

The B.C. Cumulative Effects Framework (CEF)

Improved information, decision-making and
stewardship

May 2026



Outline

- Defining cumulative effects
- About the B.C. Cumulative Effects Framework
- CEF values and assessments
- Cumulative effects management
- Using CEF information
- Tools and resources

What are Cumulative Effects?

Cumulative effects result from the combined impacts of human activities and natural processes on the land over time.



What are Cumulative Effects?

Together, these impacts can affect environmental, social, and economic values that are important to people in B.C.



Why do we care about Cumulative Effects?

We need a complete understanding of these impacts so that we can manage natural resources sustainably, and support effective stewardship, for all people in B.C.



The B.C. Cumulative Effects Framework (CEF)



What is the B.C. CEF?

✓ The B.C. CEF is...

- ✓ A set of policy, procedures, governance and decision tools to:
 - ✓ Support CE assessment and management in B.C.
 - ✓ Provide direction and guidance through existing legislation

✗ The B.C. CEF is not...

- ✗ A legal document that establishes requirements
- ✗ A tool to make decisions
- ✗ A tool for setting thresholds for development

The CEF applies across all natural resource sector ministries and agencies, and is led by the Ministry of Water, Land and Resource Stewardship.

Key elements of the B.C. CEF



Assesses cumulative effects at the landscape level using consistent methods



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 land use planning, objectives and overall management of the value



Information can be used to provide context for operational decision-making

Benefits of the CEF

- ✓ **Consistent and transparent** assessment and management of cumulative effects
- ✓ **Proactive identification** of current and emerging risks
- ✓ **Faster and better** decision-making
- ✓ **Supports the government** in achieving legal and policy objectives for values
- ✓ **Timely access** to information for planning resource activities
- ✓ **Advances reconciliation** with First Nations partners through co-development, collaboration, and open-access data and assessments

CEF Interim Policy for the Natural Resource Sector

Provides direction to the government on how to integrate cumulative effects considerations into natural resource decision-making

Key components

- Identifies consistent standards for assessments and reporting
- General expectations for considering and managing cumulative effects
- Defines roles and responsibilities

Interim Status reflects a commitment to:

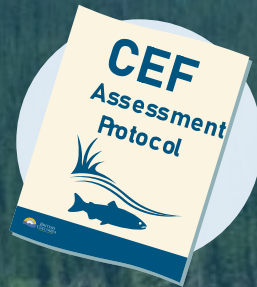
- Continued engagement with First Nations
- Evaluate implementation and revise as needed

CEF Process

Select value



Develop Assessment Protocol



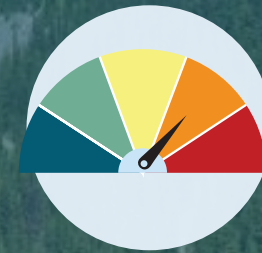
Gather data



Assess condition



Report condition



Inform decision-making



Review and repeat

CEF Values and how they are Assessed





Value assessment

- Summarizes the combined effects of past, present, and potential future activities on the condition and trend of a value
- A snapshot of how well the value is doing which helps identify any areas of concern

What is a CEF value?

“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”
— CEF Interim Policy (2016)



Provincial versus regional values

Provincial values

- Assessed across the **entire province** using CEF protocols
- **Current provincial values assessed include:**



Regional values

- Assessed regionally based on importance **within a certain area of the province**
- May be identified through programs or initiatives in partnership with First Nations
- **Some examples include:**
 - Specific species (e.g., Bighorn sheep and Northern Goshawk)
 - Fish and fish habitat
 - Visual quality
 - Peaceful enjoyment

How values are selected

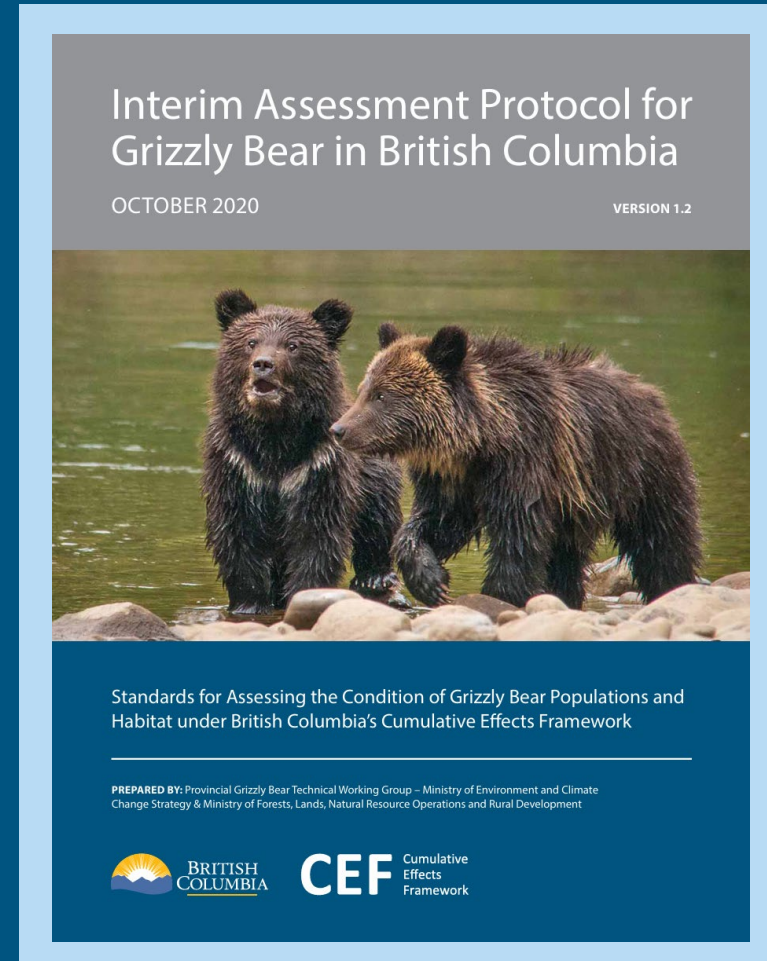
- ✓ Has been identified as priority for management (i.e., has approved management objectives and/or supports First Nations interests and their ability to exercise Treaty or Aboriginal Rights)
- ✓ Is spatially mappable
- ✓ Is subject to cumulative effects (i.e., can be affected by more than one activity)

