

FIGURE 2.2. Typical sequence of site series in the **ESSFwm**.

All three of these site series belong to the same site association, so their climax vegetation is similar, but their site conditions and seral vegetation patterns differ.

Within a subzone/variant, the 01 site series is the zonal or mesic site, with the rest ranked from driest (02) to wettest (eg., 07). If distinction is made on the basis of nutrient regime, the richer site series is numbered higher.

Often the site series is the basis for the treatment unit<sup>6</sup> for which silvicultural and other management decisions are made. In some cases, however, the site series is best divided into more operationally significant units; e.g., based on soil texture or soil moisture regime. This is especially true of widespread site series that encompass a range of site conditions. The fact that site series may be found with a wide range of soil and site characteristics can be explained by compensating factors (see Section 3.4.6).

The **site series phase** is used for better distinguishing sites for management purposes. It is not a formal unit in the classification, but it can be used to subdivide site series. For example, in the Dry Warm Interior Cedar - Hemlock variant (ICHdw), the CwFd - Falsebox site series is found on a wide range of moisture regimes. Recognizing two phases allows more precise management interpretation of this site series even though the vegetation is very similar. In other cases, site series phases could be based on slope classes, aspect, parent materials, soil climate, or bedrock geology. Recognizing any change in such characteristics can be important because they influence an ecosystem's response to external disturbances. Use of the

<sup>6</sup> Treatment units are briefly described in Section 3.5.

### Wet Mild Engelmann Spruce - Subalpine Fir Subzone

**Location:** Upper slopes in the western Purcell Mountains and in the Rocky Mountains from the Cummins River to the Beaverfoot River, and adjacent to the Lower Elk River.

**Elevation range:** 1600 to 1950 m (south aspect); 1500 to 1950 m (north aspect).

**Climate:** Moist Climatic Region; no climate data. The ESSF<sub>wm</sub> is likely warmer and more continental than the ESSF<sub>wc2</sub>; wetter than the ESSF<sub>dk</sub>; and colder and wetter than the ICH<sub>mw1</sub>.

**Soils, geology, and landforms:** Common rock types in the ESSF<sub>wm</sub> include limestone, shale, siltstone, sandstone, conglomerate, argillite, quartzite, and granodiorite. Colluvial soils with loamy or silty textures are located on the steeper areas of middle to upper slopes. Glaciofluvial soils with loamy or silty surface textures occur on mid to lower slopes. Fluvial soils with loamy or silty surface textures are located on lower and level slope positions. Some morainal soils with silty or loamy surface textures occur on lower to middle slopes. Calcareous subsoils frequently occur in this subzone.

**Zonal vegetation:** Zonal sites have stands of Bl and Se. The shrub understory consists of false azalea, black huckleberry, white-flowered rhododendron, and Utah honeysuckle. Oak fern, mountain arnica, and one-leaved foamflower are common herbs.

#### Distinguishing the ESSF<sub>wm</sub> from adjacent subzones/variants

In the ESSF <sub>dk</sub> most sites have:	- grouseberry, heart-leaved arnica, and low bilberry
zonal sites also have:	- no violet or mountain sweet-cicely
dry sites have:	- red-stemmed feathermoss
wet sites have:	- oak fern and leafy moss - less one-leaved foamflower.
In the ESSF <sub>wc1</sub> most sites have:	- no false azalea
zonal sites also have:	- white-flowered rhododendron, five-leaved bramble, rosy twistedstalk, and red-stemmed feathermoss - no mountain arnica or mountain sweet-cicely
wet sites have:	- devil's club, Sitka valerian, and spiny wood fern
In the ESSF <sub>wc2</sub> most sites have:	- more white-flowered rhododendron, rosy twistedstalk, and red-stemmed feathermoss
zonal sites also have:	- less false azalea, Utah honeysuckle, falsebox, black gooseberry, oak fern, mountain arnica, western meadowrue, pipecleaner moss, and leafy moss
In the ESSF <sub>wc4</sub> most sites have:	- no false azalea
zonal sites also have:	- five-leaved bramble, Indian hellebore, and Brewer's mitrewort
wet sites have:	- white-flowered rhododendron, Sitka valerian, arrow-leaved groundsel, and spiny wood fern - no black twinberry or queen's cup
In the ICH <sub>mw2</sub> most sites have:	- Cw, Pw, Lw, Fd, and Hw - no false azalea

