

Atlas

of Resource Values in the Gitxsan Watersheds

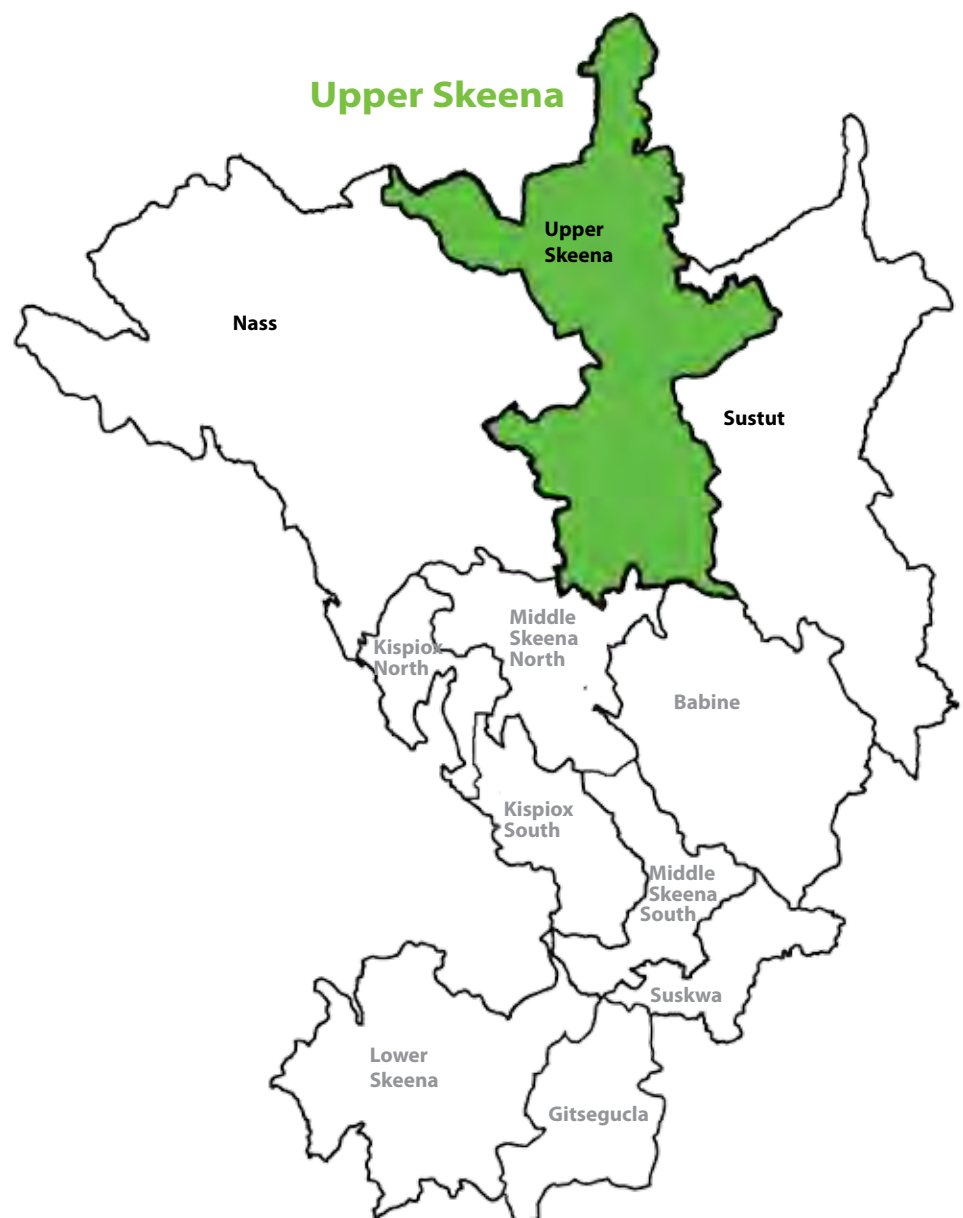
PHASE 2: Upper Skeena Watershed

March 2008

The Gitxsan Nation and the Ministry of Forests and Range have agreed that sharing of resource information is the first step in planning—and agreeing upon—the use of resource values known to the Ministry within Gitxsan traditional territories. This pamphlet describes the resources lying within the Upper Skeena Watershed and forms part of the *Atlas of Resource Values in the Gitxsan Watersheds*. The goal of the atlas is to describe resource values in the nine Gitxsan watersheds that lie within provincial government forest districts. The Upper Skeena Watershed lies within the boundaries of the Prince George and Nass Timber Supply Areas.

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1.0 Geographic Description

The Upper Skeena Watershed is a large-sized (471,025 hectares) watershed of the Skeena and is one of nine watersheds in the traditional territory of the Gitksan First Nation. It includes the Dutu River to the north, follows the height of land east of the Dutu River to the Mosque River along its north eastern boundary, follows the Skeena River along its south eastern boundary, reaches to the Mount Tommy Jack area in the south, and follows the divide between the Skeena River and Nass River watersheds along its western boundary.



Photo front cover: Tetrad Communications

2.0 Social Characteristics

2.1 Communities

The Upper Skeena Watershed is a remote area with no highway and little industrial road access. There is limited industrial road access at the south end of the watershed via the Damsumlo Forest Service Road. Access to the Upper Skeena Watershed is also available via a deactivated rail line running along the north east side of the Sustut River and the east side of the Skeena River. The land is rich in salmon and wildlife making it a vital part of Gitksan life for countless generations.

The Upper Skeena Watershed includes six Gitksan house territories represented by the following Gitksan hereditary Chiefs: Gwinin Nitxw within the Kispiox Timber Supply Area (TSA) and Prince George TSA, and Wii Gaak, Wii Minosik, Geel, Nii Gibuu, Gwinin Nitxw, and Miluulak within the Prince George TSA.

2.2 Parks and Special Management Zones

Tatlatui Park, which was established to conserve mountain headwaters of the Arctic drainage, borders the northern portion of the Upper Skeena Watershed.

2.3 Cultural Heritage Values

Due to the richness of the salmon and wildlife habitat, the Upper Skeena Watershed has an extensive history of aboriginal use. Along with the many traditional trails and camps running throughout the area, there is a variety of cultural features echoing the history of the Gitksan Nation. The cultural heritage map included in this document (see page 12) highlights some of the general locations of the historic travel corridors and cultural features that cover the landscape.

