

# Monitoring and Evaluation Priorities for the Wildlife Resource Value

Version 2

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## INTRODUCTION

The *Forest and Range Practices Act (FRPA)* and regulations establish the legal framework for forest and range management in British Columbia. *FRPA* identifies 11 forest and environmental values that must be maintained. These are referred to as “resource values.” Monitoring and evaluation is recognized as an instrument that ensures the continuous improvement of forest and range management through the provision of information on the status and trends of these resource values. These activities help to both determine whether objectives for resource values are being achieved and identify practices and policies that are not working.

Monitoring and evaluation of *FRPA* resource values is coordinated by the Forest and Range Evaluation Program (FREP). FREP is led by the Ministry of Forests, Lands, and Natural Resource Operations (MFLNR) in partnership with the Ministry of Environment (MOE). Under FREP, resource value teams have been established for biodiversity, cultural heritage, forage, recreation, resource features, fish/riparian, soils, timber, visual quality, water, and wildlife. These teams are responsible for identifying monitoring priorities, developing monitoring protocols, coordinating monitoring activities, and providing general guidance to practitioners.

The focus of the Wildlife Resource Value (WRV) is examining the effectiveness of forestry and range practices and policies related to the conservation of wildlife habitat and specific habitat attributes for species at risk, regionally important wildlife, and

ungulates in British Columbia. These are often referred to as “fine-filter” habitat mechanisms. The specific fine-filter mechanisms (hereafter referred to as “mechanisms”) considered are Wildlife Habitat Areas (WHAs), Ungulate Winter Range (UWR), Wildlife Habitat Features (WHFs), Specified Areas, and General Wildlife Measures.

As of 2013 there were 85 species eligible for establishment of WHAs and nine species of ungulates for UWR. Not all will be evaluated and priorities must be set to efficiently, and transparently allocate resources to projects. The following procedure for setting monitoring priorities is intended to provide a structure for determining priorities for the WRV. This procedure supports the Wildlife Resource Value Framework<sup>1</sup> and results are posted to the WRV web site.

## PROCEDURE

The procedure is simple and is not meant to be very detailed or laborious. There are two main steps: (1) rank priority evaluation questions and (2) rank the species or ecosystems for assessment.

The first step, ranking of the priority evaluation questions, was completed by the Forest and Range Resource Evaluation Working Group (FREWG), a strategic level committee. FREWG reviewed priority evaluation questions proposed by the 11 resource value teams and set priorities for FREP

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[http://www.for.gov.bc.ca/ftp/hfp/external/!publish/frep/values/Wildlife\\_Framework\\_Paper.pdf](http://www.for.gov.bc.ca/ftp/hfp/external/!publish/frep/values/Wildlife_Framework_Paper.pdf)

using established criteria<sup>2</sup>. Each member of the working group ranked the questions using these criteria and results were compiled to determine overall scores. The ministries of Environment and Forests and Range were represented on FREWG. Priority evaluation questions have not been updated since 2006. For more information on this process, see

<http://www.for.gov.bc.ca/hfp/frep/about/questions.htm>.

Under the WRV, there are two main priority evaluation questions:

- *Do WHA maintain the habitats, structures, and functions necessary to meet the goal(s) of the WHA, and is the amount, quality, and distribution of WHAs contributing effectively with the surrounding land base (including protected areas and managed land base) to ensure the survival of the species now and over time?*
- *Do UWRs maintain the habitats, structures, and functions necessary to meet the species winter habitat requirements, and is the amount, quality, and distribution of UWRs contributing effectively with the surrounding land base (including protected areas and managed land base) to ensure the winter survival of the species now and over time?*

These questions establish the priority for the mechanisms (i.e., WHA, UWR, WHF). Specified areas are basically treated as a WHA or UWR depending on their nature.

The WRV questions are general and evaluation projects will ultimately address how these mechanisms have been applied to specific species. Because numerous species must be evaluated, species-specific priorities must also be established to guide resource allocations as they relate to the WRV priority evaluation questions. Only species that have an approved WHA or UWR are considered.

The following criteria are used to rank species:

<sup>2</sup>

[http://www.for.gov.bc.ca/ftp/hfp/external!/publish/frep/questions/Development\\_and\\_Ranking\\_FREP\\_EQ.pdf](http://www.for.gov.bc.ca/ftp/hfp/external!/publish/frep/questions/Development_and_Ranking_FREP_EQ.pdf)

- 1) Conservation priority
- 2) Management investment
- 3) Conservation role
- 4) Uncertainty of management actions

### (1) Conservation Priority

Species and ecosystem conservation priorities are established by the Ministry of Environment's Conservation Framework<sup>3</sup>. Conservation priorities are largely based on species conservation status, which includes consideration of abundance, trend, and threats to populations as well as an assessment of the feasibility (i.e., likelihood of recovering or maintaining the species) and stewardship responsibility (i.e., index of the proportion of the global abundance or range in BC). In the Conservation Framework, species are ranked from one (high priority) to six (low priority) for each of the following three conservation goals:

I: To contribute to global efforts for species and ecosystem conservation.

II: To prevent species and ecosystems from becoming at risk.

III: To maintain the diversity of native species and ecosystems.

For the purpose of the WRV ranking, the highest ranking of the three goals will be used.

### (2) Management Investment

Management investment for a particular species or ecosystem is determined by whichever is greater—the number, *or* hectares, of established or planned<sup>4</sup> WHAs or UWRs. Management investment ranks of high (H), moderate (M), or low (L) based on the following categories.

