SAR Species at Risk

Key Topographic or Distinguishing Features

Report Criteria

TSA:	Okanagan	**Prov Stat:**	
BEC:	IDF dk	**Sec7**	

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
American Avocet (Recurvirostra americana)	Red-listed	water's edge, wetlands, alkaline ponds, mudflats	Not Applicable	Not Available	flat or gentle slopes	Not Applicable	wetlands, lakes with islands, alkaline ponds	Not available	Not Applicable	Likely more breeding pairs/small colonies at alkaline ponds and other types of wetlands than documented. Prudent to apply Riparian Area Management Guidebook or Riparian Area Regulation, regardless of wetland or pond size if suitable shoreline exists and water depth >.75m. A no resource extraction or access buffer may enhance success of nesting as well as provide post-fledging areas; adults move young several hundred m or more post-fledging for security. Information gaps large, so prudent to apply what little info is available.	Low-Moderate
American Avocet (Recurvirostra americana)	Red-listed	water's edge, mudflats, wetlands, alkaline ponds	Not Applicable	Not Available	flat or gentle slopes	Not Applicable	wetlands, lakes with islands, alkaline ponds	Not available	Not Applicable	Likely more breeding pairs/small colonies at alkaline ponds and other types of wetlands than documented. Prudent to apply Riparian Area Management Guidebook or Riparian Area Regulation, regardless of wetland or pond size if suitable shoreline exists and water depth >.75m. A no resource extraction or access buffer may enhance success of nesting as well as provide post-fledging areas; adults move young several hundred m or more post-fledging for security. Information gaps large, so prudent to apply what little info is available.	Low-Moderate
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American Bittern (Botaurus lentiginosus)	Blue-listed	wetlands	Not Applicable	Not Available	Likely flat is most applicable, since nest and forage for in/near water.	Not Applicable	Wetland, riparian, aquatic systems	1300m	Not Applicable	Large wetlands, and aquatic and wetland complexes, should be avoided for any resource use, including timber harvest. For harvesting: maintain a buffer of existing stand, if present, surrounding wetland to avoid impact or disturbance; if grassland surrounding wetland, maintain existing grassland buffer with no roads, etc, sufficient to avoid impact. Dense emergent vegetation is a seral stage and wetland management (MoE?) should ensure sustainability by monitoring and maintaining water levels. Riparian Area Mgmt Guidebook may be used to determine buffer size.	Low-Moderate

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American White Pelican (Pelecanus erythrorhychos)	Red-listed	Riparian/wetland vegetation/forest that provides isolation to aquatic system	Not Applicable	Not Available	Islands used for nesting are often flat	Not Applicable	Slow flowing aquatic systems, lakes with islands	1220m	Not Applicable	No traffic (vehicular or aircraft) near, on, in, or over lakes/aquatic systems used for nesting, foraging, loafing/roosting (no roads within 1-8km of foraging lakes-consult MoE where foraging is confirmed); no change in water levels; Apply largest reserve as per riparian or lakeshore guidelines under FRPA; maximize core and buffer adjacent to known foraging, roosting, loafing sites to maintain quality and isolation of aquatic habitat ; reserve area should be min 1km around aquatic habitat in use.	Moderate
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Badger (Taxidea taxus)	Red-listed	Not Applicable	<20%	N/A	Not Relevant	<4	Not Available	2800	Not Applicable	Where appropriate, apply restoration treatments to maintain/create grassland and open forest conditions suitable as badger habitat. Where feasible, maintain disturbed, early seral NDT3 sites as badger habitat by delaying and/or reducing restocking. Protect prey species. Do not use rodenticides. Off-road vehicle use (e.g., ATVs) should be restricted in areas of high badger use.	Moderate

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Barn Swallow (Hirundo rustico)	Blue-listed	Riparian habitats and wetlands	Not Available	Not Available	Not Relevant	Not Available	Wetland, riparian, aquatic systems, Open forest or grasslands	Not available	Not Available	Likely use clearcuts since prefer open habitats; also, may use vets since nest in buildings, barns, etc. Retain herbaceous vegetation near wetlands/riparian	Not available
Barn Swallow (Hirundo rustico)	Blue-listed	Riparian habitats and wetlands	Not Available	Not Available	Not Relevant	Not Available	Wetland, riparian, aquatic systems, Open forest or grasslands	Not available	Not Available	Likely use clearcuts since prefer open habitats; also, may use vets since nest in buildings, barns, etc. Retain herbaceous vegetation near wetlands/riparian	Not available
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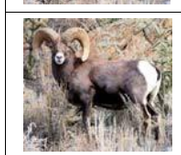
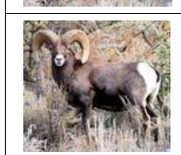
Bighorn Sheep (Ovis canadensis)	Blue-listed	Snow-interception, open, steep south aspect slopes; talus; mineral licks; watering features	Not Available	S	27°<Escape terrain<85°	1-9	Steep rocky slopes	3000m	Fd, Pl, Sx	Avoid introducing invasive species (non-native plants, weeds); retain habitat features in seasonal habitats (old-growth in lower elevation winter habitats). Consider intensive silviculture or habitat enhancement (spacing/thinning) outside Apr-Jul, Oct-Nov.	Moderate
 Bighorn Sheep (Ovis canadensis)	Blue-listed	Not Applicable	Not Applicable	S	27°<Escape terrain<85°	Not Applicable	Steep rocky slopes	3000m	Not Applicable	Avoid introducing invasive species (non-native plants, weeds); retain habitat features in seasonal habitats (old-growth in lower elevation winter habitats).	Moderate
 Bighorn Sheep (Ovis canadensis)	Blue-listed	Snow-interception, open, steep south aspect slopes; talus; mineral licks; watering features	Not Available	S	27°<Escape terrain<85°	1-9	Steep rocky slopes	3000m	Fd, Pl, Sx	Avoid introducing invasive species (non-native plants, weeds); retain habitat features in seasonal habitats (old-growth in lower elevation winter habitats). Consider intensive silviculture or habitat enhancement (spacing/thinning) outside Apr-Jul, Oct-Nov.	Moderate

