

M-KMA NATURAL RESOURCE MANAGEMENT FRAMEWORK

Presentation Outline

- **Overview of the Framework**
 - Setting the Context: Why we're doing what we're doing.
 - Where did we get our stuff?
 - Understanding the Preamble, Vision and Wilderness Definition as the foundation for the Framework.
 - Reviewing the elements of the Framework.
 - Reviewing Our Wind Advice

SETTING THE CONTEXT

- In advance of more significant development pressure on the MKMA, the Government is looking to the Board to develop and recommend measurable objectives that statutory decision makers could consider in adjudicating proposals for industrial activity (eg. Forestry, mining, oil and gas development, hydro or energy developments)

SETTING THE CONTEXT

- “Recognizing that the legal instruments in place say that development may be considered in the MKMA the question is under what conditions?”

SETTING THE CONTEXT

- Conditions in the form of measurable objectives recommended by the Board must contemplate spatial and temporal aspects.

SETTING THE CONTEXT

- For example, while the current definition includes wording that guides when an industrial footprint should begin to fade from the landscape, there are circumstances where a clearer more measurable guide would be desirable to a statutory decision maker (for example, “...after 40 years, the structure(s) shall be removed and the landscape returned to its original condition...”).

SETTING THE CONTEXT

- What is a reasonable duration for persistence of disturbances?
- At what scale(s) should objectives apply on the landbase (RMZ, watershed, sub-basin, ecosystem, value-based, etc.)?
- What should the focus of restoration activities be (e.g. linear features vs site specific developments, etc.) and what factors should Government consider beyond regulatory requirements?

SETTING THE CONTEXT

- **When is a restored area considered wilderness again (temporal considerations of development and restoration over a specified spatial scale)?**
- **What performance measures would verify that the vision is being met?**

SETTING THE CONTEXT

- Industry priorities (most likely to experience proposals) are Forestry and Wind Power. Prioritize thresholds on them.

SETTING THE CONTEXT

- HOW MUCH OF WHAT, WHERE AND FOR HOW LONG?

SOURCE MATERIALS

- **Besa-Prophet Pre-Tenure Plan Phase 1 (March 2002);**
- **Cumulative Effects Assessment & Management Framework: Vol 2 Appendix 1 Sources, Indicators and Thresholds (Jan 2003);**
- **Cumulative Effects Assessment & Management Framework: Vol 2 Appendix 2 Sources, Indicators and Thresholds: Blueberry CE Case Study (Feb 2003);**
- **Cumulative Effects Assessment & Management Framework: Vol 2 Appendix 3: Sources, Indicators and Thresholds: Sukunka CE Case Study (Feb 2003);**
- **A Cumulative Effects & Management Framework for NE BC: Vol 1 (Jointly with OGC, March 2003);**

SOURCE MATERIALS

- **Approaching Cumulative Impact Management in NE BC: Summary Report (May 2003);**
- **Federal Woodland Caribou Recovery Strategy (2012);**
- **Cumulative Effects Assessment for the Southeast Peace Region (July 2014);**
- **Investigating Impacts of Wind Power Development in the MKMA: An Overview Suitability Analysis of the Potential Impacts of Wind Power Development (September 2011);**
- **Stone's Sheep, Besa-Prophet Predator/Prey Studies (Caribou, Moose, etc.);**
- **Habitat Selection and Behavioural Strategies of Stone's Sheep in the Besa-Prophet;**
- **Elk Valley Cumulative Effects Initiative;**

SOURCE MATERIALS

- **Designatable Units for Caribou in Canada (COSEWIC, 2011);**
- **Alberta Grizzly Bear Recovery Plan: Alberta Species at Risk Recovery Plan #38 (Gord Stenhouse);**
- **Caribou in British Columbia (MELP, 2000);**
- **M-KMA Wilderness Definition and Recommendations Document (draft);**
- **Draft Effectiveness Indicators (M-KMA Advisory Board, 2003);**
- **Kwadacha First Nation's Best Management Practices Guidelines;**
- **Board Members Knowledge and Experience**

FOUNDATION OF OUR FRAMEWORK

- Source Material
- Direction from Govt.
- Preamble to the Act
- Our Vision
- Wilderness Definition

MKMA ACT PREAMBLE

- “...maintain in perpetuity the wilderness quality, and the diversity and abundance of wildlife and the ecosystems on which it depends while allowing resource development and use...”
- Normally it's resource development allowing for or accounting for other values. In the MKMA it's the other way around. This is important to understand!

MKMA ACT PREAMBLE

- ...the long-term maintenance of wilderness characteristics, wildlife and its habitat is critical to the social and cultural well-being of first nations and other people in the area...

MKMA ACT PREAMBLE

- ...the long-term objective is to return lands to their natural state as development activities are completed...

OUR VISION

- “The Muskwa Kechika Management Area is a globally significant area of wilderness, wildlife and cultures, to be maintained in perpetuity, where world class integrated resource management decision-making is practiced ensuring that resource development and other human activities take place in harmony with wilderness quality, wildlife and the dynamic ecosystems on which they depend.”

