

Atlas

of Resource Values in the
Gitxsan Watersheds

Suskwa Watershed

September 2007

Sharing of resource information is one of the first steps in developing a common understanding of the land and its resources. Only then can the discussion of the best use of these resources take place. This pamphlet describes the known resources lying within the Suskwa 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 six Gitxsan watersheds that overlap the boundary of the Skeena-Stikine Forest District..

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Skeena-Stikine Forest District



1.0 Geographic Description

The Suskwa Watershed is approximately 84,826 hectares in size and is located east and north of the Rocher De Boule Mountains, extending to the Hazelton area, eastwards to the Blunt mountain range, and includes the area from Natlan Peak to Mount Thoen.

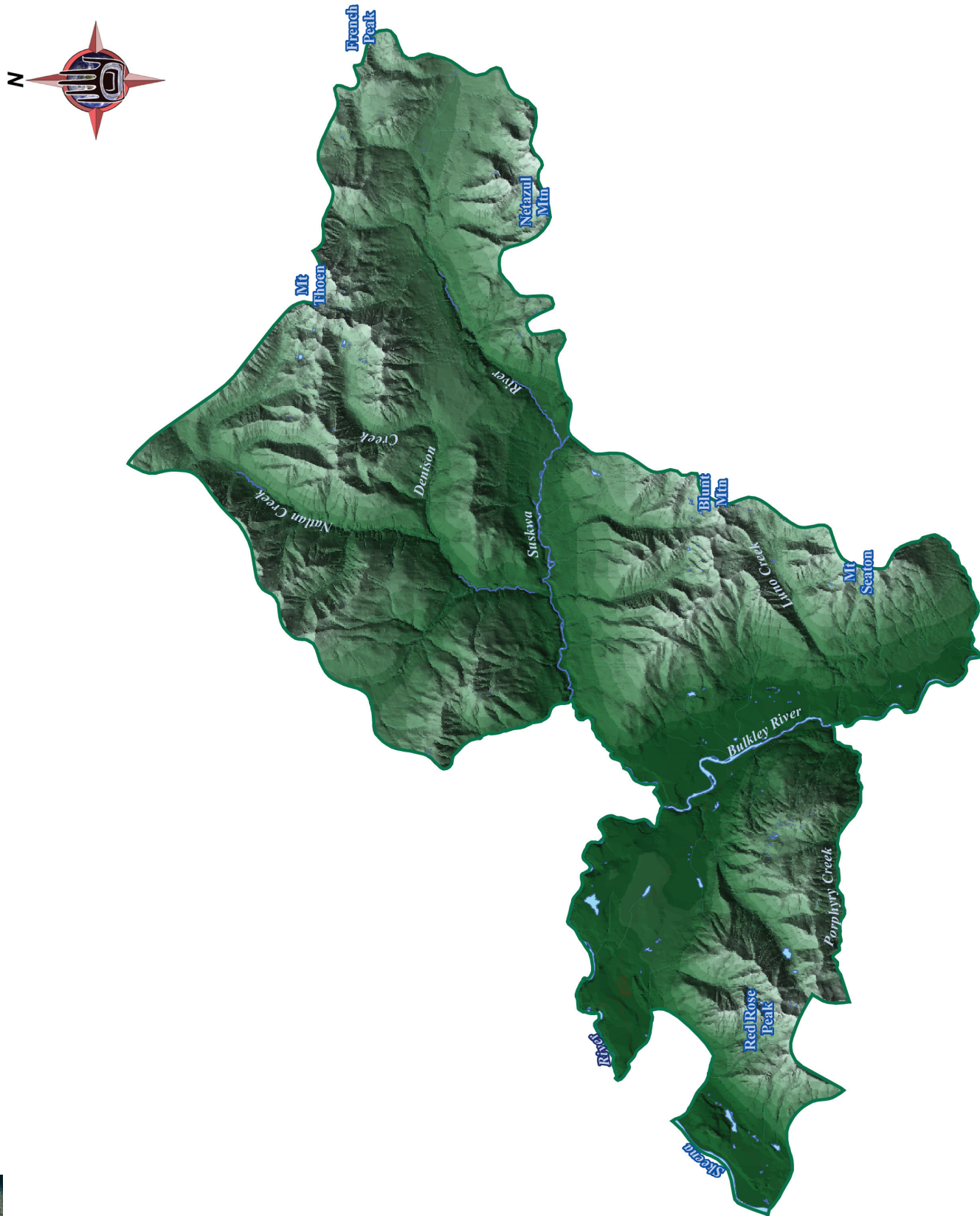


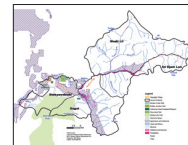
Photo front cover: Tetrad Communications



2.0 Social Characteristics

2.1 Communities

The watershed includes four Gitxsan house territories: An Djam Lan, Madii Lii, Sagat and Stekyawdenhl. New Hazelton is located at the northwest edge of the watershed and Highway 16 runs through it along the Bulkley and Skeena Rivers. The main gravel logging road is the Suskwa Road with many active and deactivated spurs.



Map 1—Page 10

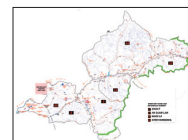
2.2 Parks and Special Management Zones

Ross Lake Provincial Park (340 ha) and Seeley Lake Provincial Park (26 ha) are both located off Highway 16 close to Hazelton. These parks are popular recreational spots offering fishing, swimming and picnic areas. Catherine Creek Ecological Reserve (45 ha) was established to protect a forest stand of large diameter old growth western red cedar within the ICHmc2 biogeoclimatic zone and is located off Highway 16 about 12 kilometres southeast of Hazelton.

