



PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	1 of 11
SUBJECT			
Big Game Harvest Management			

This Procedure Replaces:

None

Staff, Organizations Directly Affected:

Director
Regional Managers
Wildlife Management Staff
First Nations
Resident Hunters
Guide Outfitters
Trappers

Policy Cross-Reference:

Ministry Policy Manual, Volume 4, Section 7

Subsections:

— 01.07 Game Harvest Management

Other Cross-References

Ministry Policy Manual, Volume 4, Section 7

Subsections:

— 01.01 Allowable Harvest
— 01.02 Open Seasons
— 01.03 Harvest Allocation
— 01.05 Quota Allocation – Guided Hunting
— 01.06 Limited Entry Hunting
— 01.10 Resident Hunter Priority
— 01.11 Commercial Hunting Interests
— 03.01 Management of Fur Bearers
— 04.01.3 Control of Species
— 13.01 Goal of Wildlife Management

Ministry Procedure Manual, Volume 4, Section 7

Subsections:

— 01.01.1 Allowable Harvest
— 01.02 Open Seasons
— 01.03.1 Harvest Allocation
— 01.05.1 Quota

PREPARED BY		AUTHORIZATION	
NAME Ian Hatter	NAME Tom Ethier	Original signed by Tom Ethier SIGNATURE	
POSITION Manager, Wildlife Management	POSITION Director, Fish and Wildlife Branch		
		DATE EFFECTIVE March 1, 2010	REVISION NO.

PROCEDURE MANUAL

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	2 of 11
SUBJECT			
Big Game Harvest Management			

Ministry of Environment

- 01.05.2 Administrative Guidelines
- 01.06.1 Limited Entry Hunting
- 01.07.2 Southern Interior Mule Deer Harvest Management
- 01.07.3 Moose Harvest Management
- 03.01 Management of Fur Bearers
- 04.01.2 Management of Problem Wild Ungulates
- 04.01.3 Protecting Species at Risk from Other Species
- 04.04 Grizzly Bear Harvest Management

Purpose:

To establish a transparent and consistent method by which regional staff will develop, maintain and modify big game hunting regulations to meet management objectives.

Definitions:

“allocation” – means the division of the annual allowable harvest (AAH) remaining after the legal rights of First Nations have been recognized and provided for, between resident hunters and guided hunters.

“allocation period” – means the five year period to which an allocation share applies, as defined in the Harvest Allocation Procedure.

“annual allowable harvest” (AAH) – means the number of animals that are allowed to be killed by resident hunters and guided hunters each year.

“big game” – means big game as defined in the *Wildlife Act*, RSBC 1996 c.488.

“big game stock assessment” – means the process of collecting, analyzing, and reporting demographic information for the purpose of determining the effects of harvesting on big game populations.

“category A species” – means a big game species, population, or class for which guided hunters’ harvest is limited by quota in any portion of a region.

“consequence table” – means a summary table, used in the structured decision making process, that compares two or more hunting regulation options using a common set of objectives and evaluation criteria.

“cumulative annual allowable harvest” – means the annual allowable harvest of a herd or population multiplied by the length, in years, of the allocation period (e.g. 5).

“director” – means director as defined in the *Wildlife Act*, RSBC 1996 c.488.

DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	3 of 11
SUBJECT			
Big Game Harvest Management			

“evaluation criteria” – means the metrics by which the achievement of management objectives can be determined.

“game management zone” (GMZ) – means a grouping of management units based on geographical, ecological, and access criteria (see Appendix A).

“management objectives” – means a set of desired outcomes and results associated with the harvest of a species or population.

“management unit” (M.U.) – means a specific and legally designated land area denoted by the initials M.U. and a hyphenated number e.g. M.U. 3-18. (B.C. Reg. 64/96).

“population management unit” (PMU) – means the spatial scale at which a given big game population will be managed for hunting. This will normally be the geographic area that represents the year-round range of a big game population, while keeping interchange with other populations to a minimum.

“regional manager” – means regional manager as defined in the *Wildlife Act*, RSBC 1996 c.488.

“regional section head” (RSH) – means a section head responsible for the management of fish and wildlife within a region, Regional Operations Branch, Ministry of Environment.

“structured decision making” (SDM) – means a structured and transparent approach for ensuring that ecological, social and economic values are considered when identifying and evaluating game harvest management options.

“trade-off analysis” – means the process by which decision makers make value-based judgements about how they will make choices between competing management objectives and evaluation criteria.