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Brewer's Sparrow (Spizella breweri breweri)	Red-listed	Existing At patches	Not Applicable	Not Available	Insect prey in sagebrush suggests importance of warm slopes	Not Applicable	Upland with sub-hygric, hygric nearby		Not Applicable	Avoid road development through sagebrush steppe; avoid introducing weeds, protect sagebrush during weed control; remove trees in sagebrush-steppe; do not broadcast burn or clear shrubs; prescribed patch burns, retaining dense, large live shrubs. See FSP results and strategies.	Moderate
Brewer's Sparrow (Spizella breweri breweri)	Red-listed	Existing At patches	Not Applicable	Not Available	Insect prey in sagebrush suggests importance of warm slopes	Not Applicable	Upland with sub-hygric, hygric nearby		Not Applicable	Avoid road development through sagebrush steppe; avoid introducing weeds, protect sagebrush during weed control; remove trees in sagebrush-steppe; do not broadcast burn or clear shrubs; prescribed patch burns, retaining dense, large live shrubs. See FSP results and strategies.	Moderate
Burrowing Owl (Athene cunicularia)	Red-listed	Not Applicable	Not Applicable	Not Available	Not Relevant	Not Applicable	riparian or seepage sites	1250	Not Applicable	Avoid road construction through grasslands if practicable; if necessary, consult MoE for known nest sites and foraging areas, or avoid riparian, ephemeral sites and any burrows	Moderate
Coastal Tailed Frog (Ascaphus truei)	Blue-listed	riparian forest around S4-S6 streams, CWD	Not Available	Unavailable	>2.5%	5-9	Streams (cool, permanent)	2140	Not Applicable	abundance greatest in basins <10 square km; non-fish bearing streams, and interconnected areas with known-occurrence streams; if previously detected, maintain 70% basal area in 20m buffer around 30m uncut core (where slopes >60%, extend to top of inner gorge)	Low-Moderate
Fisher (Martes pennanti)	Blue-listed	large, elevated CWD (>65cm DBH), decay classes 2-6 (logs), largest coniferous and deciduous trees available, particularly with heart rot and/or cavities, trees with brooms, wildlife tree classes 2-3 preferred, 2-6 acceptable	30	Not Available	Slope likely not applicable, critical habitat component: stand structure	>4	River/stream, wetlands	2500	Not Applicable	Old forest structure more important than forest type. Large diameter Act critical for breeding, largest trees within a landscape should be retained; highest habitat suitability are characteristics of old growth SBS, SWB, and BWBS zones, particularly riparian/wetland; retain trees with heart rot and >54cm bole diameter at 5m above ground; maintain connectivity between upland and riparian	Moderate-High
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Flammulated Owl (Otus flammeolus)	Blue-listed	multi-canopy layers, thicket patches, vets	Not Available	SW, W	Not Applicable	4-7	Ridges/slope crests/terrain breaks	1375	Fd	Maintain large diameter (>55cm DBH) veteran Fd trees and snags on sites; recruit same within or nearby thickets adjacent to small openings where possible See FSP results and strategies	Moderate
Flammulated Owl (Otus flammeolus)	Blue-listed	multi-canopy layers, thicket patches, vets	Not Available	SW, W	Not Applicable	4-8	Ridges/slope crests/terrain breaks	1375	Fd	Maintain large diameter (>55cm DBH) veteran Fd and Py trees and snags on sites; recruit same within or nearby thickets adjacent to small openings where possible See FSP results and strategies	Moderate-High
Fringed Myotis (Myotis thysanodes)	Blue-listed	some Py >30cm DBH, all Py >50cm DBH, all wildlife trees >30cm DBH in classes ≥3	Unknown	S, SE, SW	steep	5-9	Cliffs, scree/talus, rock outcrop	1200	Py	Prescribe logging in lower diameter classes at a level that ensures large diameter stem recruitment and mimics fire maintained stand (NTD4). Conduct silviculture operations Sept 01 - Apr 30 to minimize disturbance to maternity colonies. See FSP results and strategies	Low
Fringed Myotis (Myotis thysanodes)	Blue-listed	some Py >30cm DBH, all Py >50cm DBH, all wildlife trees >30cm DBH in classes ≥3	Unknown	S, SE, SW	steep	5-9	Cliffs, scree/talus, rock outcrop	1200	Py	Prescribe logging in lower diameter classes at a level that ensures large diameter stem recruitment and mimics fire maintained stand (NTD4). Conduct silviculture operations Sept 01 - Apr 30 to minimize disturbance to maternity colonies. See FSP results and strategies	Low
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Grasshopper Sparrow (Ammodramus savannarum)	Red-listed	Not Applicable	Not Applicable	N/A	Not Applicable	Not Applicable	Native grasslands, grassland-shrub steppe		Not Applicable	Maintain large tracts of grassland; avoid access development through grasslands; prescribed burns to create mosaics of seral stages, maintain open grasslands with relatively sparse sagebrush cover.	Moderate
Great Basin Spadefoot (Spea intermontana)	Blue-listed	Uncompacted soils adjacent/nearby aquatic systems, CWD and vets (CWD recruitment)	<30%	S, SE, SW	As per M. Sarell	Unknown	Shallow and ephemeral water: River/Stream, Flooded land, Lake, Pond	1200	Unknown	Confirm breeding by tadpole identification in Jun-Jul; breeding typically < 600m elevation, aquatic habitat; foraging and hibernation in xeric, upland sites; frequent valley bottoms. See FSP results and strategies	Moderate
Great Basin Spadefoot (Spea intermontana)	Blue-listed	Uncompacted soils adjacent/nearby aquatic systems, CWD and vets (CWD recruitment)	<30%	S, SE, SW	As per M. Sarell	Unknown	Shallow and ephemeral water: River/Stream, Flooded land, Lake, Pond	1200	Unknown	Confirm breeding by tadpole identification in Jun-Jul; breeding typically < 600m elevation, aquatic habitat; foraging and hibernation in xeric, upland sites; frequent valley bottoms. See FSP results and strategies	High
Great Blue Heron (Ardea herodias herodias)	Blue-listed	Riparian forest, including Act and mixed conif-decid, trees capable of supporting nest platform 50-100cm diameter	Not Available	Not Relevant	Not Relevant	>2	valley bottoms	1100	Act, Cw, Fd, Hw, Sx, Py	Avoid disturbance mid-February-August 31 (breeding period) within 500m of breeding colonies; no harvest core (nest/colony), partial cut 300m buffer, clearcut beyond	Moderate
Great Blue Heron (Ardea herodias herodias)	Blue-listed	Riparian forest, including Act and mixed conif-decid, trees capable of supporting nest platform 50-100cm diameter	Not Available	Not Relevant	Not Relevant	>2	valley bottoms	1100	Act, Cw, Fd, Hw, Sx, Py	Avoid disturbance mid-February-August 31 (breeding period) within 500m of breeding colonies; no harvest core (nest/colony), partial cut 300m buffer, clearcut beyond	Low-Moderate
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Grizzly Bear (Ursus arctos)	Blue-listed	Riparian habitats and wetlands, avalanche tracks and run out zones, Hedysarum (pea family/vetch) and glacier lily complexes, Sub-alpine parkland meadows, berry-producing sites	Not Available	N (denning)	generally steep, north aspects (denning)	1-9	Wetland, riparian, aquatic systems, wetlands	Alpine	Not Applicable	Grizzly bear mgmt should follow a broad landscape approach; listed here are stand and watershed requirements only; see high level plans (ie: FSP results and strategies). At cutblock level, key is to remove bear attractants, and at watershed level implement aggressive access mgmt plan that deactivates roads asap. Across landscape and over time, early seral stages that produce herbs and berries are critical for foraging.	Low-Moderate