As well, a portion of the southern end of the watershed has been mapped with a cultural heritage and archaeological resources inventory that was compiled by the Gitksan Watershed Authorities. The inventory—intended to communicate Gitksan environmental, cultural knowledge and resource values—includes a territory map and a reference table with descriptions of Gitksan place names, non-aboriginal place names, information sources and any related comments. The inset on the cultural heritage map contains this information.



Photo: Tetrad Communications



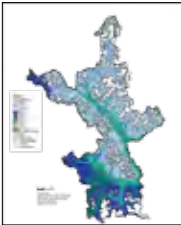
Map 1—Page 10



Map 2—Page 12

3.0 Environmental Characteristics

3.1 Biodiversity Values



Map 3–Page 14

Biodiversity is the sum of the diversity of plants, animals, and other living organisms in all their forms and levels of organization, including genes, species, and ecosystems, and the processes that link them. Due to difficulties in describing, measuring or monitoring diversity, habitat types are often used as a substitute for managing biodiversity. In BC, the Biogeoclimatic Ecosystem Classification system (BEC) is used. This is a system of ecological classification based primarily on climate, soils, and vegetation that divides the province into large geographic areas with similar climate and dominant tree species.

In the Upper Skeena watershed there are five zones: Boreal Altai Fescue Alpine (BAFA); Engelmann Spruce Sub alpine Fir (ESSF); Sub Boreal Spruce (SBS); Spruce Willow Birch (SWB) and Interior Cedar Hemlock (ICH). Natural Disturbance Types

Throughout the province it is recognized that different forest zones have developed under the influence of different types of disturbance, (e.g. fire, insects, wind storms or land slides) which vary in size, concentration and frequency. Managing forests to resemble these natural disturbances will increase the probability that all native species and ecological processes will be maintained. The historic patterns of these disturbances have been studied and each BEC zone has been given a Natural Disturbance Type (NDT) classification.

There are four NDT types in this watershed:

- NDT1: ecosystems with rare natural disturbances. Disturbances are generally small resulting in uneven-aged or multi-storied even-aged forest, with regeneration occurring in gaps created by the death of individual trees or small patches of trees.
- NDT2: ecosystems that experience infrequent natural disturbances. Wildfires are often of moderate size (20 to 1000 ha) producing a landscape dominated by extensive areas of mature forest surrounding patches of younger forest.
- NDT3: ecosystems with frequent natural disturbances. Natural burns usually contain unburned patches of mature forests producing a landscape of even aged regeneration stands containing mature forest remnants.
- NDT5: ecosystems are Alpine Tundra and Sub alpine Parkland ecosystems. They occur above or immediately below the alpine tree line, and are characterized by short, harsh growing seasons.



Photo: Tetrad Communications

Table 1. Biogeoclimatic (BEC) Variants and Natural Disturbance Types (NDT) in the Upper Skeena Watershed.

BEC Variant	Hectares	% of planning unit	NDT	NDT (ha)	NDT (%)
BAFAun (Boreal Altai Fescue Alpine – Undifferentiated)	79904	17	5	157996	34
BAFAunp (Boreal Altai Fescue Alpine – Undifferentiated and Parkland)	1580	<1	5		
ESSFmc (Engelmann Spruce - Subalpine Fir - moist cold)	145476	31	2	181816	34
ESSFmcp (Engelmann Spruce - Subalpine Fir - moist cold parkland)	60800	13	5		
ESSFwv (Engelmann Spruce - Subalpine Fir - wet, very cold)	60589	13	1	260589	13
ESSFwvp (Engelmann Spruce - Subalpine Fir - Wet Very Cold Parkland)	16432	4	5		
ICHmc1 (Interior Cedar – Hemlock – Nass moist cold)	24928	5	2		
SBSmc2 (Sub-Boreal Spruce - Babine moist cold)	70674	15	3	70674	15
SWBmk (Spruce Willow Birch - Moist Cool)	6586	1	2		
SWBmks (Spruce Willow Birch - Moist Cool Scrub)	4772	1	2		
Total Area for Planning Unit	471075	100		471075	100

3.2 Water Values

Water is the lifeline of a watershed and is critical for the overall health of an ecosystem, including fish and wildlife species. The Gitxsan has historically relied on fresh water and healthy fisheries to sustain its culture. The Upper Skeena Watershed includes the mainstem of the Skeena River and a multitude of mountainous tributary streams, making the area vital to the overall water quality in the upper portion of the Skeena River.

The Ministry of Environment Watershed Atlas has broken the province down into small order watersheds based on creek and rivers. Within the Upper Skeena watershed there are 37 named watersheds and 79 un-named water sheds. The named watersheds are listed below.

Table 2. Fourth Order Watersheds in the Upper Skeena Watershed.

Watershed	Hectares	Watershed	Hectares	Watershed	Hectares
Tzahny Creek	2087	Shilahou Creek	7041	Endless Creek	4854
Trygve Creek	153	Shaslomal Crk	4598	Duti River	48742
Trail Creek	6077	Rognaas Creek	321	Damshilgwit Creek	2718
Tommy Jack Creek	6223	Mosque River	14804	Cutfoot Creek	4414
Thutade Creek	553	Malloch Creek	14762	Currier Creek	10937
Tantan Creek	2716	Kobes Creek	79	Chipmunk Creek	12959
Tally Creek	3814	Kluatantan River	3846	Chettleburgh Creek	8101
Stalk Creek	669	Kitlangas Creek	6863	Beirnes Creek	6170
Slowmaldo Creek	138	Hoy Creek	1225	Barker Creek	6905
Slamgeesh River	22665	Hotlesklwa Crk	180	Alma Creek	7612
Skeena River	40837	Foster Creek	5375	Abies Creek	3287
Skeena River	35105	Fort Creek	10310		
Sicintine River	20498	Falconer Creek	2642		



Map 4 –Page 16



Map 4—Page 16

3.3 Fisheries Values

Fisheries values are rated high to very high in the Upper Skeena Watershed. Numerous species of fish can be found in the watershed, including all salmon species.