VISION ESSENTIALS

- ...area of wilderness, wildlife and cultures, to be maintained in perpetuity...
- ... where world class integrated resource management decision-making is practiced...
- ... resource development and other human activities take place in harmony with wilderness quality, wildlife and the dynamic ecosystems on which they depend...

WHAT DOES IT MEAN?

- ...area of wilderness, wildlife and cultures, to be maintained in perpetuity...
- Does that mean we can impact wilderness, wildlife and cultures?
- Yes. But why?

YES. BUT WHY?

- **...harmony...**
... where wilderness integrated resource management decision-making is practiced.
Pleasing arrangement of parts: congruence. An interweaving of different accounts into a single narrative.
- ... resource development and other human activities take place in
accord, agreement, peace, rapport, etc.
harmony with wilderness quality, wildlife and the dynamic ecosystems on which they depend...

WILDERNESS DEFINITION

- There are three integrated parts to the definition;
- They work together so it's important to understand what they are and how they relate!
- You can find them in Parts 2, 3 and 4 of our document.

WILDERNESS DEFINITION

- Part 2: Definition of Wilderness
- “a large natural landscape where the integrity of ecological systems are maintained”

WILDERNESS DEFINITION

- Part 3: Definition of Wilderness Characteristics

“defined to generally include:

- a natural appearing landscape where evidence of human activity is not readily apparent;
- a high probability of experiencing human solitude; and
- ecological integrity”

WILDERNESS DEFINITION

- “a large natural landscape where the integrity of ecological systems are maintained”
- Plus you have wilderness characteristics that are
How does development happen?
“defined to generally include:
 - a natural appearing landscape where evidence of human activity is not readily apparent;
 - a high probability of experiencing human solitude; and
 - ecological integrity”

WILDERNESS DEFINITION

- Part 4: Definition of Wilderness Quality

- “Wilderness quality” is defined as a measure of the degree to which the wilderness characteristics within the MKMA fluctuate over time.”

- a natural appearing landscape where evidence of human activity is not readily apparent;
- a high probability of experiencing human solitude; and
- ecological integrity

WILDERNESS QUALITY AND CHARACTERISTICS

- Impacting “characteristics” affects “quality”;
- We impact “quality” by impacting “characteristics” from time to time;
- Once “characteristics” are impacted, nothing more happens until the impacts fade from the landscape and “wilderness quality” is restored (returns);

- Audio Example:

- Working landscape 

- MKMA landscape  

This is why we need to reach a “shared and common” understanding of what the MKMA is all about i.e. what does “working wilderness” really mean?

HOW MUCH OF WHAT, WHERE AND FOR HOW LONG?