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Lewis's Woodpecker (Melanerpes lewis)	Red-listed	Preferred tree size >44cm, in absence of large trees retain >29cm (acceptable)	<25%	W (west side of valleys)	Not Relevant	5-9	Not Applicable	1160	Act, At, Fd	Nests found >1000m elevation were at burn edges; used shrub, herbeceous openings to forage for insects See FSP results and strategies	Low
Lewis's Woodpecker (Melanerpes lewis)	Red-listed	Preferred tree size >44cm, in absence of large trees retain >29cm (acceptable)	<25%	W (west side of valleys)	Not Relevant	5-9	Not Applicable	1160	Act, At, Fd	Nests found >1000m elevation were at burn edges; used shrub, herbeceous openings to forage for insects See FSP results and strategies	Low
Long-billed Curlew (Numenius americanus)	Blue-listed	Not Applicable	Not Applicable	Not Available	flat or gentle slopes		Gently rolling grassland	1220	Not Applicable	250-500ha reserve area supports known nesting pairs, incl foraging and brooding habitat; 500m buffer prevents disturbance	Low-Moderate
Long-billed Curlew (Numenius americanus)	Blue-listed	Not Applicable	Not Applicable	Not Available	flat or gentle slopes	Not Applicable	Gently rolling grassland	1220	Not Applicable	250-500ha reserve area supports known nesting pairs, incl foraging and brooding habitat; 500m buffer prevents disturbance	Moderate-High
Long-billed Curlew (Numenius americanus)	Blue-listed	Not Applicable	Not Applicable	Not Available	flat or gentle slopes		Gently rolling grassland	1220	Not Applicable	250-500ha reserve area supports known nesting pairs, incl foraging and brooding habitat; 500m buffer prevents disturbance	Low-Moderate