Fish species found in the Upper Skeena include:

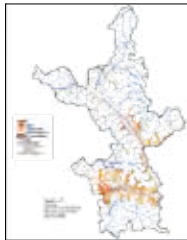
American shad	Cutthroat trout	Longnose dace	Pink salmon	Sockeye salmon
Bull trout	Dolly varden	Longnose sucker	Prickly sculpin	Steelhead
Burbot	Eulachon	Mountain whitefish	Pygmy whitefish	Sucker
Chinook Salmon	Green sturgeon	Northern pikeminnow	Rainbow trout	3 spine stickleback
Coarse fish	Lake chub	N. redbelly dace	Redside shiner	W. brook lamprey
Coastrange sculpin	Largescale sucker	Pacific Lamprey	River lamprey	White sturgeon
Coho salmon	Longfin Smelt	Peamouth chub	Sculpin	White sucker



Photo: Todd Bresser

3.4 Soil Values

The Upper Skeena Watershed is mountainous, with steep slopes bordering tributaries that flow into the Skeena River main stem. Terrain Stability Mapping (TSM) completed for this unit has identified potentially unstable (Class IV) areas in 25,473 ha (5.4% of the watershed) and unstable (Class V) areas in 6459 ha (0.7% of the watershed). In addition, mapping of environmentally sensitive areas completed in the early to mid-1970s classified another 52,947 ha (11% of the unit) as having environmental sensitivity for soils.



Map 5—Page 18

3.5 Forest Values

Some 445,223 hectares of land within the unit is forested. This represents 94% of the total landbase. The breakdown of forest habitat types by leading tree species is summarized in the table below.

Table 3. Timber Types in the Upper Skeena Watershed.

Leading Species	Hectares	% of forested area
Mixed deciduous	3692	1.5%
Pine species	2943	1.5%
Alpine/Amabilis fir	324572	92%
Hemlock	8415	3%
Spruce species	10564	3%
NCBR	754	<1%
Total	350940	100%



Photo: Tetrad Communications

3.6 Wildlife Values

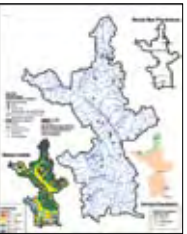
The Skeena River valley and neighbouring slopes and alpine habitats support numerous wildlife species including mountain goat, which is identified as a species requiring winter range habitat conservation, and northern mountain caribou, which is recognized as a species at risk. Other important species supported by Upper Skeena Watershed habitat includes grizzly bear, black bear, moose, wolverine and a large variety of fur bearing mammals.



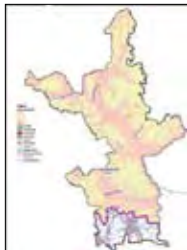
Photo: Debbie Cichowski



Map 6—Page 20



Map 7—Page 22



Map 8–Page 24



Map 9–Page 26

4.0 Economic Characteristics

4.1 Timber and Silviculture

Timber

The Upper Skeena Watershed lies within two Timber Supply Areas: the Prince George and the Kispiox. Most of the total area of the Upper Skeena is located within the Prince George TSA (88%) and so is most of the operable landbase (96%). The table below shows the proportion of total landbase and operable landbase associated with each TSA in the watershed.

Table 5. Total Landbase and Operable Landbase from each TSA in the Upper Skeena.

TSA	Total Landbase (%)	Total Landbase (ha)	Operable Landbase (%)	Operable Landbase (ha)
Prince George	88	414502	96	313536
Kispiox	12	56523	4	13604
Total	100%	471025	100%	326600

The total forested area that can be used for timber production (operable landbase) in the Upper Skeena Watershed is 42,023 hectares. This represents 69% of the total landbase in the watershed. To date, no forests have been harvested in the Nass Watershed. The timber from the operable landbase of each TSA is classified in the two tables 6 and 7.

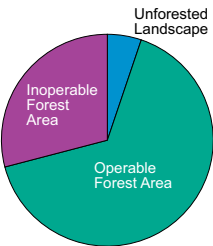


Table 6. Operable Timber Resources for the Prince George TSA.

Sawlog Operability Code A1		Sawlog Operability Code A2		Sawlog Operability Code C		Sawlog Operability Code H		Immature <= 80 Yrs Old	
Ha.	% Operable	Ha.	% Oper.	Ha.	% Oper.	Ha.	% Oper.	Ha.	% Oper.
124892	39	32373	10	144336	46	0	0	17140	5

The timber from the operable landbase of the Prince George TSA is classified as follows:

A1 Conventional ground base skidding (slope <=30%)(all soil types)

A2 Conventional / cable base skidding / yarding (slope >30% and <=55%) (stable soils, Non-lacustrine)

C Cable based yarding system (slope >30% and <=100%)(stable soils, non-lacustrine, cable based yarding system (slope >30% and <=100%) (Lacustrine soils)

H Helicopter base logging (slope >100%)

I Inoperable

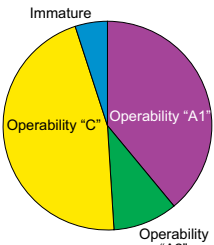


Table 7. Operable Timber Resources for the Kispiox TSA.

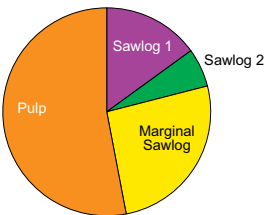
Sawlog 1 <= 40% Slope		Sawlog 2 40 to 90% Slope		Marginal Sawlog <=40% Slope		Pulp <=40% Slope		Immature <100 Yrs Old	
Ha.	% Operable	Ha.	% Oper.	Ha.	% Oper.	Ha.	% Oper.	Ha.	% Oper.
1859	15	768	6	3350	26	6748	53	90	<1

The timber from the operable landbase of the Kispiox TSA is classified as follows:

1) sawlog, meaning greater than 60% of the volume should be sawlog material;

2) marginal sawlog, meaning 40-60% should be sawlog material; and

3) pulp, which means greater than 60% of the material is pulp grade.



4.2 Tourism and Recreation

Wilderness Values

A good portion of the area is relatively untouched and primitive, providing potential opportunities for wilderness recreation experiences.

- 73% is classified as “primitive” (greater than or equal to 8 km from a four-wheel-drive road and greater than or equal to 5000 ha in size).
- 23% is classified as “semi primitive” (greater than or equal to 1km from a road, and greater than or equal to 1000 ha in size).

Camp Sites

There are no provincial recreation trails or recreation sites established within the Upper Skeena Watershed.

Visual Quality

Due to the high quality recreation opportunities available within the Upper Skeena Watershed area, visually sensitive areas and associated visual quality objectives have been established. The primary areas identified for visual quality conservation and management include the landscape surrounding the Skeena River, Dutu Lakes and Slamgeesh Lake. The map on page 30 shows the location of, and describes, these visual designations.

4.3 Other Values

Range and Agriculture

There is no land designated within the Agriculture Land Reserve within this watershed.

There is one large, active range tenure occupying the area north east of the Skeena River upstream of the confluence with the Mosque River. The tenure was established for grazing horses, which are used for guided hunting in the area.