The Rocher De Boule Special Management Zone (encompassing 6538 ha, or 8% of the watershed) is located in the southwest portion of the Suskwa. This SMZ was designated in the Kispiox Land and Resource Management Plan to maintain provincially significant scenic resources, backcountry recreation opportunities and wildlife habitat.

2.3 Cultural Heritage Values

A cultural heritage and archaeological resources inventory for the unit was compiled by the Gitxsan Watershed Authorities. The inventory—intended to communicate Gitxsan environmental, cultural knowledge and resource values—includes a territory map and a reference table with descriptions of Gitxsan place names, non-aboriginal place names, information sources and any related comments.



Map 2—Page 11



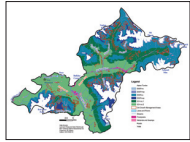
Photo: Marilyn Freil





3.0 Environmental Characteristics

3.1 Biodiversity Values



Map 3-Page 12

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, 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 Suskwa watershed there are three zones: Alpine Tundra (AT); Engelmann Spruce Subalpine Fir (ESSF) 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 three 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.
- 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.

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

BEC Variant	Hectares	% of planning unit	NDT	NDT (ha)	NDT (%)
AT	11987	14	5	16551	20
ESSFCmc	255	0	2		
ESSFmcp	788	1	2		
ESSFwv (wet, very cold)	24903	29	1	24903	29
ESSFwfp (parkland)	4564	5	5		
ICHmc1 (Nass moist cold)	16327	19	2	43372	51
ICHmc2 (Hazelton moist cold)	26002	31	2		
Total Area for Planning Unit	84826	100		84826	100



Some methods of managing for biodiversity include the creation of Old Growth Management Areas (OGMAs). These zones are identified for the express purpose of maintaining structural and functional features of old growth forest ecosystems.

Table 2. Old Growth Management Areas in the Suskwa.

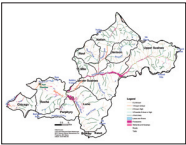
BEC Variant	OGMA ¹	
	ha	%of variant
ESSFwy	4700	19
ICHmc1	1424	9
ICHmc2	1106	4

¹It was assumed that OGMAs consisted entirely of old seral forest.

OGMA areas in the Suskwa comprise 12% (7230 ha.) of the forested landbase.

3.2 Water Values

Water is the lifeline of a watershed and is critical for the overall health of an ecosystem and organisms that live there, including multiple fish and wildlife species. The Gitxsan have historically relied on fresh water and healthy fisheries to sustain their culture. Although there are no community watersheds in the area, fourth order watersheds include the headwaters and tributaries that feed into the main watercourses flowing into Kuldo Creek and the Skeena River. Fourth order watersheds have been identified to provide the basis for measuring and assessing watershed integrity (peak flow, surface erosion, mass wasting and riparian buffer integrity) These watersheds are listed below.



Map 4—Page 13

Table 3. Fourth Order Watersheds in the Suskwa.

Watershed	Hectares
Lower Suskwa	8904
Madii Lii	2867
Upper Suskwa	15294
Roche	10661
Itzul	4580
Chicago	4188
Denison	4843
Natlan	11435
Luno	12389
Upper Nichyeskwa	7
Porphyry	4689
15 Mile	2880
Tsezakwa	155
L. Harold Price	145
Blunt	11
Kwun	1311
Bulkley	215
Portions of surrounding watersheds	252





Map 4—Page 13

3.3 Fisheries Values

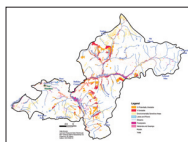
The fisheries values in the watershed are high to very high. The Suskwa River has important spawning and off-channel rearing habitat as do many of its tributaries.

Fish species found within the Suskwa Watershed include:

Sockeye salmon	Bull trout
Pink salmon	Cutthroat trout
Chinook salmon	Rainbow trout
Coho salmon	Mountain whitefish
Steelhead	Pacific lamprey
Dolly varden	Longnose dace

3.4 Soil Values

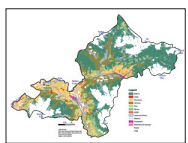
Terrain Stability Mapping (TSM) identifies potentially unstable (Class 4V) and unstable (Class 5) areas in the watershed. In the Suskwa, some 5348 ha (6% of the watershed) are classified as Class 4 or 5. These areas have been removed from the operable landbase. In addition to TSM, Environmentally Sensitive Areas (ESA) mapping (done in the early to mid-1970s as a component of the forest cover inventory) classified the land base according to its environmental sensitivity for soils. Some 4864 ha (6% of the watershed) are classified as having sensitive soils.



Map 5—Page 14

3.5 Forest Values

The breakdown of habitat types by leading species of the total forest is summarized in Table 4. Total forested landbase in the watershed is 61,200 hectares. This represents 72% of the total watershed landbase.



Map 6—Page 15

Table 4. Timber types in the Suskwa Watershed.

Leading Species	Hectares	% of forested area
Balsam	27064	44%
Cedar	368	1%
Deciduous	11065	18%
Hemlock	12206	20%
Pine	3914	6%
Spruce	6583	11%
Total	61200	100%



Photo: Tetrad Communications

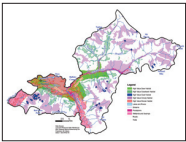


Photo: Bernard Mattie



3.6 Wildlife Values

Moose winter range is found mainly along the Bulkley River valley and New Hazelton-Skeena River corridor area. Class 1 mountain goat habitat is found mostly in the Blunt Range and the Rocher De Boule Mountains. Provincially significant grizzly bear habitat is located in the Suskwa River valley from Natlan Creek to east of Harold Price Creek. In addition, high value grizzly bear habitat is found along the Bulkley River valley, Rocher de Boule mountains and higher altitude areas to the north.



Map 7–Page 16

Table 5. Wildlife habitat in the Suskwa Watershed.