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Night Snake (Hypsiglena torquata)	Red-listed	talus, Rock outcroppings, rocks	Not Available	Not Available	Rugged, rocky, arid slopes	Not Available	talus slopes, rock outcrop, rock fissures	1060	Not Available	Little information is available; likely not impacted from harvesting/silviculture directly, although road construction and other access could destroy dens/rock habitat. Avoid rocky slopes, gravelly soils in arid situations in S. Ok and lower Similkameen valleys.	Unknown
Night Snake (Hypsiglena torquata)	Red-listed	talus, Rock outcroppings, rocks	Not Available	Not Available	Rugged, rocky, arid slopes	Not Available	talus slopes, rock outcrop, rock fissures	1060	Not Available	Little information is available; likely not impacted from harvesting/silviculture directly, although road construction and other access could destroy dens/rock habitat. Avoid rocky slopes, gravelly soils in arid situations in S. Ok and lower Similkameen valleys.	Unknown
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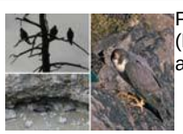
Olive-sided Flycatcher (Contopus cooperi)	Blue-listed	forest openings, Snags, riparian forest, tall live conifers, standing dead trees taller than surrounding forest	Not Available	Not Available	May not be relevant if wetland/riparian/bog dependent	Not Available	Wetland, riparian, aquatic systems, marsh, bog/fen; ponds	Not available	Not Available	Variable height snags appear to be critical: used for perching, foraging (insect capture). Live coniferous trees may be most important for nest placement (2-15m above ground). Harvest systems should mimic natural disturbance regime: fire, insect, flood, where applicable (ie: openings with standing dead trees some taller than surrounding forest).	Moderate
Olive-sided Flycatcher (Contopus cooperi)	Blue-listed	forest openings, Snags, riparian forest, tall live conifers, standing dead trees taller than surrounding forest	Not Available	Not Available	May not be relevant if wetland/riparian/bog dependent	Not Available	Wetland, riparian, aquatic systems, marsh, bog/fen; ponds	Not available	Not Available	Variable height snags appear to be critical: used for perching, foraging (insect capture). Live coniferous trees may be most important for nest placement (2-15m above ground). Harvest systems should mimic natural disturbance regime: fire, insect, flood, where applicable (ie: openings with standing dead trees some taller than surrounding forest).	Moderate
 Peregrine Falcon (Falco peregrinus anatum)	Red-listed	wetlands, cliffs	Not Available	Not Available	Cliffs	Not Available	Cliff face adjacent to aquatic system	2000	Not Available	Historic use of pesticides extirpated local populations; numbers returning under current management; critical to leave cliffs adjacent to rivers, wetlands, lakes undisturbed (limiting features)	Unknown
Peregrine Falcon (Falco peregrinus anatum)	Red-listed	wetlands, cliffs	Not Available	Not Available	Cliffs	Not Available	Cliff face adjacent to aquatic system	2000	Not Available	Historic use of pesticides extirpated local populations; numbers returning under current management; critical to leave cliffs adjacent to rivers, wetlands, lakes undisturbed (limiting features)	Unknown
Peregrine Falcon (Falco peregrinus anatum)	Red-listed	wetlands, cliffs	Not Available	Not Available	Cliffs	Not Available	Cliff face adjacent to aquatic system	2000	Not Available	Historic use of pesticides extirpated local populations; numbers returning under current management; critical to leave cliffs adjacent to rivers, wetlands, lakes undisturbed (limiting features)	Unknown

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
Prairie Falcon (Falco mexicanus)	Red-listed	Large diameter vets and snags (decay class 2-4), cliffs, largest trees in stand, early seral ground vegetation	Very low-nil	S	Cliffs	6-9	Cliff face, grassland and sagebrush, meadows	900m	Not Applicable	Maintain open country around known nest sites, with grassland/sage structure and/or early seral low density, patchy vegetation components; avoid human activities within 300ha Mar 15-Jul30.	Low-Moderate
Prairie Falcon (Falco mexicanus)	Red-listed	Large diameter vets and snags (decay class 2-4), cliffs, largest trees in stand, early seral ground vegetation	Very low-nil	S	Cliffs	6-9	Cliff face, grassland and sagebrush, meadows	900m	Not Applicable	Maintain open country around known nest sites, with grassland/sage structure and/or early seral low density, patchy vegetation components; avoid human activities within 300ha Mar 15-Jul30.	Low-Moderate
Sandhill Crane (Grus canadensis)	Blue-listed	Riparian forest concealing characteristics, wetlands	Not Available	Not Available	Flat terrain	0-9	Wetland, riparian, aquatic systems	1220	Not Available	Maintain shallow freshwater wetlands/aquatic systems, retain adjacent riparian forests; avoid harvesting within 800m of aquatic systems used for breeding Apr-Aug (breeding season)	Moderate
Sandhill Crane (Grus canadensis)	Blue-listed	Riparian forest concealing characteristics, wetlands	Not Available	Not Available	Flat terrain	0-9	Wetland, riparian, aquatic systems	1220	Not Available	Maintain shallow freshwater wetlands/aquatic systems, retain adjacent riparian forests; avoid harvesting within 800m of aquatic systems used for breeding Apr-Aug (breeding season)	Moderate
Sandhill Crane (Grus canadensis)	Blue-listed	Riparian forest concealing characteristics, wetlands	Not Applicable	Not Available	Flat terrain	Not Applicable	Wetland, riparian, aquatic systems	1220	Not Applicable	Maintain shallow freshwater wetlands/aquatic systems, retain adjacent riparian forests; avoid harvesting within 800m of aquatic systems used for breeding Apr-Aug (breeding season)	Moderate
Sharp-tailed Grouse, columbianus subspecies (Tympanuchus phasianellus columbianus)	Blue-listed	Deciduous shrubs (ie: willow, rose, etc) and trees	Not Applicable	Not Available	Ridges and microsite slopes that provide cover appear to be important	<3	Grassland or clearcut, structurally diverse, well developed wetlands	1190m	Not Applicable	Maintain natural openings, early seral habitat in clearcuts used as habitat; avoid trenching (>20cm), mechanical site prep that result in deciduous loss; retain deciduous components in clearcuts and wetlands.	Moderate
Sharp-tailed Grouse, columbianus subspecies (Tympanuchus phasianellus columbianus)	Blue-listed	Deciduous shrubs (ie: willow, rose, etc) and trees	Not Applicable	Not Available	Ridges and microsite slopes that provide cover appear to be important	<3	Grassland or clearcut, structurally diverse, well developed wetlands	1190m	Not Applicable	Maintain natural openings, early seral habitat in clearcuts used as habitat; avoid trenching (>20cm), mechanical site prep that result in deciduous loss; retain deciduous components in clearcuts and wetlands.	Moderate