Other considerations:

- Complementary to other values
- Represents nested values
- Publicly available data

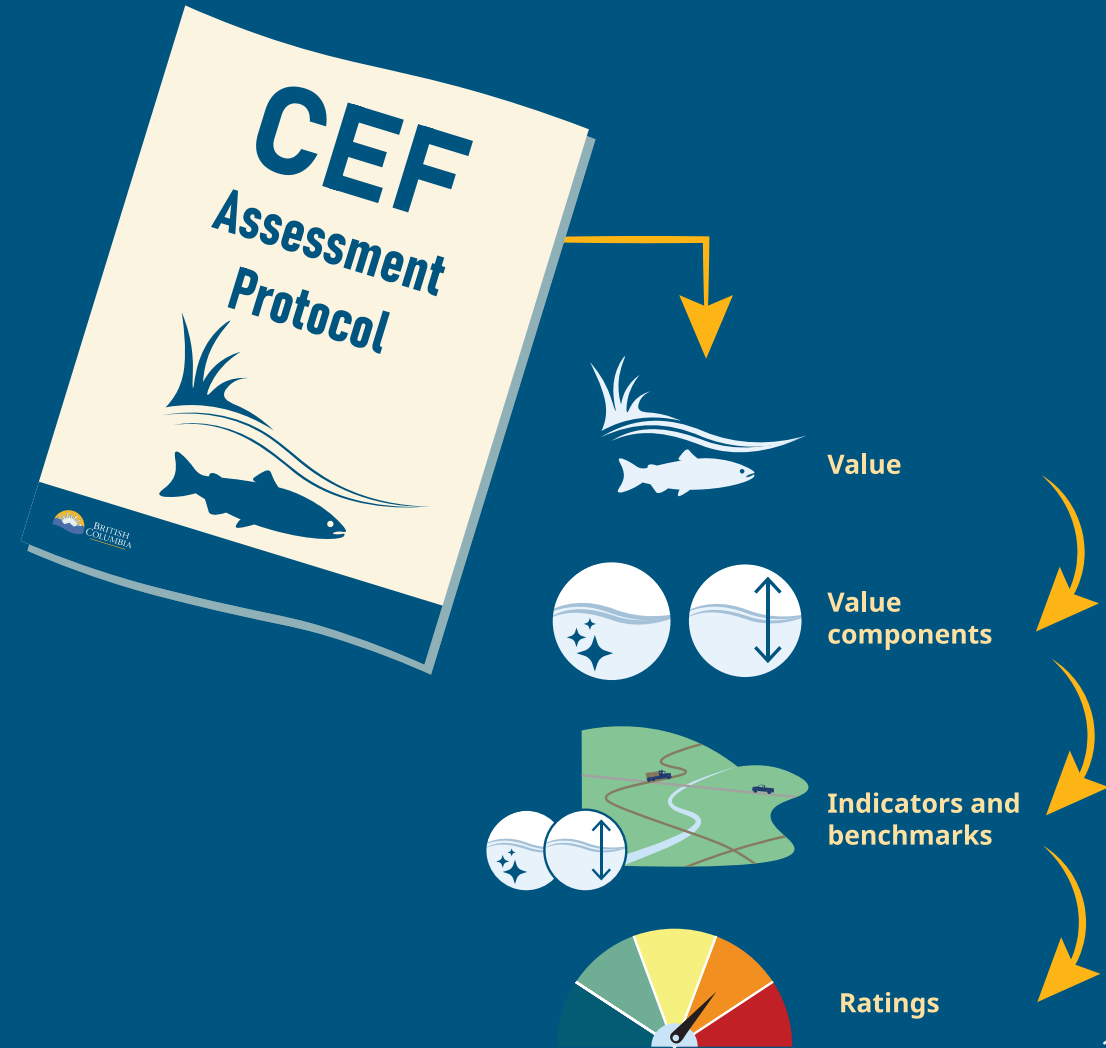
How Values Are Assessed: Protocol Documents

- Developed to provide a standard methodology for assessing the current condition of CEF values
- Is a GIS-based assessment that uses provincial, publicly accessible data
- Are periodically reviewed and updated as new information becomes available



How values are assessed: protocol documents

- **Protocol documents contain:**
 - Standardized methods to assess current condition
 - Government objectives for the value (desired conditions)
 - Conceptual model and assessment methods, including value components, indicators, benchmarks, and assessment units
 - Data sources, analysis assumptions, and uncertainty of indicators and data

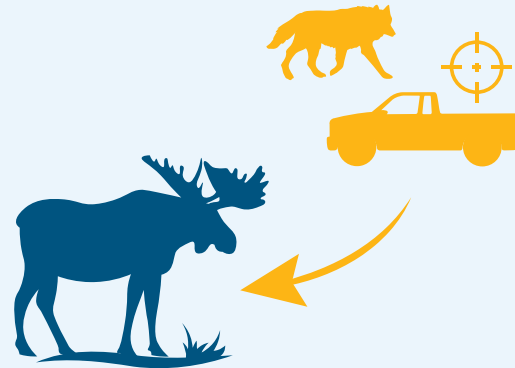


How values are assessed: indicators

- Indicators are metrics used to measure and report on the condition and trends of a value or component