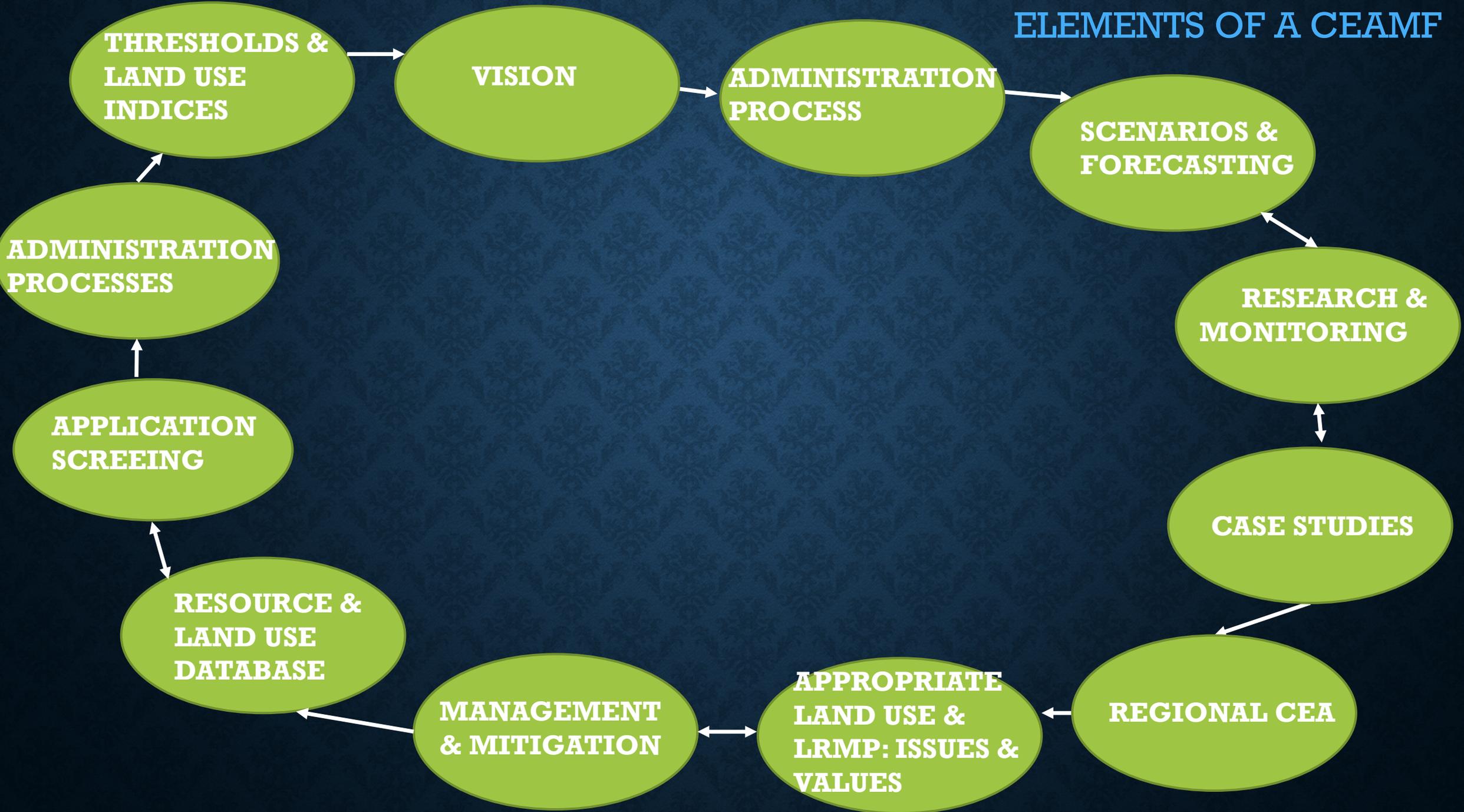
- Preamble to the Act

How we answer “how much of what, where and for how long is through our Management Framework!