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
Sharp-tailed Grouse, columbianus subspecies (Tympanuchus phasianellus columbianus)	Blue-listed	Deciduous shrubs (ie: willow, rose, etc) and trees	Not Applicable	Not Available	Ridges and microsite slopes that provide cover appear to be important	Not Applicable	Grassland or clearcut, structurally diverse, well developed wetlands	1190m	Not Applicable	Maintain natural openings, early seral habitat in clearcuts used as habitat; avoid trenching (>20cm), mechanical site prep that result in deciduous loss; retain deciduous components in clearcuts and wetlands.	Moderate-High
Short-eared Owl (Asio flammeus)	Blue-listed	ground vegetation cover	Not Applicable	Not Available	Not Applicable	<3	Open areas, wetlands	975	Not Applicable	Use non-forested, 'grassland' sites (incl clearcuts). Maintain high grass for microtine population abundance; avoid road building through known nest areas	Moderate
Short-eared Owl (Asio flammeus)	Blue-listed	ground vegetation cover	Not Applicable	Not Available	Not Applicable	<3	Open areas, wetlands	975	Not Applicable	Use non-forested, 'grassland' sites (incl clearcuts). Maintain high grass for microtine population abundance; avoid road building through known nest areas	Moderate
Short-eared Owl (Asio flammeus)	Blue-listed	Not Applicable	Not Applicable	Not Available	Not Applicable	Not Applicable	Open areas, wetlands	975	Not Applicable	Use non-forested, 'grassland' sites (incl clearcuts). Maintain high grass for microtine population abundance; avoid road building through known nest areas	Moderate-High
Sonora Skipper (Polites sonora)	Red-listed	Small grassy meadows and forest clearings	Not Applicable	Not Available	N/A	Structural Stage 2: herb	Broad Ecosystem Units: BS, DF, DP, MF, PP (see Accounts and measures for Managing Identified	1160m-1675m	N/A	Where suitable habitat is present, avoid road construction, minimize soil disturbance, avoid use of pesticides.	Unknown
Spotted Bat (Euderma maculatum)	Blue-listed	veteran trees, riparian forest, parkland	Not Available	Not Available	steep	6-9	River/stream, wetlands, scree/talus	1200	Not Available	Strong association with cliffs, canyons with nearby water. Monitor and contrast disturbances to Spotted Bat roosts at WHAs and those roosts where disturbances are unregulated to determine adequate configurations for reserves.	Moderate-High
Spotted Bat (Euderma maculatum)	Blue-listed	Not Applicable	Not Available	Not Available	steep	Not Applicable	River/stream, wetlands, scree/talus	1200	Not Available	Strong association with cliffs, canyons with nearby water. Monitor and contrast disturbances to Spotted Bat roosts at WHAs and those roosts where disturbances are unregulated to determine adequate configurations for reserves.	High
Spotted Bat (Euderma maculatum)	Blue-listed	veteran trees, riparian forest, parkland	Not Available	Not Available	steep	6-9	River/stream, wetlands, scree/talus	1200	Not Available	Strong association with cliffs, canyons with nearby water. Monitor and contrast disturbances to Spotted Bat roosts at WHAs and those roosts where disturbances are unregulated to determine adequate configurations for reserves.	High

Swainson's Hawk (Buteo swainsoni)	Red-listed	Large trees/ shrubs capable of nest/roost support	Not Applicable	Not Available	Not Applicable	Not Applicable	Open forest or grasslands	Not available	Not Applicable	Historic use of pesticides likely dramatically reduced numbers; likely habitat loss contributed; need to address information gaps	Unknown