Roads

The only roaded areas are located at the south end of the watershed and accessed via the Damsumlo Forest Service Road.

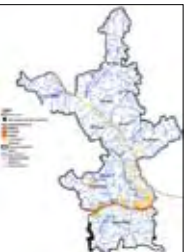
Minerals, Oil and Natural Gas

Metallic mineral potential is low to moderate except for the southern portion of the watershed between the Skeena River and Mount Tommy Jack. Industrial mineral potential is moderate to high in the aforementioned area throughout the northern portion of the watershed (north of the confluence of Mosque and Skeena Rivers).

There are three mineral showings (coal) in the Mount Tommy Jack, Currier Creek and Dutu River areas.



Map 10–Page 28



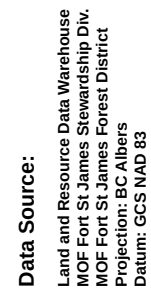
Map 11–Page 30

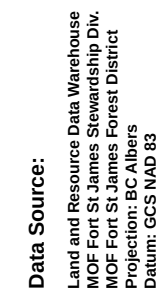


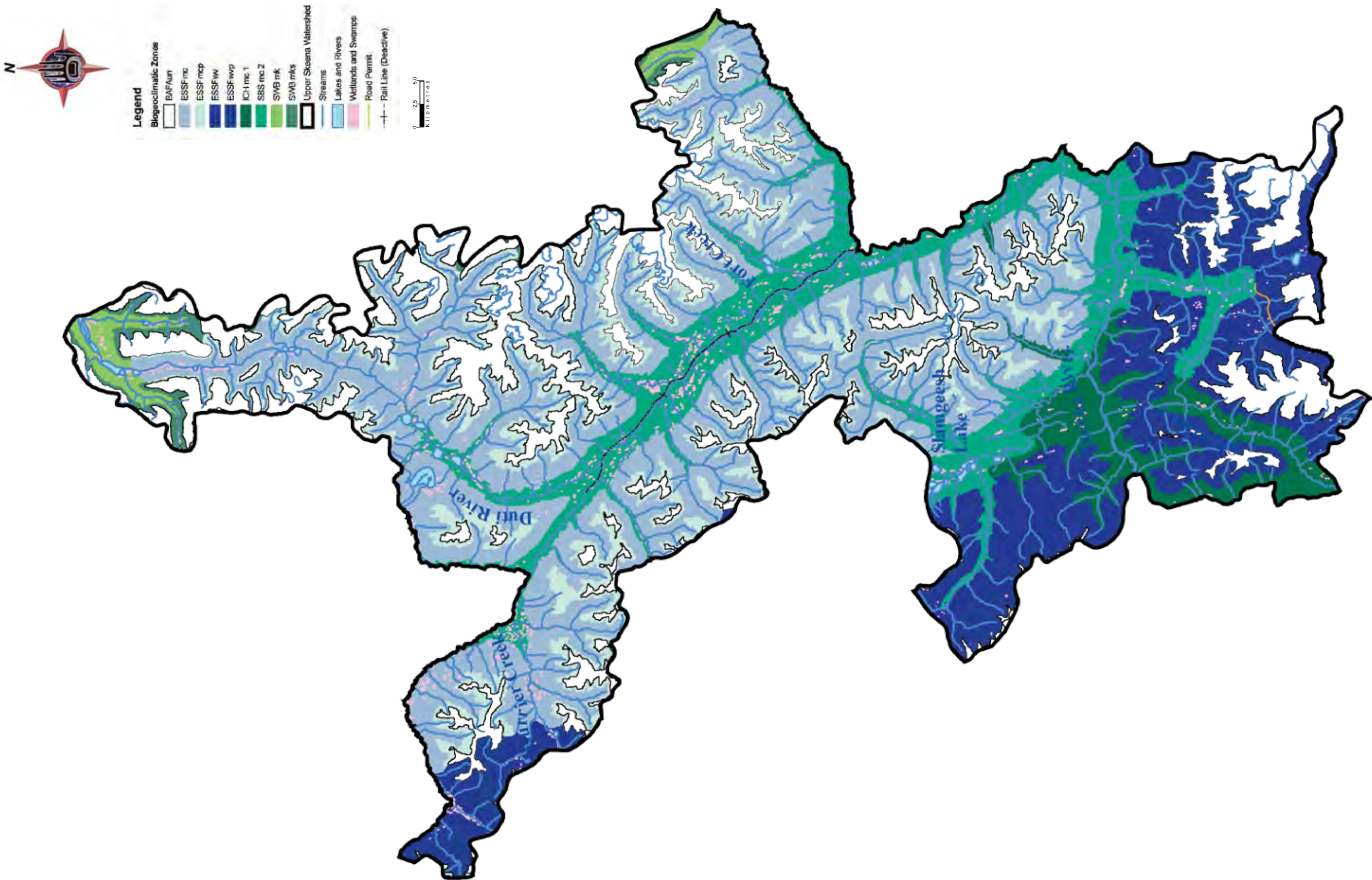
Map 12–Page 32



Map 13–Page 34



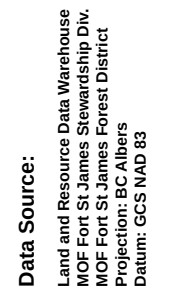


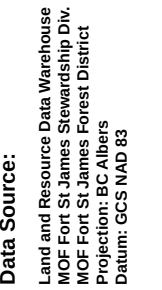


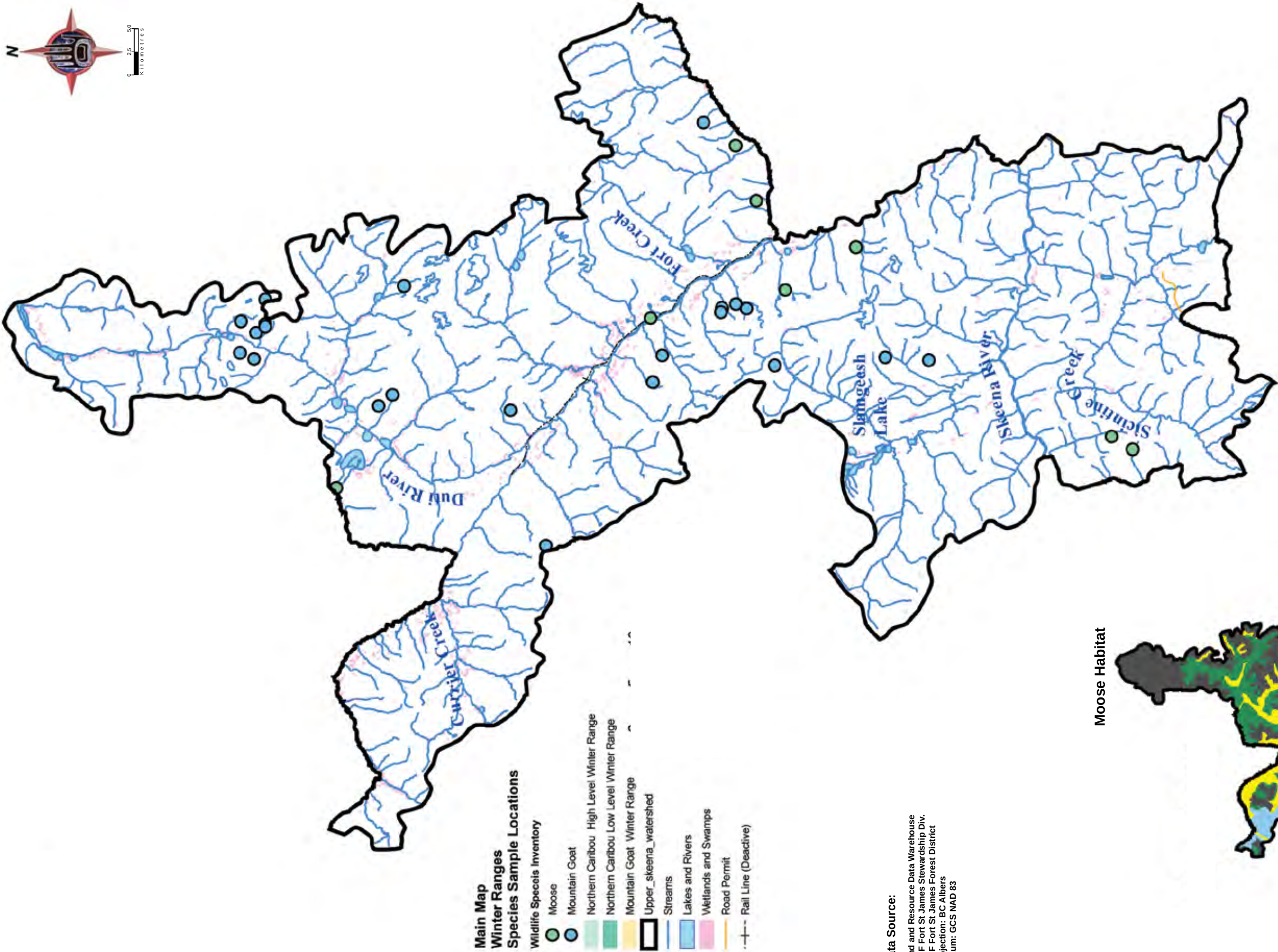
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MOF Fort St James Forest District
Projection: BC Albers
Datum: GCS NAD 83



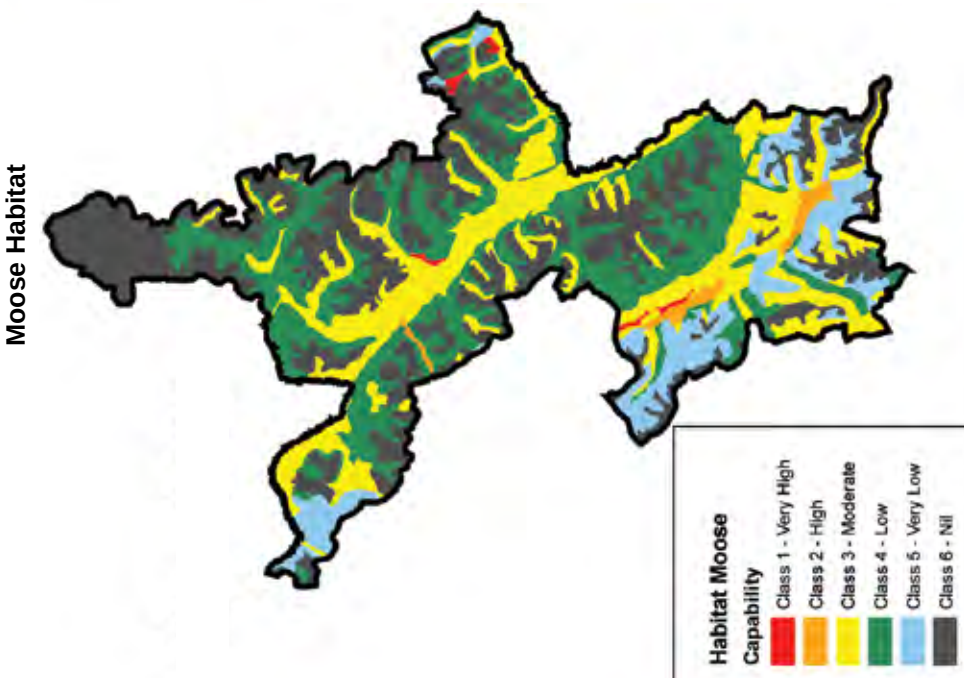
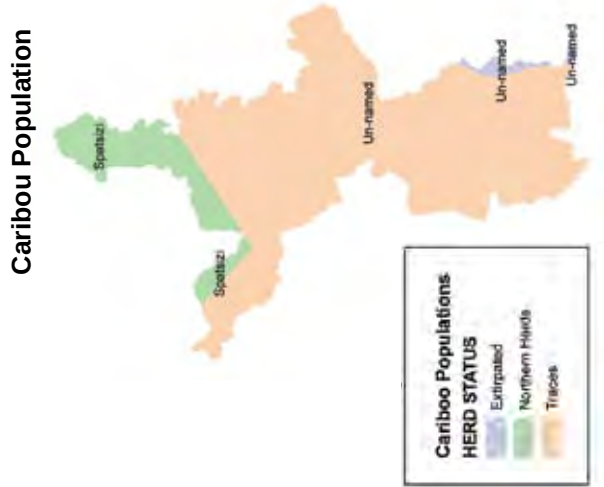
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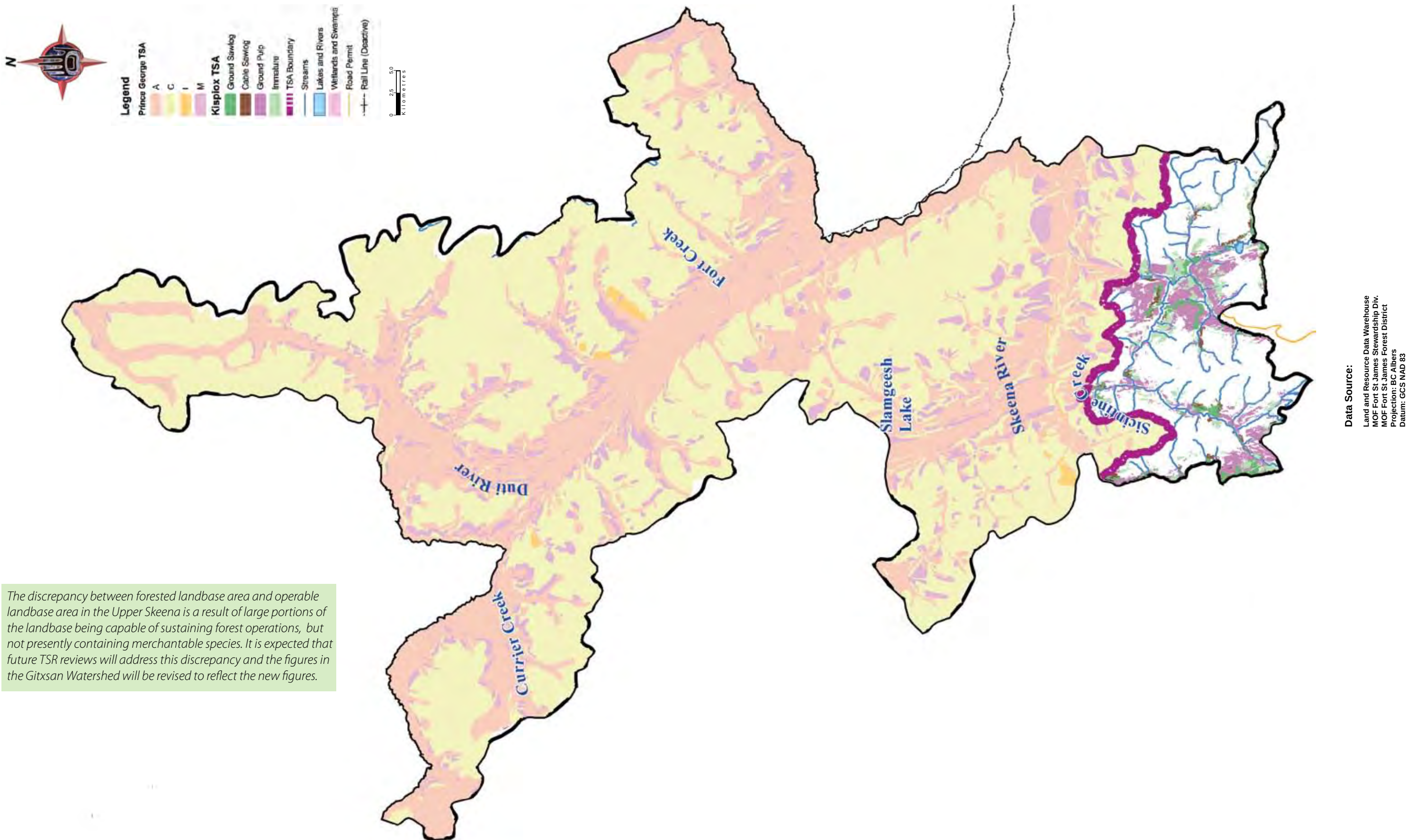