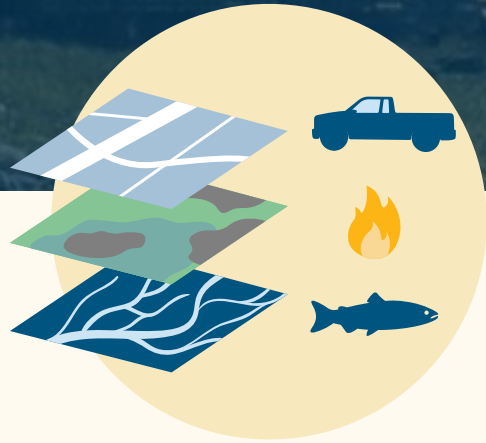


State indicators:
directly measure and report on the condition of a value or component



Pressure indicators:
measure and report on processes that act upon or influence the condition of a value or component

How values are assessed: Data collection and results



Collect data



Run the
assessment
model



Report results

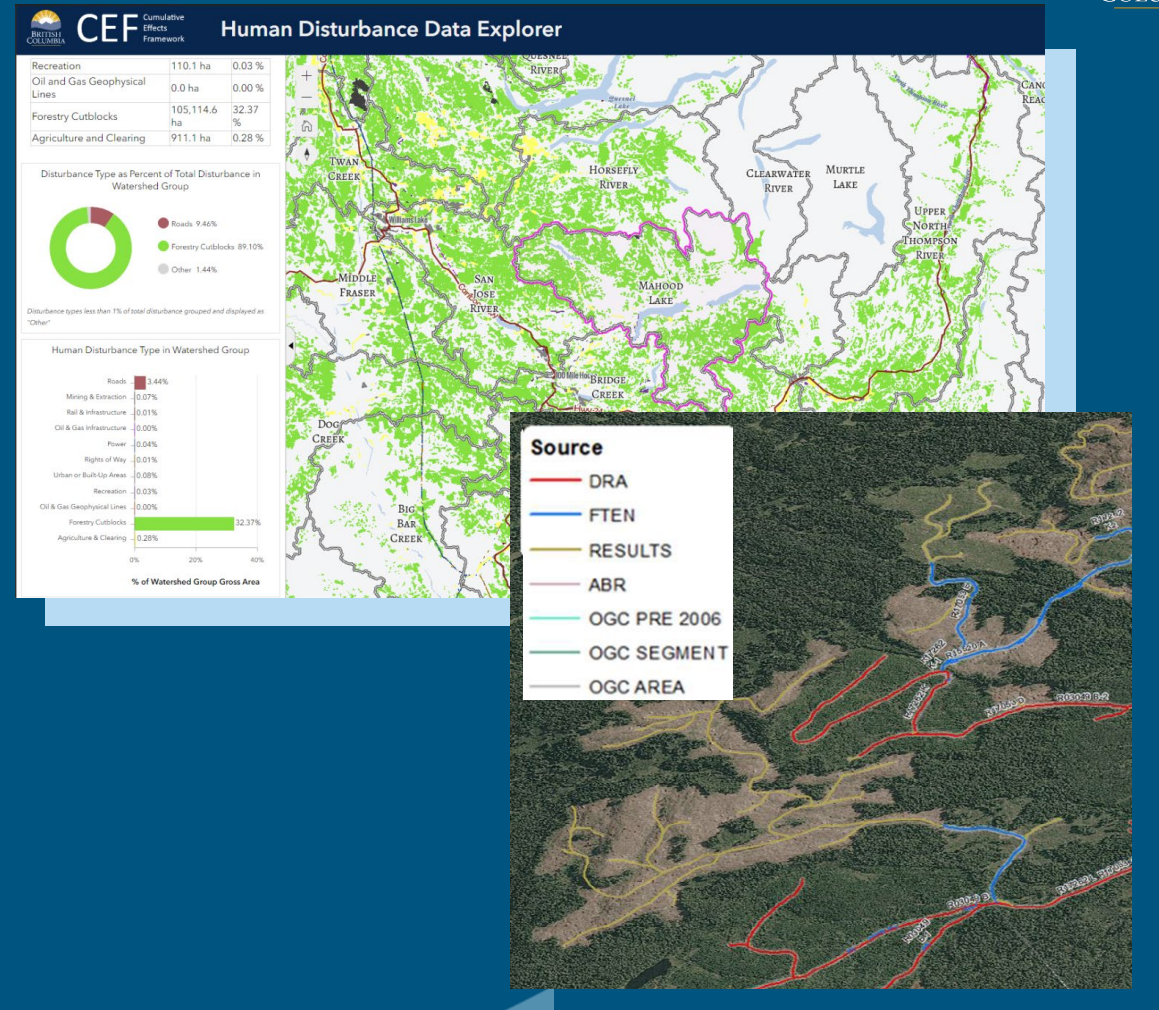
Key CEF Datasets

Human Disturbance Layer:

- Compilation of datasets that contribute to defining human disturbance on the land base
- Disturbance types are ranked according to permanence
- Roads are a separate data layer

