DAWSON REGIONAL LAND USE PLAN

3: CUMULATIVE EFFECTS MANAGEMENT



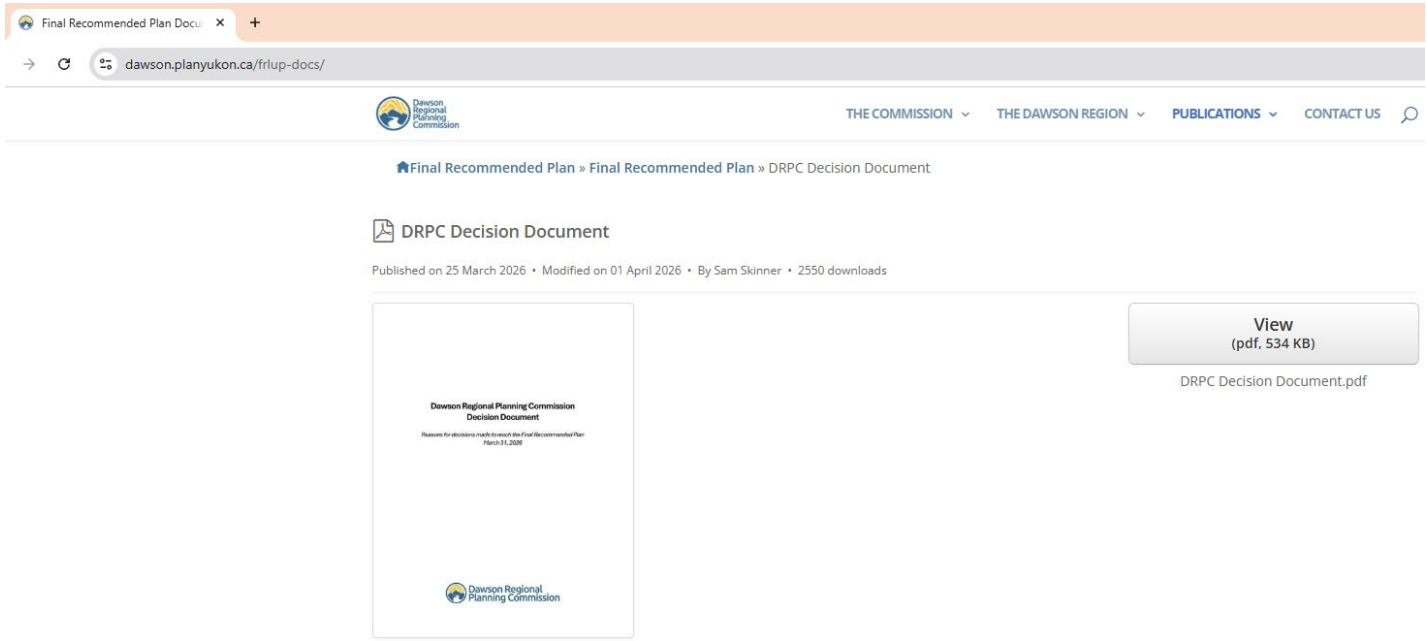
INTRODUCTION

This is a video series about the Final Recommended Dawson Regional Land Use Plan.

These videos provide a summary of the Plan.

For full details, please refer to the complete plan and associated content: www.dawson.planyukon.ca

For details about why certain decisions were made during the most recent version of the planning process, refer to the Commission's decision document: www.dawson.planyukon.ca/frlup-docs



