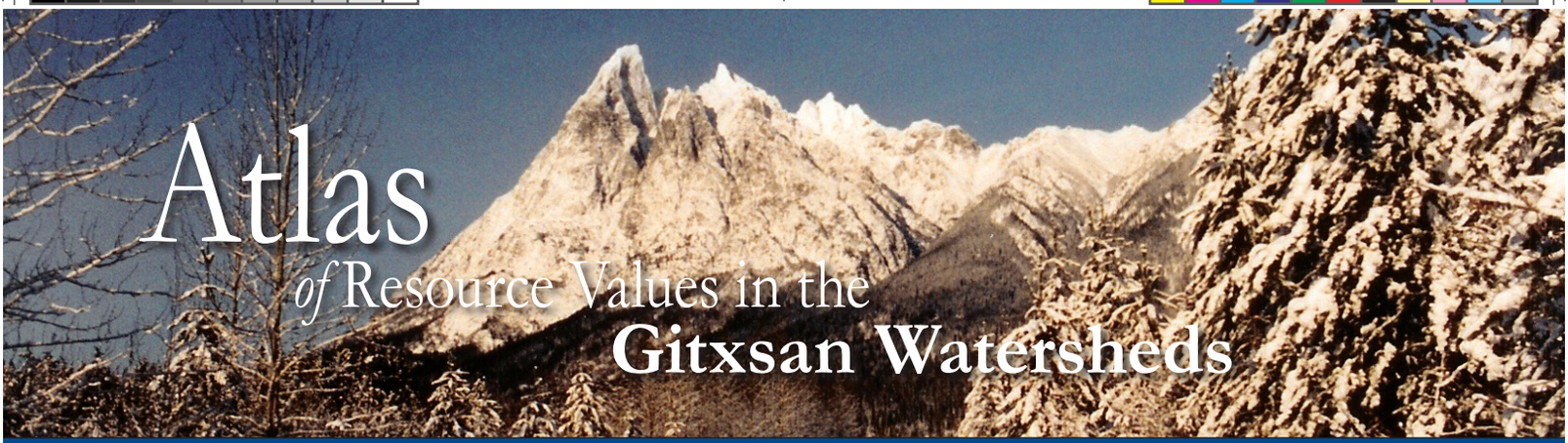


# Atlas *of* Resource Values in the Gitxsan Watersheds

## Gitsegucla 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 Gitsegucla 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.




## Inside:


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|---|---|
| Geographic Description | 2 |
| Social Characteristics | 3 |
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BC FOREST SERVICE
SKEENA STIKINE DISTRICT

Skeena Stikine Forest District

**Gitsegucla** • Suskwa • Kispiox (North and South) • Middle Skeena (North and South) • Lower Skeena • Babine

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# 1.0 Geographic Description

The Gitsegucla Watershed is a medium-sized (118,840 hectares) watershed of the Gitsegucla River and is one of nine watersheds in the traditional territory of the Gitxsan First Nation. It is bounded by the Skeena River to the northwest, the Rocher de Boule Range to the northeast, an unnamed mountain range (that the Gitxsan have named "Winax Sagan") to the southwest, and the Zymoetz River (also known as Copper River), to the south.






Photo front cover: Tetrad Communications



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# 2.0 Social Characteristics

## 2.1 Communities

The village of Gitsegucla (population 450) is located on Highway 16 at the confluence of the Gitsegucla and Skeena Rivers. The village is where many Gitxsan families having historic ties to the Gitsegucla Watershed have congregated and now reside.



Map 1–Page 12

The Gitsegucla Watershed includes nine Gitxsan house territories:

- six within the Kispiox TSA (Tax Gwa Ansx, Luu Skaiyansit, Ansa Ax, Xsi Noon, Xsuwii Luu Negwit, and Minhl Anhl Gii);
- one within the Bulkley TSA (Wii Tax);
- one overlapping the Kispiox/Bulkley TSA (Dam Giist); and
- one within the Bulkley/Kalum TSA ( Xsansisnak).



