

## Part 1: Policy for Cumulative Effects Assessment

### *Preamble*

This is a draft natural resource sector policy being shared for the purpose of gaining input from a broad audience. It does not represent a position or decision by government.

The province is committed to considering cumulative effects as an integral component of natural resource decision-making in BC. The Cumulative Effects Framework complements current land management achieved through BC's legislative framework, land use plans and various best practices and processes. Improving cumulative effects assessment and management will be a vital part of sustainable and integrated resource management and provides an important foundation for addressing First Nations rights and interests. Transparently reporting on cumulative effects assessment information and management recommendations will enable coordinated and consistent management responses across the natural resource sector that is required to mitigate undesirable cumulative effects.

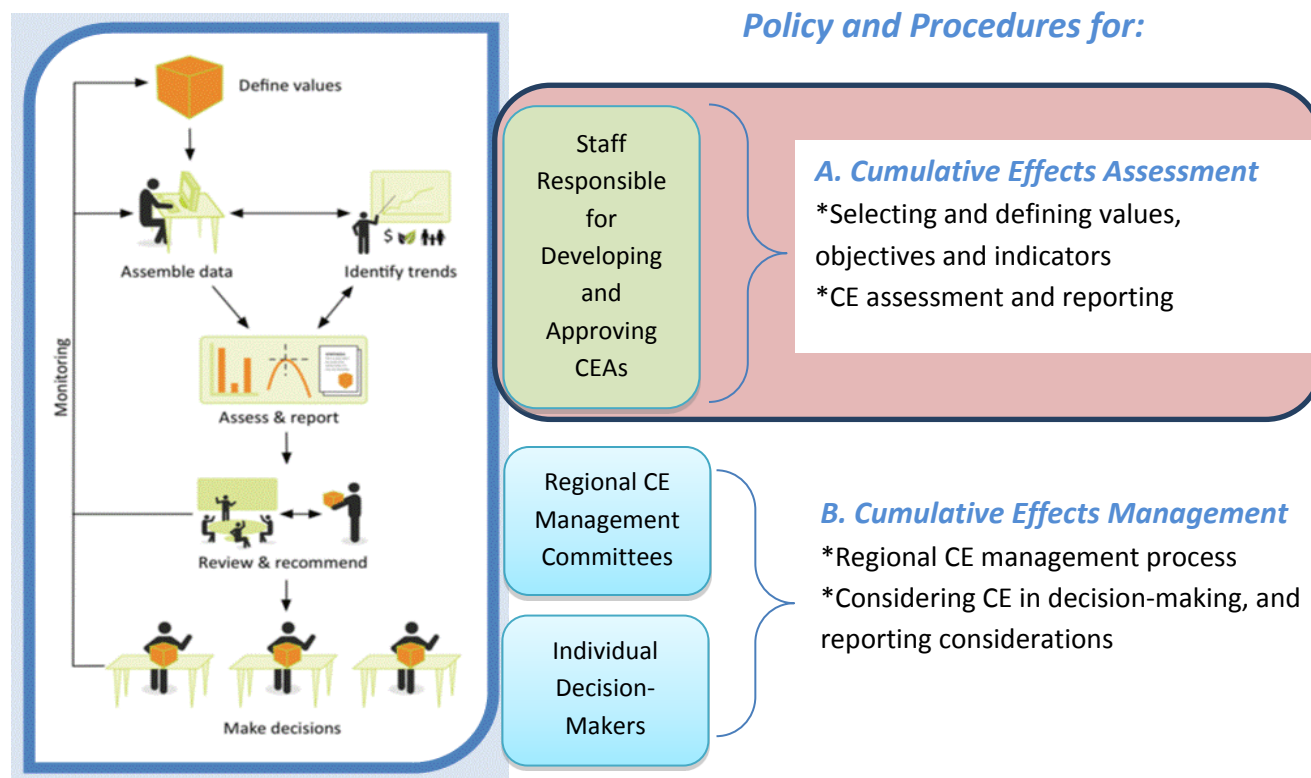
#### **Cumulative Effects:**

*Changes to environmental, social and economic values caused by the combined effect of past, present and potential future activities and natural processes.*