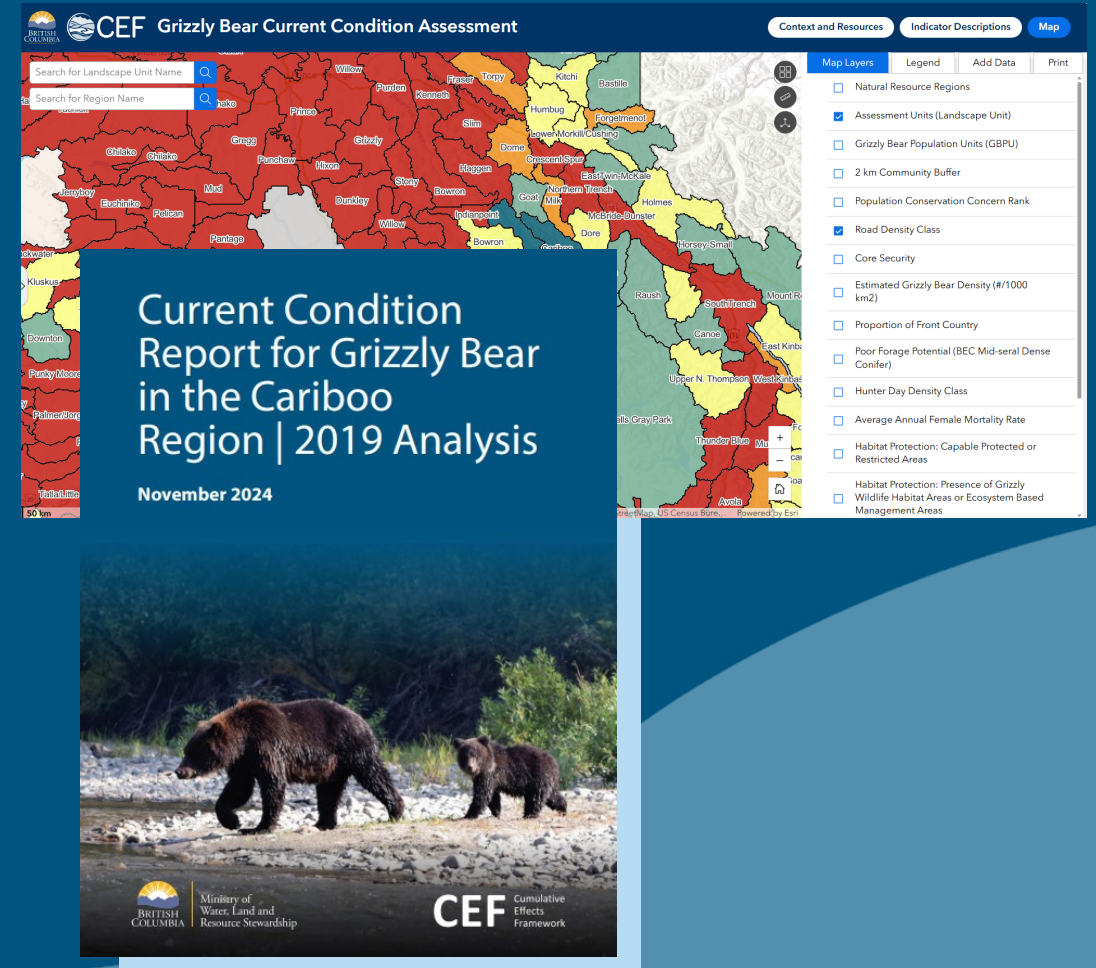
Integrated Roads Layer:

- Merges multiple road data sources into a single road line data set



How values are assessed: Reporting

- **Data** — CEF assessment results are published to the B.C. Data Catalogue
- **Visualization tools** — online, interactive way to view assessment results
- **Current condition reports** — summarize the current condition, interpret results and identify potential steps for improving the condition of the value where it is identified to be at higher risk



Cumulative Effects Management



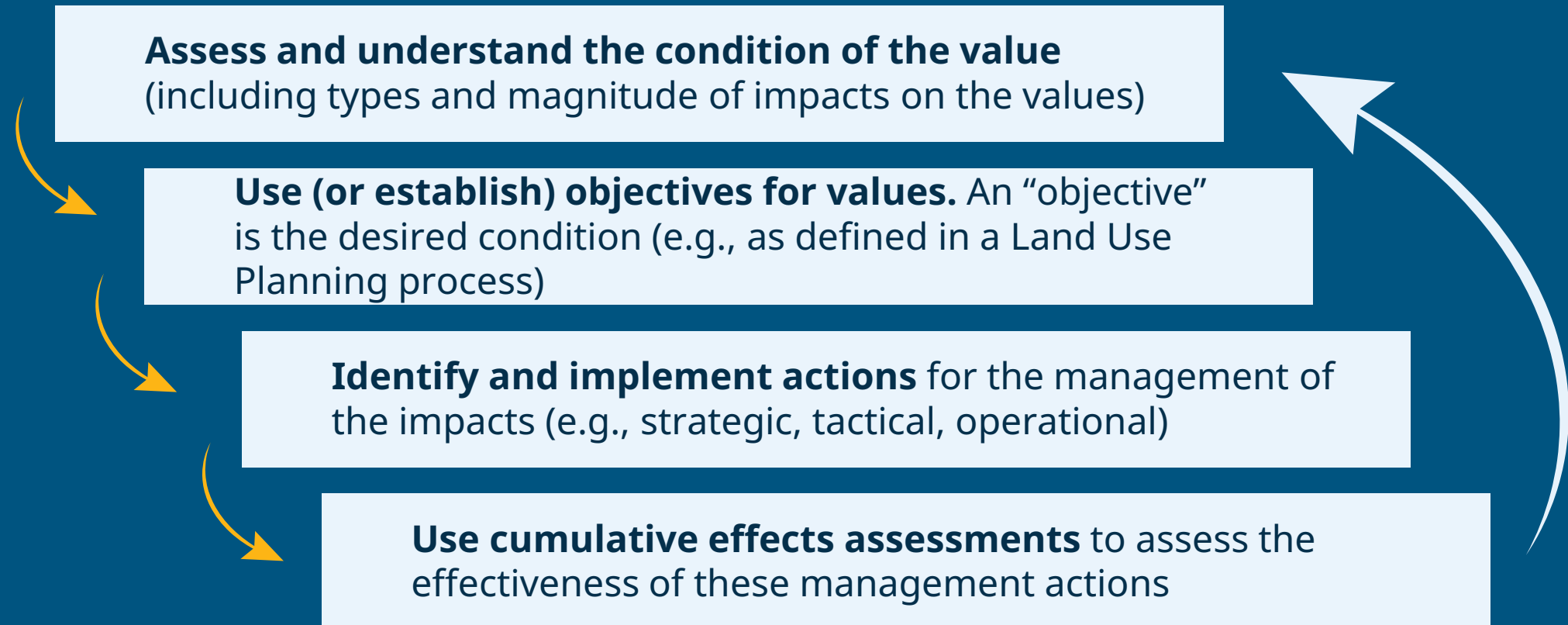
What is Cumulative Effects Management?

