

AN OVERVIEW OF THE BC CUMULATIVE EFFECTS FRAMEWORK – CEF 101

UPDATED: DECEMBER 2021



Outline

- Overview of the BC CEF
- CEF process:
 - Selecting values
 - Assessment
 - Reporting
 - Application in decision-making
- Linkages to other provincial initiatives
- Where to find more information



A scenic landscape photograph of a mountain valley. In the foreground, a river flows through a lush green valley, surrounded by dense evergreen forests. The middle ground shows rolling hills and more forested areas. In the background, majestic mountains with significant snow cover rise against a cloudy sky. The overall scene is a beautiful representation of a natural environment.

Cumulative Effects

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

BC Cumulative Effects Framework



WHAT IS THE BC CEF?

A set of policy, procedures, governance and decision tools to support CE assessment and management in British Columbia.

WHAT ARE THE GOALS?

- Improve ability to manage values and achieve desired conditions
- Support consideration of Aboriginal and Treaty rights and interests
- Support efficient, streamlined decision-making
- Support durable, transparent decisions

BC Cumulative Effects Framework



Cumulative effects are assessed at the **landscape level**



Combines the impacts from multiple **human activities and natural processes** on the landbase



Identifies **key areas of concern** to manage cumulative effects on values



Provides information on the **current condition** of values; can be used to track **trends over time** and/or be used for **future scenario assessments**



Information can be used to **inform benchmarks & set objectives**



Can use information to **inform land use planning** and overall value management



CEF Interim Policy for the Natural Resource Sector

- The [CEF Interim Policy](#) was approved by Natural Resource Deputy Ministers in October 2016
- No new legal requirement or authority
- Natural Resource Board letter to Statutory Decision Makers in February 2017 conveys expectation to consider policy and available CE assessments in natural resource decision-making
- Interim Status reflects a commitment to:
 - Continue engagement with First Nations
 - Evaluate implementation and revise as needed

CEF Process

1

SELECT CEF
VALUES

2

DEVELOP
PROTOCOL

3

ASSESS
CONDITION

4

REPORT
CONDITION

5

APPLY IN
DECISION
MAKING

REVIEW & REPEAT

CEF Values

The Interim CEF Protocol defines values as:

“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, defined in policy, legislation or agreements with First Nations”



Value Selection

Primary Criteria for Value Selection

- Have approved management objectives (e.g. in legislation, regulation, policy and/or land use plans)
- Supports Indigenous interests and the exercise of Aboriginal or Treaty Rights
- Be spatially mappable
- Be subject to cumulative effects (i.e. can be affected by more than one activity)

Other Criteria for Value Selection/Prioritization

- Be complimentary, not redundant, to other CE values (i.e. the suite of values provide a good 'picture of conditions')
- Can represent nested values
- Have available data
- Defined in case law

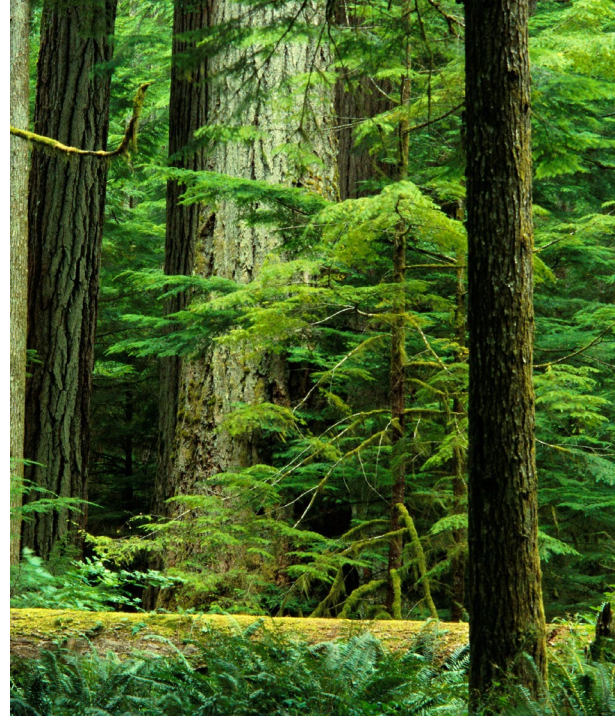
Provincial & Regional Values

PROVINCIAL VALUES

- Assessed across the entire province following CEF Protocols
 - Grizzly Bear
 - Aquatic Ecosystems
 - Old Growth
 - Moose
 - Forest Biodiversity