dry sites have: - prince's pine and red-stemmed feathermoss

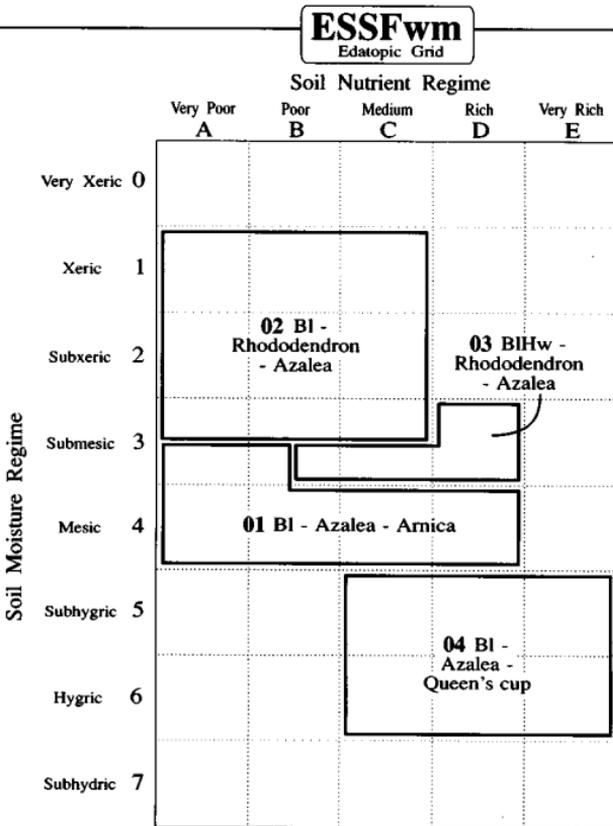
**Forest Characteristics:** Fire is an important disturbance. A mix of seral and old-growth stands is found.

The area north of Golden is transitional to the ESSFwc2. Identification tools for both units should be consulted for classification.

The lower transition to the ICH is often a very brushy area with Sitka alder.

It is important to note the upper transition to the parkland (above 1900 m). This transition is indicated by the presence of mountain-heathers and tree islands. Tree growth and regeneration become very difficult.

**Wildlife habitat:** The extensive fire history has maintained a predominance of early seral species. This subzone is important summer range for deer, elk, moose, and bighorn sheep. Remaining pockets of old growth are key to the maintenance of insect-feeding cavity nesting birds which aid in control of forest insect pests.