This Cumulative Effects Policy is divided into two parts: *Part 1: Policy for Cumulative Effects Assessment* and *Part 2: Policy for Cumulative Effects Management*. This document is Part 1, and provides direction for provincial government staff responsible for completing and/or approving assessments under the Cumulative Effects Framework. It defines provincial standards and expectations for *Cumulative Effects Assessment*, including selecting values, components and indicators for assessment; collating data and trend information; defining and approving management triggers; completing assessments for current and future condition; and reporting products. Specific procedures required to support implementation of this policy will be provided in a supporting document, *Procedures for Cumulative Effects Assessment*, currently in development.

Figure 1 below illustrates idealized workflow for **CE Assessment** and **CE Management**, and the specific elements that are addressed in Part 1 of the policy.

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**Figure 1: Components of the Cumulative Effects Framework addressed in this document.**

From April to June 2016, engagement will be undertaken to seek critical input on this draft policy from First Nations, stakeholders and government staff who will be integral to its implementation. The results of this engagement will be reflected in a final draft for the approval of the Deputy Ministers' Natural Resource Sector Board.

Once approved for implementation, this policy will be periodically reviewed to consider the need for updates and improvements, based in part on insights gained from evaluating the effectiveness of CEF implementation.

Questions and comments on this draft policy may be submitted at any time by:

- a. email to [Cumulativeeffects@gov.bc.ca](mailto:Cumulativeeffects@gov.bc.ca)
- b. feedback form on the CEF [web page](#).

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## 1. Definitions and Acronyms

### ***Assessment Unit***

The geographic area of analysis for individual values or components.

### ***Cumulative Effects (CE)***

Changes to environmental, social and economic values caused by the combined effect of past, present and potential future activities and natural processes.

### ***Cumulative Effects Assessment and Management Report (CEAM Report)***

A report summarizing the results of CEF assessment (and associated maps) and management responses intended to mitigate cumulative effects.

### ***Cumulative Effects Framework (CEF)***

The CEF includes policy, procedures and decision-support tools to improve the consideration of cumulative effects in natural resource decision-making in BC. It enables a strategic approach to assessing cumulative effects and identifying management responses necessary to mitigate undesired effects to these values.

### ***Cumulative Effects Framework Assessment (CEF Assessment)***

A strategic-level assessment (i.e., office-based Geographic Information Systems model over large areas) of the current and/or potential future condition of CEF Values.

### ***Cumulative Effects Framework Values (CEF Values)***

CEF values are an approved core set of provincial and regionally-specific values that are important to the people of British Columbia, are recognized as being sensitive to cumulative effects and are periodically assessed and reported as part of the Cumulative Effects Framework.

### ***Cumulative Effects Management (CEM)***

The identification of consistent and coordinated management responses to mitigate adverse consequences of cumulative effects.

### ***Current Condition Report***

A report on the current state or condition of individual CEF values in relation to selected indicators.

### ***Management Responses***

Actions, decisions or measures proposed or approved for the consistent and coordinated management of CEF values.

### ***Near-term trend***

The estimated trend in condition of CEF values in the near term, based on a qualitative, expert assessment of the expected extent and intensity of industrial activity and associated potential effects on

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CEF values.

***Potential future condition***

The assessed or estimated condition of a value at a point in the future, with consideration to activities defined as one or more of the following: certain/ probable, reasonably foreseeable or hypothetical (long-term scenarios).

***Reporting Unit***

Sub-regional scale geographic areas defined for periodic CE assessment and reporting.

***Values***

The things that the people and government of British Columbia care about and see as important for assuring the integrity and well-being of the province's people and communities, economies and ecological systems, as defined in policy, legislation or agreements with First Nations.