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
Swainson's Hawk (Buteo swainsoni)	Red-listed	Large trees/ shrubs capable of nest/roost support	Not Applicable	Not Available	Not Applicable	Not Available	Open forest or grasslands	Not available	Not Applicable	Historic use of pesticides likely dramatically reduced numbers; likely habitat loss contributed; need to address information gaps	Unknown
Swainson's Hawk (Buteo swainsoni)	Red-listed	Large trees/ shrubs capable of nest/roost support	Not Applicable	Not Available	Not Applicable	Not Available	Open forest or grasslands	Not available	Not Applicable	Historic use of pesticides likely dramatically reduced numbers; likely habitat loss contributed; need to address information gaps	Unknown
Tiger Salamander (Ambystoma tigrinum)	Red-listed	riparian forest, wetlands, grassland openings	Not Available	Unknown	Not Applicable	Not Available	Shallow and ephemeral warm water: Lake, Pond, Wetlands	1250	Not Available	Prefer grassland/sage habitat; but will use open forest with uncompacted, well developed soils adjacent to riparian and wetlands at higher elevations See FSP results and strategies	Unknown
Tiger Salamander (Ambystoma tigrinum)	Red-listed	riparian forest, wetlands, grassland openings	Not Available	Unknown	Not Applicable	Not Available	Shallow and ephemeral warm water: Lake, Pond, Wetlands	1250	Not Available	Prefer grassland/sage habitat; but will use open forest with uncompacted, well developed soils adjacent to riparian and wetlands at higher elevations See FSP results and strategies	Moderate-High
Townsend's Big-eared Bat (Corynorhinus townsendii)	Blue-listed	Mixed deciduous-coniferous, multi-layered canopy patches, shrubs	Not Available	Not Available	Not Applicable	Not Available	Caves or cave-like features, mosaic landscapes	Not available	Not Available	Tend to avoid grasslands and forage at forest canopy/shrub/riparian vegetation edges	Unknown
Townsend's Big-eared Bat (Corynorhinus townsendii)	Blue-listed	Mixed deciduous-coniferous, multi-layered canopy patches, shrubs	Not Applicable	Not Available	Not Applicable	Not Applicable	Caves or cave-like features, mosaic landscapes	Not available	Not Applicable	Tend to avoid grasslands and forage at forest canopy/shrub/riparian vegetation edges	Unknown
Townsend's Big-eared Bat (Corynorhinus townsendii)	Blue-listed	Mixed deciduous-coniferous, multi-layered canopy patches, shrubs	Not Available	Not Available	Not Applicable	Not Available	Caves or cave-like features, mosaic landscapes	Not available	Not Available	Tend to avoid grasslands and forage at forest canopy/shrub/riparian vegetation edges	Unknown
Western Grebe (Aechmophorus occidentalis)	Red-listed	Shores of large lakes, marsh edges, wetlands, riparian	Not Available	Not Available	Not Applicable	Not Available	large lakes, marshes, estuaries	Not available	Not Available	Large information gaps for W. Grebe; main impacts appear to be nest disturbance at colonies and complete breeding failure due to boat and water sports on lakes. Although little impact appears to be generated by forestry, avoiding road construction near breeding colonies and leaving a buffer, if any, would help. Similarly, avoid disturbance of coastal wintering colonies. W. Grebes may also overwinter on coastal rivers and interior lakes that do not freeze. Declining across the province.	Unknown

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
Western Grebe (Aechmophorus occidentalis)	Red-listed	Shores of large lakes, marsh edges, wetlands, riparian	Not Available	Not Available	Not Applicable	Not Available	large lakes, marshes, estuaries	Not available	Not Available	Large information gaps for W. Grebe; main impacts appear to be nest disturbance at colonies and complete breeding failure due to boat and water sports on lakes. Although little impact appears to be generated by forestry, avoiding road construction near breeding colonies and leaving a buffer, if any, would help. Similarly, avoid disturbance of coastal wintering colonies. W. Grebes may also overwinter on coastal rivers and interior lakes that do not freeze. Declining across the province.	Unknown
Western Grebe (Aechmophorus occidentalis)	Red-listed	Shores of large lakes, marsh edges, wetlands, riparian	Not Available	Not Available	Not Applicable	Not Available	large lakes, marshes, estuaries	Not available	Not Available	Large information gaps for W. Grebe; main impacts appear to be nest disturbance at colonies and complete breeding failure due to boat and water sports on lakes. Although little impact appears to be generated by forestry, avoiding road construction near breeding colonies and leaving a buffer, if any, would help. Similarly, avoid disturbance of coastal wintering colonies. W. Grebes may also overwinter on coastal rivers and interior lakes that do not freeze. Declining across the province.	Unknown
Western Painted turtle (Chrysemys picta)	Blue-listed	Large CWD, wetlands	Not Available	S slope fr wetland	Not Applicable	Not Available	Permanent and ephemeral: River/Stream; Flooded Land; Lake; Marsh	Not Available	Not Available	Little information is available for Painted turtles; where they are known to occur, avoid development and disturbance of aquatic systems and adjacent upland, particularly access; consult MoE for Best Management Practices (fencing, tunnel may be requried)	Unknown
Western Painted turtle (Chrysemys picta)	Blue-listed	Large CWD, wetlands	Not Applicable	S slope fr wetland	Not Applicable	Not Applicable	Permanent and ephemeral: River/Stream; Flooded Land; Lake; Marsh	Not Available	Not Applicable	Little information is available for Painted turtles; where they are known to occur, avoid development and disturbance of aquatic systems and adjacent upland, particularly access; consult MoE for Best Management Practices (fencing, tunnel may be requried)	Unknown
Western Painted turtle (Chrysemys picta)	Blue-listed	Large CWD, wetlands	Not Available	S slope fr wetland	Not Applicable	Not Available	Permanent and ephemeral: River/Stream; Flooded Land; Lake; Marsh	Not Available	Not Available	Little information is available for Painted turtles; where they are known to occur, avoid development and disturbance of aquatic systems and adjacent upland, particularly access; consult MoE for Best Management Practices (fencing, tunnel may be requried)	Unknown
Western Rattlesnake (Crotalus oreganus)	Blue-listed	CWD, riparian/wetland vegetation	Not Applicable	S	Warm slopes during cooling seasonal temperatures	Not Applicable	rock outcrop, coarse talus, deep rock fissures		Not Applicable	Maintain/maximize connectivity between dens and foraging habitats	Moderate
Western Rattlesnake (Crotalus oreganus)	Blue-listed	CWD, riparian/wetland vegetation	Not Applicable	S	Warm slopes during cooling seasonal temperatures	Not Applicable	rock outcrop, coarse talus, deep rock fissures		Not Applicable	Maintain/maximize connectivity between dens and foraging habitats	Moderate