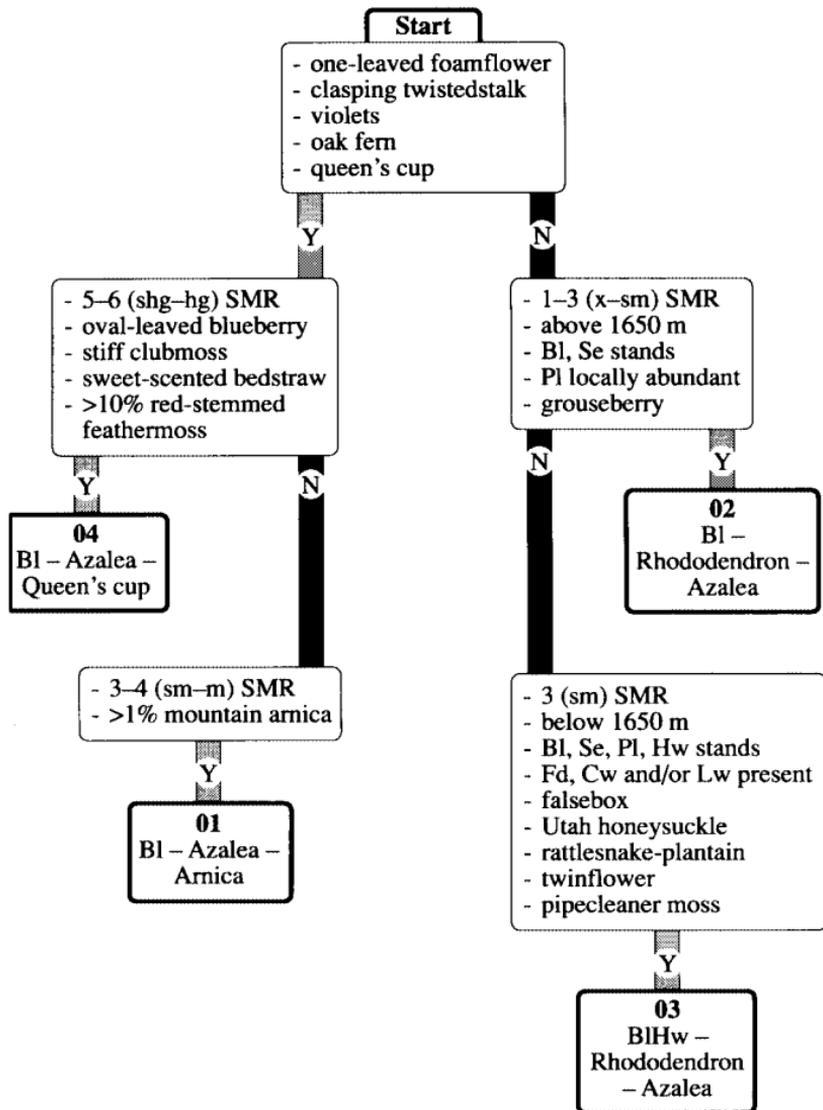
# ESSFwm Vegetation Table

	Site Series	02	03	01	04	
<b>TREES</b>	<i>Pinus monticola</i>	□	□			western white pine
	<i>Larix occidentalis</i>		□			western larch
	<i>Pinus contorta</i>	□	□		□	lodgepole pine
	<i>Abies lasiocarpa</i>	□	□	□	□	subalpine fir
	<i>Picea engelmannii</i>	□	□	□	□	Engelmann spruce
	<i>Tsuga heterophylla</i>	□	□		□	western hemlock
<b>SHRUBS</b>	<i>Alnus crispa</i> ssp. <i>sinuata</i>	□	□		□	Sitka alder
	<i>Rhododendron albiflorum</i>	□	□	□	□	white-flowered rhododendron
	<i>Vaccinium membranaceum</i>	□	□	□	□	black huckleberry
	<i>Menziesia ferruginea</i>	□	□	□	□	false azalea
	<i>Paxistima myrsinites</i>		□	□	□	falsebox
	<i>Lonicera utahensis</i>	□	□	□	□	Utah honeysuckle
	<i>Ribes lacustre</i>			□	□	black gooseberry
	<i>Vaccinium ovalifolium</i>				□	oval-leaved blueberry
	<i>Rubus parviflorus</i>				□	thimbleberry
<b>HERBS</b>	<i>Vaccinium scoparium</i>	□			□	grouseberry
	<i>Linnaea borealis</i>		□			twinflower
	<i>Orthilia secunda</i>		□	□	□	one-sided wintergreen
	<i>Goodyera oblongifolia</i>		□			rattlesnake-plantain
	<i>Tiarella trifoliata</i> var. <i>unifoliata</i>		□	□	□	one-leaved foamflower
	<i>Thalictrum occidentale</i>			□		western meadowrue
	<i>Clintonia uniflora</i>			□	□	queen's cup
	<i>Viola</i> spp.			□	□	violets
	<i>Gymnocarpium dryopteris</i>			□	□	oak fern
	<i>Arnica latifolia</i>			□	□	mountain arnica
	<i>Rubus pedatus</i>			□	□	five-leaved bramble
	<i>Lycopodium annotinum</i>				□	stiff clubmoss
	<i>Mitella breweri</i>				□	Brewer's mitrewort
	<i>Athyrium filix-femina</i>				□	lady fern
<b>MOSSES, LICHENS AND LIVERWORTS</b>	<i>Peltigera</i> spp.	□	□		□	peltigeras
	<i>Rhytidiopsis robusta</i>	□	□	□	□	pipecleaner moss
	<i>Barbilophozia lycopodioides</i>	□	□	□	□	common leafy liverwort
	<i>Pleurozium schreberi</i>		□		□	red-stemmed feathermoss
	<i>Mnium</i> spp.			□	□	leafy mosses