## **2. Purpose and Authority**

2.1 The purpose of this policy is to convey standards and expectations for completing and reporting strategic-level assessments for the *Cumulative Effects Framework*.

2.2 This policy is primarily intended for government staff responsible for completing and approving CEF assessments.

2.3 This policy does not convey legal authority. It supports and does not replace existing legislation, any other legal requirements, or application requirements.

## **3. Key Roles and Responsibilities**

***Natural Resource Sector Executive Direction***

3.1 The Natural Resource Sector Board shall be responsible for approving CEF Policy and Procedure.

3.2 The Natural Resource Sector Assistant Deputy Ministers' (NRS ADMs) Committee shall be responsible for:

- a. approving CEF values
- b. approving CEF Assessment Protocols, including verifying existing objectives and proposed CE management triggers
- c. providing executive direction and conflict resolution, as required.

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### ***Natural Resource Sector Strategic Direction***

3.3 The CEF Strategic Leadership Team shall be responsible for:

- a. providing interagency advice and direction for the development of CEF policy and procedures and plans for implementation
- b. supporting natural resource sector executive decision-making processes, as required for CEF implementation.

### ***CE Assessment and Reporting***

3.4 The CE Assessment Team shall be responsible for:

- a. completing periodic updates to current condition reports
- b. completing periodic assessments of current and potential future condition and preparing draft CEAM reports
- c. completing steps for validating assessed conditions and interpreting results
- d. preparing potential management responses for consideration by the CE management committee.

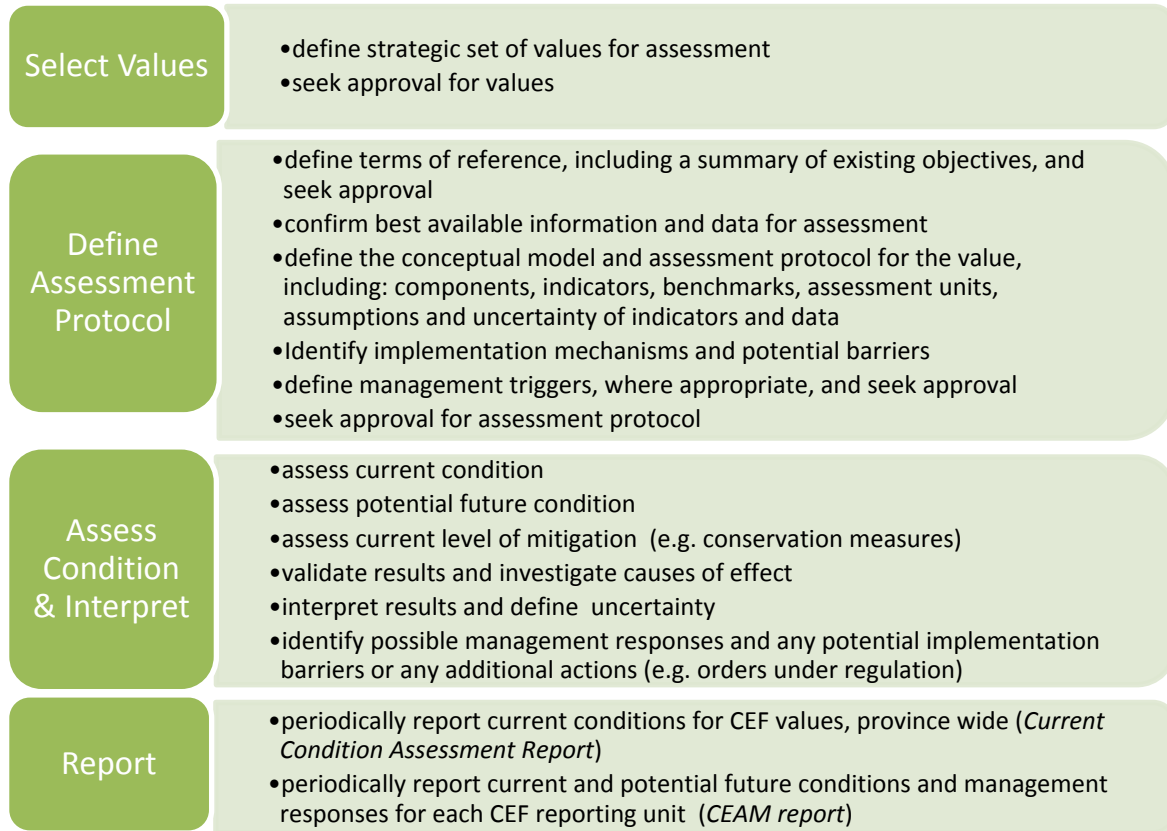
### ***CEF Policy, Procedures and Provincial Program Coordination***

