

# HIGH CONSERVATION VALUE FOREST ASSESSMENT

**“Inviting Participation in Sustainable Forest Management,  
Conservation and Protected Areas”**

*Spray Lake Sawmills (1980) Ltd.*

*Presented by*

*John L. Kansas, M.Sc., P.Biol.*


*April 4, 2013*



# Objectives

- Briefly describe methods to select HCV and HCVF
- Present HCV and HCVF selected and why selected
- Break-out group discussions

# HCVF Origin and Context

- HCVF concept created by Forest Stewardship Council (FSC) in 1999
- Certification (FSC)  Biodiversity Protection (WWF)
- HCVF assessment/management one of 10 Principles of FSC (National Boreal Standard)
- Principle 9 calls for **identification**, management and monitoring of HCVFs

## *Definition of ....*

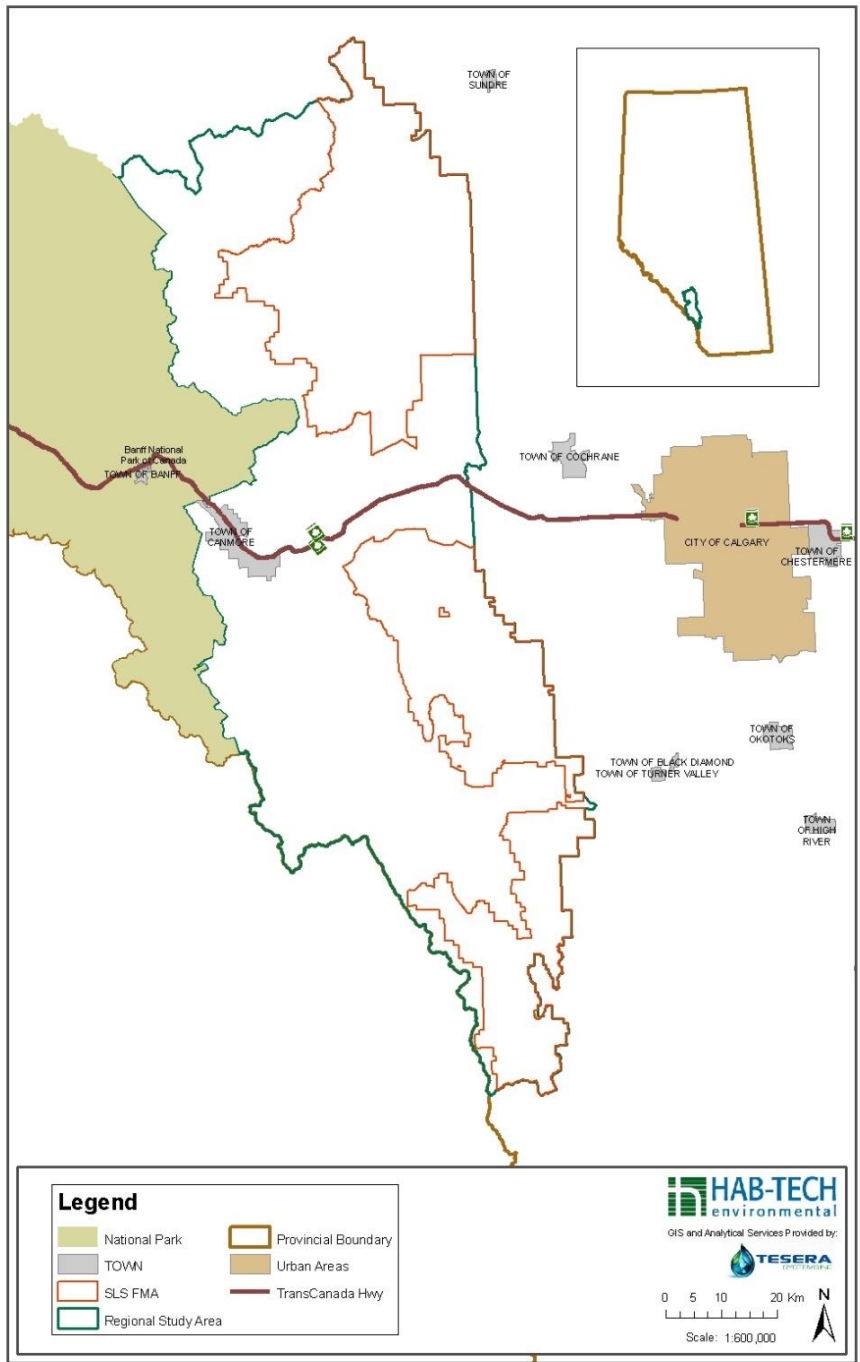
### HIGH CONSERVATION VALUE FOREST(S)

