei</i>	<i>*Western Screech-Owl, macfarlanei</i> subspecies	Blue	Threatened

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Class	Scientific Name	English Name	BC List	SARA Status
	<i>Melanerpes lewis</i>	*Lewis's Woodpecker	Blue	Threatened
	<i>Melanitta fusca</i>	White-winged Scoter	Yellow	
	<i>Melanitta perspicillata</i>	Surf Scoter	Blue	
	<i>Melospiza georgiana</i>	Swamp Sparrow	Yellow	
	<i>Melospiza lincolni</i>	Lincoln's Sparrow	Yellow	
	<i>Melospiza melodia</i>	Song Sparrow	Yellow	
	<i>Mergus merganser</i>	Common Merganser	Yellow	
	<i>Molothrus ater</i>	Brown-headed Cowbird	Yellow	
	<i>Myadestes townsendi</i>	Townsend's Solitaire	Yellow	
	<i>Nucifraga columbiana</i>	Clark's Nutcracker	Yellow	
	<i>Numenius americanus</i>	Long-billed Curlew	Yellow	Special Concern
	<i>Numenius phaeopus</i>	Whimbrel	Red	
	* <i>Nycticorax nycticorax</i>	*Black-crowned Night-heron	Red	
	<i>Oreothlypis celata</i>	Orange-crowned Warbler	Yellow	
	<i>Oreothlypis ruficapilla</i>	Nashville Warbler	Yellow	
	<i>Oxyura jamaicensis</i>	Ruddy Duck	Yellow	
	<i>Pandion haliaetus</i>	Osprey	Yellow	
	<i>Parkesia noveboracensis</i>	Northern Waterthrush	Yellow	
	<i>Passer domesticus</i>	House Sparrow	Exotic	
	<i>Passerculus sandwichensis</i>	Savannah Sparrow	Yellow	
	<i>Passerina amoena</i>	Lazuli Bunting	Yellow	
	<i>Pelecanus erythrorhynchos</i>	American White Pelican	Red	Not At Risk
	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Yellow	
	<i>Phalacrocorax auritus</i>	Double-crested Cormorant	Blue	
	<i>Phalaropus lobatus</i>	Red-necked Phalarope	Blue	Special Concern
	<i>Phalaropus tricolor</i>	Wilson's Phalarope	Yellow	
	<i>Phasianus colchicus</i>	Ring-necked Pheasant	Exotic	
	<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak	Yellow	
	<i>Pica hudsonia</i>	Black-billed Magpie	Yellow	
	<i>Picoides pubescens</i>	Downy Woodpecker	Yellow	
	<i>Picoides villosus</i>	Hairy Woodpecker	Yellow	
	<i>Pinicola enucleator</i>	Pine Grosbeak	Yellow	