Rank	WHA	UWR
<b>H</b>	> 5000 ha or > 50 WHAs	> 500 000 ha or >10 UWRs
<b>M</b>	500–5000 ha or 10–50 WHAs	100–500 000 ha or 5 – 10 UWRs
<b>L</b>	< 500 ha or < 10 WHAs	< 100 000 ha or <5 UWR

<sup>3</sup> <http://www.env.gov.bc.ca/conservationframework/>

<sup>4</sup> See Forest Planning and Practices Regulation Section 7 Notices <http://www.env.gov.bc.ca/wld/frpa/notices/index.html>

### **(3) Conservation Role**

Conservation role considers the relative importance of the *FRPA* wildlife mechanism to species' overall conservation (i.e., how many tools are available to manage species) and whether the extent to which they may be readily implemented (i.e., can we locate feature, does species predominately occur on Crown land). Ranks of high, moderate, and low are assigned.

### **(4) Uncertainty**

Uncertainty relates to the known or presumed effectiveness of the mechanism. This involves consideration of the knowledge (published, expert opinion) and known successes or likelihood of success as well as whether mechanisms address key stressors relevant to the species. Ranks of high, moderate, and low are assigned.

Once ranks for the four criteria have been determined, ranks for management investment, conservation role and uncertainty are converted to a numerical value between 1 and 3 (e.g., High = 1, Moderate = 2 and Low = 3) to enable simple addition (see Table 2). We grouped results into priority categories as follows: high priority = score between 4 and 6, moderate = score between 7 and 10 and lowest priority includes all scores over 11.

## Priorities for WHA monitoring by species

Species	CF priority (1 – 6)	Investmen t (1 – 3)	Role (1 – 3)	Uncertainty (1 – 3)	Score (4 – 15)	Priority
Boreal Caribou	1	1	1	1	4	H
Marbled Murrelet	1	1	1	1	4	H
Northern Goshawk- <i>laingi</i>	1	1	1	1	4	H
Pacific (Coastal) Tailed Frog	1	2	1	1	5	H
Pacific (Coastal) Giant Salamander	1	2	1	1	5	H
American White Pelican	1	2	1	2	6	H
Ancient Murrelet	1	2	2	1	6	H
Badger	1	2	2	1	6	H
Gopher Snake	2	2	1	1	6	H
Grizzly Bear	2	1	2	1	6	H
Mountain Caribou	2	1	2	1	6	H
Mountain Goat	1	2	2	1	6	H
Northern Caribou	2	1	2	1	6	H
Rocky Mountain Tailed Frog	2	2	1	1	6	H
Western Rattlesnake	2	2	1	1	6	H
Antelope-brush/Needle and thread grass	1	3	1	2	7	M
Black-throated Green Warbler	1	2	3	1	7	M
Bull Trout	2	2	2	1	7	M
Cassin's Auklet	2	2	2	1	7	M
Coeur d'Alene Salamander	2	2	1	2	7	M
Gillette's Checkerspot	2	2	2	1	7	M
Great Basin Spadefoot	1	2	2	2	7	M
Long-billed Curlew	2	2	2	1	7	M
Prairie Falcon	2	2	2	1	7	M
Red-legged Frog	1	2	2	2	7	M
Tall Bugbane	1	3	1	2	7	M
Tiger Salamander	2	2	2	1	7	M
Williamson's Sapsucker – <i>nataliae</i>	1	2	2	2	7	M
Yellow-breasted Chat	1	2	2	2	7	M
Antelope-brush/ Bluebunch wheatgrass	2	3	1	2	8	M
Brewer's Sparrow	2	3	2	1	8	M
Connecticut Warbler	2	2	3	1	8	M
Lewis's Woodpecker	2	2	2	2	8	M
Racer	2	3	2	1	8	M
Scouler's Corydalis	3	3	1	1	8	M
Spotted Owl	2	1	2	3	8	M
Western Screech Owl – <i>macfarlanei</i>	1	2	3	2	8	M
Williamson's Sapsucker – <i>thyroideus</i>	2	2	2	2	8	M
Keen's Myotis	1	3	3	2	9	M
Pacific Water Shrew	1	3	3	2	9	M
Spotted Bat	2	3	2	2	9	M
Bighorn Sheep	3	3	2	2	10	M
Fisher	2	3	3	2	10	M
Flammulated Owl	2	2	3	3	10	M
Mountain Beaver - <i>rufa</i>	2	3	3	2	10	M
White-headed Woodpecker	2	3	3	2	10	M
Sandhill Crane	5	2	2	2	11	L

### Priorities for UWR monitoring by species

Species	CF priority (1 – 6)	Investment (1 – 3)	Role (1 – 3)	Uncertainty (1 – 3)	Score (4 – 15)	Priority
Mountain Goat	1	1	2	2	6	H
Mountain Caribou	2	1	1	2	6	H
Boreal Caribou	1	1	1	1	4	H
Northern Caribou	2	2	1	1	6	H
Bighorn Sheep	3	2	2	2	9	M
Roosevelt Elk	2	1	2	3	8	M
Stone Sheep	2	3	2	2	9	M
Elk	5	2	2	3	12	L
Mule Deer	6	1	2	3	12	L
Black-tailed Deer	6	1	1	2	10	L
White-tailed Deer	6	2	2	3	13	L
Moose	6	2	3	3	14	L