“wildlife manager” – means the Manager of the Wildlife Management Section, Fish and Wildlife Branch, Ministry of Environment, Victoria.

Procedure:

1 Application of Procedure

- 1.1 The Big Game Harvest Management Procedure should be used to guide the harvest management of big game, in consultation with the Wildlife Manager.
- 1.2 Appendix B provides a schematic of the big game harvest management process, and identifies a “management by objectives” approach for big game populations.

DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	4 of 11
SUBJECT			
Big Game Harvest Management			

2 Population Management Units

- 2.1 Population Management Units (PMUs) should be identified for each big game species. These will, in most cases, be represented by one or more management units (M.U.s) and/or Limited Entry Hunting (LEH) zones.
 - 2.1.1 Unless otherwise determined in 2.1.2, the default PMU for big game species is the Game Management Zone (GMZ).
 - 2.1.2 Where GMZs are not considered the appropriate PMU, the Regional Section Head (RSH), with input from the Wildlife Manager, may recommend alternative PMUs to the Director, with supporting rationale.
- 2.2 Regional Section Heads may split and/or group PMUs or define a new area for the purpose of recommending harvest regulations so long as the resulting planning units:
 - a. share common management objectives; and
 - b. do not differ significantly with respect to recent population assessments or trends; and
 - c. reflect Ministry commitments or objectives which may include, but is not limited to: park designations, regional land use plans, areas of First Nations interest, agricultural zones, and areas where a particular population or harvest objective is desired; and
 - d. are clearly defined; or
 - e. are otherwise viable and approved by the Director.
- 2.3 The spatial units for management identified in sections 2.1 and 2.2 should be reviewed and verified before the start of each major regulation review period (normally every 3 to 5 years).

3 Management Objectives

- 3.1 Management objectives should be identified for each big game species and PMU.
 - 3.1.1 Unless alternate management objectives have been identified, the primary population management objective for all big game populations will be to maintain post-hunt numbers for each PMU at or near current levels. Regional Section Heads may recommend to the Wildlife Manager that the harvest be managed for a higher or lower population level based on the advice of regional staff in consultation with the appropriate provincial species specialist.

DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	5 of 11
SUBJECT			
Big Game Harvest Management			

Ministry of Environment

- 3.1.2 For cervids (moose, elk, caribou, mule deer, white-tailed deer) a secondary population objective will be to maintain minimum post-hunt adult sex ratios, where outlined in species-specific harvest management procedures.
- 3.1.3 For some bovids, (mountain sheep, mountain goat, but excluding bison) and large carnivores (grizzly bear, black bear, cougar), a secondary population objective will be to maintain desired age structures in the harvest, and/or harvest sex ratios, where outlined in species-specific harvest management procedures.
- 3.1.4 Harvest targets [Annual Allowable Harvest (AAH) for category A species, desired harvest for non-category A species] will be set to be compatible with achieving the management objectives.
- 3.2 Management objectives must consider First Nations ability to fulfil their food, social or ceremonial needs.
- 3.3 First Nations and stakeholders should be provided an opportunity to review and comment on the management objectives prior to their use in the development of hunting regulations.
- 3.4 Providing there is sufficient information to do so, population management objectives should be evaluated through a big game stock assessment that considers the following information, where available or reasonably obtained:
 - a. current and past information about population trends, abundance and structure;
 - b. current and past information about harvest, including estimates of First Nations harvest where available;
 - c. current and past information about illegal harvest, removals through wildlife control, highway and rail mortality and wounding loss;
 - d. natural (non-hunting) mortality rates in the population (e.g. predation);
 - e. estimates of current and future carrying capacity;
 - f. other limiting factors to population growth; and
 - g. the degree of certainty in any of these factors.

DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	6 of 11
SUBJECT			
Big Game Harvest Management			