3.5 The Resource Stewardship Division of MFLNRO is responsible for developing and maintaining provincial CEF policy and procedures, and for coordinating provincial CEF implementation.

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## 4. Cumulative Effects Assessment Overview

4.1 The general process for applying this policy is summarized in Figure 2.



**Figure 2: Generalized steps for cumulative effects assessment**

4.2 The general approach to assessing and reporting cumulative effects is outlined in Figure 3 and described below.

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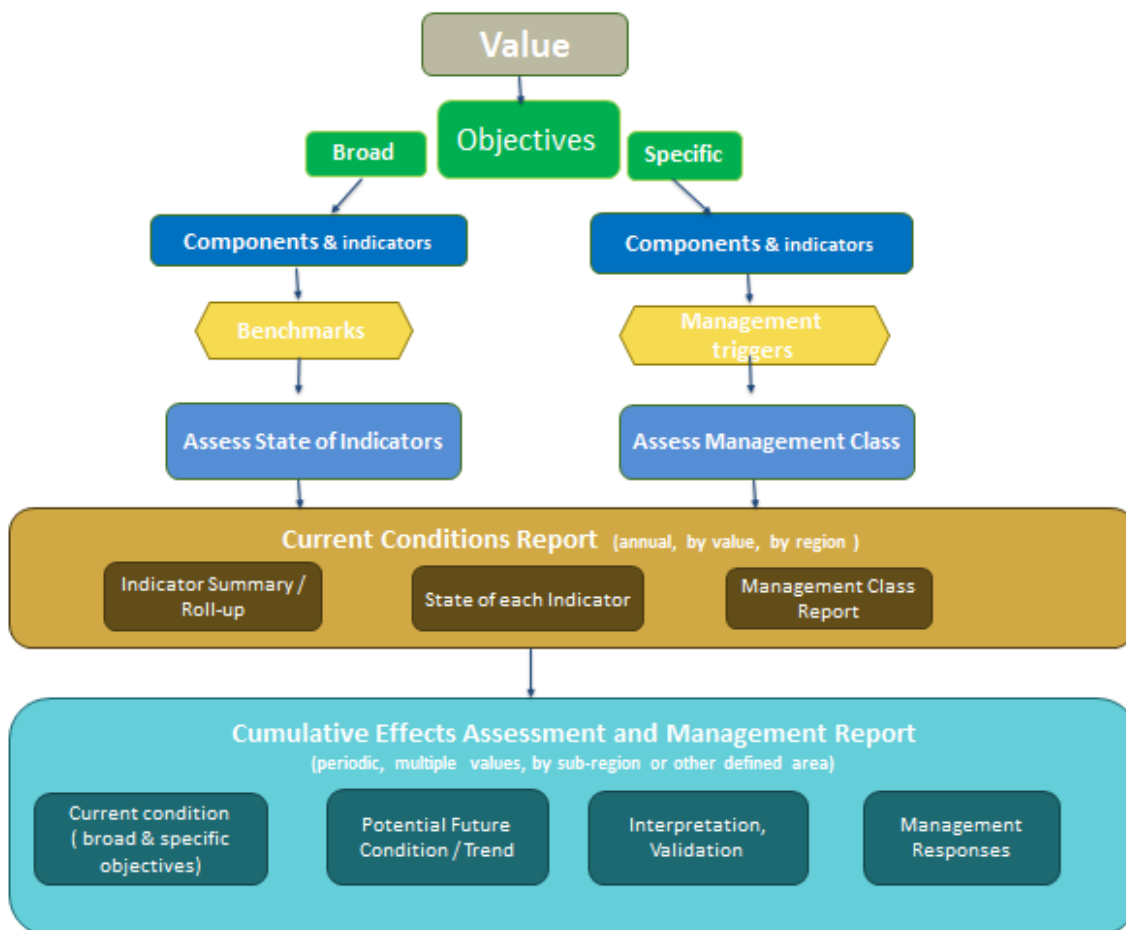