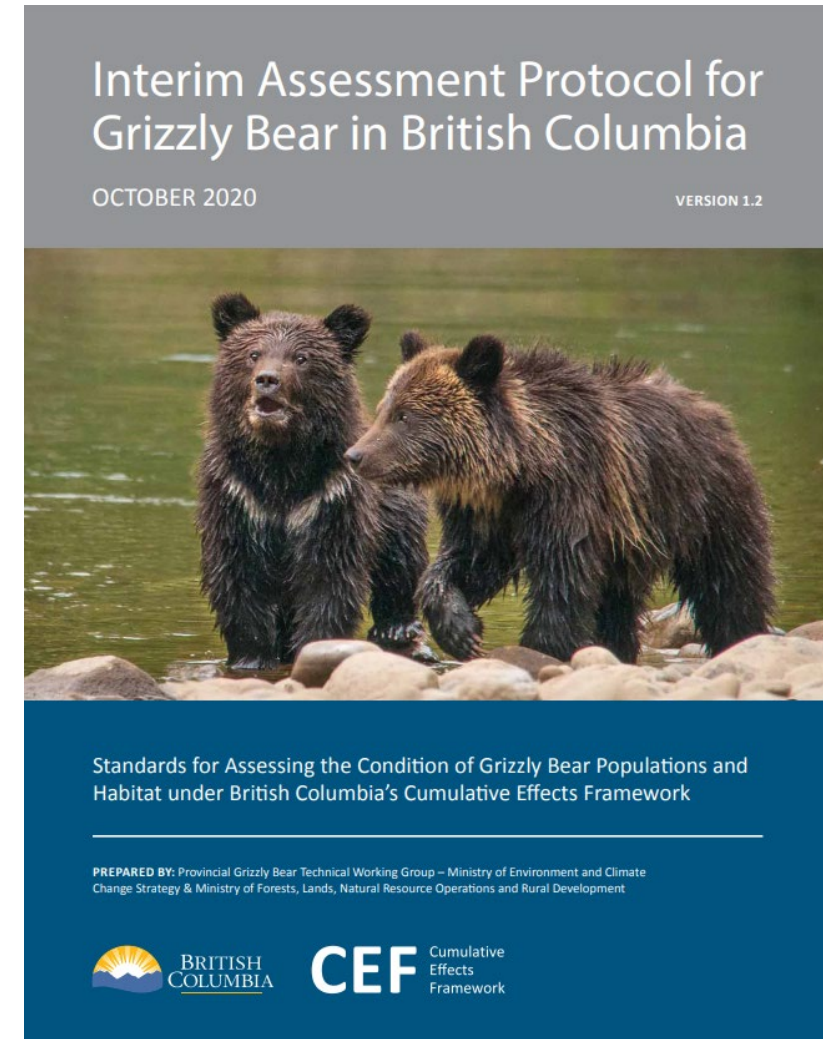
REGIONAL VALUES

- Assessed on a regional basis due to importance in certain parts of the province
- May be identified through programs or initiatives in partnership with First Nations
- A sample of regional values being assessed:
 - Species: Bighorn Sheep, Mule Deer, Elk, Marbled Murrelet, Northern Goshawk
 - Fish & Fish Habitat
 - Visual Quality
 - Cultural Cedar






CEF Protocols

- Standard methodology for assessing the current condition of provincial CE values
- GIS-based assessment using publicly available provincial data
- Periodically reviewed and updated as new information becomes available
- Assessment Protocol documents describe:
 - Government objectives for the value (or desired conditions)
 - Conceptual model and assessment methods, including value components, indicators, benchmarks, management triggers and assessment units
 - Data sources, analysis assumptions and uncertainty of indicators and data





Provincial Values & Indicators

- Indicators are the metrics used to measure and report on the condition and trend of a component. These include:
 - State Indicators** that directly measure and report on the condition of a component, and
 - Pressure Indicators** that measure and report on processes that act upon or influence the condition of a component

GRIZZLY BEAR	OLD GROWTH	FOREST BIODIVERSITY
<ul style="list-style-type: none"> Population Rank Number of Bears⁺ Mortality Rate Road Density⁺ Core Security Front Country Hunter Day Density Quality Food⁺ Poor Forage Potential Habitat Protection⁺ 	<ul style="list-style-type: none"> Spatial Old Growth Forest (OGMA Retention) <ul style="list-style-type: none"> Incursions into Legal OGMA's Incursions into Non-Legal OGMA's Non-Spatial Old Growth Forest (Old and Mature Forest) <ul style="list-style-type: none"> Amount of Old Forest Amount of Old and Mature Forest 	<p>Habitat Change:</p> <ul style="list-style-type: none"> Mature and Old forest amount (compared to historic) Early seral amount (compared to historic) Insects and wildfires⁺ Forest conversion development⁺ <p>Habitat Connectivity:</p> <ul style="list-style-type: none"> Patch size distribution <p>Species Dynamics:</p> <ul style="list-style-type: none"> Mature and old forest interior amount Area undisturbed by roads and linear features 