4 Hunting Regulation Development

- 4.1 Stakeholder involvement in game harvest policy issues and provincial regulatory decisions will be encouraged and facilitated through a provincial hunting regulation and policy committee.
- 4.2 Regional wildlife advisory committees will be the primary venue for discussing region-specific big game hunting regulations with stakeholders.
- 4.3 If a regional hunting regulation proposal can be expected to affect harvest management in (an) adjacent region(s), the RSH in the region proposing the regulation should discuss the proposal with the RSHs of the adjacent region(s) and come to an agreement. In an event of a disagreement, the matter will be deferred to the Director for resolution.
- 4.4 Hunting regulation development will:
 - a. be compatible with achieving the management objectives;
 - b. minimize regulation complexity wherever possible within the constraints of conservation and other socio-economic considerations;
 - c. strive to be consistent with adjacent population management units and administrative regions to distribute hunting pressure across the relevant resource management regions, and to simplify hunting regulations;
 - d. maximize hunting opportunity wherever possible within the constraints of conservation and other socio-economic considerations;
 - e. consider each hunter residency group's ability to achieve their share of allocated harvests; and
 - f. where possible, consider the impact of harvest on other game species.
- 4.5 For controversial regulations, and where more than one viable hunting regulation regime exists for achieving management objectives, a minimum of three options should be evaluated and assessed using a principled decision-making process, such as Structured Decision Making (SDM). Appendix C contains a draft generic consequence table which may be altered according to regional needs for the species being considered.
- 4.6 Where feasible, given ministry capacity and approval from the Regional Manager, First Nations and stakeholders should be given an opportunity to participate in the SDM process by:

DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	7 of 11
SUBJECT			
Big Game Harvest Management			

- a. providing an opportunity to amend and/or supplement hunting regulation options in the assessment, provided that the RSH considers them to be viable.
- b. participating in a trade-off analysis of regulatory options to identify areas of agreement and disagreement between stakeholder groups, and if possible to develop a consensus recommendation for the Regional Manager. Where consensus cannot be achieved among stakeholders, the RSH should document and inform the Regional Manager on areas of persisting disagreement.

4.7 The Regional Manager will make his/her hunting regulation recommendation to the Wildlife Manager, who will then make his/her hunting regulation recommendation to the Director.

5 Regulation Review

5.1 Hunting regulations will, in general, be implemented for a period not longer than five years, after which regulations will be reviewed according to this procedure.

5.2 During the course of a regulation cycle, Regional Managers should review regulations if:

- a. residents are harvesting <80% of their allocation for a category A species in a region;
- b. non-residents are harvesting <80% of their allocation for a category A species within a region;
- c. the cumulative AAH is met or exceeded before the last year of the allocation period;
- d. the AAH changes during the course of an allocation period;
- e. success among LEH authorisations is consistently lower than that identified in the relevant species harvest management procedure, or 5% if not otherwise specified;
- f. the predicted success rate for resident hunters changes during the course of an allocation period;
- g. management objectives and harvest targets are not being achieved; or
- h. new biological information (e.g. inventory data) becomes available and suggests that the management regime should be modified.

DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	8 of 11
SUBJECT			
Big Game Harvest Management			

- 5.3 The Director or Wildlife Manager may initiate a big game harvest review, regulation review or recommend a regulatory approach and request the Regional Manager to consult with affected stakeholder groups, as per section 4.

6 Species-Specific Harvest Management Procedures

- 6.1 Species-specific harvest management procedures should be created if and when the Wildlife Manager considers the default approach outlined in this procedure, or identified in the Wildlife Harvest Strategy¹, to be inappropriate and/or insufficient.
- 6.2 Any disagreement between this procedure and a species-specific harvest management procedure will be resolved in favour of the species-specific harvest management procedure.

¹ Ministry of Environment, Lands and Parks. 1996, Wildlife Harvest Strategy – Improving British Columbia’s wildlife harvest regulations. Province of BC. 73 pp. Available at http://www.env.gov.bc.ca/wld/documents/wildlife_harvest_strategy99.pdf.