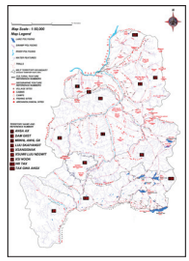
## 2.2 Parks and Special Management Zones

The Seven Sisters Park and Protected Area is over 39,000 hectares in size. Of this, only 221 hectares is within the watershed. The park has been set aside by the provincial government for wilderness recreation, rare ecosystems, mountain goat habitat, cultural studies and tourism.

The majority (62%) of the Rocher de Boule Special Management Zone (SMZ), lies within the northeast portion of the Gitsegucla Watershed. 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 recorded Gitxsan environmental and cultural 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 13



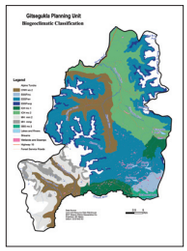
Photo: Jason Wiley

Gitsegucla Watershed



# 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 Gitsegucla Watershed there are six zones: Alpine Tundra (AT); Engelmann Spruce Sub alpine Fir (ESSF); Interior Cedar-Hemlock (ICH); Coastal Western Hemlock (CWH); Mountain Hemlock (MH) and Sub Boreal Spruce (SBS).



### 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: Skeena Stikine Forest District*





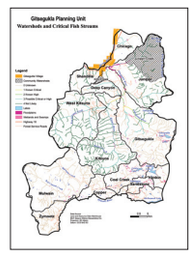
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**Table 1. Biogeoclimatic (BEC) Variants and Natural Disturbance Types (NDT) in the Gitsegucla Watershed.**

| BEC Variant | Hectares | % of planning unit | NDT | NDT (ha) | NDT (%) |
|---|---|---|---|---|---|
| AT | 13665 | 11 | 5 | 22965 | 20 |
| CWHws2 (montane wet submarine) | 15227 | 13 | 2 | | |
| ESSFmc (moist cold) | 2467 | 2 | 2 | | |
| ESSFwv (wet, very cold) | 39281 | 33 | 1 | 48261 | 41 |
| ESSFwfp (parkland) | 6044 | 5 | 5 | | |
| ICHmc1 (Nass moist cold) | 5814 | 5 | 2 | | |
| ICHmc2 (Hazelton moist cold) | 22835 | 19 | 2 | 46343 | 39 |
| MHmm2 (Leeward moist maritime) | 8980 | 8 | 1 | | |
| MHmmp2 (as above, parkland) | 3526 | 3 | 5 | | |
| SBSmc2 (Babine moist cold) | 1271 | 1 | 3 | 1271 | |
| **Total Area for Planning Unit** | **118840** | **100** | | **118840** | **100** |



## 3.2 Water Values



Map 4 –Page 15

Water is the lifeline of a watershed and is critical for the overall health of an ecosystem and organisms that live in it, including fish and wildlife species. The Gitxsan have historically relied on fresh water and healthy fisheries to sustain its culture. Two community watersheds supplying water to Gitsegucla communities are designated in the area. They are the Gitsegucla Community Watershed (331 ha) which is located to the west of the village, and the Juniper Community Watershed (7531 ha) which is located in the northeast of the watershed in the Rocher De Boule mountains.

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). Fourth order watersheds include the headwaters and all tributaries that feed into the Gitsegucla River, which is the main watercourse flowing out of the Gitsegucla watershed and into the Skeena River.

**Table 2. Fourth Order Watersheds in the Gitsegucla Watershed.**

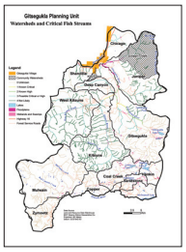
| Watershed | Hectares |
|---|---|
| Chicago | 4597 |
| Coal Creek | 5341 |
| Copper | 6735 |
| Deep Canyon | 2681 |
| Gitsegucla | 22366 |
| Hankin | 2641 |
| Juniper | 14890 |
| Kitsuns | 16292 |
| Mulwain | 17465 |
| Sandstone | 1872 |
| Shandilla | 3619 |
| West Kitsuns | 15070 |
| Zymoetz | 4568 |





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## 3.3 Fisheries Values



Map 4–Page 15

Fisheries values are rated high to very high in the Gitsegucla. Twelve species of fish can be found in the watershed, including all salmon species.