⁺ Supplemental indicators

Provincial Values & Indicators

AQUATIC ECOSYSTEMS	MOOSE
<ul style="list-style-type: none"> • Road Density • Road Density <100m from a Stream • Road Density on Potentially Unstable Slopes • Stream Crossing Density • Habitat Protection Riparian Disturbance Streams- Linear Based Measurement • Proportion of Riparian Disturbance for Streams, Lakes & Wetlands- Area Based Measurement⁺ • Peak Flow • Wetland Disturbance⁺ • Total Land Disturbance⁺ • Land Ownership⁺ • Mines⁺ • Permitted Waste Discharge⁺ • Water Withdrawals⁺ • Dams⁺ 	<ul style="list-style-type: none"> • Habitat Baseline • Landscape Shelter • Static Habitat • Roads • High Suitability Winter Habitat • Population Trend • Vulnerability to Hunting • Adult Female Survival Rate • Juvenile Recruitment Rate
	
	⁺ Supplemental indicators

Assess & Report Condition

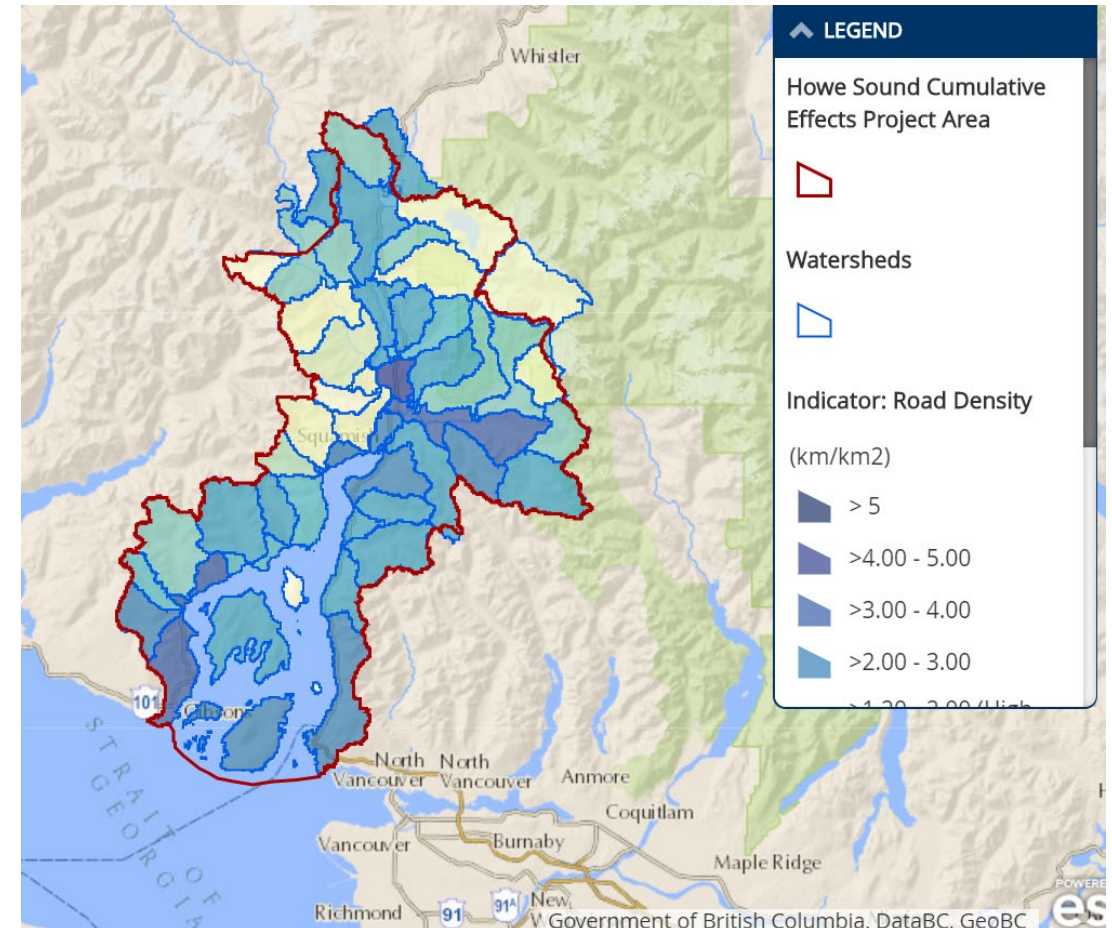
1 COLLECT DATA



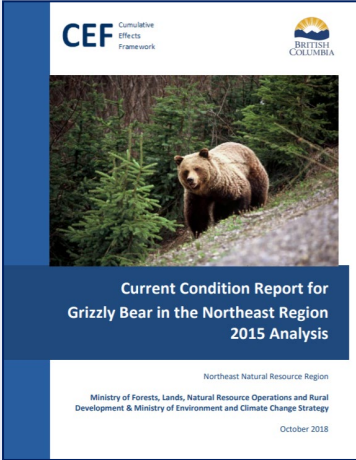
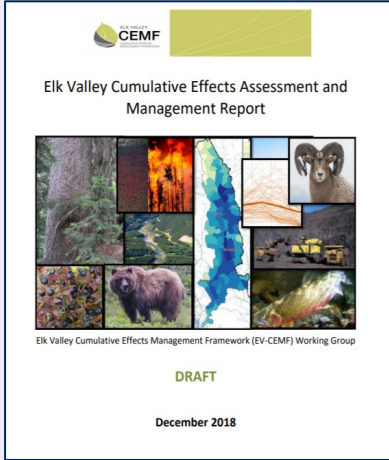
2 RUN ASSESSMENT MODEL

Order	Data Category	Description	Source	Project File Name	Feature Query
1	Admin	Freshwater Atlas Assessment Watersheds	WHSE_BASEMAPPING.FWA_ASSESSMENT_WATERSHEDS_POLY	BC_FWA_Assmnt_Units	WATERSHED_TYPE <> 'L'
2	Admin	Coastal/Interior Watershed Designation	WHSE_LAND_AND_NATURAL_RESOURCE_EAUBC_ECOREGIONS_SP	na	FRESHWATER_ECOREGION = 'North Pacific Coastal'
3	Admin	BC CE Sub-Regional Reporting Units	ries\BCCE_SubRegional_Reporting_Units\BC_CE_SubRegional_Reporting_Units.gdb\BC_CE_SubRegional_Reporting_Units_No	na	na
4	Admin	1:50k Mapsheets	WHSE_BASEMAPPING.NTS_50K_GRID	Grid_50k	na
5	DEM	Slope	W:\srm\bcce\shared\data_library\DEM\B C_SlopePercent_20150218.gdb\BC_slopePercentMosaic	slope60_poly	value > 50 (DQC) value > 60