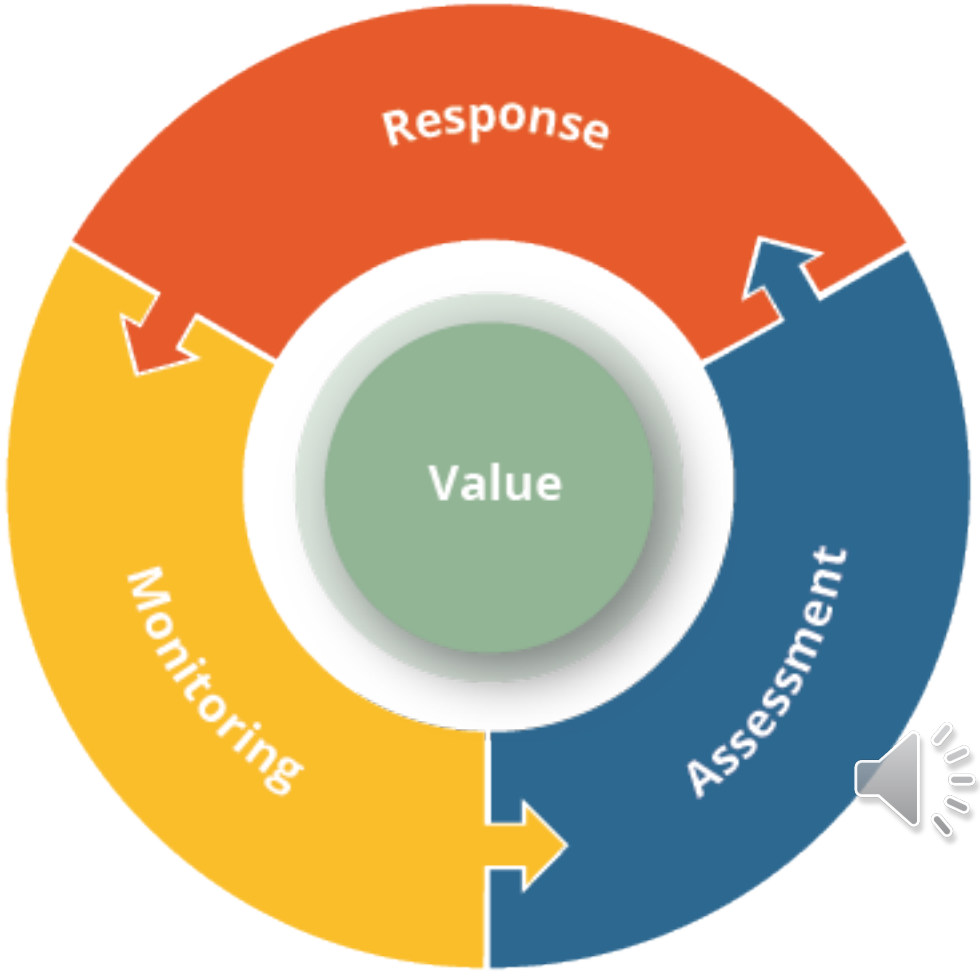
MANAGING CHANGE ACROSS THE REGION

- The Plan uses cumulative effects management to understand and respond to the combined impacts of human activities and natural processes.
- Values are what matter to people.
- Multiple activities can affect values over time.
- The Plan provides tools to monitor and protect values.