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Class	Scientific Name	English Name	BC List	SARA Status
	<i>Pipilo maculatus</i>	Spotted Towhee	Yellow	
	<i>Piranga ludoviciana</i>	Western Tanager	Yellow	
	<i>Plectrophenax nivalis</i>	Snow Bunting	Yellow	
	<i>Pluvialis dominica</i>	American Golden-Plover	Blue	
	<i>Pluvialis fulva</i>	Pacific Golden Plover	Not Reviewed	
	<i>Pluvialis squatarola</i>	Black-bellied Plover	Yellow	
	<i>Podiceps auritus</i>	Horned Grebe	Yellow	Special Concern
	<i>Podiceps grisegena</i>	Red-necked Grebe	Yellow	Not at Risk
	<i>Podiceps nigricollis</i>	Eared Grebe	Blue	
	<i>Podilymbus podiceps</i>	Pied-billed Grebe	Yellow	
	<i>Poecile atricapillus</i>	Black-capped Chickadee	Yellow	
	<i>Poecile gambeli</i>	Mountain Chickadee	Yellow	
	<i>Poocetes gramineus</i>	Vesper Sparrow	Yellow	
	<i>Porzana carolina</i>	Sora	Yellow	
	<i>*Psiloscops flammeolus</i>	*Flammulated Owl	Blue	Special Concern
	<i>Rallus limicola</i>	Virginia Rail	Yellow	
	<i>Recurvirostra americana</i>	American Avocet	Blue	
	<i>Regulus calendula</i>	Ruby-crowned Kinglet	Yellow	
	<i>Regulus satrapa</i>	Golden-crowned Kinglet	Yellow	
	<i>Riparia riparia</i>	Bank Swallow	Yellow	Threatened
	<i>Sayornis saya</i>	Say's Pheobe	Yellow	
	<i>Selasphorus calliope</i>	Calliope Hummingbird	Yellow	
	<i>Selasphorus rufus</i>	Rufous Hummingbird	Yellow	
	<i>Setophaga coronate</i>	Yellow-rumped Warbler	Yellow	
	<i>Setophaga petechia</i>	Yellow Warbler	Yellow	
	<i>Sialia currucoides</i>	Mountain Bluebird	Yellow	
	<i>Sialia mexicana</i>	Western Bluebird	Yellow	
	<i>Sitta canadensis</i>	Red-breasted Nuthatch	Yellow	
	<i>Sitta carolinensis</i>	White-breasted Nuthatch	Yellow	
	<i>Sitta pygmaea</i>	Pygmy Nuthatch	Yellow	
	<i>Spatula clypeata</i>	Northern Shoveler	Yellow	
	<i>Spatula cyanoptera</i>	Cinnamon Teal	Yellow	
	<i>Spatula discors</i>	Blue-winged Teal	Yellow	
	<i>*Sphyrapicus thyroideus thyroideus</i>	*Williamson's Sapsucker, <i>thyroideus</i> subspecies	Blue	Endangered

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	<i>Spinus pinus</i>	Pine Siskin	Yellow	
	<i>Spinus tristis</i>	American Goldfinch	Yellow	
	<i>Spizella pallida</i>	Clay-colored Sparrow	Yellow	
	<i>Spizella passerina</i>	Chipping Sparrow	Yellow	
	<i>Spizelloides arborea</i>	American Tree Sparrow	Yellow	
	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	Yellow	
	<i>*Sterna forsteri</i>	<i>*Forster's Tern</i>	Red	
	<i>Streptopelia decaocto</i>	Eurasian Collared Dove	Exotic	
	<i>Sturnella neglecta</i>	Western Meadowlark	Yellow	
	<i>Sturnus vulgaris</i>	European Starling	Exotic	
	<i>Tachycineta bicolor</i>	Tree Swallow	Yellow	
	<i>Tachycineta thalassina</i>	Violet-green Swallow	Yellow	
	<i>Thryomanes bewickii</i>	Bewick's Wren	Yellow	
	<i>Tringa flavipes</i>	Lesser Yellowlegs	Blue	
	<i>Tringa melanoleuca</i>	Greater Yellowlegs	Yellow	
	<i>Tringa solitaria</i>	Solitary Sandpiper	Yellow	
	<i>Troglodytes aedon</i>	House Wren	Yellow	
	<i>Troglodytes pacificus</i>	Pacific Wren	Yellow	
	<i>Turdus migratorius</i>	American Robin	Yellow	
	<i>Tyrannus tyrannus</i>	Eastern Kingbird	Yellow	
	<i>Tyrannus verticalis</i>	Western Kingbird	Yellow	
	<i>*Tyto alba</i>	<i>*Barn Owl</i>	Blue	Threatened
	<i>Vireo cassinii</i>	Cassin's Vireo	Yellow	
	<i>Vireo gilvus</i>	Warbling Vireo	Yellow	
	<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird	Yellow	
	<i>Xema sabini</i>	Sabine's Gull	Yellow	
	<i>Zenaida macroura</i>	Mourning Dove	Yellow	
	<i>Zonotrichia albicollis</i>	White-throated Sparrow	Yellow	
	<i>Zonotrichia atricapilla</i>	Golden-crowned Sparrow	Yellow	
	<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	Yellow	
Bivalves	<i>*Gonidea angulata</i>	<i>*Rocky Mountain Ridged Mussel</i>	Red	Special Concern
Gastropods	<i>Cepaea nemoralis</i>	Grove Snail	Exotic	
	<i>*Galba truncatula</i>	<i>*Attenuate Fossaria</i>	Blue	