3 REPORT RESULTS



CEF Reporting

	Current Condition Report (CCR)	Cumulative Effects Assessment and Management Report (CEAM)
		<div> <p>EXAMPLE TRIGGERS FOR CEAM:</p> <ul style="list-style-type: none"> • Concern objectives are not being met • Significant rate of change in condition • Significant amount of proposed development </div> 
Scale/ Reporting Area:	Natural resource region	Natural resource region/ sub-regional assessment area
Context:	Single value	All values for the area
Content:	<ul style="list-style-type: none"> • Current condition • Historic trend (where available) • Interpretation of assessment results • Management recommendations 	<ul style="list-style-type: none"> • Collates and summarizes CCRs for the area (current condition & historic trend where available) • Potential future condition • Management responses

Application in Decision-Making

STRATEGIC & TACTICAL DECISIONS

- Land use plans, resource plans, objectives, regulation

OPERATIONAL DECISIONS

- Authorizations such as permits, licenses, and tenures
- Major Project assessment

FIRST NATIONS CONSULTATION AND ENGAGEMENT

- Hunting, Fishing, Cultural Use

CE information has recently been used to inform:



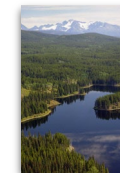
Environmental Assessments



Annual Allowable Cut Determinations



Objective Setting



Land Use Planning



Land Authorizations

Linkages to Other Initiatives

MODERNIZED LAND USE PLANNING (MLUP)

- CE information provides foundational baseline information on the status and trend of values

ENVIRONMENTAL STEWARDSHIP INITIATIVE (ESI)

- CEF is largely being delivered in the North through the ESI with the development of protocols and reports