Figure 3: Overview of approach to CE assessment and reporting.

For each CEF value, the following shall be defined and documented within an approved assessment protocol.

*Objectives* The desired condition of a value (or component or indicator associated with a value) as defined in legislation, policy or agreements with First Nations. Existing objectives are categorized as one of two types:  
**Broad Objectives** – that describe the overall desired conditions, usually for a value or component in a qualitative manner;  
**Specific Objectives** – that describe desired conditions, usually for a component or indicator associated with a value in a quantitative manner.

*Components* Features and attributes of a value that should be measured and managed to meet objectives associated with values.

*Indicators* The metrics used to measure and report on the condition and trend of a



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component (state indicators) and/or the process(es) impacting a component (pressure indicators).

*Benchmarks*

Reference points that support interpretation of the condition of an indicator or component. Benchmarks are based on our scientific understanding of a system and may or may not be defined in policy or legislation.

*Management Triggers*

Defined levels of condition that trigger a change in management response. Within the CEF there are two defined triggers:

**Regulatory/Policy Trigger** – The condition of a CEF value (or component or indicator of a value) that reflects a legal or policy objective and triggers a change in management response from enhanced to intensive management.

**Enhanced Management Trigger** – The condition of a CEF value (or component or indicator of a value) that triggers a change in management response from standard management to enhanced management.

Conceptual models define the key components and indicators for each value. Selected indicators will be periodically measured and reported to provide a strategic assessment of conditions in relation to broad objectives defined for each value. Conditions will be assessed and reported based on their current condition. They include reference to applicable benchmarks.

Where there are specific objectives for a value with approved CE management triggers, conditions will be assessed and reported in relation to CE management classes (standard, enhanced or intensive) – indicating the likelihood that existing objectives are or will be achieved and corresponding expectations for management responses (described further in the *Part 2: Policy for Cumulative Effects Management*).

Further detail on reporting, including requirements for Current Condition Reports and Cumulative Effects Assessment and Management Reports is located in Section 8 of this policy.

## 5. Values Selection and Approval

*Note: It is a principle and commitment of the Cumulative Effects Framework to assess cumulative effects in relation to environmental, social and economic values. Pilot work completed to date has demonstrated potential approaches to assessment for all types of values, and has informed the development of this policy.*

*Phase 1 CEF Implementation has been focused on developing standards for assessing for a priority set of environmental values (biodiversity, old growth, aquatic ecosystems, grizzly bear and moose). Although these values have social and economic benefit associated with them, work is concurrently underway to confirm a standard approach to assessing social and economic*

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*values, and roles, responsibilities and priorities for the development of standard assessment protocols for selected values.*

*Future amendments to this policy will provide more specific direction for selecting and assessing social and economic values.*

5.1 A core set of values shall be identified as Cumulative Effects Framework Values, and shall be periodically assessed for cumulative effects at a regional scale (i.e., landscape- or strategic-scale, not administrative boundary) (see Appendix A for initial list of CEF values).