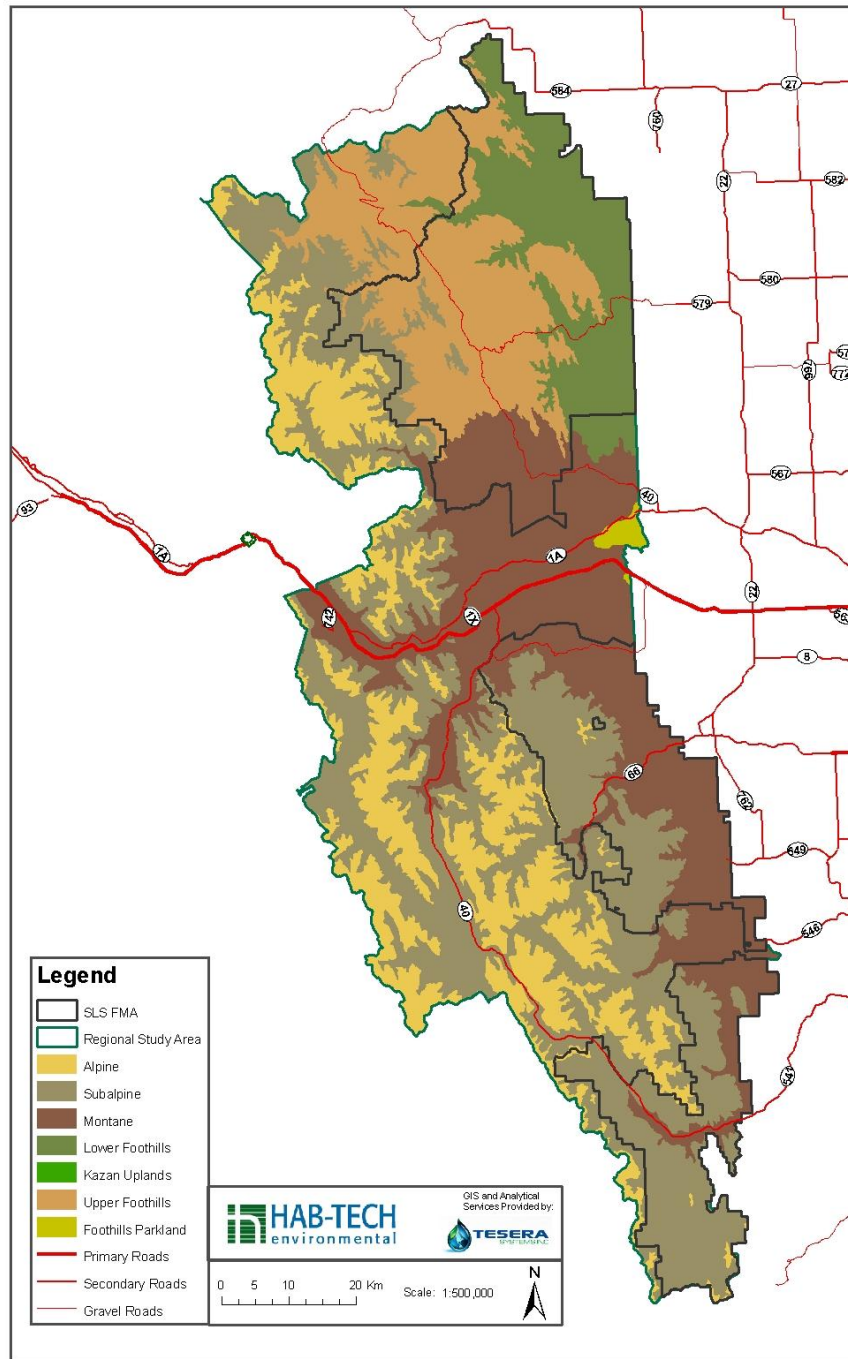
“.....forests of outstanding and critical importance due to their high environmental, socio-economic, biodiversity or landscape values” (FSC 1999).

“HCVFs comprise the crucial forest areas and values that need to be maintained or enhanced in a landscape” (WWF 2005).

## 6 (3) Categories...19 (11) Questions

- HCV Category 1 - Forest areas containing globally, nationally or regionally significant concentrations of biodiversity values (6 QUESTIONS).
- HCV Category 2 - Forest areas containing globally, regionally or nationally significant large landscape level forests (1 QUESTION).
- HCV Category 3 - Forest areas that are in or contain rare, threatened or endangered ecosystems (4 QUESTIONS).





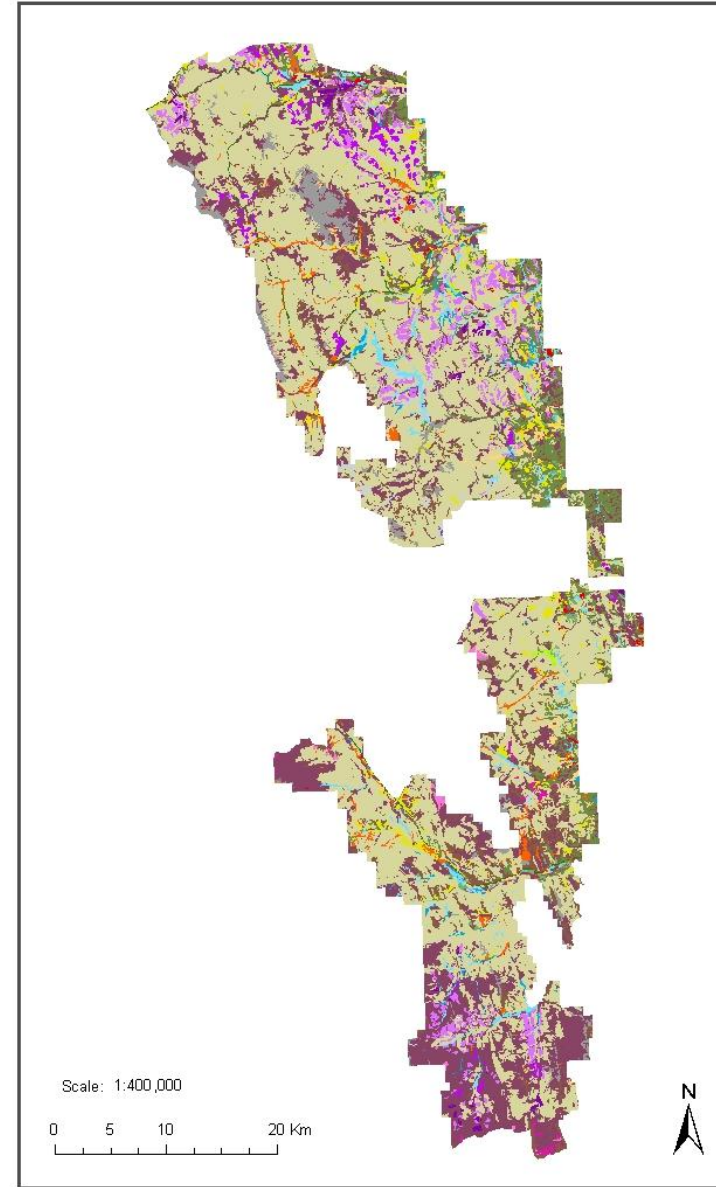
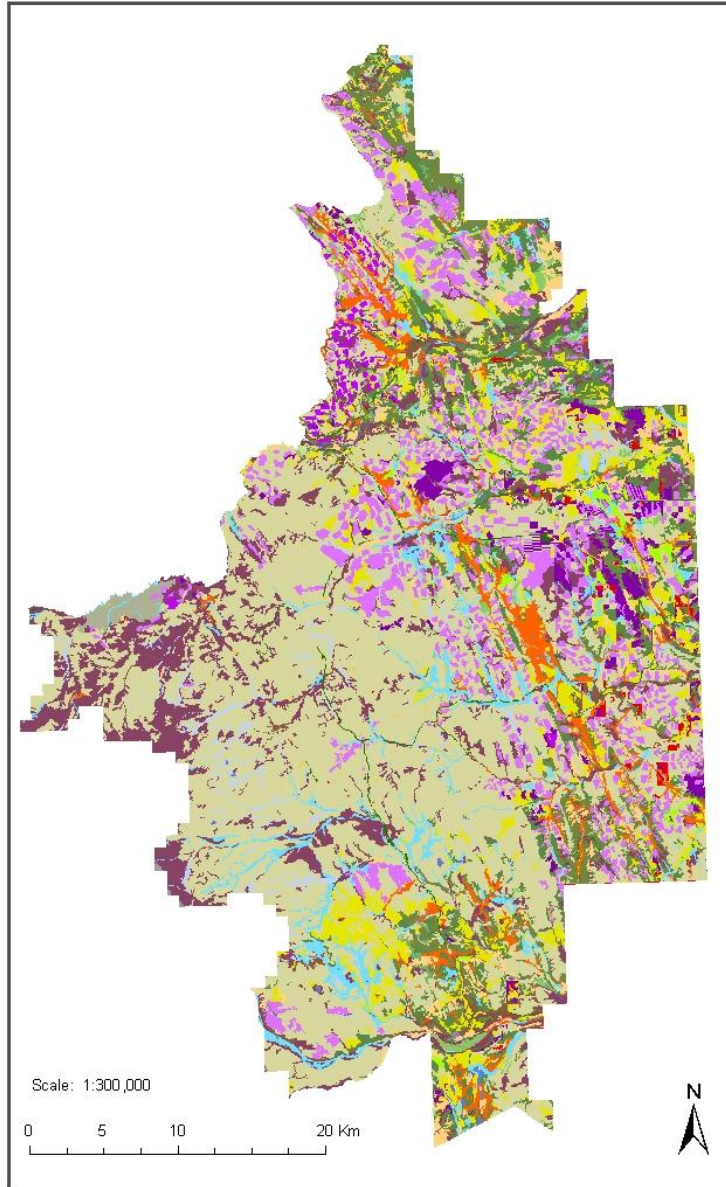