Fish species found within the Gitsegucla Watershed include:

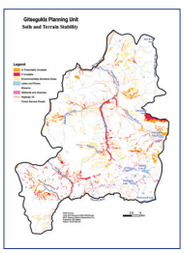
| | |
|---|---|
| Sockeye salmon | Bull trout |
| Chum salmon | Kokanee |
| Pink salmon | Dolly varden |
| Steelhead | Cuttthroat trout |
| Chinook salmon | Lake trout |
| Coho salmon | Mountain whitefish |
| Rainbow trout | Pacific lamprey |

There are conservation concerns for the sockeye rears in Gitsegucla Lake as well as the rare coloured, stream spawners in West Kitsuns. In the past, this watershed boasted regionally significant coho angling, but this fishery has declined in recent years. Recent enhancement and restoration activities—driven by a renewed priority in fish and water conservation by both First Nations and the provincial government—are beginning to address the problem of declining fisheries values. See map on page 15 for location of critical stream reaches.





## 3.4 Soil Values



Map 5–Page 16

The Gitsegucla unit is mountainous, with steep slopes bordering tributaries that flow into the Gitsegucla main stem. Terrain Stability Mapping (TSM) completed for this unit has identified potentially unstable (Class IV) and unstable (Class V) areas in 6137 ha (5% of the unit). In addition, mapping of environmentally sensitive areas completed in the early to mid-1970s classified another 9177 ha (8% of the unit) as having environmental sensitivity for soils. A watershed assessment plan completed in the area indicated that 237 landslides had occurred; 160 of these were from natural causes and 77 were caused by forest operations.

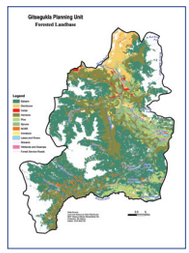




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## 3.5 Forest Values

Some 88,090 hectares of land within the unit is forested. This represents 74% of the total landbase. The breakdown of forest habitat types by leading tree species is summarized in the table below.



Map 6–Page 17

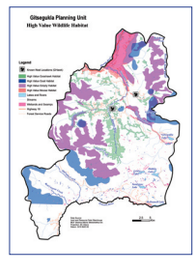
**Table 3. Timber Types in the Gitsegucla Watershed.**

| Leading Species | Hectares | % of forested area |
|---|---|---|
| Alpine/Amabilis fir | 45579 | 52% |
| Lodgepole pine | 6689 | 8% |
| Mixed deciduous | 5812 | 7% |
| Mountain/western hemlock | 20090 | 23% |
| Spruce species | 7979 | 9% |
| Western red cedar | 540 | 1% |
| NCBR | 807 | 1% |
| **Total** | **88090** | **100%** |



## 3.6 Wildlife Values

Habitat values have been mapped for four wildlife species in the Gitsegucla: moose, mountain goat, northern goshawk and grizzly bear. Critical moose winter range is limited to the Skeena River valley bottom and the lower Gitseguclas River valley. In addition, important mountain goat habitat is found mostly in the Rocher DeBoule Special Management Zone in the northeast portion of the watershed. High value grizzly bear habitat is located along the Skeena River valley and in the higher altitude mountainous areas throughout the watershed.