Species	Hign Value Habitat (ha)	% of Watershed
Moose	9198	11%
Mountain goat	690	1%
Goshawk	4780	6%
Deer	12000	14%
Grizzly bear	31891	38%



4.0 Economic Characteristics

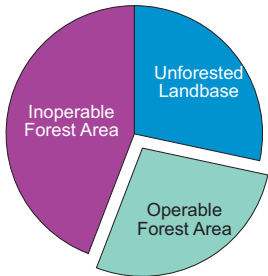
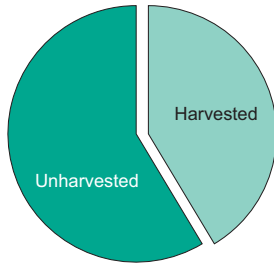
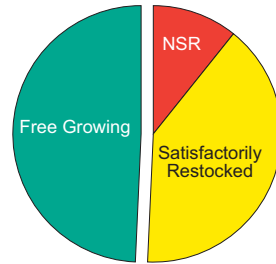
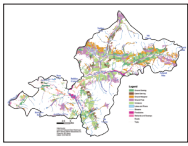
4.1 Timber and Silviculture

Suskwa Landbase Summary

Total Watershed Area:
84,826 ha

Total Operable Forest Area:
23,312 ha

Total Harvested Area (2002):
9650 ha



Map 8—Page 17

Timber

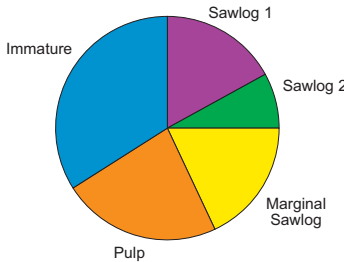
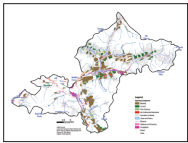
Operable forest land in the Suskwa Watershed comprises 23,312 hectares (27% of the watershed's total landbase). This timber can be classified into wood quality types as follows:

- 1) sawlog, meaning greater than 60% of the volume should be sawlog material;
- 2) marginal sawlog, meaning 40-60% of the volume should be sawlog material; and
- 3) pulp which means greater than 60% of the material is pulp grade.

The following table shows a breakdown of operable timber resources by wood quality in the watershed.

Table 6. Operable Timber Resources in the Suskwa Watershed.

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.
4010	17	1880	8	4077	18	5435	23	7910	34



Map 9—Page 18

Silviculture Status

As of 2002, 9650 hectares have been harvested in the Suskwa Watershed. This represents 41% of the operable landbase. All areas harvested must be planted or restocked naturally, and then monitored until the trees have established themselves and have a good chance of becoming a mature forest (attaining "free growing" status). The Ministry of Forests and Range is responsible for planting areas that were harvested prior to 1987. Areas harvested after 1987 are planted and managed to free growing status by individual licensees.

Of the 9650 ha that have been harvested in the Suskwa, 3857 ha (40%) has been restocked and 4756 ha (49%) is free growing. Some 1037 ha (11%) of the watershed is classified as "not satisfactorily restocked."



Table 7. Area by Opening Type in the Suskwa Watershed.

Timing of harvest or fire	Not Satisfactorily Restocked		Satisfactorily Restocked		Free Growing		Total
	Ha.	%	Ha.	%	Ha.	%	%
1987 or earlier	518	5	1510	16	3882	40	61
Post 1987	519	5	2347	24	874	9	39
Total	1037	11	3857	40	4756	49	100

4.2 Tourism and Recreation Characteristics

Wilderness Values

A good portion of the area is relatively untouched and primitive, with potential to provide opportunities for wilderness recreation.

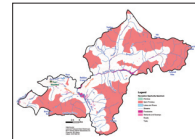
- Less than 1% is classified as “primitive” (greater than or equal to 8 km from a four-wheel-drive road and greater than or equal to 5000 ha in size).
- 47% is classified as “semi primitive” (greater than or equal to 1 km from a road, and greater than or equal to 1000 ha in size).

Camp Sites

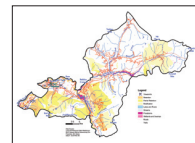
There are a total of ten managed and user maintained recreation camp sites in the Kispiox TSA and ten in the Bulkley TSA. These sites are all available for use by the general public. None of these recreation sites fall within the Suskwa Watershed.

Visual Quality

Visual Quality Objectives (VQOs) of retention, partial retention and modification of forests in harvesting operations have been determined for the unit. The map on page 20 shows the location and meaning of these designations.



Map 10—Page 19



Map 11—Page 20

4.3 Other Values

Range and Agriculture

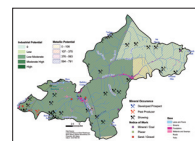
There are three range units in the watershed: Luno Creek, Porphyry Creek, and Suskwa. Active grazing tenures exist in all three units. A significant amount of Agricultural Land Reserve land (9568 ha) is located within the watershed along the Bulkley, Suskwa and Skeena Rivers.

Roads

Highway 16 runs along the Bulkley River through the watershed. The Suskwa Road network runs along the Suskwa River valley and its tributaries. In total there is about 90 kilometres of paved road, over 270 kilometres of gravel road and more than 170 kilometres of spur roads or logging trails.