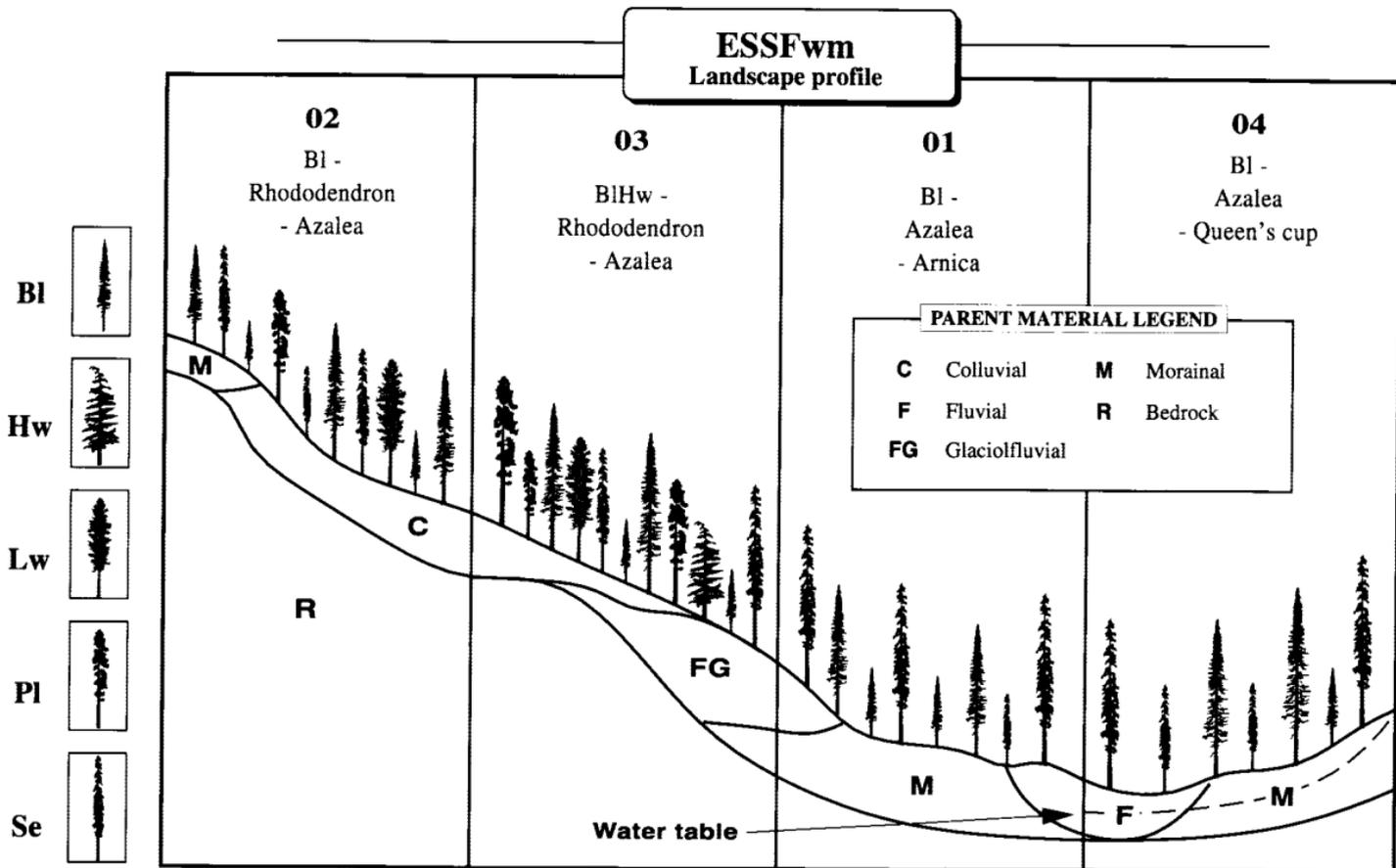
Approximate Cover Classes:    □ <1%    □ 1 - 7%    □ 7 - 15%    □ 15 - 25%    □ >25%