- Cumulative effects management is achieved through various plans, actions and activities; **no one single thing is CE management**
- Managing cumulative effects is a natural resource sector-wide responsibility
- The CEF helps ensure that cumulative effects on CEF values are identified, considered, and managed consistently by integrating CEF assessment results into existing decision-making processes
 - CEF assessments do not determine the decision outcome, they support informed decision-making



What is Cumulative Effects Management?

A cumulative effects management system consists of the following steps:



Cumulative Effects Management in Planning and Decision-Making



Strategic planning

- Landscape-level, cross-sector
- E.g., Land Use Plans, objectives-setting



Tactical planning

- Landscape level strategies
- E.g., Forest Landscape Planning



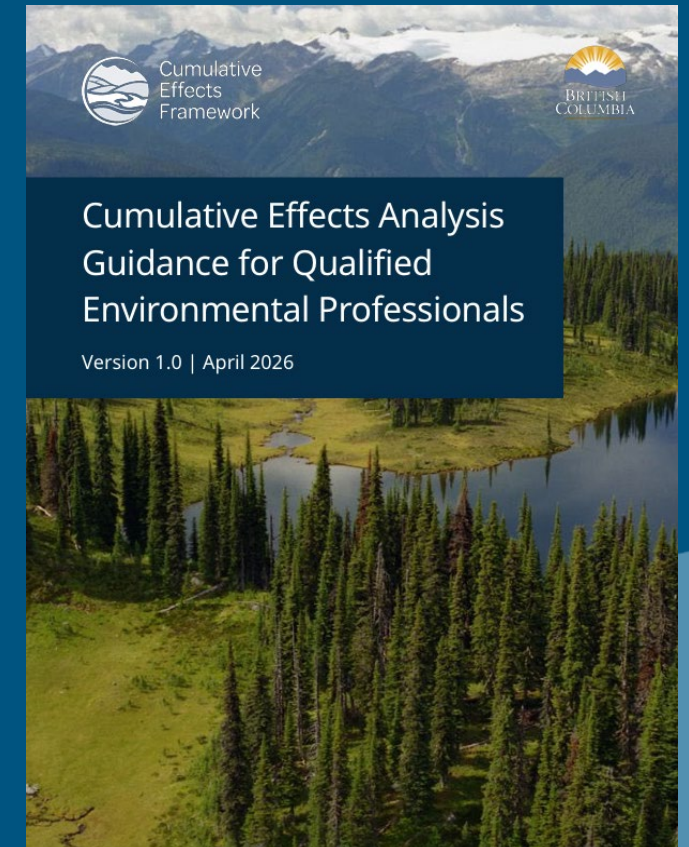
Operational decisions

- Project level, single sector
- E.g., Major Project assessments, permit authorizations

Using CE information

CE Analysis Guidance for Qualified Environmental Professionals (QEP)