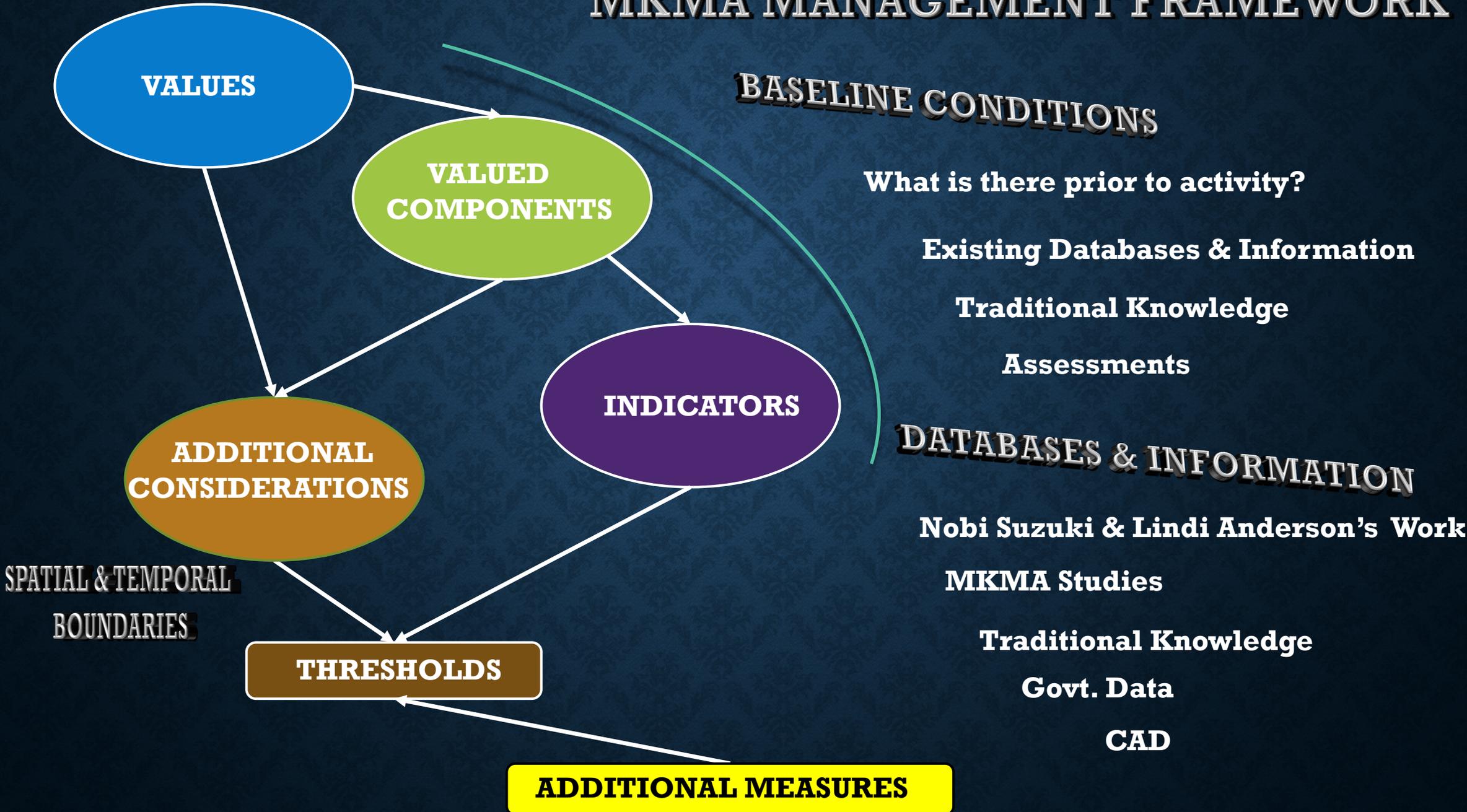
- Vision for the MKMA

- Wilderness Definition

ELEMENTS OF A CEAMF



MKMA MANAGEMENT FRAMEWORK



MKMA MANAGEMENT FRAMEWORK

VALUES

Broad values (categories) that the Board and government of British Columbia care about and see as important for assuring the integrity and well being of the MKMA's environment, people and communities;

Wilderness (characteristics)

The Board judge these as central for assuring the integrity and well being of the MKMA's environment, people and communities;

Wildlife (including Fish)

Values are identified through Board Knowledge, First Nation Traditional Knowledge, First Nation Land Use plans, provincial Land Use Plans (e.g., LRMP's), etc.;

Culture

Values can be characterized as being social, economic, environmental, or as a combination of each. The Board's focus is on environment and social values. Economic values are the purview of the Government decision maker;

**VALUED
COMPONENTS**

MKMA MANAGEMENT FRAMEWORK

Valued components (VC) are the things in an ecosystem that people value - i.e., they are important to them and are an expression of social, environmental, cultural and economical values;

Next level down in terms of detail.



INDICATORS

MKMA MANAGEMENT FRAMEWORK

- Indicators are the metrics used to measure and report on the condition and trend of a valued component;
- Measurable;
- Understandable by non-scientists;
- Easy & cost-effective to collect;
- Linked to a management action.

Experiencing Human Solitude
Remoteness

Degree of human activity

Distance from human disturbance

Ecological Integrity

Focal Species

Critical Habitat Retention

Critical Timing Windows

Access Density

Indigenous Culture

Continue to carry on Aboriginal Rights

Non-Indigenous Culture

Continue to enjoy recreational experiences

THRESHOLDS

A point at which an indicator changes to an unacceptable condition, with acceptability defined from an ecological or social perspective.

- Board defined
- Incorporate social, environmental, cultural, and technological considerations
- Characterized as the level that is politically (Board) and practically achievable and provides adequate long-term protection to the environment and the resource of interest (indicator -> valued component -> value)

THRESHOLDS

A point at which an indicator changes to an unacceptable condition, with acceptability defined from an ecological or social perspective.

Degree of human activity

Less than “x” humans and/or human activities encountered per day

Distance from human disturbance

Minimum distance of human activities from key visual points

Critical Habitat Retention

Minimum retention level (90%?)

Critical Timing Windows

Defined Periods (calving, mating, spawning, etc.)

Access Density

Max .4 km/km² for Grizzly Bears

Indigenous Culture

Timing windows to carry on Aboriginal Rights?

Non-Indigenous Culture

Timing windows to min impact to recreation?

ADDITIONAL MEASURES

- Modifying or managing the pace of adverse impacts to indicators meaning a longer time before an unacceptable level of environmental impact is reached;
- Includes determining Baseline Condition prior to project commencement.

Codes of Practice

- Guidelines on how industry should conduct business on the landscape

Environmental Protection Plans

- Plans to return conditions to their pre-disturbance state following decommissioning (Baseline Condition);
- Removal of equipment & buildings, decontamination of buildings or other structures, stabilization, contouring, maintenance, conditioning, or reconstruction of disturbed land, etc.

Opportunities Mapping

- Maps of valued land and water features occurring within the project area so that proponents can substantially reduce environmental & cultural impacts.

Construction Best Practices

- Practices beyond convention or normal practices;
- Best practices take in the unique characteristics of the landscapes affected and the sensitivities identified in Opportunities Mapping.

ADDITIONAL MEASURES

- Modifying or managing the pace of adverse impacts to the environment (industrial development) meaning a longer time before an unacceptable level of environmental impact is reached;
- Can be used to augment or guide Threshold setting.

Planning & Engineering Design

- Reduction of disturbance & fragmentation through engineering design such as minimizing the graded surface of rights of way, controlling noise, dust and light, etc.

Setbacks

- A mandatory distance that a project component or construction related activity must be from an environmental feature (typically water bodies and niche habitat).

Timing Windows

- Periods of time within certain geographic areas in which all, or specific activities may not occur.
- For example, forest practices are subject to timing windows for stream crossings based on the migratory behaviour of fish.