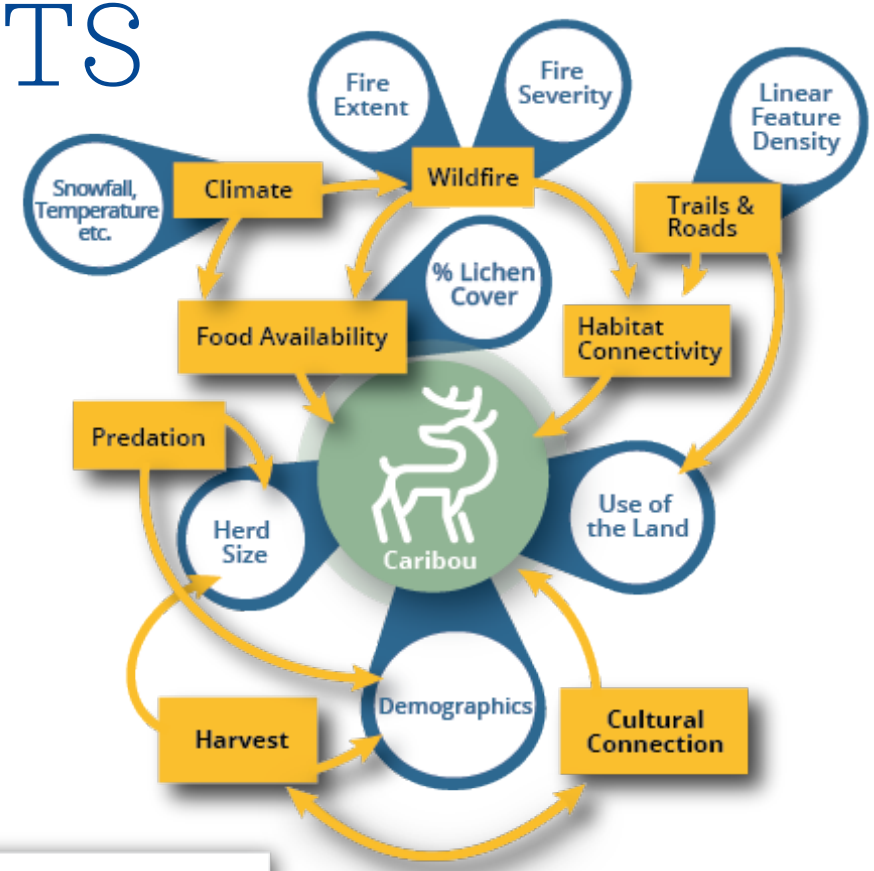
CUMULATIVE EFFECTS FRAMEWORK

- A systematic way to monitor, assess, and respond to changes in value health.Values are what matter to people.



CUMULATIVE EFFECTS MANAGEMENT

- A holistic approach that considers a wide variety of stressors to monitor, assess, and respond to changes in value health





CUMULATIVE EFFECTS MANAGEMENT

❖ Tools for managing cumulative effects in the Region:

- Cumulative effects framework to guide development of value-based
- indicators and related components and processes (Section 3.2 – 3.10).
- Reclamation framework to guide values-based reclamation (Section 3.11).
- Management directions framed around values (Section 5).
- Goals for each value that provide benchmarks against which value health can be measured to direct appropriate action (Section 5).
- Two broad indicators of human development footprint with tiered thresholds that trigger management responses to protect values, applied at the scale of Landscape Management Units (LMU) (Section 6).
- Priority values for each LMU (Section 6).
- Suites of management directions applied through overlays to serve values whose needs aren't met by LMU boundaries – for example, Section 5.3.4.

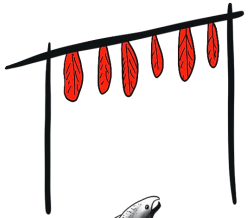


VALUES





















- Plant and Animal Relations
- Sustainable Local Economy
- Community Culture
- Community Resilience
- Moose/Jëjik
- Tr'ondëk Hwëch'in Culture, Heritage, and Hän Language
- Salmon/Tr'ojà'
- Caribou/Wëdzey
- Wetlands
- Land–People Relationship
- Landscapes
- Water/Chu

INDICATORS

- Indicators are measurable signs that tell us whether values are healthy.
- Good indicators are:
  - Relevant: There is a strong and well-understood relationship between value health and the indicator.
  - Accurate: The indicator accurately reflects changes in the value at temporal and spatial scales appropriate to the value.
  - Sensitive: The indicator responds measurably to stressors and/or mitigations.
  - Practical: The indicator can be measured with existing or achievable capacity and resources and is easy to understand.