5.2 CEF values shall include a core set of provincial values that are relevant for consideration in all regions (e.g., air, water, ecosystems, social or economic values) and may include additional regionally specific values (e.g., priority species) that are relevant for consideration in one or more regions.

5.3 The following are primary criteria for the selection of CEF values:

- a. The value has been identified as a government priority for management as indicated by either:
  - i. the presence of existing management objectives in legislation, regulation, policy, strategic land use plans or other forms of management direction approved by executive levels of government;
  - or
  - ii. information indicating that the value is important for supporting First Nations interests and the exercise of Aboriginal or treaty rights.
- b. The value can be spatially identified and mapped.
- c. There is data available to support assessment of the value.
- d. The value is subject to cumulative effects (i.e., it can be affected by more than one activity).

5.4 Secondary criteria may be identified for the purpose of prioritizing the selection of CEF values that meet the primary criteria.

5.5 CEF values shall be approved by the NRS ADMs Committee, in accordance with approved procedures.

5.6 New provincial or regional values may be proposed and approved based on application of the same criteria outlined in this section.

## **6. Defining Assessment Protocols**

6.1 Direction for developing standard assessment protocols for each CEF value shall be defined in a Terms of Reference and shall include or reference the following:

- a. broad and/or specific objectives approved by the NRS ADMs,
- b. regulatory considerations related to decision-making that may affect the design and application of CE assessments.

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6.2 A standard assessment protocol shall be defined for all CEF values and shall include or reference the following:

- a. a summary of existing objectives (broad and specific) in legislation, policy or other forms of agreements that describe desired condition of CEF values, and associated relevant management direction
- b. a summary of best available knowledge and data to support assessment, including scientific benchmarks
- c. a conceptual model for the value, including selected objectives (broad and specific), components, state and pressure indicators and benchmarks
- d. a procedure for assessing the condition of the value, including indicators, data sources and any assumptions or uncertainties regarding use of the data, assessment units, and links to GIS scripts
- e. a procedure for assessing current mitigation measures (e.g., conservation designations)
- f. proposed management triggers, and rationale for their selection, where applicable
- g. identifying implementation mechanisms and potential barriers for each resource sector;
- h. assigning roles and responsibilities for a value custodian(s) for each value, to support implementation, review and updates to protocols.

6.3 CEF Assessment Protocols may include regionally specific modifications, consistent with approved criteria for enabling regional variability in assessment procedures. Where modifications are approved, the modified assessment must replace the standard assessment for the area.

6.4 CEF Assessment Protocols may include direction for incorporating new or improved information for assessments, including information collected and submitted to government by third parties.

6.5 CEF Assessment Protocols must be approved by the NRS ADMs committee.

6.6 Proposed CE Management Triggers must be approved by the NRS ADMs and include a rationale for selection and analysis of implications of implementing the proposed triggers.

## 7. Assessing Condition and Trend

7.1 An assessment of current condition (see Table1) shall be periodically completed for all *CEF values*, in accordance with approved CEF Assessment Protocol for each value.

7.2 An assessment of potential future condition (see Table1) shall be periodically completed for all CEF values, and may include one or more of the following:

- a. an assessment of the effects of *certain* future activities
- b. an assessment of the effects of *reasonably foreseeable* future activities

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c. an assessment of the effects of *hypothetical* long-term scenarios of activities and natural processes.