Minerals, Oil and Natural Gas

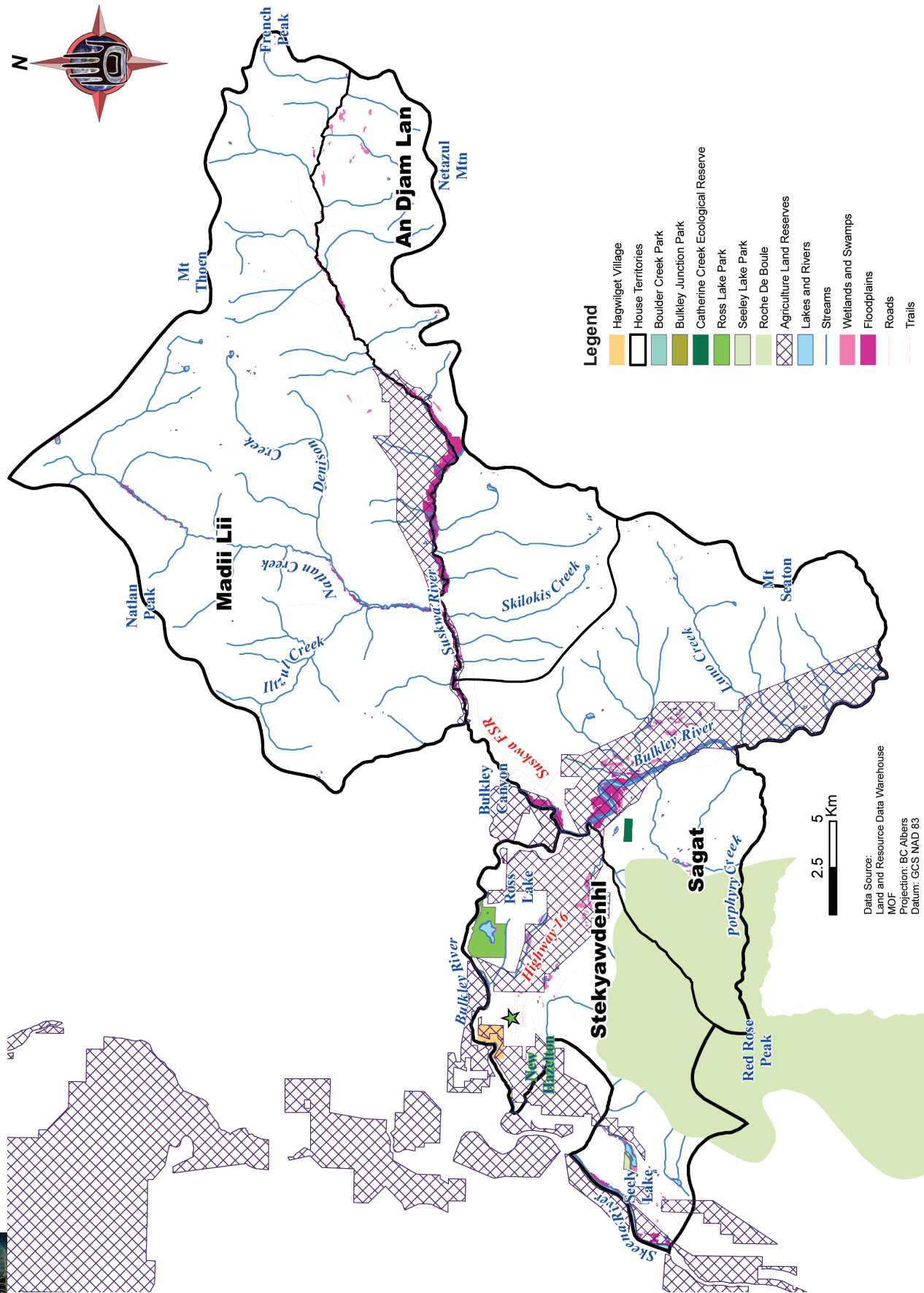
Industrial mineral potential is low to moderate in most of the watershed but high in the north east portion. Metallic mineral potential is low. There are several mineral showings as well as past producers in this watershed.