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Class	Scientific Name	English Name	BC List	SARA Status
Insects	<i>*Hemphillia camelus</i>	*Pale Jumping-slug	Blue	
	<i>*Promenetus umblicatellus</i>	*Umbilicate Sprite	Blue	
	<i>*Stagnicola apicina</i>	*Abbreviate Pondsnailed	Blue	
	<i>*Aeshna constricta</i>	*Lance-tipped Darner	Blue	
	<i>*Danaus plexippus</i>	*Monarch	Red	Special Concern
	<i>*Enallagma clausum</i>	*Alkali Bluet	Blue	
	<i>*Erythemis collocata</i>	*Western Pondhawk	Blue	
	<i>*Libellula pulchella</i>	*Twelve-spotted Skimmer	Blue	
	<i>*Lycaena nivalis</i>	*Lilac-bordered Copper	Blue	
	<i>*Pholisora catullus</i>	*Common Sootywing	Blue	
	<i>*Pyrgus communis</i>	*Checkered Skipper	Blue	
	<i>*Speyeria mormonia erinna</i>	*Mormon Fritillary, <i>erinna</i> subspecies	Red	
	Mammals	<i>Canis latrans</i>	Coyote	Yellow
<i>*Corynorhinus townsendii</i>		*Townsend's Big-eared Bat	Blue	
<i>Erethizon dorsatum</i>		North American Porcupine	Yellow	
<i>*Euderma maculatum</i>		*Spotted Bat	Blue	Special Concern
<i>Marmota flaviventris</i>		Yellow-bellied Marmot	Yellow	
<i>Mustela frenata</i>		Long-tailed Weasel	Yellow	
<i>*Myotis ciliolabrum</i>		*Western Small-footed Myotis	Blue	
<i>*Myotis lucifugus</i>		*Little Brown Myotis	Blue	Endangered
<i>*Myotis thysanodes</i>		*Fringed Myotis	Blue	
<i>Neotamias amoenus</i>		Yellow-pine Chipmunk	Yellow	
<i>Ondatra zibethicus</i>		Common Muskrat	Yellow	
<i>Puma concolor</i>		Cougar	Yellow	
<i>*Reithrodontomys megalotis</i>		*Western Harvest Mouse	Blue	Endangered
<i>*Sorex preblei</i>		*Preble's Shrew	Red	
<i>Tamiasciurus hudsonicus</i>		Red Squirrel	Yellow	
<i>Taxidea taxus</i>		American Badger	Red	Endangered
<i>Thomomys talpoides</i>	Northern Pocket Gopher	Yellow		
<i>Urocitellus columbianus</i>	Columbian Ground Squirrel	Yellow		

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Class	Scientific Name	English Name	BC List	SARA Status
	<i>Ursus americanus</i>	Black Bear	Yellow	Not at Risk
Reptiles	<i>Charina bottae</i>	Northern Rubber Boa	Yellow	Special Concern
	<i>Coluber constrictor</i>	North American Racer	Blue	Special Concern
	* <i>Crotalus oregonus</i>	*Western Rattlesnake	Blue	Threatened
	<i>Chrysemys picta pop. 2</i>	Painted Turtle - Intermountain - Rocky Mountain Population	Blue	Special Concern
	* <i>Plestiodon skiltonianus</i>	*Western Skink	Blue	Special Concern
	<i>Thamnophis sp.</i>	Garter Snake	Yellow	

¹ **Yellow:** Not considered at risk. **Blue:** Of special concern. **Red:** Endangered or threatened.

² **Not at Risk:** A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances. **Special Concern:** A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats. **Endangered:** A wildlife species facing imminent extirpation or extinction. **Threatened:** A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

APPENDIX C: Red-listed Species Photos

Table C-1. Photos of red-listed or endangered species observed within UBCO lands.