# ESSFwm

## Site Series Flowchart



Y = Yes; N = No



**ESSFwm Environmental Table**

Site series		02	03	01	04
Number of plots		5	3	5	9
Soil moisture regime <sup>a</sup> (SMR)		1-3 x-sm	3 sm	3-4 sm-m	5-6 shg-hg
Aspect		variable	variable	variable	variable
Slope gradient %		20-55	5-45	10-50	0-35
Slope position		upper-lower	upper-lower	mid-lower	mid-lower
Parent material		C,M	C,FG	C,FG,M,F	F,M,C
Soil texture coarse fragments % (min.- <b>mean</b> -max.)	0-30 cm	L(\$) <sup>b</sup> 38- <b>45</b> -55	L 15- <b>30</b> -50	\$(L) 18- <b>23</b> -24	L(\$,C,S) 26- <b>35</b> -45
	30+ cm	L(S) 67- <b>68</b> -75	L(S) 25- <b>56</b> -75	\$.L(S) 25- <b>46</b> -60	L(S,\$) 50- <b>60</b> -77
Humus form — LFH thickness cm (min.- <b>mean</b> -max.)		Moder (Mor) 1-4-5	Mor, Moder 2-5-10	Mor 3-4-6	Moder (Mor) 3-4-11
Important site features		above 1650 m; root-restricting layers	below 1650 m	—	nutrient rich soils

<sup>a</sup> Environmental features contained in this table are defined in Section 3.4.4.

<sup>b</sup> Values in brackets less common.

# ESSF<sub>wm</sub>

## Management Interpretations<sup>a</sup>

Site series	Number of plots	Common seedling growth limiting factors <sup>a,b</sup>	Relative tree productivity		Vegetation potential -common complexes <sup>c</sup>	Road drainage control needs (see cautions <sup>a,e</sup> )	Common site sensitivities (see cautions <sup>a,e</sup> )	Other prescription considerations <sup>f</sup>
			Gross volume productivity	Growth class (site index, tree species)				
02	5	Cold soil, Dry soil, Vegetation, Nutrients	Low	Medium <sup>g</sup> (15, Se)	Low - fireweed, ericaceous shrub	High	H forest floor displacement hazard on all sites; H displacement hazard on steep slopes; H surface erosion hazard on moderate slopes	Conserve limited organic matter
03	3	Cold soil, Vegetation	Med.	Good <sup>g</sup> (18, Se)	Medium - mixed shrub, dry alder, fireweed	High	H surface erosion and forest floor displacement hazard on moderate slopes	Conserve limited organic matter on moderate and steeper slopes

01	5	Cold soil, Cold air temp., Nutrients (where slope >30%)	Med.	Good <sup>g</sup> (18, Se)	Medium - fireweed, ericaceous shrub	High	H compaction hazard on silty soils; H surface erosion and forest floor displacement hazard on moderate slopes; H mass wasting hazard on steep slopes	Conserve limited organic matter on moderate and steeper slopes; Flat sites frost prone; Special road construction/maintenance on steep slopes; Random machine travel on silty soils on snowpack
04	9	Cold soil, Cold air temp.	Med.	Good (18, Se)	Medium - mixed shrub, fireweed	Very high	H surface erosion and forest floor displacement hazard on all sites; H mass wasting hazard on moderate slopes	Windthrow hazard; Water table may rise post-harvest; Frost prone sites; Conserve organic matter; Special road construction/maintenance on moderate to steeper slopes; Riparian

<sup>a</sup> **Caution:** Based on sample plot data; some interpretations expected to vary with individual site conditions. Use of original interpretive tools is necessary; these interpretations are presented here to "red flag" common concerns. This table outlines key considerations that should go into management decisions. Rationale and interpretive tools are discussed in Section 3.6.

<sup>b</sup> These include air temperature, soil temperature, vegetation, soil moisture, and soil nutrients; use of SYTEPREP recommended, see Section 3.6.1.

<sup>c</sup> Complexes described in Newton and Comeau (1990).

<sup>d</sup> **Caution:** This is presented here to "red flag" common drainage needs and is not intended to substitute for site specific engineering interpretations, see Section 3.6.4.

<sup>e</sup> **Caution:** Site sensitivity keys must be used with your site data for the PHSP; see Section 3.6.5.

H = high, 30 - 45% = moderate slope, >45% = steep slope.

<sup>f</sup> Partial cutting or no harvesting recommended where regeneration restricted to tree islands (above approximately 1 900 m).

<sup>g</sup> Sample size less than five plots for site index determination.