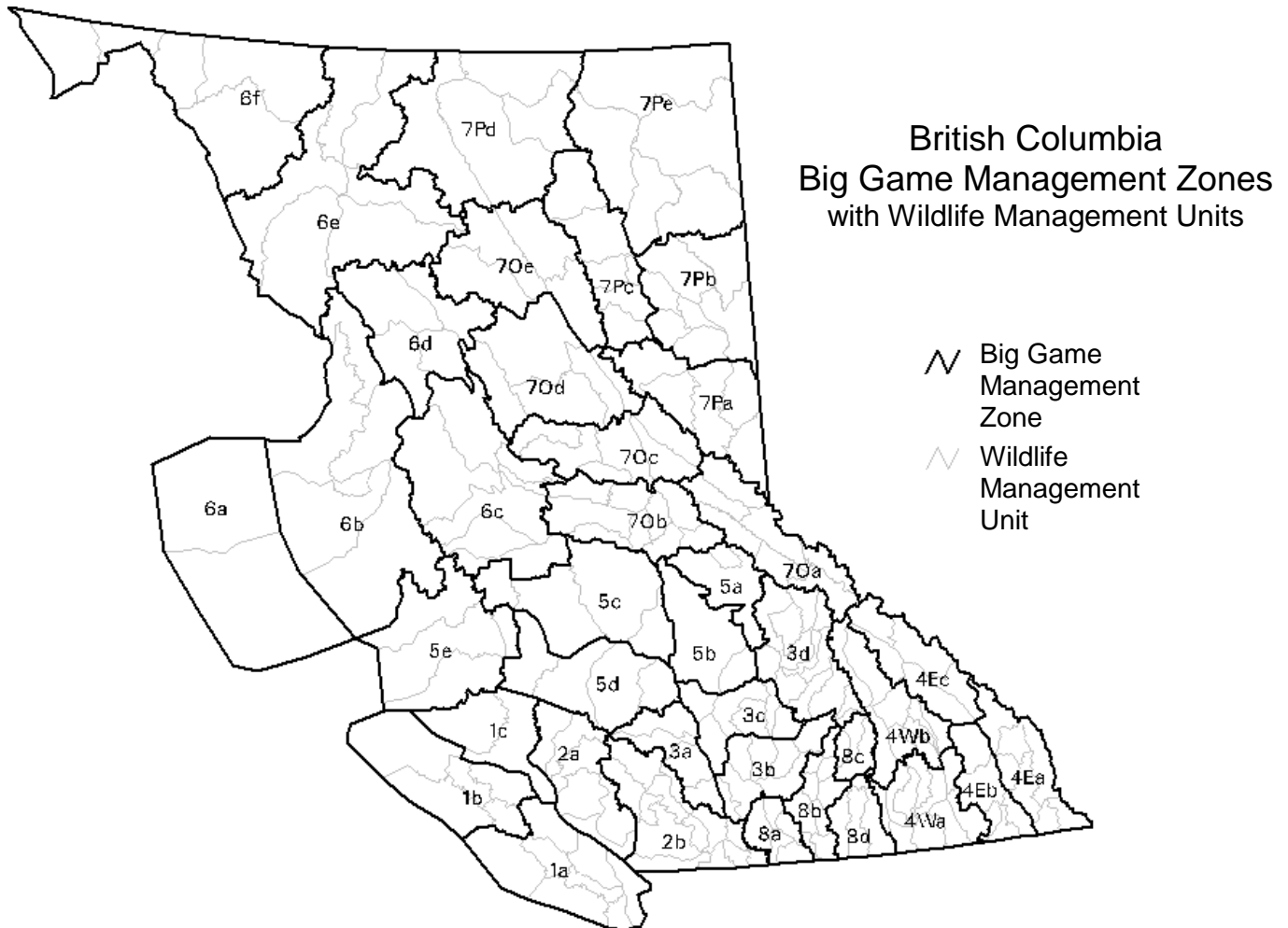
DATE EFFECTIVE	REVISION NO.
March 1, 2010	

PROCEDURE MANUAL

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	9 of 11
SUBJECT			
Big Game Harvest Management			