English Name	Scientific Name	BC List	COSEWIC	SARA	Photo
American Badger	<i>Taxidea taxus</i>	Red	Endangered (2012)	Endangered (2018)	 <p>https://infotel.ca/newsitem/the-badger-hotline-and-why-thompson-okanagan-residents-are-being-asked-to-use-it/it31074</p>
American White Pelican	<i>Pelecanus erythrorhynchos</i>	Red			 <p>https://www.allaboutbirds.org/guide/American_White_Pelican/id</p>
California Gull	<i>Larus californicus</i>	Red			 <p>https://www.allaboutbirds.org/guide/California_Gull/id</p>
Hudsonian Godwit	<i>Limosa haemastica</i>	Red	Threatened (2019)		

Table C-1. Photos of red-listed or endangered species observed within UBCO lands.

English Name	Scientific Name	BC List	COSEWIC	SARA	Photo
Prairie Falcon	<i>Falco mexicanus</i>	Red	Red		https://www.allaboutbirds.org/guide/Hudsonian_Godwit/photo-gallery/301238291 
Swainson's Hawk	<i>Buteo swainsoni</i>	Red	-	-	https://www.allaboutbirds.org/guide/Prairie_Falcon/id  https://www.allaboutbirds.org/guide/Swainsons_Hawk/id

APPENDIX D: Invasive Species Management

INVASIVE SPECIES MANAGEMENT

Exotic plants are those which are not native to BC but have been introduced to the area through human activity. Invasive plants are exotic plants that can outcompete native species, spreading into native areas and eroding the functionality of native ecosystems.

The basic principles of the weed management plan include:

- Suppression of weed growth;
- Prevention or suppression of weed seed production;
- Reduction of weed seed reserves in the soil; and
- Prevention or reduction of weed spread.

Invasive plant species can be spread by a variety of mechanisms, including but not limited to:

- Entering the site on equipment that has worked in areas where invasive species have established through mud, debris, or other mechanisms;
- Establishment on the site following earth disturbances, where invasives tend to outcompete the native plant assemblage; and,
- From the importation of soils, aggregates, or other materials onto the site.

The following are specific recommendations to aid with invasive species control. These recommendations are not considered an invasive species management plan, which would be more inclusive and contain species-specific recommendations.

- Prevention of the spread of invasive plant species can be achieved by limiting disturbance to soils and native vegetation.
- Equipment used onsite must arrive with tracks free of soil and vegetation fragments to minimize the addition and spread of invasive plant species to the project area.
- Works in areas with invasive species cover must be avoided if at all possible, and any materials contaminated with invasive seeds should be disposed of in an appropriate location.
- Clothing should also be inspected daily for signs of weed seeds after working in weeded areas. If found, weed seeds should be disposed of in a contained refuse bin for offsite disposal.

- Pesticides, herbicides, or other chemical control measures must not be used due to proximity to wetlands. Invasive species are to be pulled by hand or mowed regularly.
- Invasive species removal should occur before peak flowering times to avoid seed distribution and further spread of invasive species.
- Invasive species should be disposed of offsite at an appropriate landfill; however, invasive species material must not be composted in the yard waste section of the landfill. Invasive plant species must not be transported to or deposited in other natural areas.
- Re-planting of riparian or other areas with native species can help control the return of weeds once they are removed. If planted, monitoring of riparian and emergent restoration plantings for the bonding period (i.e., 3-years) should be completed to ensure 80% survivability of plantings occurs and that invasive and noxious weed species as identified by the Invasive Species Council of BC are controlled to be <10% of the total restoration area.

APPENDIX E: General Conditions and Limitations





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General Conditions

This report applies and is subject to these “General Conditions”.

Use of Report

This report concerns a specific site and a specific scope of work and is therefore not applicable to any other sites or any other developments not referred to in the report. Any deviation from the specific site or scope of work would require a supplementary investigation and assessment.

Conclusions and recommendations contained in this report are solely intended for the use of Ecoscape’s client. Ecoscape bears no responsibility for the accuracy of information, the analysis of data or recommendations contained or referenced in this report when the report is utilized by or relied upon by any party other than Ecoscape’s client unless otherwise authorized in writing by Ecoscape. Any unauthorized application of this report is at the discretion and sole risk of its user.