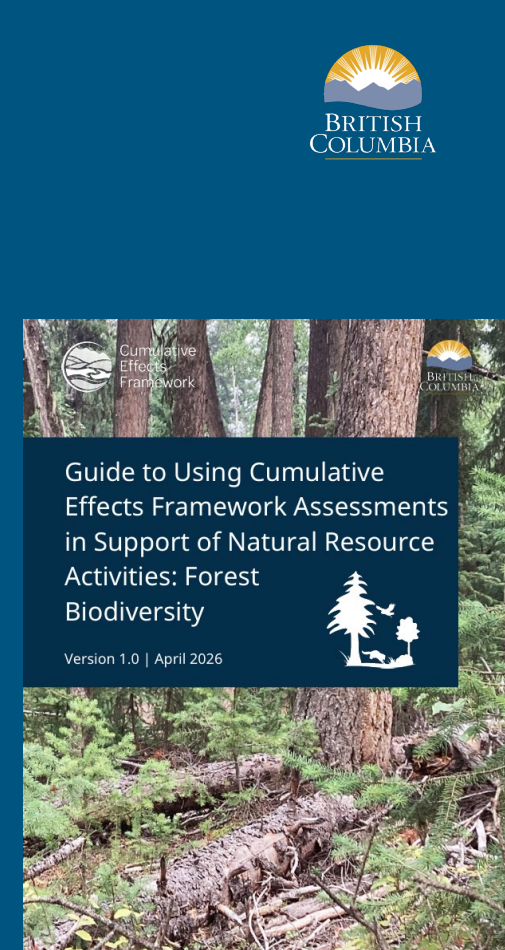
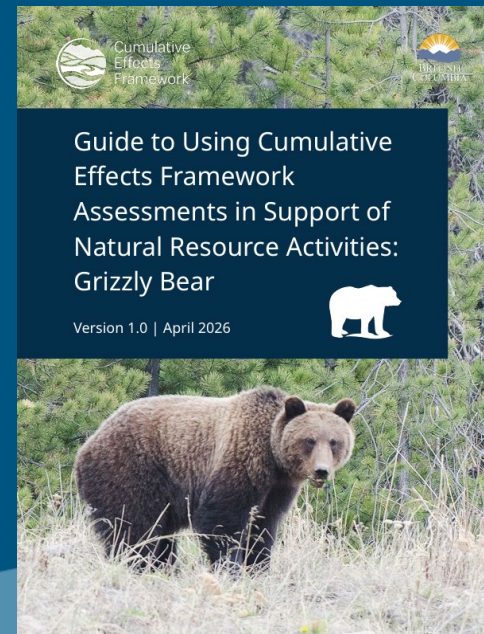
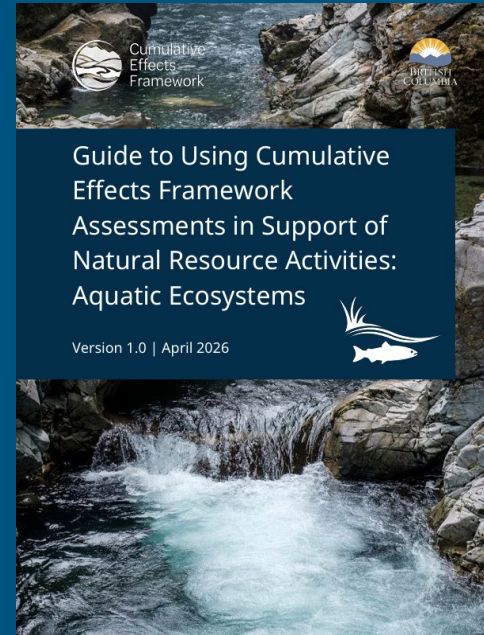
- For use by QEPs who are preparing applications for natural resource projects where a formal environmental assessment is not required, but cumulative effects analysis is needed
- Supports QEPs in how to consider and evaluate cumulative effects on environmental values, using CEF assessments and identify ways to mitigate project-related cumulative effects
- Also provides information on how to consider CE on values that do not have a CEF assessment available
- Available on the [CEF guidance page](#)



Using CE information

Value User Guides

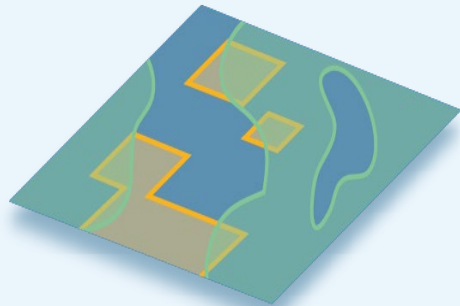
- Help users planning natural resource activities understand and apply B.C.'s cumulative effects assessment data
- Explain how to interpret current ecosystem conditions, assess an activity's potential contribution to risk and identify actions to reduce cumulative effects
- Relevant to operational activities of all sizes and across sectors, from simple permit applications (e.g. forest harvesting) to complex major developments (e.g. major projects)
- Available on the [CEF guidance page](#)



Connections to other initiatives

Land Use Planning (LUP) and Forest Landscape Planning (FLP)

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



Cumulative Effects Framework

Collaborative Stewardship Framework (CSF)

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



Cumulative Effects on First Nations' rights

- The B.C. Supreme Court decision in the *Yahey (Blueberry River First Nations) v. British Columbia* case increased focus and awareness of cumulative effects on First Nations' rights and way of life
- The CEF assesses cumulative effects on environmental values (e.g. moose, old growth forest); it does not assess cumulative effects on First Nations' rights (i.e., hunting and fishing rights, cultural and spiritual use)
- Information from CEF assessments may be helpful in determining potential impacts on harvested species (e.g., moose), or areas where rights-protected activities are carried out (e.g., old growth forests) but needs to be considered with other information to assess impacts to rights