**Legend**

broadcovergroups

Map\_Desc

- Burns
- Anthropogenic (non-vegetated)
- Aspen
- Aspen Mixedwood
- Balsam Poplar
- Black Spruce
- Bryophytes
- Cropland/Pasture
- Cutbank/Sand
- Flooded Area
- Forb Meadow
- Grassland
- Harvested (graminoid dominated)
- Harvested (shrub dominated)
- Harvested (tree dominated)
- Jackpine
- Lodgepole Pine
- Pine Mixedwood
- Rangeland Clearing
- Reclamated Vegetation
- River/Lake/Pond
- Rock (barren)
- Spruce Mixedwood
- Subalpine Fir
- Subalpine Larch
- Tamarack Fen
- Upland Shrubland
- Wetland (graminoid)
- Wetland (shrub)
- Wetland (tree)
- White Birch
- White & Engelmann Spruce



GIS and Analytical Services Provided by:

## CATEGORY 1 – QUESTION 1

*“Does the forest contain species at risk or potential habitat of species at risk as listed by international, national or territorial/provincial authorities?”*

**Answer = Yes**

- **Species of Global Significance**
  - 5 vertebrates (only Bull Trout selected as HCV)
  - 7 plants – none selected because not affected by timber harvest
- **Species of National Significance**
  - 16 vertebrates listed by COSEWIC/SARA (p. 28)
  - West Slope Cutthroat and Grizzly Bear selected as HCV
  - No nationally listed plants in FMA
- **Species of Provincial Significance**
  - 59 species listed
  - Selected 10 species as HCV
  - 21 plants listed as S1 or S2 and selected as HCV (p. 35)