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Limitations of Report

This report was derived solely from the conditions that were present on site during Ecoscape’s investigation. The client, and any other parties making use of this report with the express written consent of Ecoscape and the client, are aware that conditions affecting the environmental condition of the site can vary both temporally and spatially, and that the conclusions and recommendations included in this report are temporally sensitive.

The client, and any other parties making use of this report with the express written consent of Ecoscape and the client, are also aware that conclusions and recommendations included within this report emanate from limited observations and information, and that both on-site and off-site conditions may vary, which in turn could affect the conclusions and recommendations that were made.

The client is aware that Ecoscape is not qualified to, nor is it making any recommendations in terms of purchase, sale, investment, or development of the subject property, as such decisions are the sole responsibility of the client.

Information Provided to Ecoscape by Others

During the extent of the preparation and work carried out in this report, Ecoscape may have relied upon information provided by parties other than the client. While Ecoscape strives to validate the accuracy of such information when instructed to do so by the client, Ecoscape accepts no responsibility for the validity of such information which may affect the report.

Limitation of Liability

The client acknowledges that property containing hazardous wastes and contaminants poses a high risk of claims brought by third parties stemming from the presence of those materials. Accounting for these risks, and in consideration of Ecoscape providing the requested services, the client agrees that Ecoscape’s liability to the client, with respect to any issues relating to hazardous wastes or contaminants located on the subject property, shall be limited to the following:

With respect to any claims brought against Ecoscape by the client arising out of the provision or failure to provide services hereunder shall be limited to the amount of fees paid by the client to Ecoscape under this Agreement, whether the action is based on breach of contract or tort;

With respect to claims brought by third parties arising out of the presence of contaminants or hazardous wastes on the subject property, the client agrees to indemnify, defend and hold harmless Ecoscape from and against any and all claim or claims, action or actions, demands, damages, penalties, fines, losses, costs and expenses of every nature and kind whatsoever, including solicitor-client costs, arising or alleged to arise either in whole or part out of services provided by Ecoscape, whether the claim be brought against Ecoscape for breach of contract or tort.

Disclosure of Information by Client

The client agrees to fully cooperate with Ecoscape with respect to the provision of all available information on the past, current, or proposed conditions on the site, including historical information respecting the use of the site. The client acknowledges that in order for Ecoscape to properly provide the service, Ecoscape is relying on full disclosure and accuracy of any such information. Ecoscape does not accept any responsibility for conclusions drawn from erroneous, invalid, or inaccurate data provided to us by another party and used in the preparation of this report.





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Standard of Care

Services performed by Ecoscape for this report have been completed in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgement has been applied in developing the conclusions and/or recommendations made in this report. No warranty or guarantee, express or implied, is made concerning the results, comments, recommendations, or any other portion of this report.

Notification of Authorities

The client acknowledges that in certain instances the discovery of hazardous materials, contaminants or conditions and materials may require that regulatory agencies and other parties be informed and the client agrees that notification to such parties or persons as required may be done by Ecoscape in its reasonably exercised discretion. Further, Ecoscape reserves the right to notify Provincial agencies when rare or endangered flora or fauna are observed, whether the species classifications are identified as such at the local, Provincial, or Federal levels of government.

Ownership of Instruments of Professional Service

The client acknowledges that all reports, plans, and data generated by Ecoscape during the performance of the work and other documents prepared by Ecoscape are considered its professional work product and shall remain the copyright property of Ecoscape.

Alternate Report Format

Where Ecoscape submits both an electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed Ecoscape's instruments of professional service), the client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by Ecoscape shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancies, the hard copy versions shall govern over the electronic versions. Furthermore, the client agrees and waives all future right to dispute that the original hard copy signed version archived by Ecoscape shall be deemed to be the overall original for the Project.

The client agrees that both electronic file and hard copy versions of Ecoscape's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party other than Ecoscape. The client warrants that Ecoscape's instruments of professional service will be used only and exactly as submitted by Ecoscape.

The client recognizes and agrees that electronic files submitted by Ecoscape have been prepared and submitted using specific software and hardware systems. Ecoscape makes no representation about the compatibility of these files with the client's current or future software and hardware systems.