INDICATORS

- While other indicators are developed, two development footprint indicators – surface disturbance and linear feature density – will be used to help monitor value health.
- **Linear feature density (LFD):** total length of all human-created linear features (roads, seismic lines, trails) as a proportion of area (km/km2). It includes only features more than 1.5 m wide due to the satellite image resolution available. Higher linear feature density is often associated with increased habitat fragmentation and increased access. Linear feature density can significantly affect how people and wildlife use the land.
  - Example: If an LMU with an area of 500 km^2 has a combined total of 100 km of roads, trails, and cutlines, it has a linear feature density of 0.2 km/km^2 (100 km / 500 km^2).

INDICATORS

- While other indicators are developed, two development footprint indicators – surface disturbance and linear feature density – will be used to help monitor value health.
- **Surface disturbance (SD):** percentage of area physically disturbed by human activities. Common disturbances include tree clearing, vegetation removal, and earth moving. The surface disturbance indicator does not include:
  - Disturbance from natural events, such as wildfire, flooding, and permafrost thaw
  - Tenured or permitted areas that remain undisturbed – for example, an undeveloped placer claim.
  - The area of linear features, including roads, trails, and seismic lines (to avoid duplication with linear feature density).
- Example: If an LMU with an area of 500 km^2 has a combined total of 30 km^2 disturbed by forestry and placer mining activity, and an additional 50 km^2 has been disturbed by forest fire, it has a surface disturbance of 6% (30 km^2 / 500 km^2 x 100).