Ministry of Environment

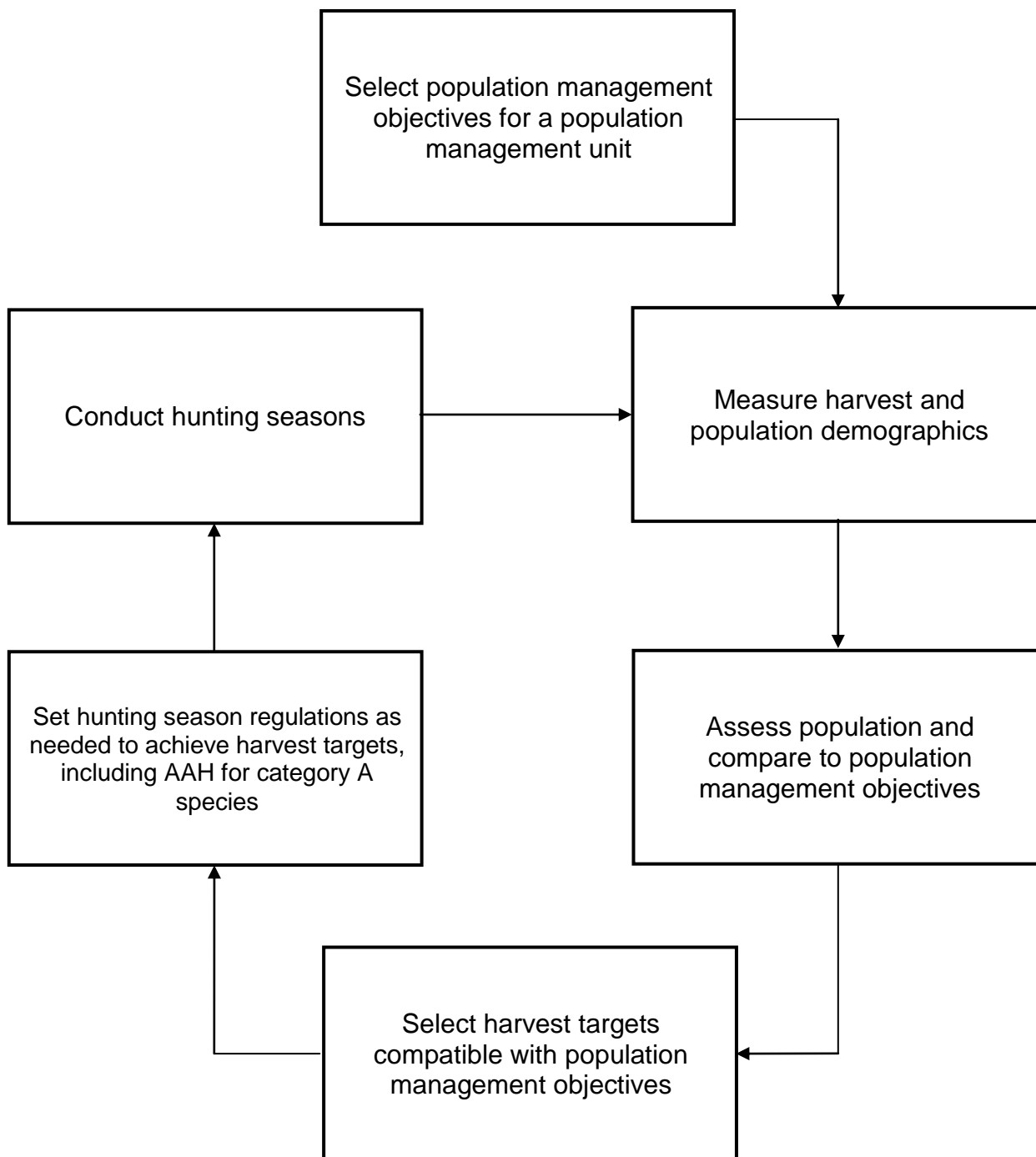
Appendix A: Big Game Management Zones of British Columbia



DATE EFFECTIVE	REVISION NO.
March 1, 2010	

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	10 of 11
SUBJECT			
Big Game Harvest Management			

Appendix B: Population Management Objective Setting Process



PROCEDURE MANUAL

Ministry of Environment

VOLUME	SECTION	SUBSECTION	PAGE
4	7	01.07.1	11 of 11
SUBJECT			
Big Game Harvest Management			

APPENDIX C: Recommended Evaluation Criteria for Assessing Big Game Hunting Regulation Regimes

Objective	Evaluation Criteria*	Hunting Regulation Option**			
		Option 1:	Option 2:	Option 3:	Option 4:
		Options should include rifle season lengths, bow only seasons, age restricted seasons, antler/class restrictions, etc. The suite of options should include those recommended by both wildlife staff and stakeholders.			
Harmonization	Consistency between PMUs within region				
	Consistency between regions				
Simplification	# different hunts within season				
	Antler/horn curl restrictions				
Hunting Opportunity	Hunter days GOS				
	Likelihood of harvesting an animal				
	Likelihood of harvesting a trophy animal***				
	Likelihood of achieving harvest allocation split				
Ministry Cost	Inventory				
	Consultation				
	Enforcement				
Population Management	Likelihood of achieving primary population objective				
	Likelihood of achieving secondary population objective				
	Likelihood of achieving harvest target				

* Where it is not possible to provide a quantitative value, it may be necessary to utilize a qualitative scale (e.g. very low, low, moderate, high, very high; or very unlikely, unlikely, medium likelihood, likely, very likely).

** All options must equally consider First Nations ability to fulfill their food, social and ceremonial needs.

*** The term 'trophy' should be defined if used as an evaluation criteria.

DATE EFFECTIVE	REVISION NO.
March 1, 2010	