Map 7–Page18

**Table 4. Wildlife Habitat in the Gitsegucla Watershed.**

| Species | Hign Value Habitat (ha) | % of forested area |
|---|---|---|
| Moose | 4816 | 4% |
| Mountain Goat | 10737 | 5% |
| Goshawk | 7682 | 9% |
| Grizzly bear | 25164 | 21% |
| **Total** | | **39%** |



*Photo: Laurence Turney*





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# 4.0 Economic Characteristics

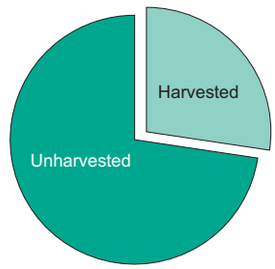
## 4.1 Timber and Silviculture

### Gitsegucla Landbase Summary

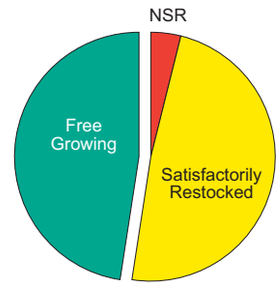
**Total Watershed Area: 118,840 ha**



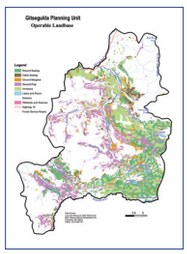

**Total Operable Forest Area: 42,023 ha**




**Total Harvested Area (2002): 11,497 ha**





Map 8–Page 19

### Timber

The Gitsegucla Watershed lies within three Timber Supply Areas: the Kispiox, the Bulkley and the Kalum. Most of the total area of the Gitsegucla is located within the Kispiox TSA but most of the operable landbase (52%) is found within the Bulkley (much of the Kispiox TSA is steep and mountainous, making it unavailable for harvest). A small portion of the watershed to the south is located within the Kalum TSA. The table below shows the proportion of total landbase and operable landbase associated with each TSA within the Gitsegucla.

**Table 5. Total Landbase and Operable Landbase from each TSA in the Gitsegucla.**

| TSA | Total Landbase (%) | Total Landbase (ha) | Operable Landbase (%) | Operable Landbase (ha) |
|---|---|---|---|---|
| Kispiox | 59 | 70153 | 45 | 18800 |
| Bulkley | 36 | 42537 | 52 | 22132 |
| Kalum | 5 | 6149 | 3 | 1091 |
| **Total** | **100%** | **118839** | **100%** | **42023** |

The total forested area that can be used for timber production (operable landbase) in the Gitsegucla Watershed is 42,023 hectares. This represents 35% of the total landbase in the watershed. The timber from the operable landbase can be 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.

A breakdown of operable timber resources by wood quality types is found in the tables on page 9, and presented on map 8, page 19.



*Photo: Tetrad Communications*





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**Table 6. 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. |
| 2670 | 14 | 1198 | 6 | 1653 | 9 | 6590 | 35 | 6689 | 36 |

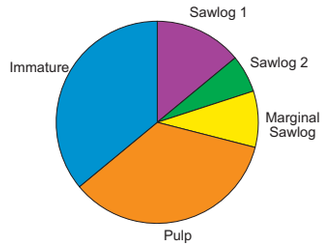



**Table 7. Operable Timber Resources for the Bulkley TSA.**

| 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. |
| 11233 | 51 | 976 | 4 | 1421 | 5 | 3656 | 16 | 4846 | 23 |

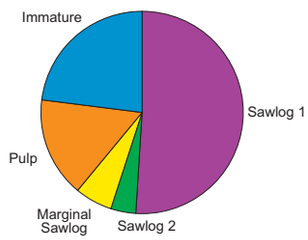



**Table 8. Operable Timber Resources for the Kalum TSA.**

| 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. |
| 35 | 3 | - | - | 183 | 17 | 617 | 57 | 256 | 23 |

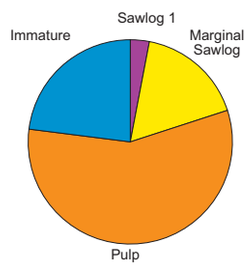
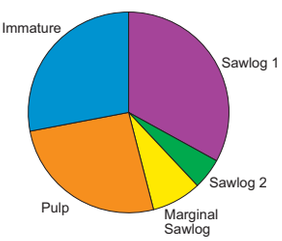