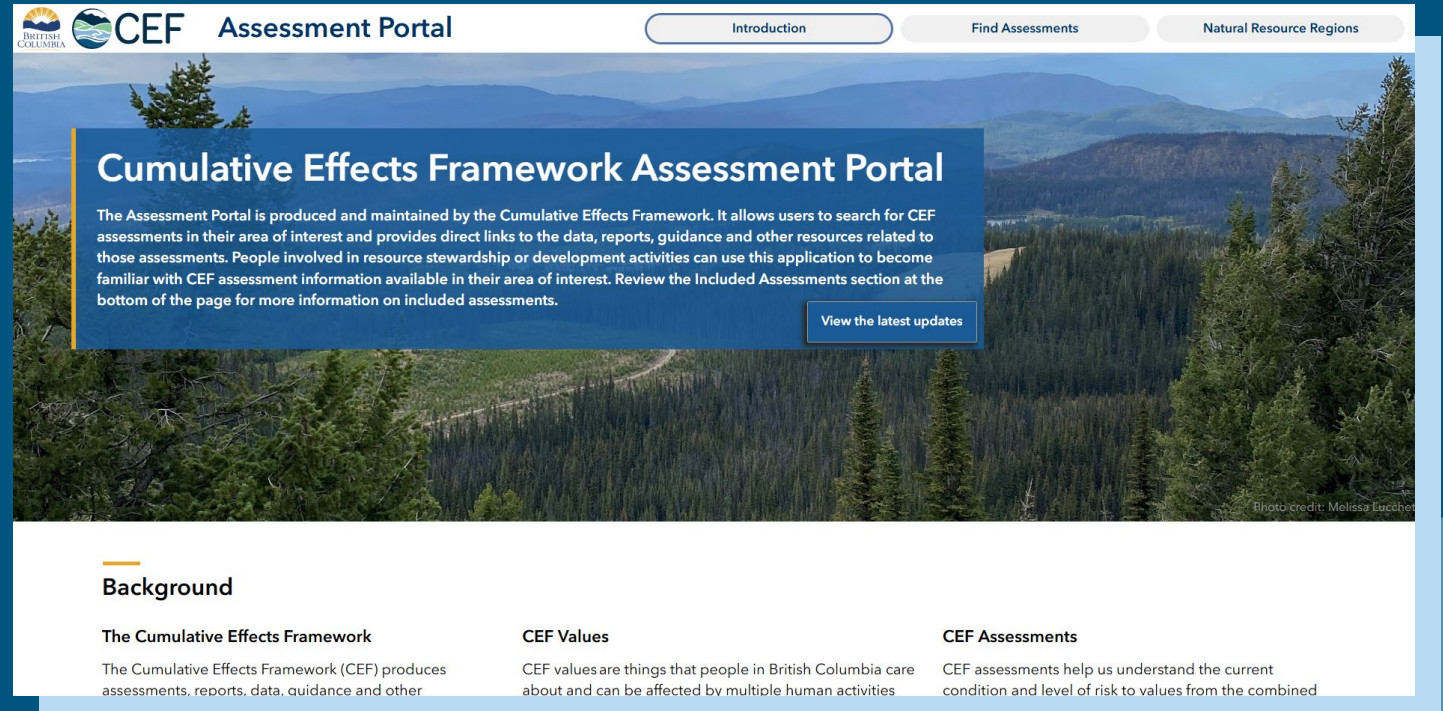


Tools and resources



CEF Assessment Portal

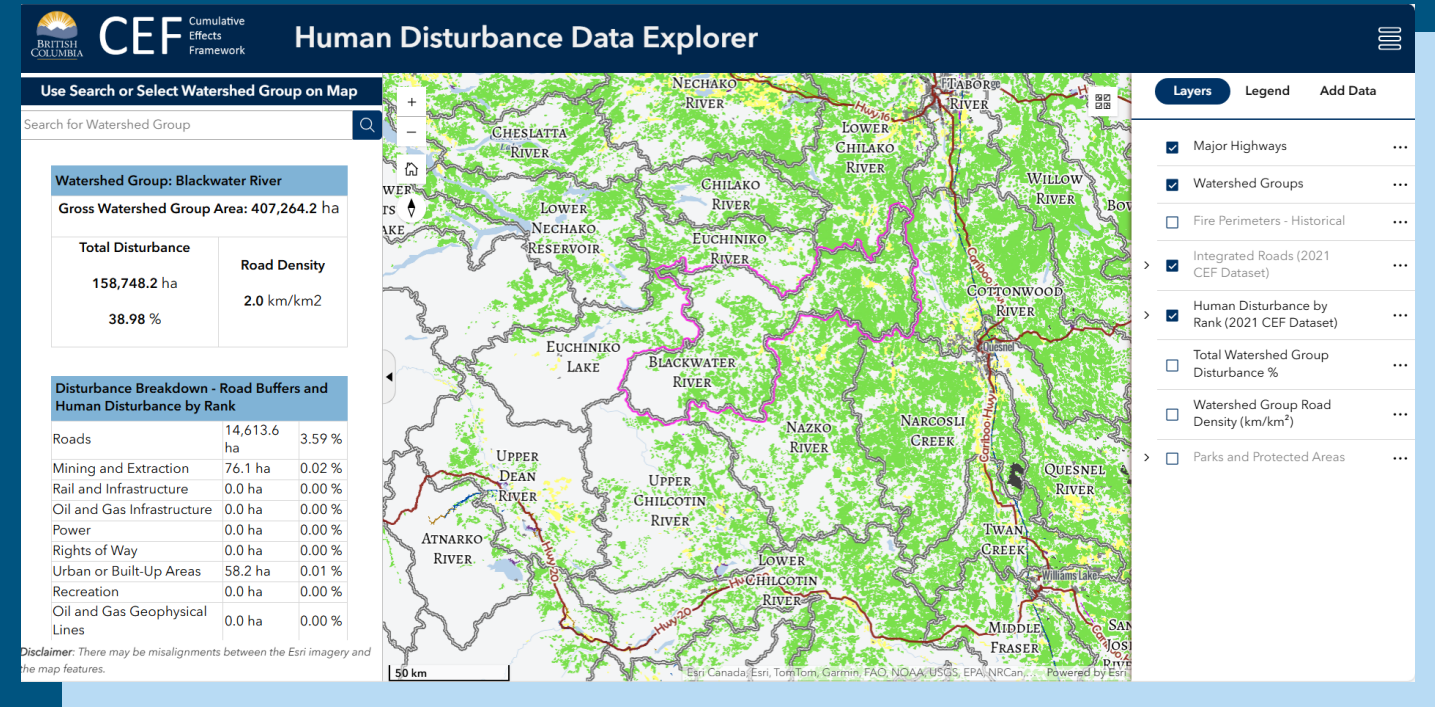
- Helps users identify available CEF assessments and related information within a specific area of interest
- Users can select a point, draw a shape or upload a spatial file to search an area