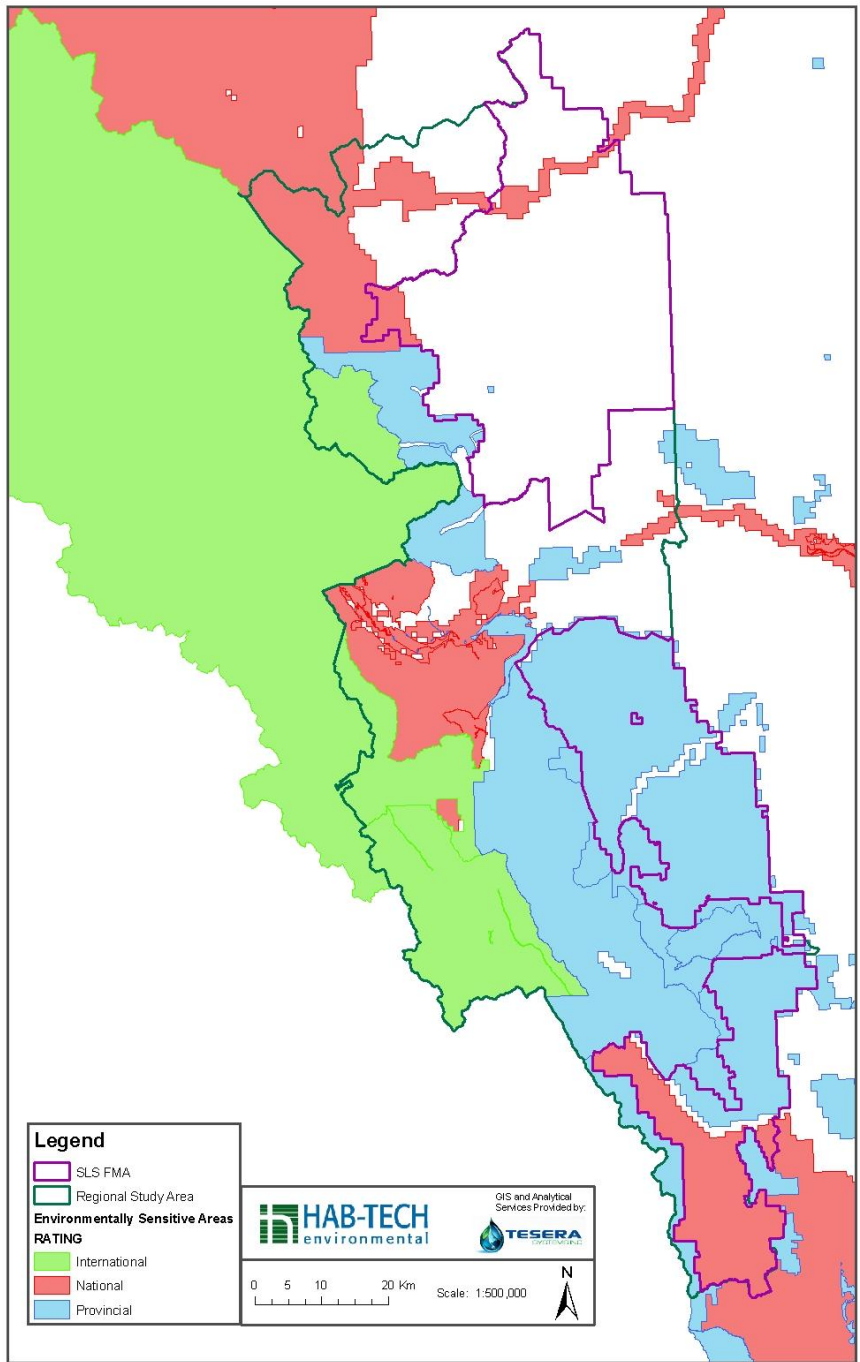
# Sensitive Species in Alberta in FMA

Common name	Genus/Species	Status	Abundance	FMA = Primary Range?	Vulnerable to Forestry?	Habitat/Region Specific?	Population/Range Decline?
Northern Goshawk	<i>Accipiter gentilis</i>	R	U	YES	YES	YES	YES
Black-backed Woodpecker	<i>Picoides arcticus</i>	R	S	YES	YES	YES	YES
Brown Creeper	<i>Certhia americana</i>	R	S	YES	YES	YES	YES
Sandhill Crane	<i>Grus canadensis</i>	S	S	YES	YES	YES	?
Pileated Woodpecker	<i>Dryocopus pileatus</i>	R	U	YES	YES	YES	?
Canada Lynx	<i>Lynx canadensis</i>	R	U	YES	YES	YES	?
Barred Owl	<i>Strix varia</i>	R	U	YES	YES	YES	?
Great Gray Owl	<i>Strix nebulosa</i>	R	U	YES	YES	YES	?
Long-toed Salamander	<i>Ambystoma macrodactylum</i>	R	C	YES	YES	YES	?
Columbia Spotted Frog	<i>Rana luteiventris</i>	R	U	YES	YES	YES	?
Northern Hawk Owl	<i>Surnia ulula</i>	R	S	YES	YES	NO	?
Northern Pygmy-Owl	<i>Glucidium gnoma</i>	R	U	YES	YES	NO	?
Green-winged Teal	<i>Anas crecca</i>	S	C	YES	NO	YES	NO
Brewer's Sparrow	<i>Spizella breweri</i>	S	S	YES	NO	YES	NO
Harlequin Duck	<i>Histrionicus histrionicus</i>	S	U	YES	NO	YES	?
Water Vole	<i>Microtus richardsoni</i>	R	U	YES	NO	YES	?
Western Tanager	<i>Piranga ludoviciana</i>	S	U	YES	NO	NO	YES
Wandering Garter Snake	<i>Thamnophis elegans</i>	R	S	YES	NO	NO	?
Black-throated Green Warbler	<i>Dendroica virens</i>	S	S	NO	YES	YES	YES
Cape May Warbler	<i>Dendroica carulescens</i>	S	R	NO	YES	YES	NO
Bay-breasted Warbler	<i>Dendroica castanea</i>	S	R	NO	YES	YES	NO
Broad-winged Hawk	<i>Buteo platypterus</i>	M	S	NO	YES	NO	NO
Fisher	<i>Martes pennanti</i>	R	S	NO	YES	NO	NO
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	S	C	NO	YES	NO	?
Hoary Bat	<i>Lasiurus cinereus</i>	S	U	NO	YES	NO	?
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	R	S	NO	NO	YES	YES
Western Grebe	<i>Aechmophorus occidentalis</i>	M	S	NO	NO	YES	YES
Great Blue Heron	<i>Ardea herodias</i>	S	U	NO	NO	YES	YES
Clark's Nutcracker	<i>Nucifraga columbiana</i>	R	U	NO	NO	YES	YES

## CATEGORY 1 – QUESTION 3

*“Does the forest include critical habitat containing globally, nationally or regionally significant seasonal concentration of species (breeding sites, wintering sites, migration sites, migration routes or corridors)?”*

- Nationally Significant Environmentally Significant Areas (ESAs)
  - Highwood River ESA in FMA = HCVF
  - Red Deer River ESA in FMA = HCVF
  - See page 38 of report



## CATEGORY 1 – QUESTION 4

*“Does the forest contain critical habitat for regionally significant species?”*

### ***Guidance Questions***

- Is the population of regionally-significant species locally at risk?
- Does the forest contain limiting habitat for regionally-significant species?
- Are there any ecological or taxonomic groups of species or sub-species that would together constitute a regionally-significant concentration?

# Question 4 – Regional Focal Species

**Table 6. Regionally Significant Species and Habitat Associations - Spray Lake FMA**

	<b>Forested Habitat</b>			<b>Interspersed Non-Forest Habitat</b>		
	<i>Conifer Dominated</i>	<i>Mixedwood</i>	<i>Deciduous Dominated</i>	<i>Grasslands</i>	<i>Wetlands</i>	<i>Aquatic</i>
<i>Mature/Old Growth</i>	Northern Goshawk  Brown Creeper	Barred Owl  Fisher	Pileated Woodpecker  Ovenbird	Elk  Grizzly Bear	<b>Bogs/Fens</b>  Sandhill Crane  Great Gray Owl	<b>River</b>  Bull Trout  West Slope Cutthroat Trout
<i>Mid Successional</i>	Marten	Western Tanager	Ovenbird		<b>Marsh</b>  Long-toed salamander	<b>Lake</b>
<i>Early Successional</i>	Black-backed Woodpecker  Canada Lynx		Moose		<b>Riparian Sedge/Willow</b>  Moose  Columbia Spotted Frog	<b>Beaver Pond</b>  Rusty Blackbird