**Table 9. Operable Timber Resources from all TSAs in the Gitsegucla Watershed.**

| 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. |
| 13938 | 33 | 2174 | 5 | 3257 | 8 | 10863 | 26 | 11791 | 28 |

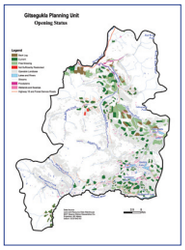









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Map 9–Page 20

## Silviculture Status

As of 2002, 11,497 ha (27% of the operable forested landscape) had been harvested or disturbed by fire in the Gitsegucla Watershed. 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.

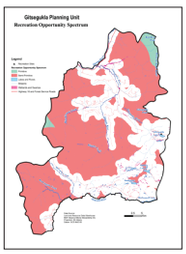
Of the 11,497 ha that have been harvested or disturbed by fire in the Gitsegucla, 5581 ha (49%) have been restocked and 5649 ha (48%) is free growing. Some 447 ha (or about 4% of the watershed) are classified as "not satisfactorily restocked."

**Table 10. Area by Opening Type in the Gitseguecla Watershed.**

| Timing of harvest or fire | Not Satisfactorily Restocked | | Satisfactorily Restocked | | Free Growing | | Total |
|---|---|---|---|---|---|---|---|
| | Ha. | % | Ha. | % | Ha. | % | ha |
| 1987 or earlier | - | - | 1293 | 11 | 3300 | 29 | 4593 |
| Post 1987 | 447 | 4 | 4288 | 37 | 2169 | 19 | 6904 |
| Total | 447 | 4 | 5581 | 49 | 5469 | 48 | 11497 |



# 4.2 Tourism and Recreation



Map 10–Page 21

## Wilderness Values

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

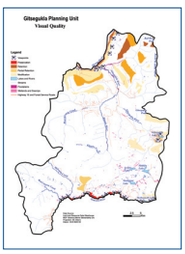
- 2% is classified as "primitive" (greater than or equal to 8 km from a four-wheel-drive road and greater than or equal to 5000 ha in size).
- 58% is classified as "semi primitive" (greater than or equal to 1 km from a road, and greater than or equal to 1000 ha in size).

## Camp Sites

One managed and user-maintained recreation camp site falls within the watershed: the Kitsegukla Lake site, a camping area near the eastern border of the unit. This site is available for use by the general public.



*Photo: Tetrad Communications*



Map 11–Page 22

## Visual Quality

Highway 16, which is parallel to the northwest boundary of the unit, is a visually sensitive corridor because it offers views of mountainous areas to the east and south. Within the Gitsegucla Watershed, Visual Quality Objectives (VQOs) have been prescribed to guide how much visual disturbance is allowed as a result of harvesting. See the VQO map on page 22 for a description of VQO objectives.





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## 4.3 Other Values

### Range and Agriculture

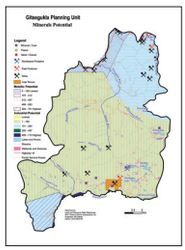
There are no range units or tenures in the watershed. The total area of land located within the Agricultural Land Reserve (ALR) in the Gitsegucla Watershed is 978 hectares. All of this ALR land is situated along the Skeena River floodplain.

### Roads

The Highway 16 corridor runs along the Skeena River for 30 kilometres on the northwest boundary of the watershed. There are also 160 kilometres of gravel logging roads and over 160 kilometres of spur roads or logging trails.

### Minerals, Oil and Natural Gas

Metallic mineral potential is high to very high in the area, while industrial mineral potential is low to moderate. There is a mineral showing at the southern headwaters of the Gitsegucla River. In addition, Rocher De Boule mountain has several past producing mines as well as a concentration of mineral exploration.