Mainline Road Coordination

- Collaborative planning that takes place among several industrial entities to share roads in the short and long term, and allows for the minimization of single-user access corridors.

ADDITIONAL CONSIDERATIONS

- Qualitative Considerations that pure metrics cannot adequately reflect
- Used to augment or guide Threshold setting.

Quality of Values

- Areas virtually devoid of any human presence may warrant thresholds different from other areas;
- Areas of exceptional wildlife or recreational experience may warrant thresholds different from other areas

Dispersed vs Non-Dispersed Industrial Footprints

- Thresholds for Dispersed industrial footprints (forestry for example) may not properly constrain Non-Dispersed industrial footprints (mine at the end of an access corridor for example) i.e. outcomes on the landscape may not be the same, or acceptable, between the two types of industrial footprints;

Thresholds Vary by “Zone”

- Thresholds may vary between “Zones” reflecting the weighing of “Additional Considerations”.

MKMA Act, Preamble, Vision and Wilderness Definition

ADDITIONAL CONSIDERATIONS

VALUE

VALUED COMPONENTS

INDICATORS

THRESHOLDS

ADDITIONAL MEASURES

Wildlife

Here it is in a little more detail

FOCAL WILDLIFE SPECIES

Grizzly Bears

Caribou

Stone's Sheep

Mountain Goats

Elk

Wolves

Rare, Endangered and Species of Management Concern.

Buffers

Habitat Availability

Habitat Effectiveness

Edge Effect

Core Area

Road Densities

Patch & Corridor Size

Stream Crossing Indices

Cleared Area

> X m intact habitat (buffers) from high use human disturbance

>X% HE in Mod/High Habitat

Min 450 ha. >1,000 Ha Preferred.

<X Km/Km2

<X crossings/Km2

<X%/Y Km2;
Min Z Km2 Core Security Areas.

- Part 5 of our "Wilderness Definition and Recommendations" document (restricting motorized public access, rapid decommissioning and reclamation of roads after activities completed);
- Timing windows when road use and/or industrial activity is curtailed?
- Assess initial baseline conditions (characteristics) by proponent prior to submission of proposal.

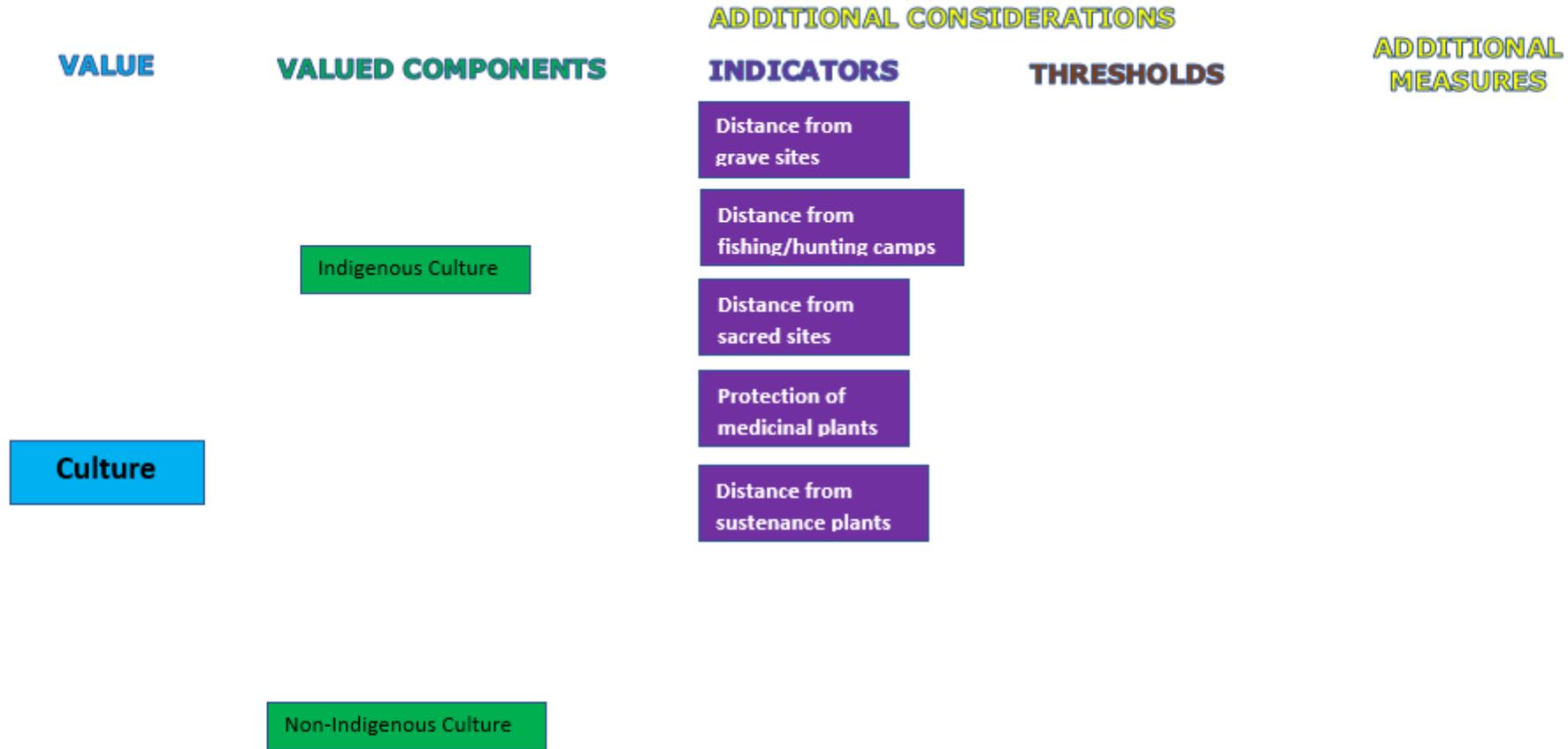
BASELINE CONDITION/DATABASE & INFORMATION