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
Western Rattlesnake (Crotalus oreganus)	Blue-listed	CWD, riparian/wetland vegetation	Not Applicable	S	Warm slopes during cooling seasonal temperatures	Not Applicable	rock outcrop, coarse talus, deep rock fissures		Not Applicable	Maintain/maximize connectivity between dens and foraging habitats	Moderate
Western Screech-Owl, "Interior" (Megascops kennicottii macfarlanei)	Red-listed	Large diameter trees in riparian forest, particularly with cavities, incl Act, At, Ew and mixed conif-decid, large snags, shrub understory	<75%	Not applicable	Not Relevant	4-9	River/stream	1000	Act, At, Ew, Fd	Abundant riparian deciduous cover 4-8m likely important. Consider nesting requirements of Pileated and Northern Flickers since woodpecker holes are most commonly used for roosting; most occupied territories have at least 2 cavities (nesting & roosting) See FSP results and strategies	Low-Moderate
Western Screech-Owl, "Interior" (Megascops kennicottii macfarlanei)	Red-listed	Large diameter trees in riparian forest, particularly with cavities, incl Act, At, Ew and mixed conif-decid, large snags, shrub understory	<75%	Not applicable	Not Relevant	4-9	River/stream	1000	Act, At, Ew, Fd	Abundant riparian deciduous cover 4-8m likely important. Consider nesting requirements of Pileated and Northern Flickers since woodpecker holes are most commonly used for roosting; most occupied territories have at least 2 cavities (nesting & roosting) See FSP results and strategies	Low-Moderate
Western Skink (Eumeces skiltonianus)	Blue-listed	CWD, rocks, riparian, forest openings	Not Available	S	Warm, south aspect slopes for nesting	Not Available	rock outcrop, talus, rock fissures		Not Available	Use a variety of habitats where rock/talus occur, including old-growth and younger forests; require CWD	Unknown
Western Skink (Eumeces skiltonianus)	Blue-listed	CWD, rocks, riparian, forest openings	Not Applicable	S	Warm, south aspect slopes for nesting	Not Applicable	rock outcrop, talus, rock fissures		Not Applicable	Use a variety of habitats where rock/talus occur, including old-growth and younger forests; require CWD	Unknown
Western Skink (Eumeces skiltonianus)	Blue-listed	CWD, rocks, riparian, forest openings	Not Available	S	Warm, south aspect slopes for nesting	Not Available	rock outcrop, talus, rock fissures		Not Available	Use a variety of habitats where rock/talus occur, including old-growth and younger forests; require CWD	Unknown
Western Small-footed Myotis (Myotis ciliolabrum)	Blue-listed	Snags, hollow trees, wildlife trees with bark	Not Available	Not Available	steep	Not Available	Cliffs, scree/talus, rock outcrop	850	Not Available	Use of standing snags/hollow trees; forages over talus slopes, cliffs; roosts in trees, cliffs, caves, mines. Information gaps: critical habitat features not well understood or even known.	Moderate
Western Small-footed Myotis (Myotis ciliolabrum)	Blue-listed	Not Applicable	Not Available	Not Available	steep	Not Available	Cliffs, scree/talus, rock outcrop	850	Not Available	Use of standing snags/hollow trees; forages over talus slopes, cliffs; roosts in trees, cliffs, caves, mines. Information gaps: critical habitat features not well understood or even known.	Moderate