TABLE 6.1 Selected wildlife species by subzone and variant<sup>a</sup>

Species	Status <sup>b</sup>	Degree of old-growth need <sup>c</sup>	PP dh1	PP dh2	MS dm	MS dk	IDF xh	IDF dm1	IDF dm2	ICH dw, xw	ICH mk	ICH mw	ICH wk	ESSF dk, dc	ESSF wm, wc, vc
<b>AMPHIBIANS</b>															
Coeur d'Alene salamander	B									y <sup>d</sup>					
Ensatina salamander	G	a					y								
Tailed frog	B	a									y				
Tiger salamander	B						Y	Y							
<b>REPTILES</b>															
Gopher snake	B		Y				Y								
Night snake	B						y								
Western rattlesnake	B		Y				Y			y					
Painted turtle	Y		Y	Y			Y	Y	Y	Y	Y	Y	y		
<b>MAMMALS</b>															
Badger	B		y	y	y	y	Y	Y	Y	y	y	y	y	y	y
Big brown bat	G	a	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bighorn sheep	Y			pw	y	Psaw	PW	Y	Y	y	s			Y	s
Black bear	Y	a	y	y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bobcat	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Caribou	B	d				w						sW	Y	PsAW	Y
Cascade mantled ground squirrel	R	a			y		y	y						y	
Cougar	Y		y	y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Coyote	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Elk	Y		Y	Y	s	Y	y	Y	Y	Y	Y	Sy	y	PSAw	SA
Fisher	B	a			Y	Y	Y		Y		y	y	y	Y	Y

TABLE 6.1. (Continued)

Species	Status <sup>b</sup>	Degree of old-growth need <sup>c</sup>	PP dh1	PP dh2	MS dm	MS dk	IDF xh	IDF dm1	IDF dm2	ICH dw, xw	ICH mk	ICH mw	ICH wk	ESSF dk, dc	ESSF wm, wc, vc
<b>MAMMALS</b>															
Gray wolf	Y		y	y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Great Basin pocket mouse	B		Y												
Grizzly bear	B	a			y	PSAw	p	p	p	Psaw	y	y	Y	SAW	SAW
Long-legged myotis	G	a	S	S			S	S	S	S	S	S	S	S	S
Lynx	Y		y	y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Marten	Y	d	y	y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Moose	Y	a			Y	Y	PsAW		Y	y	Y	Y	y	pSAw	pSAw
Mountain goat	Y	a			y	PsAW	y		w			Y		Y	Y
Mule deer	Y	a	PsAW		PSAW	Y	Y	Y	Y	Y	S	Sw	S	SA	SA
Northern flying squirrel	G	a			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Northern long-eared myotis	B	a										s	s		S
Porcupine	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red-tailed chipmunk	B					Y				Y	y	Y			
River otter	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Silver-haired bat	Y	a	S	S	S	S	S	S	S	Y	Y	Y	Y	S	S
Southern red-backed vole	G	a			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Townsend's big-eared bat	R		S				S	S		y	y	y			
White-tailed deer	Y		Y	Y	PSA	Y	Y	Y	Y	Y	S	S	s	PSA	PSA
Wolverine	Y	a	y	y	y	y	Y	Y	Y	y	y	y	y	y	y

TABLE 6.1. (Continued)

Species	Status <sup>b</sup>	Degree of old-growth need <sup>c</sup>	PP dh1	PP dh2	MS dm	MS dk	IDF xh	IDF dm1	IDF dm2	ICH dw, xw	ICH mk	ICH mw	ICH wk	ESSF dk, dc	ESSF wm, wc, vc
<b>BIRDS</b>															
American Avocet	B		p			p			ps	p	p				
American White Pelican	R		sm				sM	sM	sm		sm				
Anna's Hummingbird	B						aw	sw	w		pw				
Arctic Tern	B						sa	a							
Bald Eagle	B	a	swM		ps	ps	swM	swM	swM	sM	swM	Psa	ps	ps	
Barn Owl	Y						y	s			psw				
Barred Owl	G	a	pw				y	y	y	a	y	a			
Barrow's Goldeneye	Y	a	SwM		sm	sm	SwM	SwM	SwM	sm	y	y	sm	sm	
Black-backed Woodpecker	G	a	y	y	y	y	y	y	y	y	y	y	y	y	y
Black-chinned Hummingbird	B						ps	ps	ps		ps				
Black-crowned Night Heron	B						sm			s	ps				
Blue Grouse	Y	a	y	y	y	y	y	y	y	y	y	y	y	y	y
Bobolink	B		ps			s	ps	ps	ps	ps	ps				
Boreal Owl	G	a			a	a				p		p		y	y
Brewer's Sparrow	B		ps				ps	ps	ps	ps					
Brown Creeper	G	a	y	y	y	y	y	y	y	y	y	y	y	y	y
Bufflehead	Y	a	SwM	SwM	SwM	SwM	SwM	SwM	SwM	sm	SwM	ps	ps	ps	ps
Burrowing Owl	R		wm				y	a							
California Gull	B		sa				Y	ps	sm	sm	PSa w	sa			
Canyon Wren	R		y				sm			y					