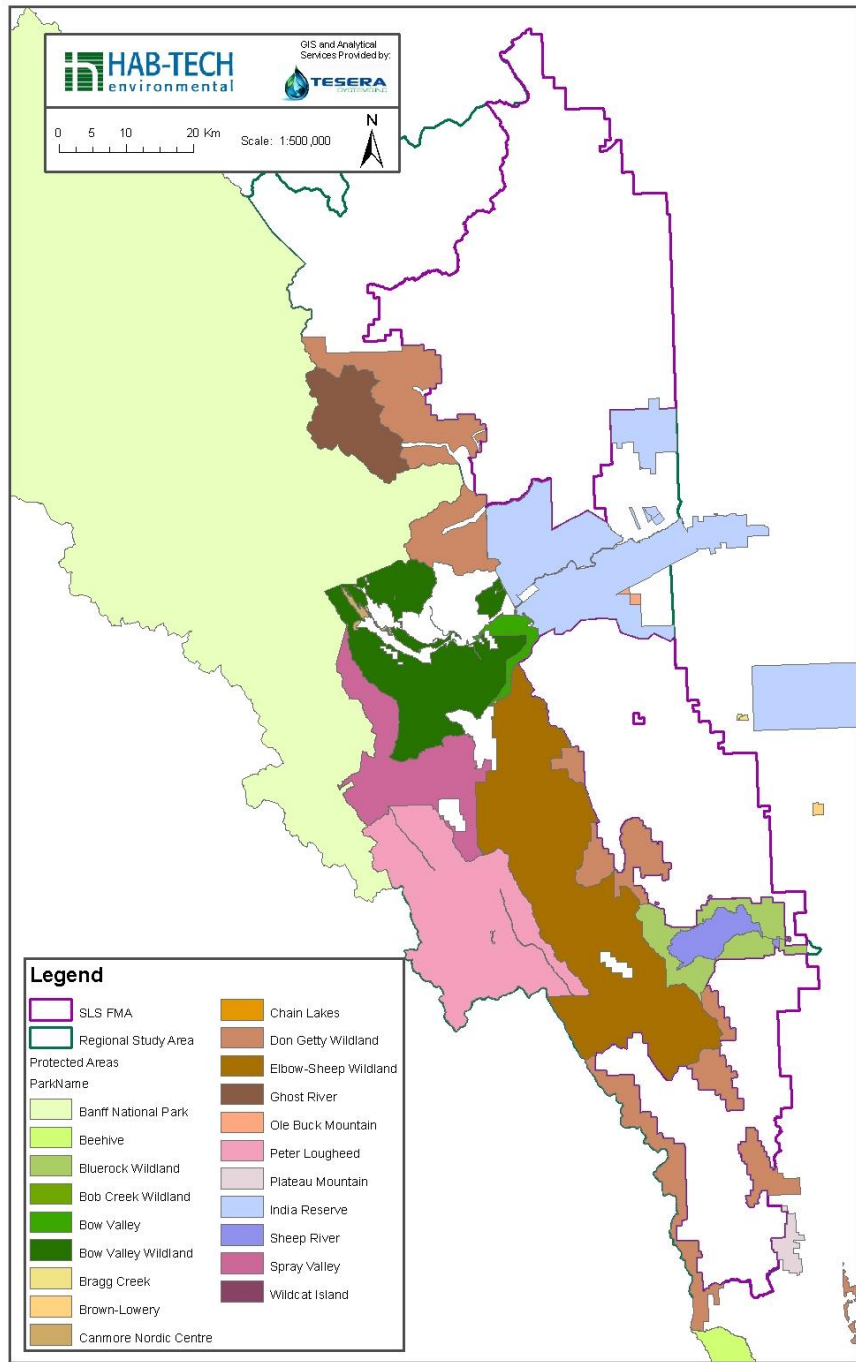
## CATEGORY 1 – QUESTION 6

*Does the forest lie within, adjacent to, or contain a conservation area: a) designated by an international authority, b) legally designated or proposed by relevant federal/provincial/territorial legislative body, or c) identified in regional land use plans or conservation plans?*

*YES---* Numerous Protected Areas occur – especially  
in south FMA and to the high elevation  
Alpine/Subalpine regions

*Seven Protected Areas selected as HCVEs –  
only ones abutting FMA*





**Legend**

- |                       |                      |
|-----------------------|----------------------|
| SLS FMA               | Chain Lakes          |
| Regional Study Area   | Don Getty Wildland   |
| Protected Areas       |                      |
| ParkName              |                      |
| Banff National Park   | Elbow-Sheep Wildland |
| Beehive               | Ghost River          |
| Eluerock Wildland     | Ole Buck Mountain    |
| Bob Creek Wildland    | Peter Lougheed       |
| Bow Valley            | Plateau Mountain     |
| Bow Valley Wildland   | Sheep River          |
| Bragg Creek           | Spray Valley         |
| Brown-Lowery          | Wildcat Island       |
| Canmore Nordic Centre |                      |

CATEGORY 2 – QUESTION 7  
Category 3 – Question 10

*Category 2 – Question 7*

*Does the forest constitute or form part of a globally, nationally or regionally significant forest landscape that includes populations of most native species and sufficient habitat such that there is a high likelihood of long-term species persistence? Are large landscape level forests (i.e. large un-fragmented forests) rare or absent in the forest or ecoregion?*

*Category 3 – Question 10*

*Are large landscape level forests (i.e., large un-fragmented forests) rare or absent in the forest or ecoregion?*