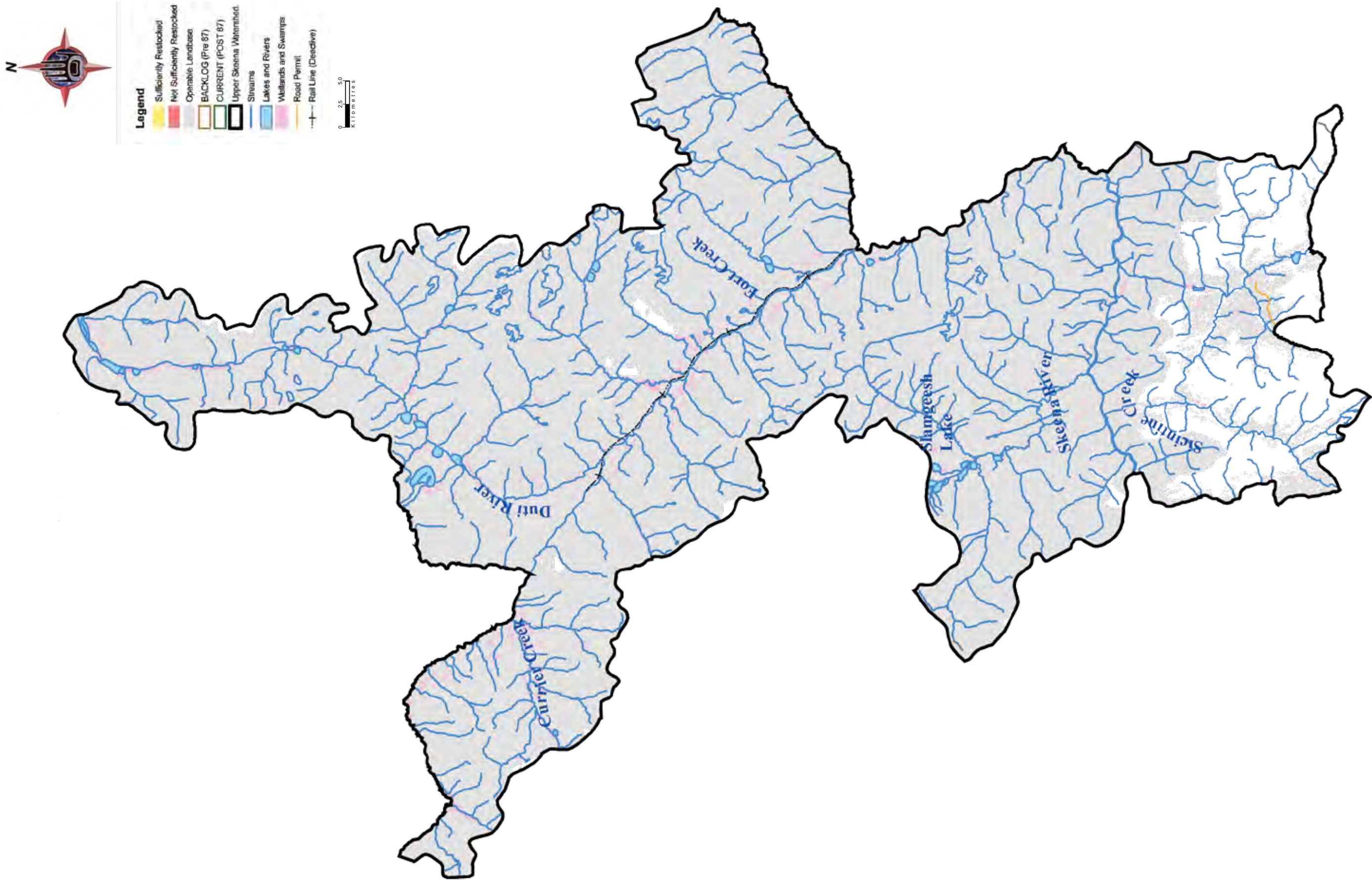




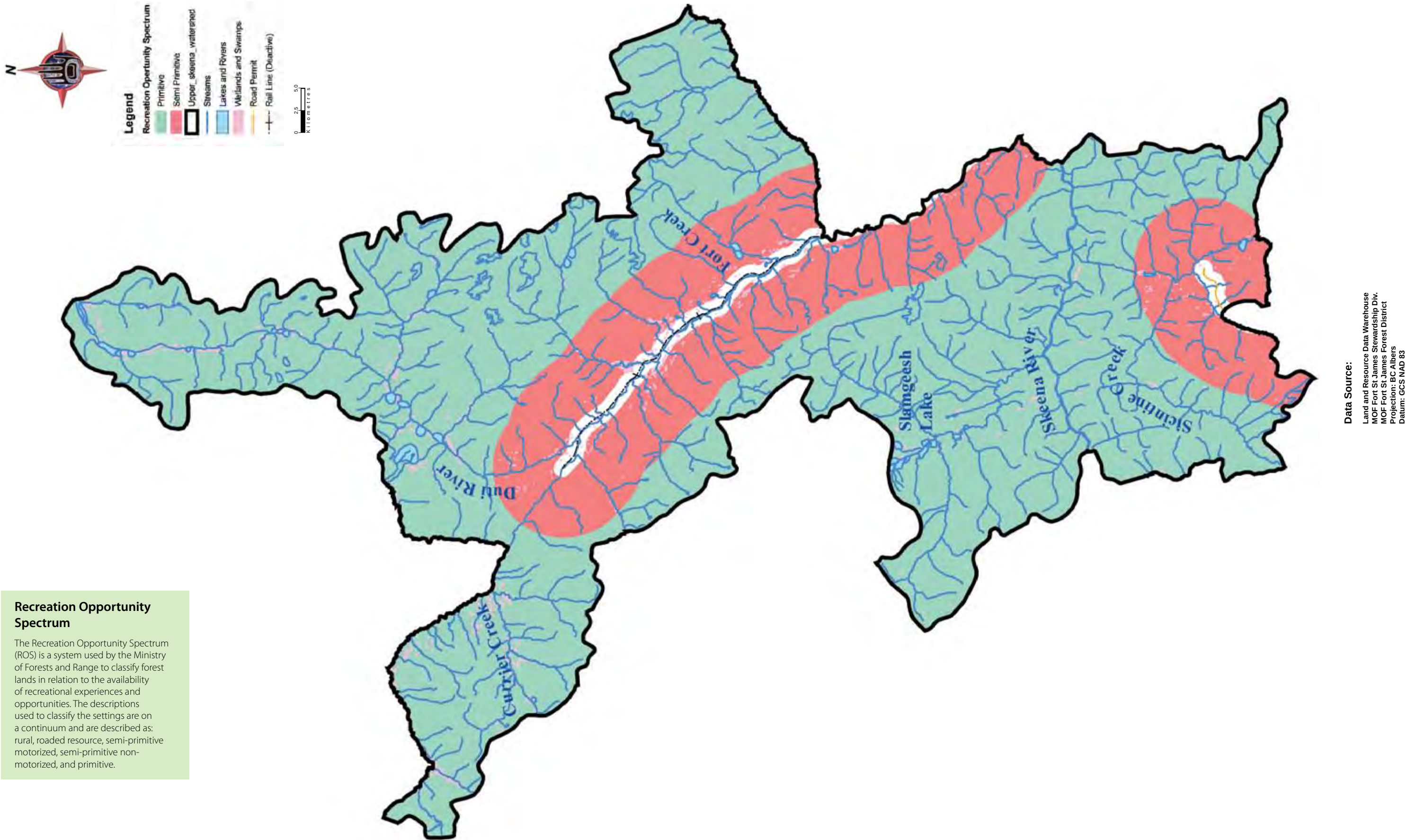