TABLE 6.1. (Continued)

Species	Status <sup>b</sup>	Degree of old-growth need <sup>c</sup>	PP dh1	PP dh2	MS dm	MS dk	IDF xh	IDF dm1	IDF dm2	ICH dw, xw	ICH mk	ICH mw	ICH wk	ESSF dk, dc	ESSF wm, wc, vc
<b>BIRDS</b>															
Caspian Tern	B						ps			ps					
Chestnut-backed Chickadee	G	a			y	y				Y	y	Y	Y		
Clark's Nutcracker	G	a	AW		psAW	psAW	sMW		sMW	psAW	psAW	psAW	y	y	y
Common Merganser	Y	a	SwM		sm	sm	SwM		SwM	PSaw	SwM	SwM	sm	ps	ps
Common Poorwill	R		s				sm		s	ps					
Flammulated Owl	B	a	a		ps		s		sm					s	
Forster's Tern	R						sm			PSa					
Grasshopper Sparrow	B						sm		ps						
Gray Jay	G	a	w		y	y	y		y	y	y	y	y	y	y
Great Blue Heron	B	a	Y		s	s	Y		Y	SwM	sa	SwM	sa		
Great Gray Owl	G	a	y		s		y		y		w	w			
Green-backed Heron	B								s	p					
Gyrfalcon	B						wm		wm		a				
Hairy Woodpecker	G	a	y		y	y	y		y	y	y	y	y	ps	ps
Hermit Thrush	G	a	sm		sa	sa	sm		sm	sm	sm	sm	sm	s	s
Hooded Merganser	Y	a	SwM		sm	sm	SwM		SwM	PSaw	SwM	SwM	sm	ps	ps
Hudsonian Godwit	B					s	a		p						
Least Sandpiper	B		sm		a	a	sm		sm	a	a	a	a	a	a
Le Conte's Sparrow	B								s						

TABLE 6.1. (Continued)

Species	Status <sup>b</sup>	Degree of old-growth need <sup>c</sup>	PP dh1	PP dh2	MS dm	MS dk	IDF xh	IDF dm1	IDF dm2	ICH dw, xw	ICH mk	ICH mw	ICH wk	ESSF dk, dc	ESSF wm, wc, vc
<b>BIRDS</b>															
Lesser Golden-plover	B		m				m	m		a		a			
Lewis' Woodpecker	B	a	sm				SwM	sm		sm	sm	sm	a		
Long-billed Curlew	B		ps				psa	ps		ps					
Merlin	G	a	y	sm	sm	y	y	y	y	y	y	sm	sm	sm	
Northern Goshawk	G	a	y	y	y	y	y	y	y	y	y	y	y	y	y
Northern Shrike	B		mw	mw	mw	y	y	y		mw	mw	mw	mw	a	a
Olive-sided Flycatcher	G	a		ps	ps	sm	sm	sm		ps	ps	ps	ps	s	s
Osprey	Y	a	PSa	ps	ps	PSaw	PSa	SwM		ps	PSaw	sm			
Pacific Loon	B		swm	s		swm	swm	swm		swm	swm	swm	sm	sm	sm
Peregrine Falcon	B		sm	m	sm	y	sm	sm		sm	sm	sm	ps	ps	ps
Pileated Woodpecker	Y	a	y		y	y	y	y		y	y	y	y		ps
Prairie Falcon	R		m			y	sm	sw		y	s				
Pygmy Nuthatch	G	a	y			y	y								
Red-breasted Nuthatch	G	a	y	y	y	y	y	y		y	y	y	y	y	y
Red-breasted Sapsucker	G	a				s						ps			
Red Crossbill	G	a		Y	Y	Y	Y	Y		Y	Y	Y	Y	y	y
Red-throated Loon	B					aw	a								
Ring-billed Gull	B		sm			Y	sm	swM		sm	sM	s			
Short-billed Dowitcher	B		p		ps	a	m	s			s				
Spruce Grouse	Y	a	y	y	y	y	y	y		y	y	y	y	y	y
Three-toed Woodpecker	G	a	y	y	y	y	y	y		y	y	y	y	y	y
Townsend's Warbler	G	a		sm	sm	sm	sm	sm		sm	sm	sm	sm	sa	sa