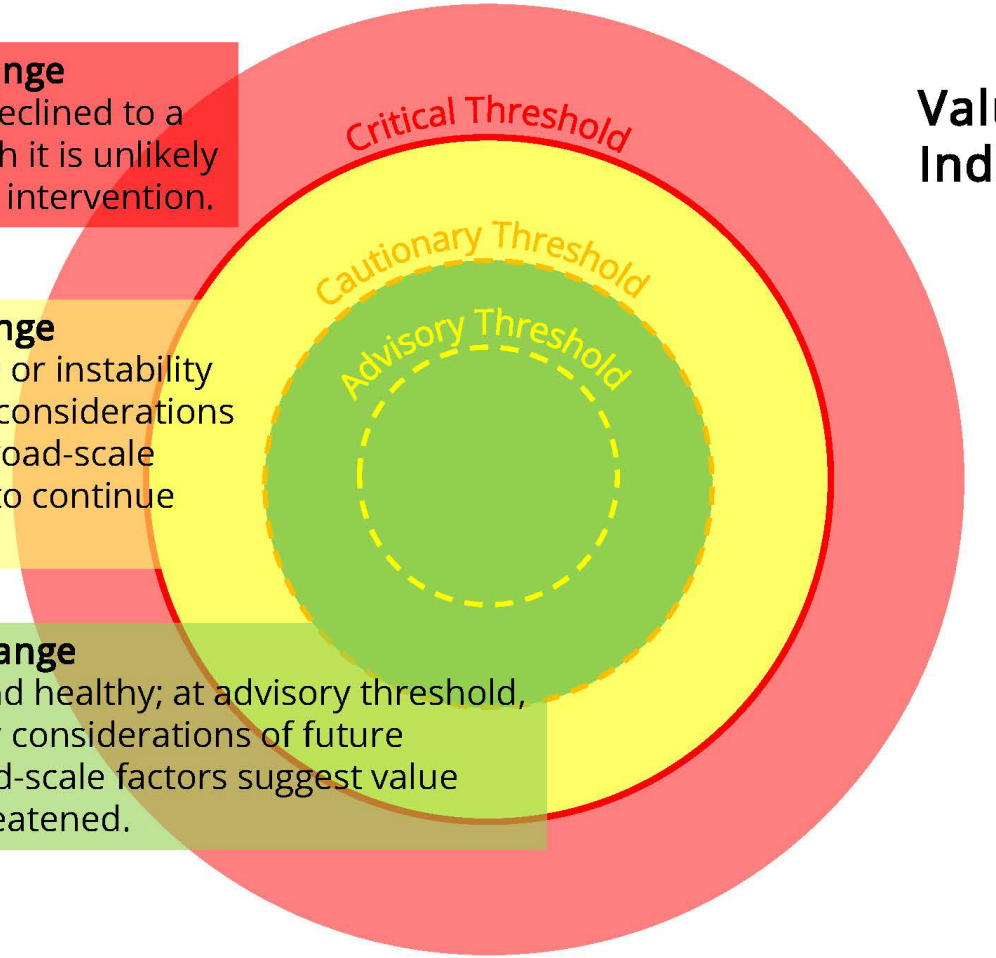
THRESHOLDS

❖ Thresholds identify when action is needed

Critical Health Range
Value health has declined to a point beyond which it is unlikely to recover without intervention.

Cautionary Health Range
Indicators show decline or instability in value health, and/or considerations of future activities or broad-scale factors predict decline to continue without action.

Target Health Range
Value is stable and healthy; at advisory threshold, indicators and/or considerations of future activities or broad-scale factors suggest value may become threatened.



Value-based Indicators

MONITORING

- Monitoring shows the value health and alerts decision-makers when health is approaching a threshold.



ASSESSMENT

- Cumulative effects assessment will inform the Commission's conformity determinations. Assessment reviews available knowledge on value health and compares this to value goals, resulting in a conclusion about the value health range.



RESPONSES

- Responses are all the actions that decision-makers take to maintain, encourage, or restore value health, as defined by value goals. Responses include actions that slow or stop the pace or reduce the scale of activities that harm a value, and/or initiate or enhance activities that benefit a value. They vary in scope, scale, and complexity, from daily on-the-ground stewardship to emergency legislative interventions.
- Once the Parties identify indicators and set thresholds for Plan values, they will need to identify more specific responses that apply when indicator levels reach each threshold.



RECLAMATION

- Reclamation is a form of accountability for our actions when they have disrupted the land's ecological and cultural connections.
- Within the context of this Plan, reclaimed land can be subtracted from the development footprint, allowing for continued sustainable development.
- A one-size-fits-all approach to reclamation is likely to be unsuccessful because the land is a patchwork of ecosystems, animal populations, and topographies. Values-based reclamation offers the potential for nuanced outcomes, tailored to the unique characteristics of each LMU as indicated by the LMU priority values.



RECLAMATION

❖5-step values-based reclamation framework

STEP 1 Early Stabilization - Site is physically stable with basic erosion control. Opportunistic plant species may be present. No clear trajectory towards priority values. Landscape threats persist at a high level.

STEP 2 Early Recovery - Physical conditions capable of supporting some biota. Early signs of ecosystem function (e.g., soil development, water retention). Some remaining threats.

STEP 3 Functional Trajectory (Reclaimed) - Low numbers of threats, intermediate in degree. Priority vegetation species are present and are likely to be self-sustaining due to the presence of intermediate levels of ecosystem functions and processes. Cultural access or use is possible but limited.

STEP 4 Culturally and Ecologically Functional (Recovered) - Ecosystem supports key services and cultural practices. Site is resilient to moderate disturbance. Threats are low in number and degree. Substantial subset of characteristic biota present (representing all species groupings), along with characteristic structure and evidence of key function and processes capable of supporting self-sustaining populations. Cultural site use is possible and likely. Overarching goal of reclamation activities.

STEP 5 Restored - Ecosystem is self-sustaining, resilient, and supports full cultural and ecological functions. Threats are effectively absent. A characteristic assemblage of biota is present, exhibiting structural and trophic complexity. Resilience is restored with the return of appropriate disturbance regimes.



RECLAMATION

- The values-based reclamation framework plays a critical role in determining how much land can be returned to the available development “quantum” within each LMU.

	CREDIT ALLOCATION
Step 1	10%
Step 2	30%
Step 3	50%
Step 4	80%
Step 5	100%