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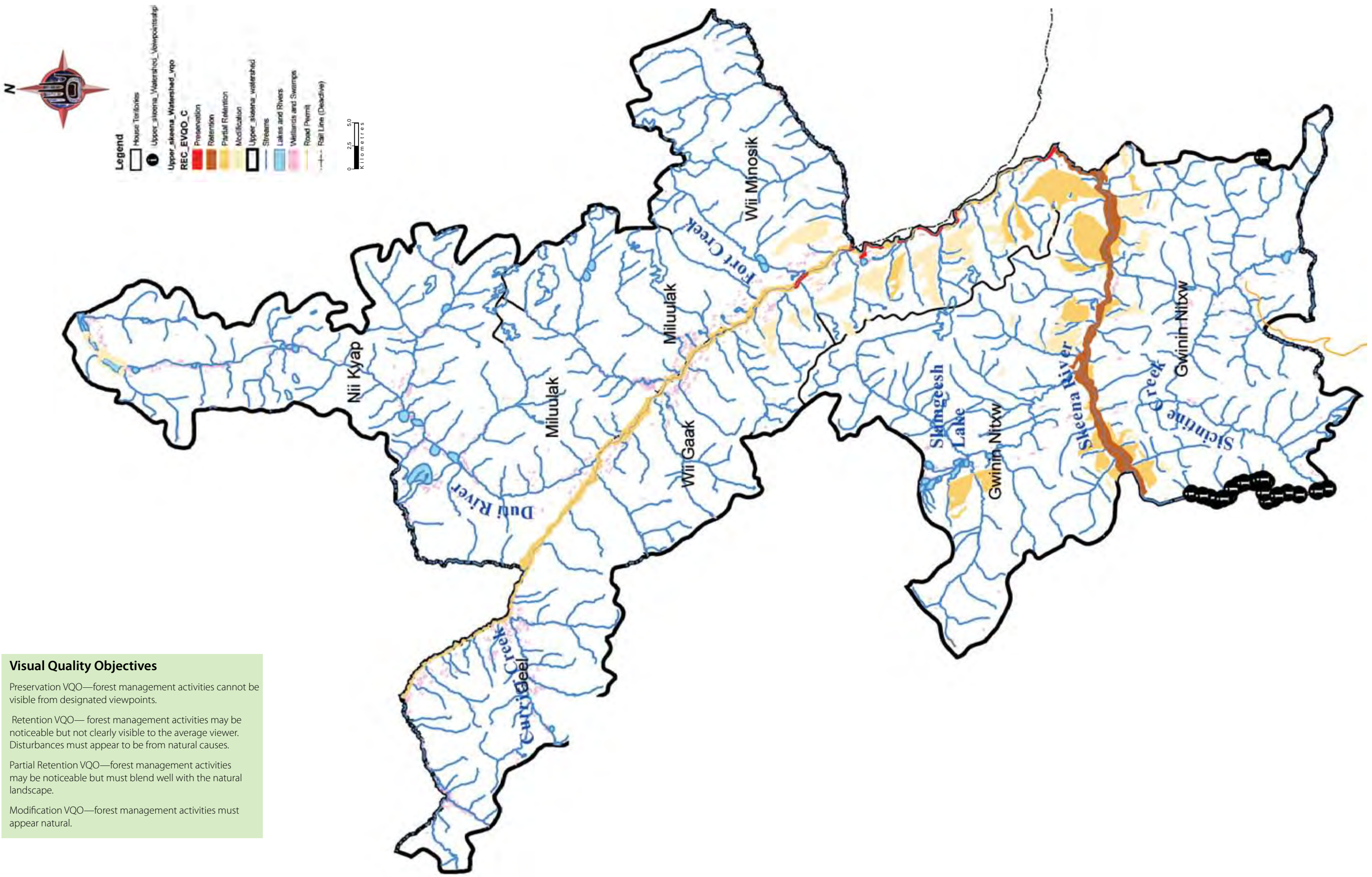