COLLABORATIVE STEWARDSHIP FRAMEWORK (CSF)

- Using Western and Indigenous knowledge to enhance natural resource decision-making through a collaborative land stewardship approach

FOREST AND RANGE EVALUATION PROGRAM (FREP)

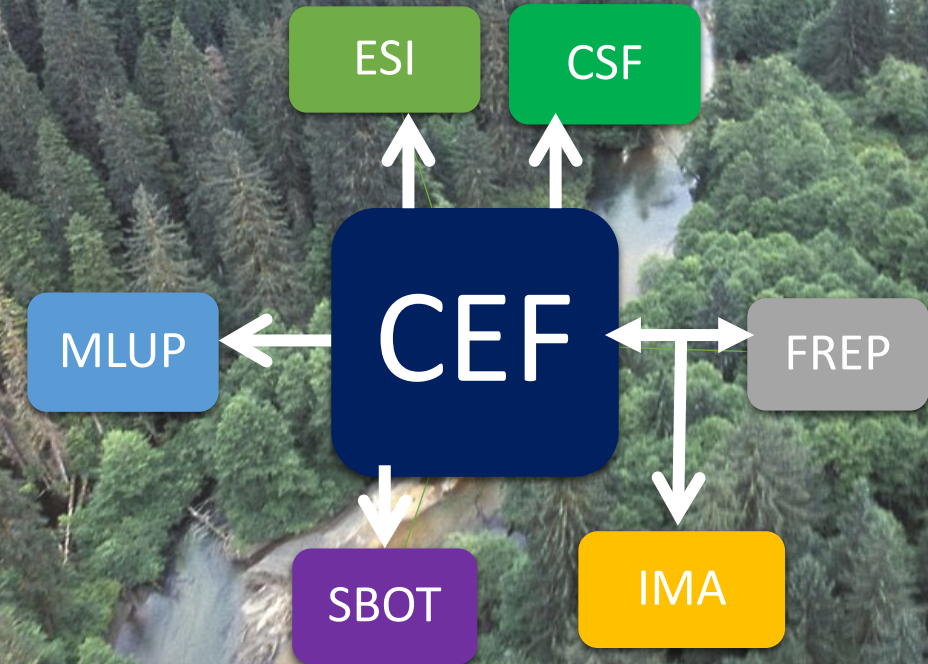
- Field-monitoring and data collection

INTEGRATED MONITORING & ASSESSMENT (IMA)

- CEF and FREP programs united into one integrated monitoring and assessment (IMA) section
- Provides further collaboration and alignment on status reporting for resource values

STEWARDSHIP BASELINE OBJECTIVES TOOL (SBOT)

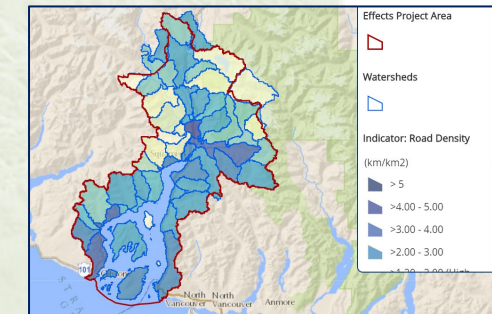
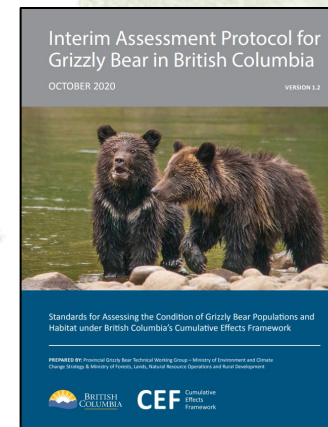
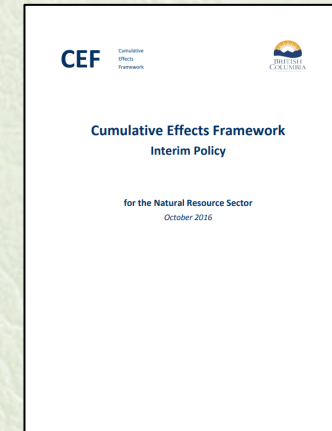
- CE + provincial and regional information for the South Coast



Where to Find Information

- Visit the [CEF Website](https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework) to find:
 - Interim CEF Policy
 - CE Protocols
 - Current Condition Reports/CEAMs & online web maps
 - Guidance materials
 - Case Studies
 - Learning materials
 - Engagement information

<https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework>



Contact Information



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