MKMA Act, Preamble, Vision and Wilderness Definition

VALUE	VALUED COMPONENTS	ADDITIONAL CONSIDERATIONS		ADDITIONAL MEASURES
		INDICATORS	THRESHOLDS	
Wilderness	Experiencing Human Solitude	Degree of Human Activity	<X Humans Encountered (visually/aurally)/day?	<ul style="list-style-type: none"> - Part 5 of our “Wilderness Definition and Recommendations” document (restricting motorized public access, rapid decommissioning and reclamation of roads after activities completed); - Timing windows when road use and/or industrial activity is curtailed? - Assess initial baseline conditions (characteristics) by proponent prior to submission of proposal.
	Sense of Remoteness	Distance from Human Disturbance	<X Km from Human Activities from Key Visual Points?	
		Enduring Features		
	Ecological Integrity	Ecological Variability		
		Watershed Intactness		
		Full Suite of Naturally Occurring Species		
	Naturally Appearing Landscapes			

BASELINE CONDITION/DATABASE & INFORMATION

MKMA Act, Preamble, Vision and Wilderness Definition



BASELINE CONDITION/DATABASE & INFORMATION

WIND RESOURCE DEVELOPMENT ADVICE

WIND RESOURCE DEVELOPMENT ADVICE

There is not unanimity on the Board regarding the appropriateness of wind resource development in the Muskwa-Kechika Management Area. (MKMA)

WIND RESOURCE DEVELOPMENT ADVICE

Wind resource development was not foreseen when the three LRMPs that resulted in the MKMA were written, so no industry-specific guidance was given for Wind Resource Development.

WIND RESOURCE DEVELOPMENT ADVICE

The Preamble to the Muskwa-Kechika Management Area Act notes the requirement that “long-term maintenance of wilderness characteristics” and “the long-term objective is to return lands to their natural state as development activities are completed”.

WIND RESOURCE DEVELOPMENT ADVICE

Some Board members believe Wind Resource development for power generation increases the likelihood of permanent “footprint” or, at a minimum, having a multi-generational footprint that by definition renders it incompatible with the intent of the Act’s Preamble. They also believe that the sight of wind towers, powerlines and access roads would have an impact on the MKMA’s wilderness values - particularly where the towers would be visible at a distance on the gentler, windy ridges on the eastern margins of the MKMA which tend to have greater recreation use than many other areas of the MKMA. Concerns also exist on the potential effect on caribou and other species of management concern including the potential for increased predation.

WIND RESOURCE DEVELOPMENT ADVICE

Other Board members interpret the Preamble of the Act as not precluding this type of activity and do not agree that the absence of the mention, and attending guidance, of Wind Resource development in LRMP's bars their consideration in the MKMA today.

WIND RESOURCE DEVELOPMENT ADVICE

They also believe that the concerns raised can be managed and the potential impacts mitigated through specified conditions leading them to the opinion that Wind Resource development may proceed within the MKMA.

WIND RESOURCE DEVELOPMENT ADVICE

RECOMMENDATIONS

- 1) Defer any wind resource development (including permitting) proposals and/or considerations until learnings on the potential impacts to Caribou and other species of management concern emerge from Wind Resource development(s) in similar terrain, topography and wildlife habitat quality, such as Hackney Hills.