<https://experience.arcgis.com/experience/c90fc8a412d84aa09425244ef2db671e>

CEF Human Disturbance Data Explorer

- Allows users to view the CEF human disturbance and roads layers
- Provides summaries of disturbance and road density by watershed group



CEF Cumulative Effects Framework Human Disturbance Data Explorer

Use Search or Select Watershed Group on Map
Search for Watershed Group

Watershed Group: Blackwater River
Gross Watershed Group Area: 407,264.2 ha

Total Disturbance	Road Density
158,748.2 ha	2.0 km/km2
38.98 %	

Disturbance Breakdown - Road Buffers and Human Disturbance by Rank

Roads	14,613.6 ha	3.59 %
Mining and Extraction	76.1 ha	0.02 %
Rail and Infrastructure	0.0 ha	0.00 %
Oil and Gas Infrastructure	0.0 ha	0.00 %
Power	0.0 ha	0.00 %
Rights of Way	0.0 ha	0.00 %
Urban or Built-Up Areas	58.2 ha	0.01 %
Recreation	0.0 ha	0.00 %
Oil and Gas Geophysical Lines	0.0 ha	0.00 %

Disclaimer: There may be misalignments between the Esri imagery and the map features.

Layers Legend Add Data

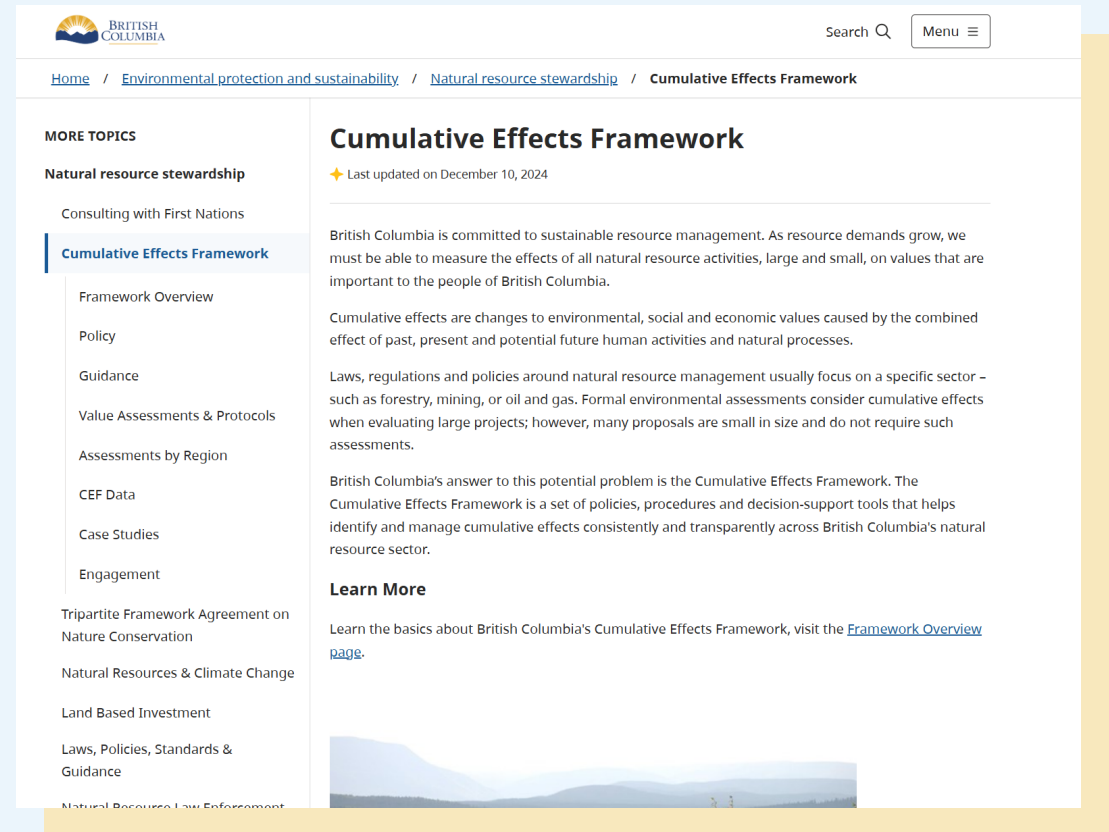
- Major Highways
- Watershed Groups
- Fire Perimeters - Historical
- Integrated Roads (2021 CEF Dataset)
- Human Disturbance by Rank (2021 CEF Dataset)
- Total Watershed Group Disturbance %
- Watershed Group Road Density (km/km²)
- Parks and Protected Areas

<https://experience.arcgis.com/experience/a974a9886d1241c8baaa2deba6d650e/>

Where to find more information

Visit the CEF website to find:

- CEF policy
- Value assessment protocols
- Links to web maps and data
- Guidance and learning materials
- And more!



The screenshot shows the British Columbia website page for the Cumulative Effects Framework. The page includes a search bar and a menu icon in the top right corner. The breadcrumb trail reads: Home / Environmental protection and sustainability / Natural resource stewardship / Cumulative Effects Framework. On the left, a 'MORE TOPICS' sidebar lists various categories, with 'Cumulative Effects Framework' highlighted. The main content area features the title 'Cumulative Effects Framework' and a sub-header 'Last updated on December 10, 2024'. The text explains that British Columbia is committed to sustainable resource management and that cumulative effects are changes to environmental, social, and economic values. It also mentions that the framework is a set of policies, procedures, and decision-support tools. A 'Learn More' section with a link to the 'Framework Overview page' is visible at the bottom of the main content area. A landscape image is partially visible at the bottom of the page.

Contact information

- For questions about the CEF, email: cumulativeeffects@gov.bc.ca



Ministry of
Water, Land and
Resource Stewardship