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Data Source:
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Visual Quality Objectives

Preservation VQO—forest management activities cannot be visible from designated viewpoints.

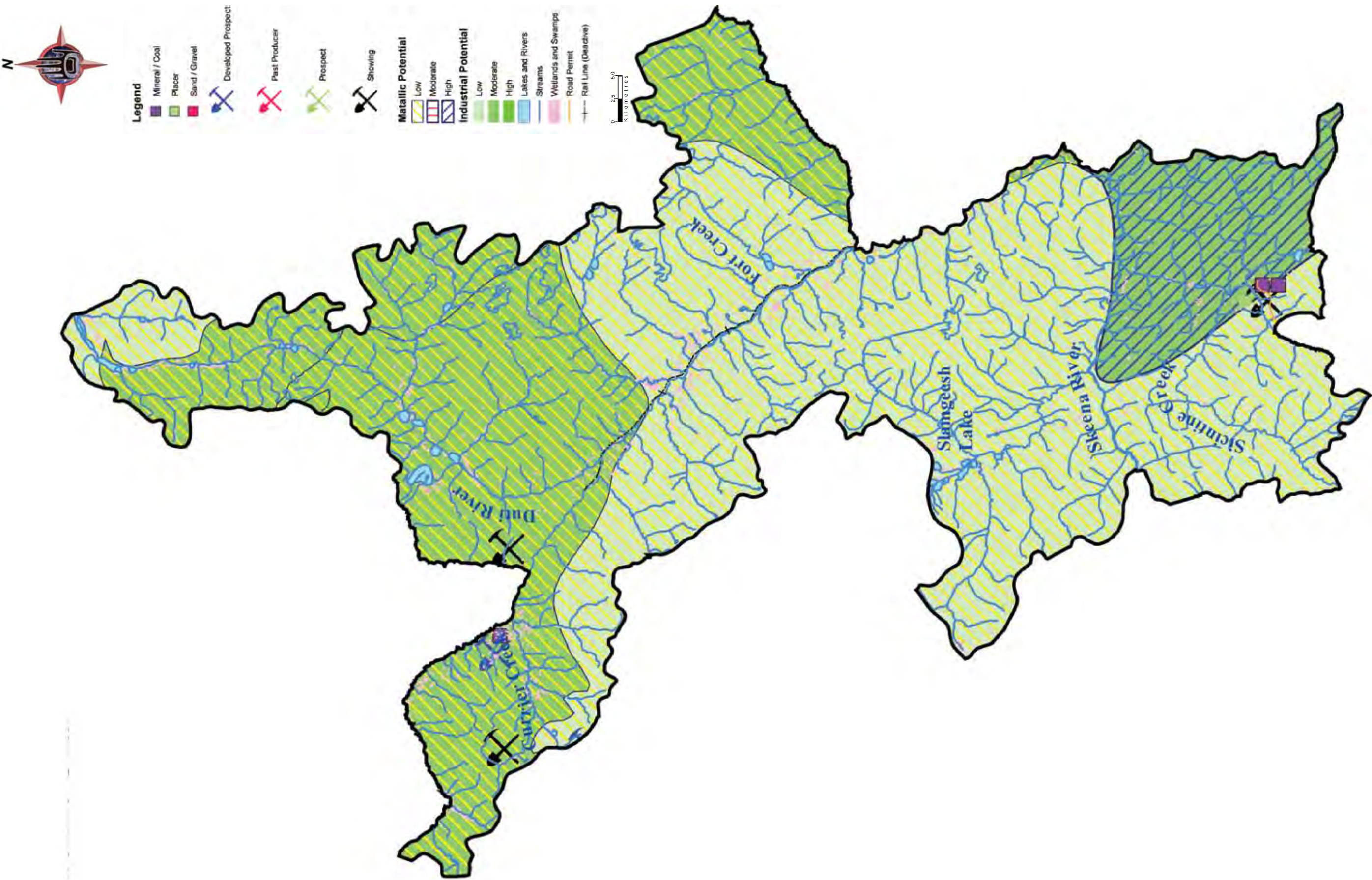
Retention VQO— forest management activities may be noticeable but not clearly visible to the average viewer. Disturbances must appear to be from natural causes.

Partial Retention VQO—forest management activities may be noticeable but must blend well with the natural landscape.

Modification VQO—forest management activities must appear natural.



Data Source:
Land and Resource Data Warehouse
MOF Fort St James Stewardship Div.
MOF Fort St James Forest District
Projection: BC Albers
Datum: GCS NAD 83



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