WIND RESOURCE DEVELOPMENT ADVICE

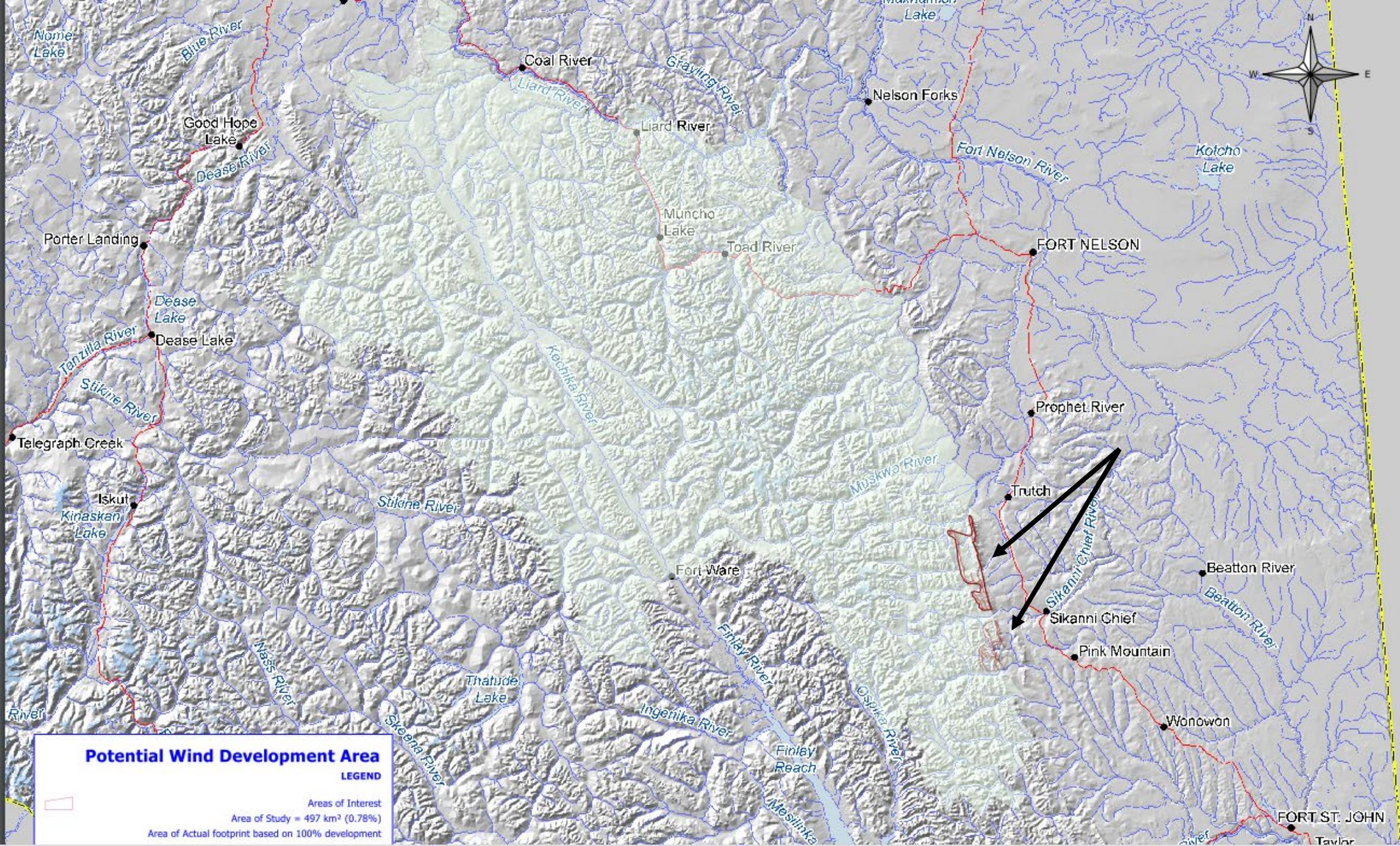
- 2) If, because of Recommendation 1, and if government interprets the Act's Preamble in a manner that deems Wind Resource development may proceed somewhere in the MKMA the Board offers the following additional advice:
 - (i) If, as a result of Recommendation 1, learnings indicate that Wind Power development in the MKMA will likely have significant and persisting negative impacts to Caribou and other species of management concern as well as to Wilderness Quality and Characteristics then a moratorium on any Wind Development in the MKMA be imposed;