Map 12—Page 21

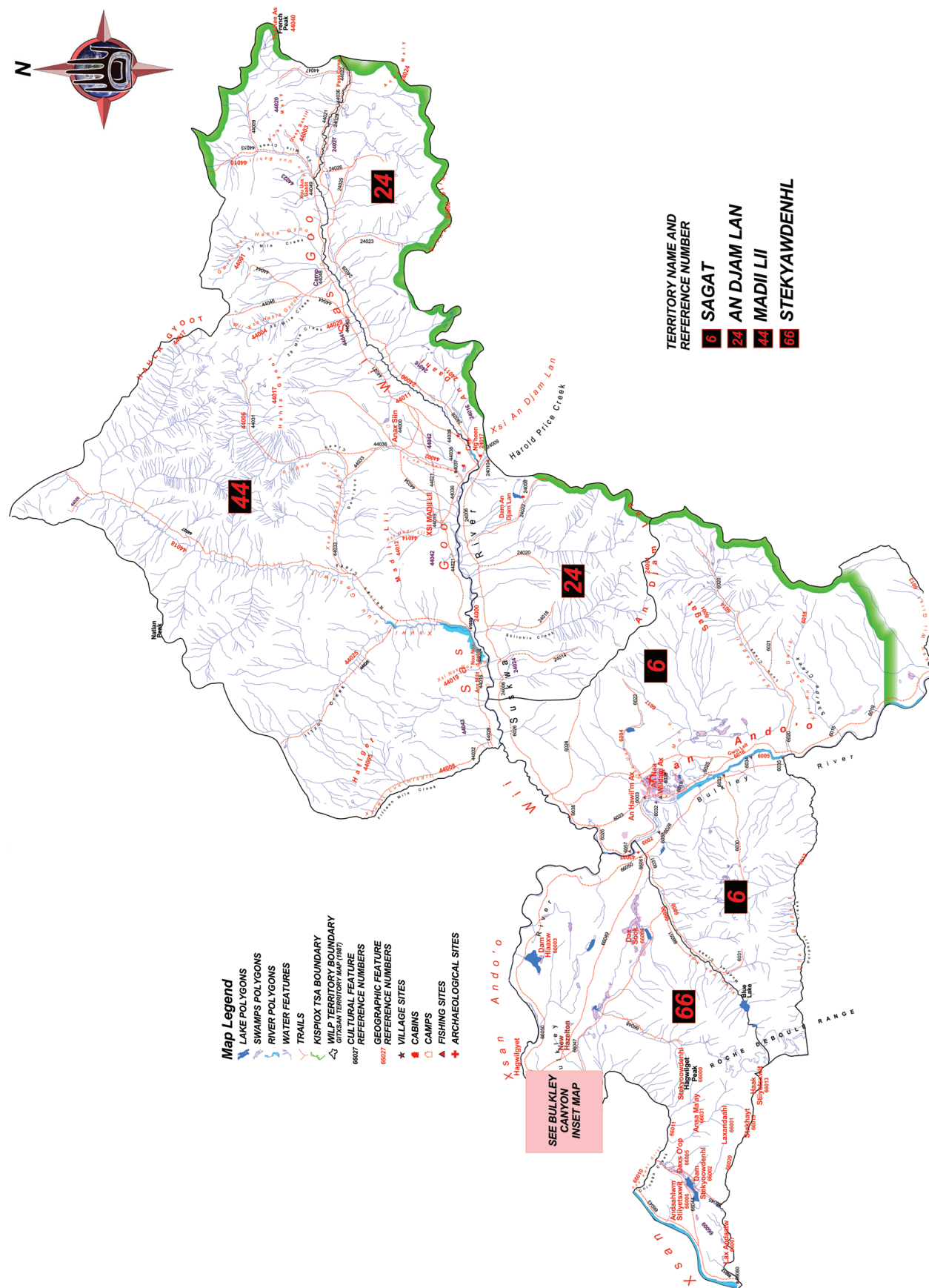


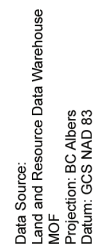
Map 1 Social Boundaries / Territories, Parks, Agricultural Land Reserve