CATEGORY 2 – QUESTION 7  
Category 3 – Question 10

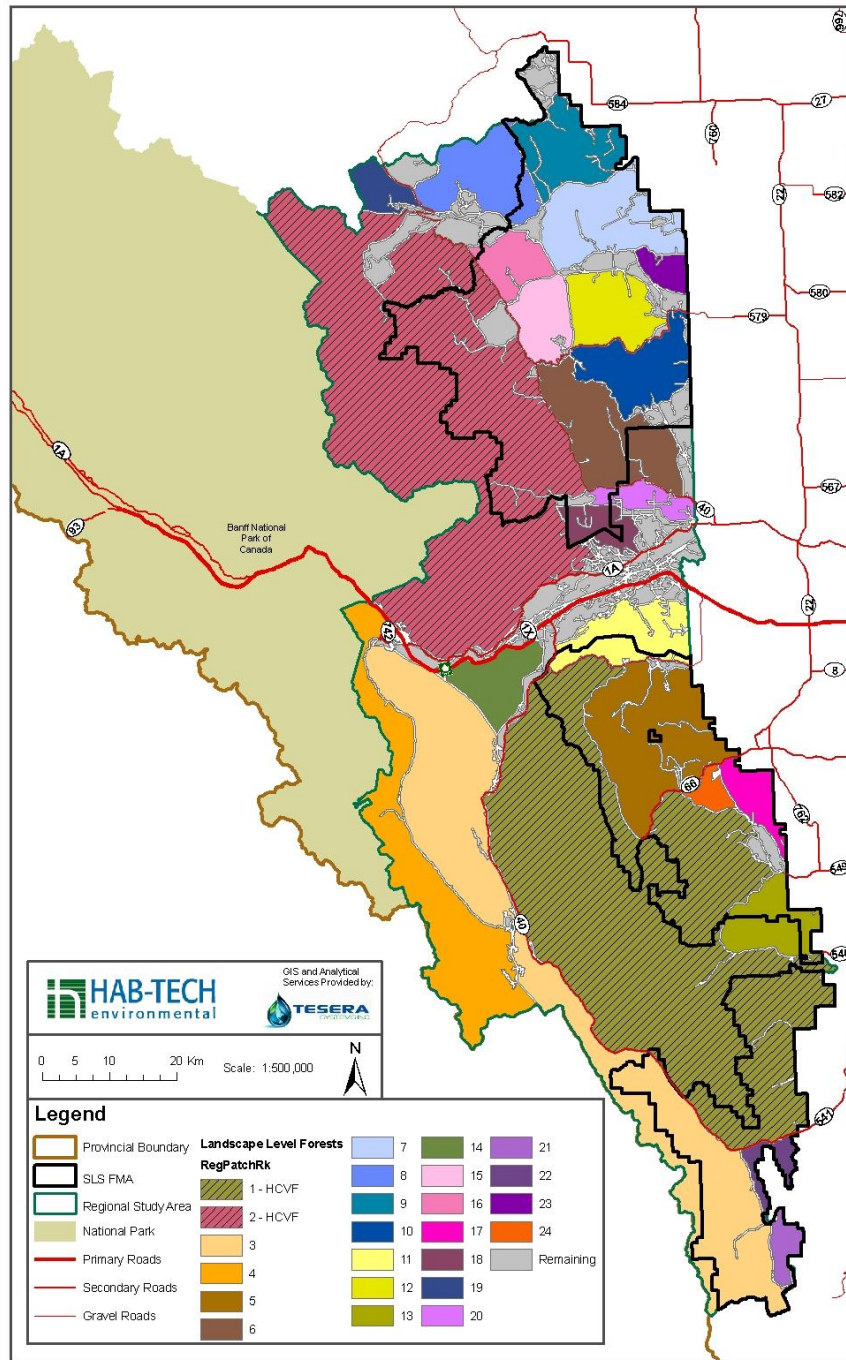
*Approach – WWF-Canada Guidance*

- All permanent features (roads, pipelines, power lines) buffered by 100 meters
- Overlaid onto FMA and larger regional area
- Contiguous patches lacking permanent features mapped and size measured
- Patches classified:
  - > 500,000 ha = Globally significant
  - 200,00 to 500,000 = Nationally Significant
  - 50,000 to 200,000 = Regionally significant
  - 5,000 to 50,000 = Remnant forest patches

## CATEGORY 2 – QUESTION 7

### Category 3 – Question 10

- Two regionally significant “large-landscape-level forests selected as HCVFs
  - North FMA = 161,319 ha (44,400 in FMA/116,919 out)
    - FMA supported by Don Getty Wildland Provincial Park and Ghost River Wilderness Area.
  - South FMA = 178,867 ha (66,369 in FMA/112,498 out)
    - FMA supported by Elbow Sheep, Don Getty and Bluerock Wildland Provincial Parks



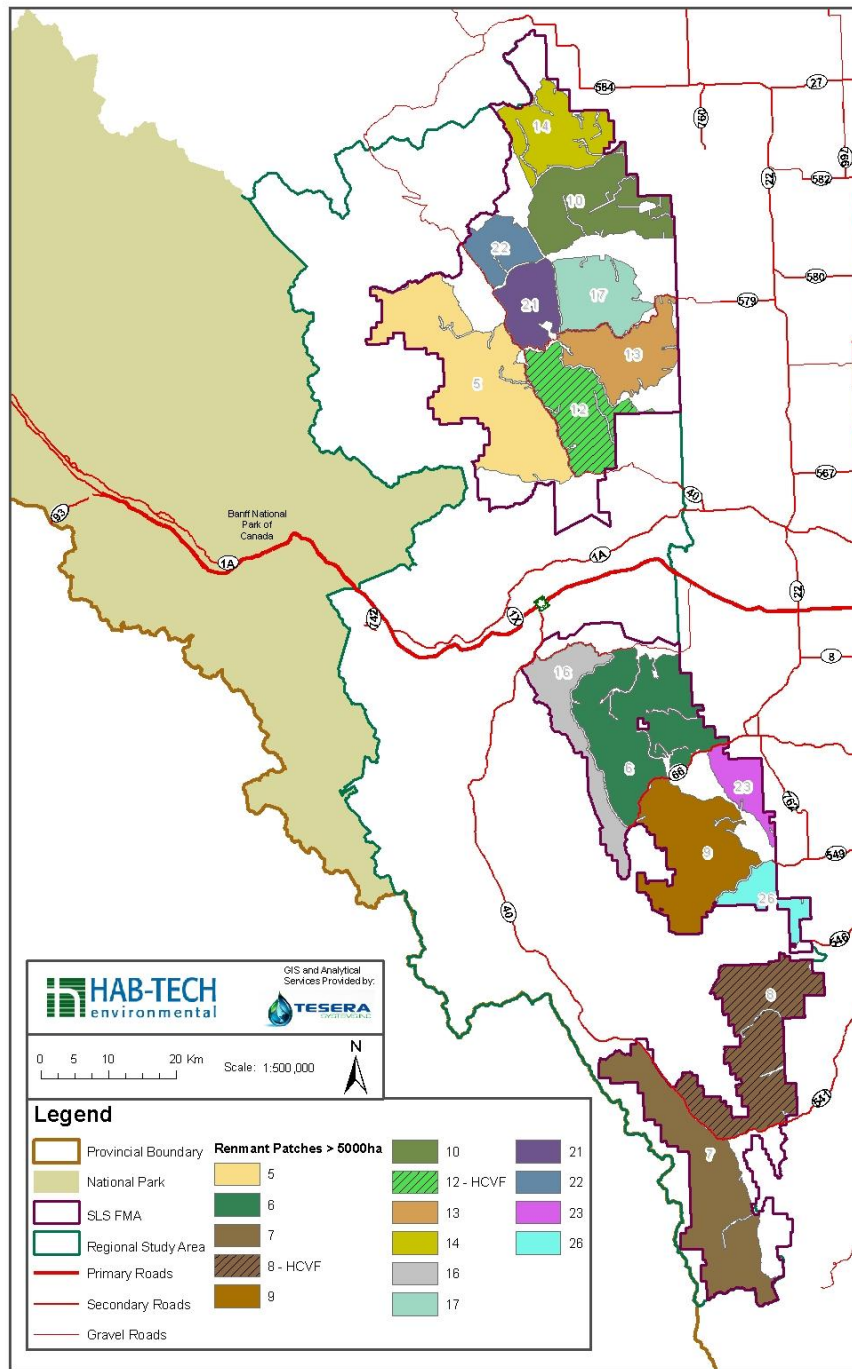
## CATEGORY 2 – QUESTION 7

### Category 3 – Question 10

- Remnant Landscape-Level Forest (5,000 to 50,000 ha)
- Eight remnants in north and Seven in south
- Selection of two remnants as HCVF based on:
  - High proportion of low elevation Lower Foothills/Montane
  - Human footprint <5%
  - Relatively low (non-permanent) linear feature density
  - Relatively high proportion of mixedwood and deciduous forest.
    - North = 15,242 ha
    - South = 28,245 ha