TABLE 6.1. (Continued)

Species	Status <sup>b</sup>	Degree of old-growth need <sup>c</sup>	PP dh1	PP dh2	MS dm	MS dk	IDF xh	IDF dm1	IDF dm2	ICH dw, xw	ICH mk	ICH mw	ICH wk	ESSF dk, dc	ESSF wm, wc, vc
<b>BIRDS</b>															
Varied Thrush	G	a	w		sm	sm	y		y	psAW	smw	psA W	psA W	sm	sm
Vaux's Swift	B	a	PS				PSa	PSa	PSa	ps	PSa	s			
Western Bluebird	B		ms				sm			sm	sm	sm			
Western Flycatcher	G	a			sm	sm				sm	sm	sm	sm		
Western Grebe	B					m	SwM	sm	SwM	sm	sm	sm	sm		
White-breasted Nuthatch	G	a	y				y	y	y	y	y	m			
White-headed Woodpecker	B	a					y	ps							
White-throated Swift	B		ps				ps			ps					
White-winged Crossbill	G	a			sm	sm	sm	sm	sm	sm	sm	sm	sm	sa	sa
Williamson's Sapsucker	B	a	ps		sm		ps								
Wood Duck	Y	a	sm				w	ps		sm	ps	ps			
Yellow-breasted Chat	B									s					
Yellow-headed Blackbird	Y		PSaw		ps	ps	PSaw	PSaw	PSa	sm	PSa	ps			
<b>TOTAL<sup>e</sup> AMPHIBIANS</b>			4	4	5	8	7	6	7	6	6	3	3		
<b>TOTAL REPTILES</b>			6	0	0	10	3	7	6	6	4	0	0		
<b>TOTAL MAMMALS</b>			51	54	57	62	63	58	57	63	57	57	56		
<b>TOTAL BIRDS</b>			220	154	172	281	250	262	205	234	188	114	108		

See footnotes next page

TABLE 6.1. (Concluded)

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- a** The following subzones and variants are grouped to match the level of information available for the species listed. IDFxh includes data from IDFxh, xw, and xm; IDFdm includes data from IDFdm and dk; ICHmk includes data from ICHmk and dk; ESSFdk and dc includes data from ESSFdk, dc, and dv; and ESSFwm, wc, vc includes data from ESSFwm, wc, vc, vv, vw, and wk. The IDFxw, xm, and dk, ICHdk, and ESSFdv, vv, vw, and wk are not found in the Nelson Forest Region.
- b** R=red; B=blue; Y=yellow; G=green.
- c** a=attribute dependent. Species requires old-growth forest attributes such as large dead trees or coarse woody debris (stand level).  
d=forest dependent. Species requires intact old-growth forests (landscape level).
- d** Abundance is indicated by a lower or upper case letter. Common or abundant is an upper case letter. Uncommon, scarce, rare, or casual is a lower case letter. An upper case letter does not indicate abundance throughout a subzone variant, but nearly always refers to local abundance. However, if a species has a known abundance in only a small locality in a subzone or variant a lower case letter is used. Seasonality is indicated by a letter code.  
P - spring (March-May); S - summer (June -August); A - autumn (September-November); W - winter (December-February); M - migratory (Spring and Autumn);  
Y - yearlong. Some cases do not fit neatly into this scheme. For instance, a species which is known to be migratory, but has on occasion been seen in December in a particular subzone, would still be listed as M. All entries are based on the provincial wildlife data base prepared by Stevens (1992) for the Wildlife Interpretation Subgroup.
- e** Totals refer to the total number of species known to occur in each subzone.