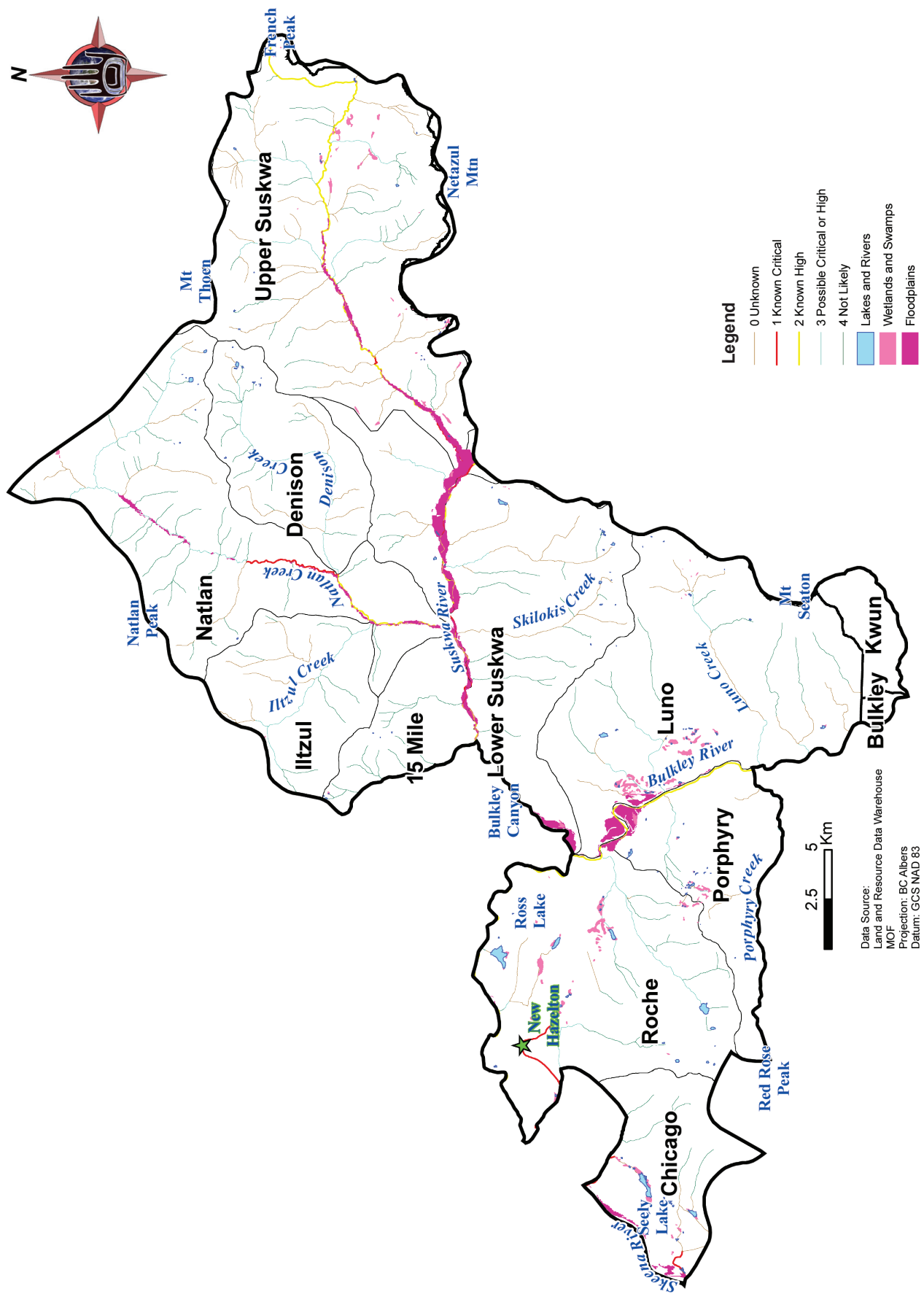


Map 2 Social Boundaries / Gitxsan Cultural Heritage Map

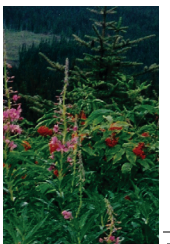


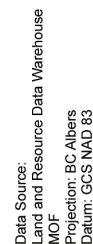


Map 4 Environmental Characteristics / Watersheds and Critical Fish Streams

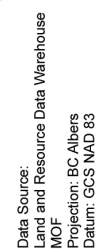


Suskwa Watershed