**Table 7. Ecological and Land Use Characteristics of Remnant Landscape-Level Forests – Spray Lake FMA.**

Remnant #	Area (ha)	Portion of FMA	Natural Subregion %					Linear Feature Density (km/km <sup>2</sup> )	Footprint (%)	% Cutblock	% Old Growth Forest	% Deciduous		% Wetland
			<i>Alpine</i>	<i>Subalpine</i>	<i>Upper Foothills</i>	<i>Lower Foothills</i>	<i>Montane</i>					<i>Pure</i>	<i>Mixed</i>	
5	38,587	North	0.1	24.0	50.9	0.0	25.1	2.9	3.0	2.3	7.7	1.8	7.5	8.5
6	30,778	South	1.0	52.0	0.0	0.0	46.9	2.0	8.3	6.8	0.9	3.0	2.7	0.9
7	30,069	South	2.8	92.4	0.0	0.0	4.8	3.4	6.4	5.7	1.1	0.8	1.4	2.9
<b>8</b>	<b>28,245</b>	<b>South</b>	<b>0.6</b>	<b>57.9</b>	<b>0.0</b>	<b>0.0</b>	<b>41.5</b>	<b>1.4</b>	<b>1.4</b>	<b>0.4</b>	<b>3.3</b>	<b>9.2</b>	<b>4.1</b>	<b>1.6</b>
9	24,263	South	0.0	66.0	0.0	0.0	34.0	2.1	6.2	5.7	1.1	2.5	1.8	4.9
10	19,495	North	0.0	0.0	10.4	89.4	0.0	4.3	24.4	18.5	7.0	5.0	27.5	6.2
<b>12</b>	<b>15,242</b>	<b>North</b>	<b>0.0</b>	<b>0.0</b>	<b>53.3</b>	<b>12.2</b>	<b>34.5</b>	<b>2.9</b>	<b>3.1</b>	<b>1.9</b>	<b>4.0</b>	<b>7.9</b>	<b>12.5</b>	<b>5.6</b>
13	14,097	North	0.0	0.0	21.7	78.3	0.0	2.9	19.8	16.6	5.7	6.9	11.4	3.3
14	13,993	North	0.0	0.0	34.8	65.2	0.0	3.5	19.3	17.7	25.7	10.1	21.7	3.0
16	13,284	South	2.9	67.9	0.0	0.0	29.2	1.2	4.9	4.6	0.6	0.3	1.5	0.2
17	12,440	North	0.0	0.0	69.9	30.1	0.0	3.5	25.2	20.2	3.9	1.5	8.7	9.8
21	8,837	North	0.0	0.0	99.1	0.9	0.0	3.3	11.8	10.8	4.3	0.1	2.5	5.8
22	6,984	North	0.0	0.0	92.2	7.8	0.0	2.9	14.5	13.7	6.1	0.4	6.6	1.2
23	5,987	South	0.0	0.0	0.0	0.0	100.0	4.1	17.9	15.3	2.1	17.4	6.6	6.1
26	5,632	South	0.0	0.0	0.0	0.0	100.0	2.2	0.8	0.2	6.6	45.9	9.8	3.7



HAB-TECH environmental  
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 TESERA

0 5 10 20 Km Scale: 1:500,000

Legend	
Provincial Boundary	Renmant Patches > 5000ha 5
National Park	6
SLS FMA	7
Regional Study Area	8 - HCVF
Primary Roads	9
Secondary Roads	10
Gravel Roads	12 - HCVF
	13
	14
	16
	17
	21
	22
	23
	26



## CATEGORY 3 – QUESTION 8

*Does the forest contain naturally rare ecosystem types?*

- *21 of 34 plant globally ranked plant communities = non-forest*
- *9 of 13 remaining forested types are non-commercial forest (e.g. high subalpine or along stream courses)*
- *4 rare plant communities selected as HCV*
  - » *Lodgepole Pine/red-osier dogwood woodland*
  - » *Lodgepole Pine/white meadowsweet forest*
  - » *Aspen-subalpine fir-Engelmann Spruce/clasping-leaved twisted stalk forest*
  - » *Douglas fir/angelica spp. forest*

## CATEGORY 3 – QUESTION 11

*Are there nationally/regionally significant diverse or unique forest ecosystems?*

### **Guidance Questions**

- Are there important and/or unique geological areas that strongly influence vegetation cover?
- Are there important and/or unique microclimatic conditions that strongly influence vegetation cover?
- Do these ecosystems possess any exceptional characteristics?

## CATEGORY 3 – QUESTION 11

### ***Five HCV's – Habitats (p. 65)***

- ***Mixedwood forests in riparian settings***
- ***Shallow marshes and beaver pond complexes,***
- ***Deciduous mixedwood and pure deciduous forest cover types >110 years old***
- ***Late seral and old growth conifer***
- ***Upland Grasslands***