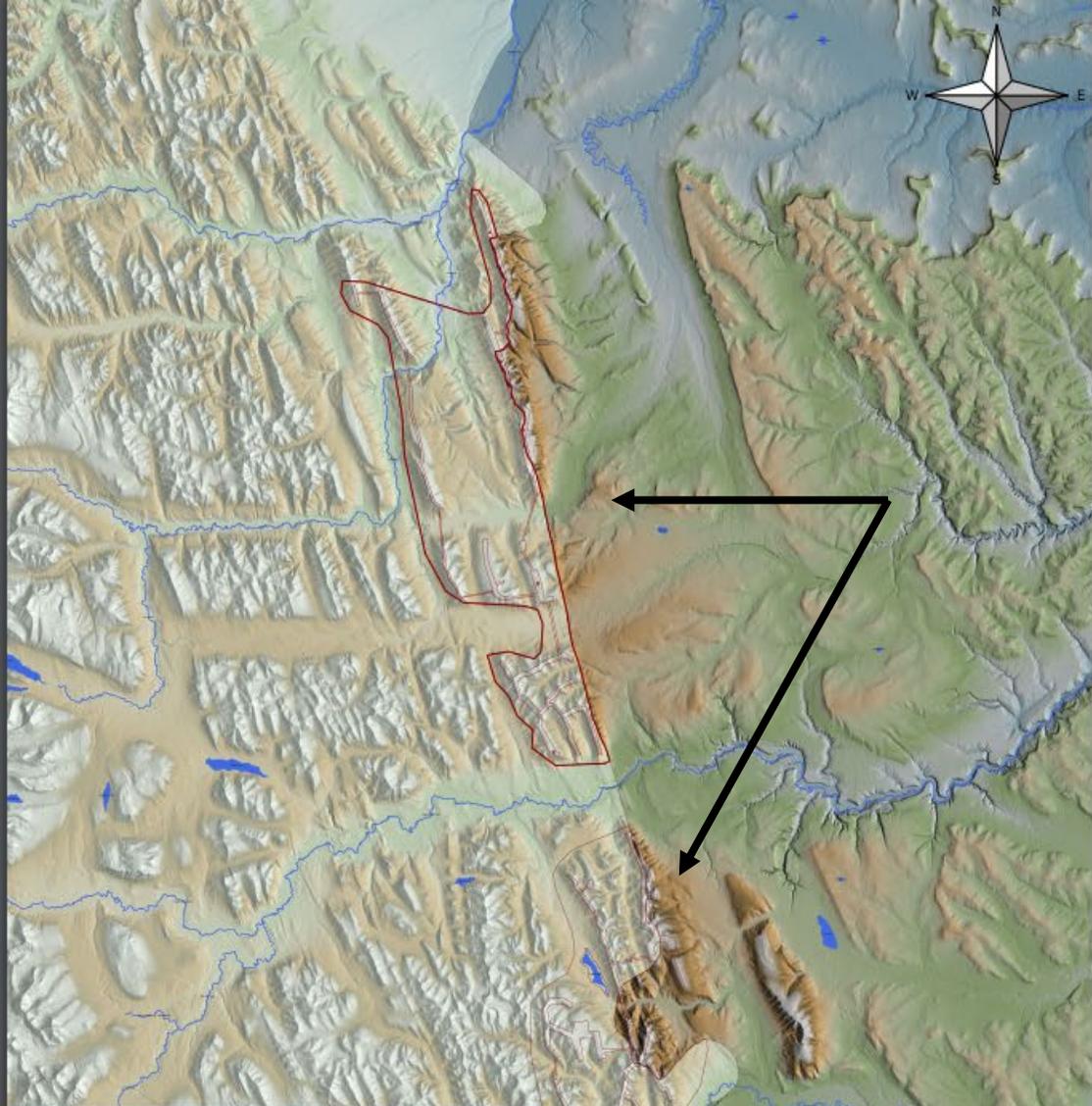
WIND RESOURCE DEVELOPMENT ADVICE

- (ii) If a statutory decision maker decides to consider a Wind Resource development proposal, despite (i), that he/she still fully consider and recognize the significance and weight of the concerns and impacts identified in (i) in his/her deliberations;

WIND RESOURCE DEVELOPMENT ADVICE

(iii) Further, any development proposals under consideration be restricted to the Eastern edge of the MKMA (as per the attached map) and that no other Wind Resource developments be considered in the MKMA;





Potential Wind Development Area

Legend

1:400k



Areas of Interest

Area of Study = 497 km² (0.78%)

Area of Actual footprint based on 100% development

Estimate = 62 km² (0.097%)



Muskwa Kechika Mngt Area

Area = 63708 km² (100%)

0 >5 km

WIND RESOURCE DEVELOPMENT ADVICE

- (iv) Further, the statutory decision maker considers, to the extent practicable, negating the potential for public motorized access to the proposed development site under consideration (i.e. only allow the project proponent access) and imposing additional access control as close to the Alaska Highway as possible;

WIND RESOURCE DEVELOPMENT ADVICE

- (v) Further, the statutory decision maker should, to the extent practicable, require that transmission lines from the proposed development site under consideration follow the approved access corridor to the site;

WIND RESOURCE DEVELOPMENT ADVICE

(vi) Further, the statutory decision maker, should require the proponent to undertake a Visual Quality Inventory and Assessment and use that information to mitigate the proposed development;

WIND RESOURCE DEVELOPMENT ADVICE

(vii) Further, the statutory decision maker should require that public access to the proposed development site be restricted 24 hours/day, every day;

WIND RESOURCE DEVELOPMENT ADVICE

(viii) Further, the statutory decision maker should impose a time limit to the life of an approved project (via a “sunset clause” for example);

WIND RESOURCE DEVELOPMENT ADVICE

- (ix) The proponent should pay an annual levy (to be determined with ministry officials) that should be dedicated to the management of the MKMA; and

WIND RESOURCE DEVELOPMENT ADVICE

- (x) The proponent should provide bonding to ensure project removal and reclamation at the end of the project's life.

THANK YOU