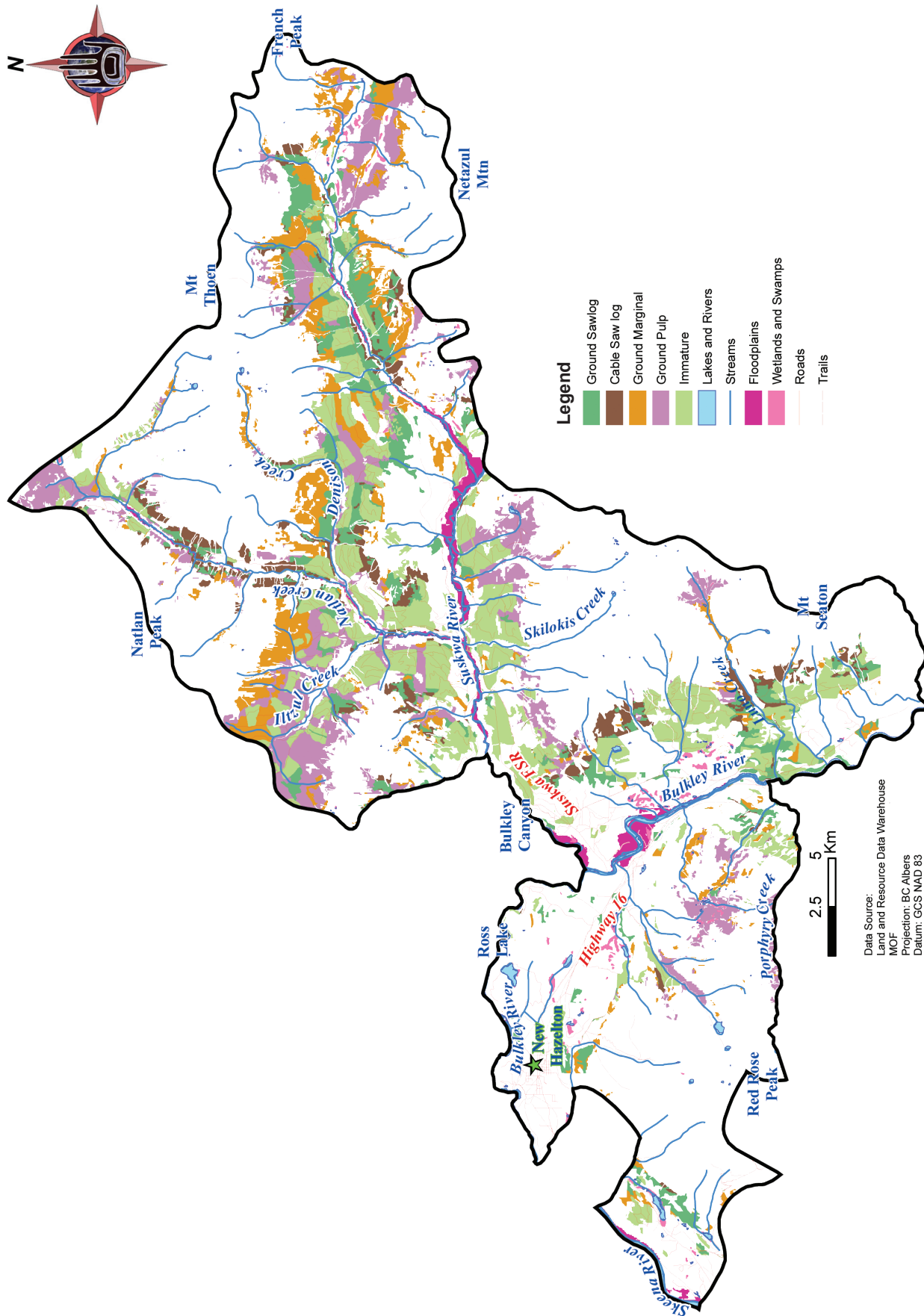




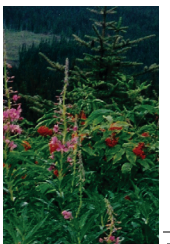




Map 8 Economic Characteristics / Operable Landbase

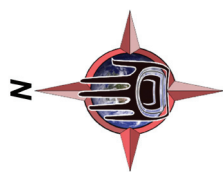
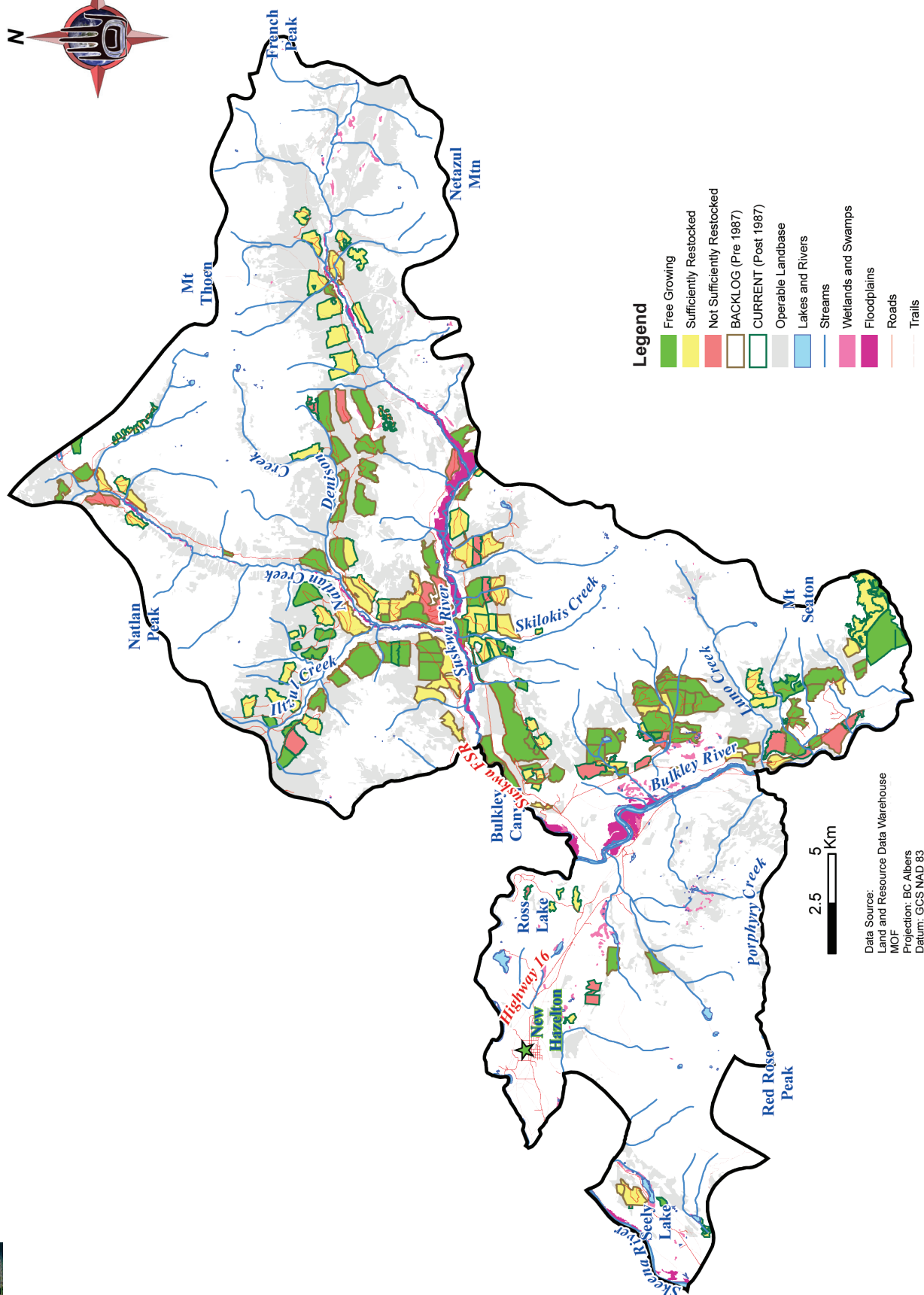


Suskwa Watershed





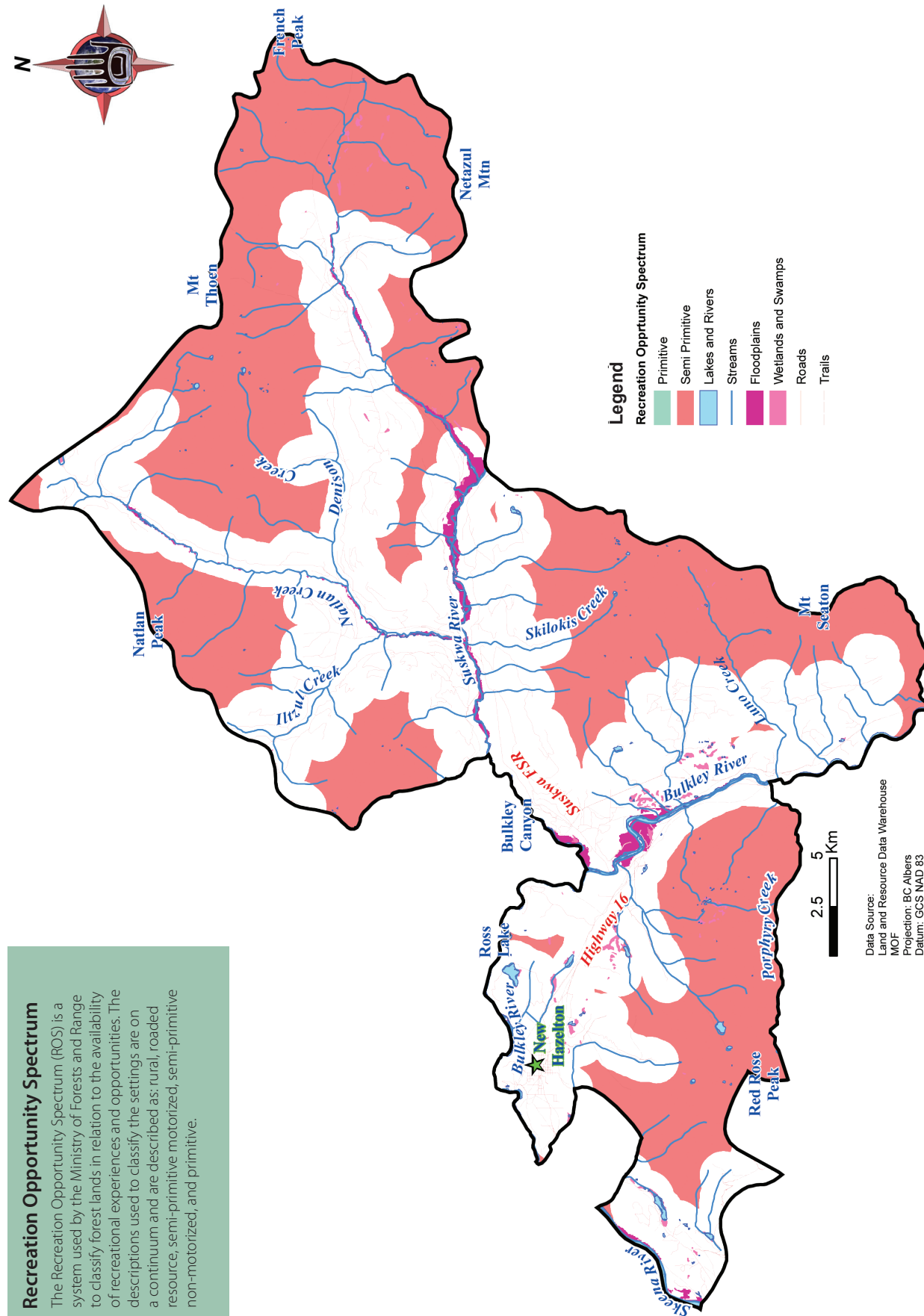
Map 9 Economic Characteristics / Opening Status