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Western Small-footed Myotis (Myotis ciliolabrum)	Blue-listed	Snags, hollow trees, wildlife trees with bark	Not Available	Not Available	steep	Not Available	Cliffs, scree/talus, rock outcrop	850	Not Available	Use of standing snags/hollow trees; forages over talus slopes, cliffs; roosts in trees, cliffs, caves, mines. Information gaps: critical habitat features not well understood or even known.	Moderate
Western Toad (Anaxyrus boreas)	Blue - listed	Riparian areas, all forest and woodland types	Not Applicable	Not Available	N/A	Not Applicable	Shallow water, pools, wetlands,	3000m	N/A	Protect ponds and shallow water as breeding habitat. Follow "Best Management Practices for Amphibians and Reptiles in Urban and Rural Environments in British Columbia"	Unknown
White-headed Woodpecker (Picoides albolarvatus)	Red-listed	Snags in various stages of decay (prefer Wildlife tree class 5-6, will use 7-8), large diameter Py, open structure	<70%	Not Available	Not Relevant	>4	Not Available	1300	Py	Manage for open forest structure with mature - old-growth trees; habitat enhancement with prescribed understory burns, no stand-replacing fires; create potential nest trees: 5m stumps =60cm DBH Py See FSP results and strategies	Moderate
White-headed Woodpecker (Picoides albolarvatus)	Red-listed	Not Applicable	Not Applicable	Not Available	Not Relevant	Not Applicable	Not Available	1300	Py	Create potential nest trees: 5m stumps =60cm DBH Py See FSP results and strategies	Moderate
White-headed Woodpecker (Picoides albolarvatus)	Red-listed	Snags in various stages of decay (prefer Wildlife tree class 5-6, will use 7-8), large diameter Py, open structure	<70%	Not Available	Not Relevant	>4	Not Available	1300	Py	Manage for open forest structure with mature - old-growth trees; habitat enhancement with prescribed understory burns, no stand-replacing fires See FSP results and strategies	Moderate
Williamson's Sapsucker (Sphyrapicus thyroideus thyroideus)	Red-listed	All vets, all mature trees with decay, cavities, damage sign, wildlife sign	<75%	S, SE, SW	Not Relevant	>4	Low-mid intensity burn	1490	At, Ct, Ep, Fd, Pl, Se, Sx	On south aspects, retain patches of some mature and all veteran Lw, Py, Pl, Fd >60cm DBH and At >30cm DBH with broken or dead tops, heart rot decay, cavities, feeding signs; silviculture system can be patch or scattered tree retention; increase retention of mature-old mixed spp stands; particularly incorporate large decadent Lw into landscape planning (OGMA, UWR, etc)	Low-Moderate
Williamson's Sapsucker (Sphyrapicus thyroideus thyroideus)	Red-listed	Not Applicable	<75%	S, SE, SW	Not Relevant	>4	Low-mid intensity burn	1490	Not Applicable	On south aspects, retain patches of some mature and all veteran Lw, Py, Pl, Fd >60cm DBH and At >30cm DBH with broken or dead tops, heart rot decay, cavities, feeding signs; silviculture system can be patch or scattered tree retention; increase retention of mature-old mixed spp stands; particularly incorporate large decadent Lw into landscape planning (OGMA, UWR, etc)	Low-Moderate
Williamson's Sapsucker (Sphyrapicus thyroideus thyroideus)	Red-listed	All vets, all mature trees with decay, cavities, damage sign, wildlife sign	<75%	S, SE, SW	Not Relevant	>4	Low-mid intensity burn	1490	At, Ct, Ep, Fd, Pl, Se, Sx	On south aspects, retain patches of some mature and all veteran Lw, Py, Pl, Fd >60cm DBH and At >30cm DBH with broken or dead tops, heart rot decay, cavities, feeding signs; silviculture system can be patch or scattered tree retention; increase retention of mature-old mixed spp stands; particularly incorporate large decadent Lw into landscape planning (OGMA, UWR, etc)	Low-Moderate

Species	Prov Status	Key Stand Features	Crown Closure	Critical Aspect 1	Slope Range Comment	Age Class	Topographic or Distinguishing Feature	Max Elevation	Lead Species	Additional Management Considerations	Likelihood
Wolverine (Gulo gulo)	Blue-listed	Mature - old-growth structure	Not Applicable	Not applicable	Not Relevant	>4	valley bottoms, Riparian corridors	Not available	Not Applicable	Landscape planning is very important for wide-ranging wolverines: adjacency of early and late seral structural stages is important to provide habitat features across all BEC (elevations); avoid development on both sides of a watershed at the same time and provide old forest connectivity between watersheds as travel corridors.	High
Wolverine (Gulo gulo)	Blue-listed	Mature - old-growth structure	Not Applicable	Not applicable	Not Relevant	>4	valley bottoms, Riparian corridors	Not available	Not Applicable	Landscape planning is very important for wide-ranging wolverines: adjacency of early and late seral structural stages is important to provide habitat features across all BEC (elevations); avoid development on both sides of a watershed at the same time and provide old forest connectivity between watersheds as travel corridors.	High
Yellow-breasted Chat (Icteria virens)	Red-listed	shrubs	Very low-nil	Not Available	Not Applicable	Not Applicable	Moisture receiving sites capable of dense shrubs: riparian, ephemeral, sub-mesic	800	Act, At, Ew	See FSP results and strategies; key is to retain/regenerate dense shrub understories up to 3.5m tall; trees growing near shrub thickets typically <7m tall.	Unknown
Yellow-breasted Chat (Icteria virens)	Red-listed	shrubs	Very low-nil	Not Available	Not Applicable	Not Applicable	Moisture receiving sites capable of dense shrubs: riparian, ephemeral, sub-mesic	800	Act, At, Ew	See FSP results and strategies; key is to retain/regenerate dense shrub understories up to 3.5m tall; trees growing near shrub thickets typically <7m tall.	Unknown
Yellow-breasted Chat (Icteria virens)	Red-listed	shrubs	Very low-nil	Not Available	Not Applicable	Not Applicable	Moisture receiving sites capable of dense shrubs: riparian, ephemeral, sub-mesic	800	Act, At, Ew	See FSP results and strategies; key is to retain/regenerate dense shrub understories up to 3.5m tall; trees growing near shrub thickets typically <7m tall.	Unknown