Spray Lake Sawmills

### Species Rich Unique Habitats - North FMA

— Transcanada HWY

□ FMA Boundary

#### Rare/Unique Habitats

■ Shallow Marsh/Beaver Pond

■ Mixedwood Riparian

■ Upland Grasslands

■ Deciduous > 110yrs

■ Old Growth Conifer



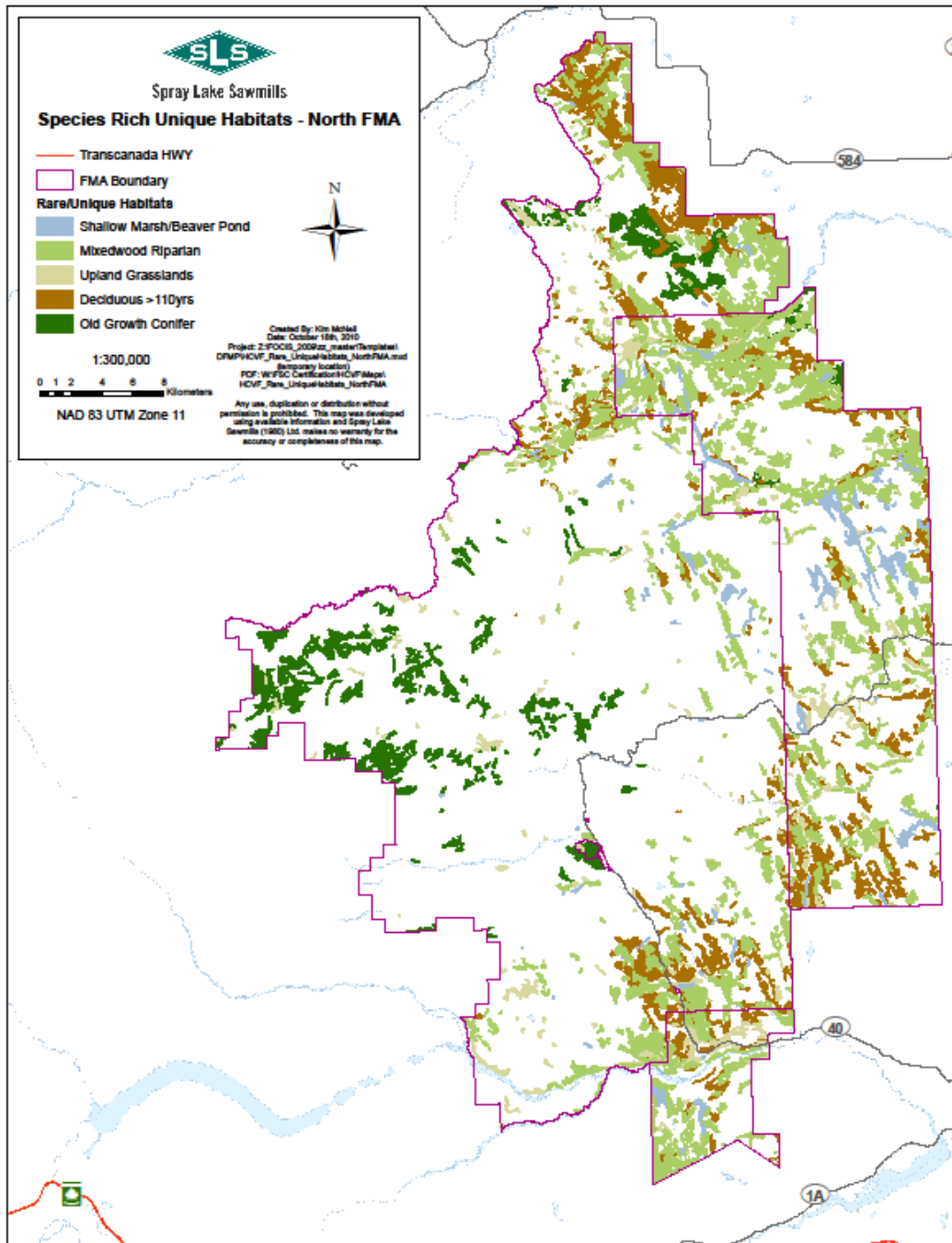
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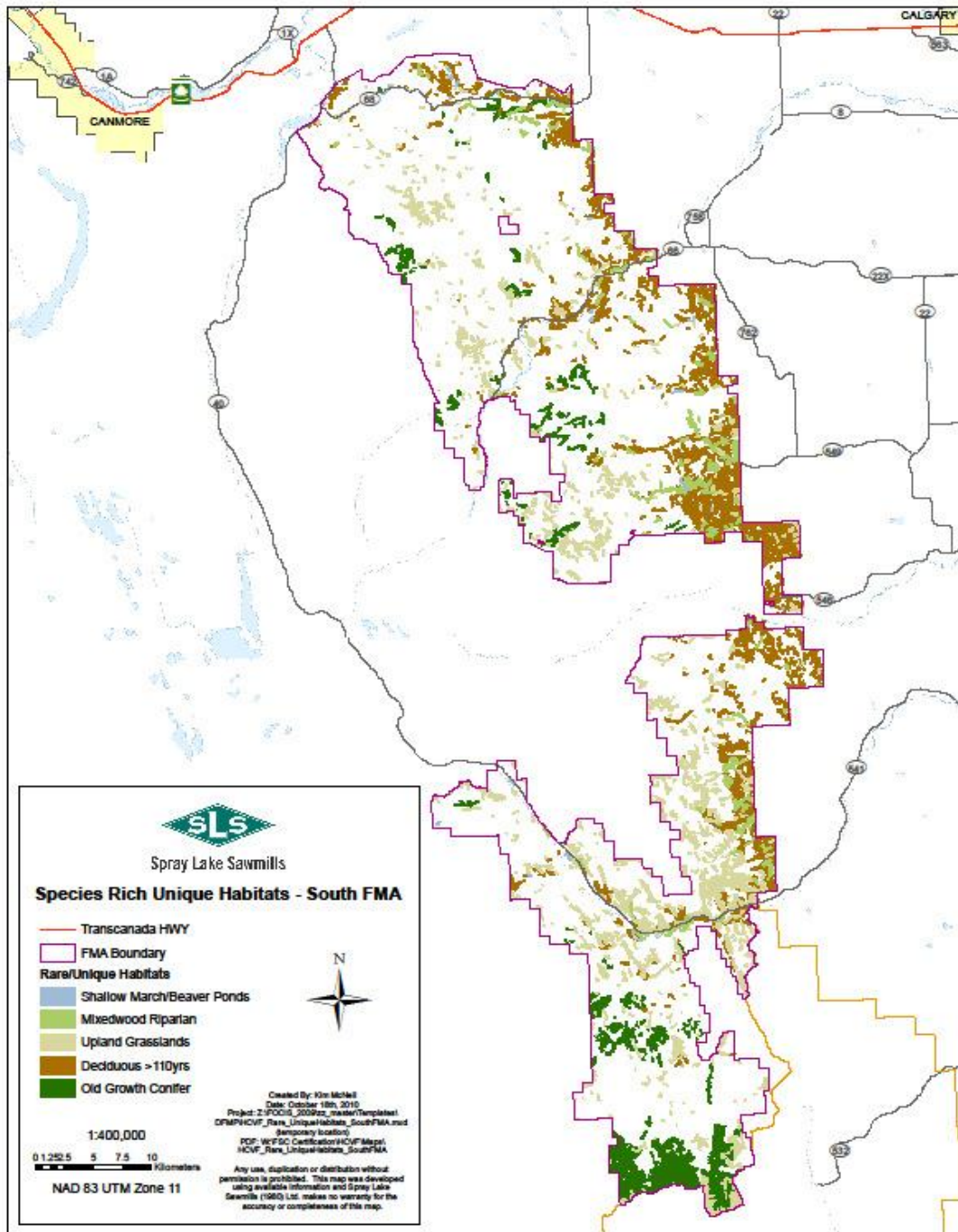
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NAD 83 UTM Zone 11

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# END-QUESTIONS?