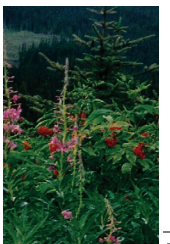
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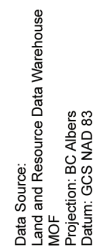
Map10 Economic Characteristics / Recreation Opportunity Spectrum



Suskwa Watershed

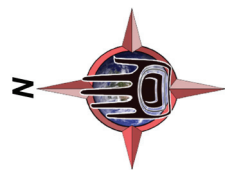
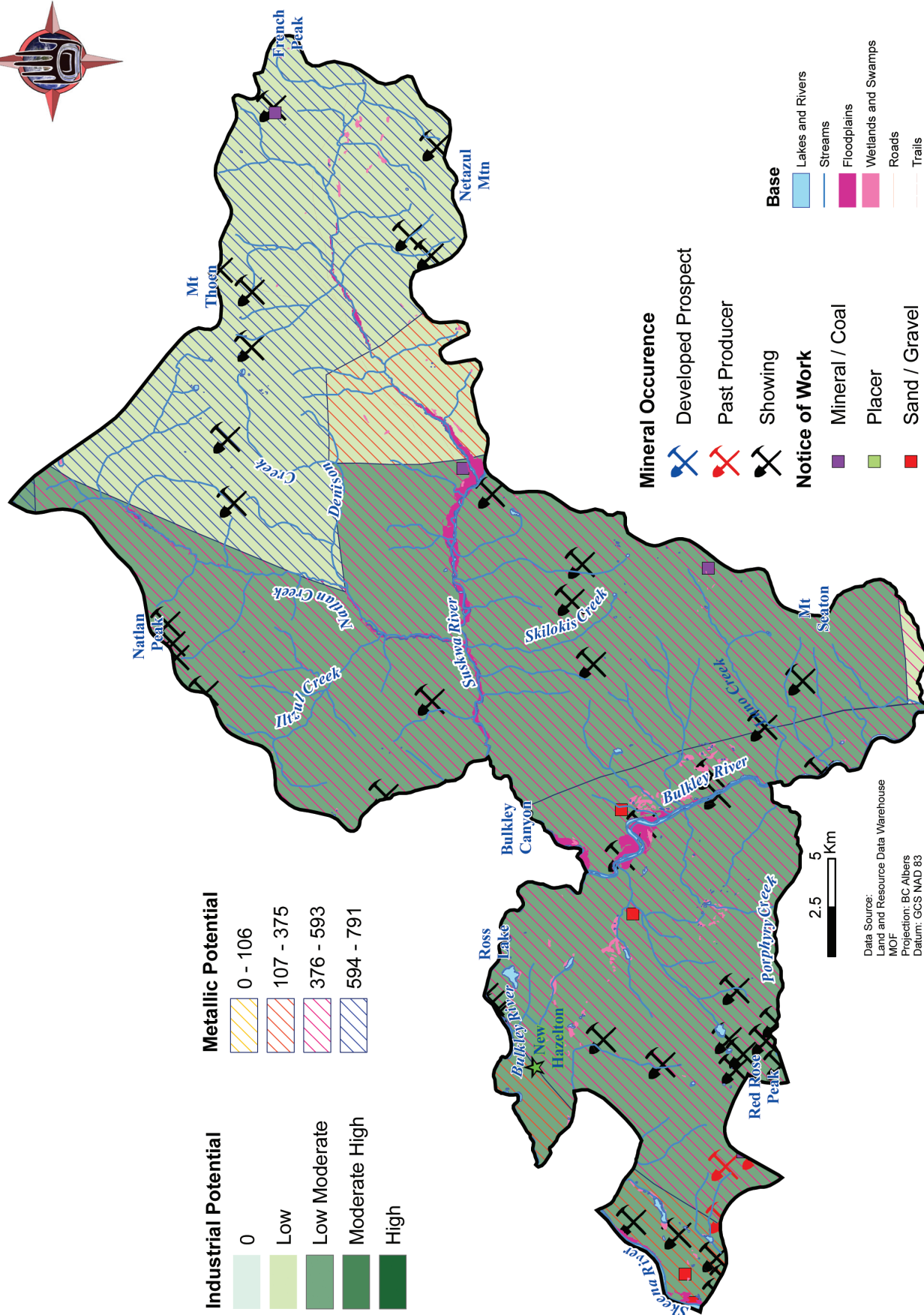


- Retention VQO—forest management activities may be noticeable but not clearly visible to the average viewer. Disturbances must appear to be from natural causes.
- Partial Retention VQO—forest management activities may be noticeable but must blend well with the natural landscape.
- Modification VQO—forest management activities must appear natural.





Map 12 Economic Characteristics / Mineral Potential



Suskwa Watershed





Notes







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