Level	Time frame	Description
<b>Current Condition</b>	<b>Historic to present</b>	Evaluates current condition of CEF values, based on selected indicators and defined objectives. Assessment of current condition incorporates the effects of historic activities. Annual updates to condition provide recent trend information.
<b>Assessing Potential Future Condition</b>		
<b>Certain/ Probable Activities</b>	<b>Near-term future:</b> 1-3 years	Evaluates the effects of all activities that are <i>certain</i> or <i>very likely</i> to proceed (e.g. authorizations/operational plans have been approved) on CEF values.
<b>Reasonably Foreseeable Activities</b>	<b>Near-term future:</b> 1-10 years	Evaluates the effects of all <i>reasonably foreseeable activities</i> (e.g. applications have been submitted, intentions for development announced) on CEF values.
<b>Hypothetical Long-term scenarios</b>	<b>Long-term</b> 10-200 years	Qualitative description or modelled scenarios of development and natural disturbance assessed over long periods of time. Can incorporate climate change scenarios. Intended to support strategic decision-making for an area (e.g. establish/revise land use objectives, allocation decisions).

**Table 1. Temporal scales and approaches to CE assessment**

7.3 An assessment of the current level of mitigation for CEF values shall be periodically completed to identify the extent of current conservation and protection measures for each value.

7.4 Assessment results shall be reviewed to:

- a. validate assessed conditions with best available monitoring information, expert opinion, local and traditional knowledge
- b. identify key factors likely affecting the condition of values
- c. interpret consequence of effects if they are realized
- d. define uncertainty in assessment methods and sensitivity of results to those uncertainties, and
- e. identify possible management responses, potential implementation mechanisms or barriers and any additional actions necessary (e.g., orders made under regulation).

## 8. Reporting Cumulative Effects

8.1 Current Condition Reports (for each CEF value) shall include:

- a. a summary of the assessed current condition for the value, including:
  - i. maps of the current condition of each indicator by assessment unit and reporting unit
  - ii. an indicator summary map with a roll-up (count) of results across all indicators by assessment

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unit and reporting unit

- iii. maps of the assessed management class for indicators with approved CE management triggers.
- b. a description of the limitations and sensitivity to uncertainties in the data and assessment results.

8.2 Cumulative Effects Assessment and Management Reports shall include:

- a. a brief description of the reporting unit, values assessed and procedure for assessing each value
- b. a summary, including maps, of the current condition of all CEF values for the selected reporting unit, illustrating:
  - i. the current condition and trend for indicators assessed
  - ii. the management class for each indicator with approved management triggers
- c. a summary of the potential future condition for all CEF values, and
- d. a description of the limitations and uncertainties in the data and assessment results.

The following shall also be included in *Cumulative Effects Assessment and Management Reports* upon completion of the cumulative effects review process (*See Part 2: Policy for Cumulative Effects Management*):

- e. approved or recommended management responses to address cumulative effects, and
- f. a summary and rationale for approval by the NRS ADMs.

8.3 Data and information used to complete CEF assessments shall be freely and openly available in accordance with provincial legislation and policy.

## 9. Engagement

9.1 First Nations and broadly affected stakeholders shall be provided opportunity to review and provide feedback on draft *Provincial Assessment Protocols* for each value.

9.2 First Nations and potentially affected stakeholders shall be notified when a CEAM report is being initiated and invited to provide information and knowledge (local, traditional and expert) regarding the values selected for assessment that may be considered in the assessment process.

9.3 First Nations and potentially affected stakeholders shall be invited to review and provide feedback on draft Cumulative Effects Assessment and Management reports before they are approved.

9.4 Opportunities for collaboration and partnership with First Nations and affected stakeholders may be provided subject to interest and available resourcing.

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## 10. Policy Approval

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*On behalf of*  
Natural Resource Board

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## **Appendix A: Initial List of CEF Values**

The following is an initial list of CEF values identified in the 2014 CEF Overview Report and Implementation Plan:

- Forest Biodiversity
- Old Forest
- Aquatic ecosystem (riparian)
- Priority Species
  - Grizzly bear, moose, deer, caribou, fish
- Water Quantity and Quality
- Air Quality
- Resource Capability (e.g. Timber)
- Visual Quality
- Cultural Heritage
- Economic Wellbeing
- Social Wellbeing