Map 12–Page 23





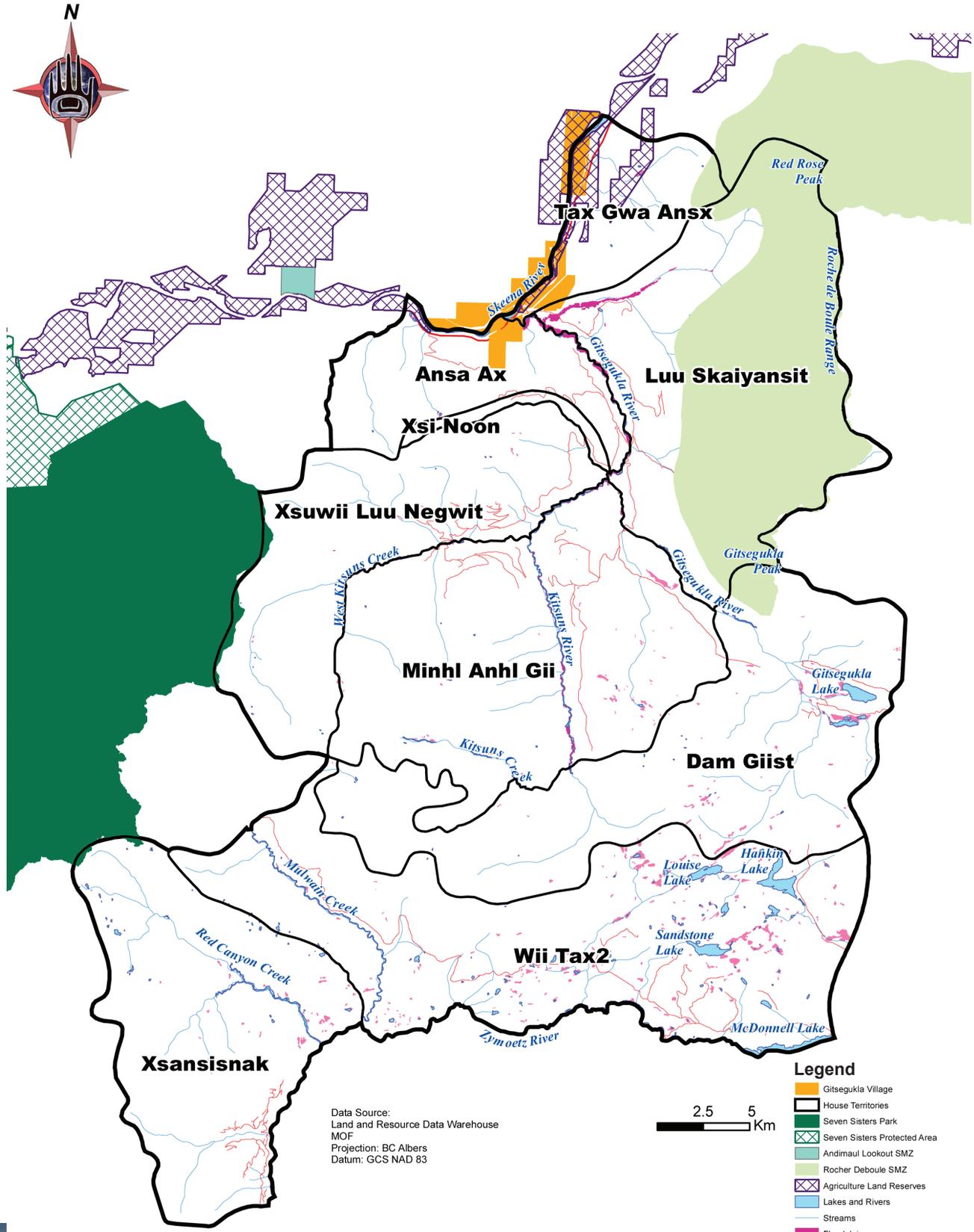
Photo: Tetrad Communications





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

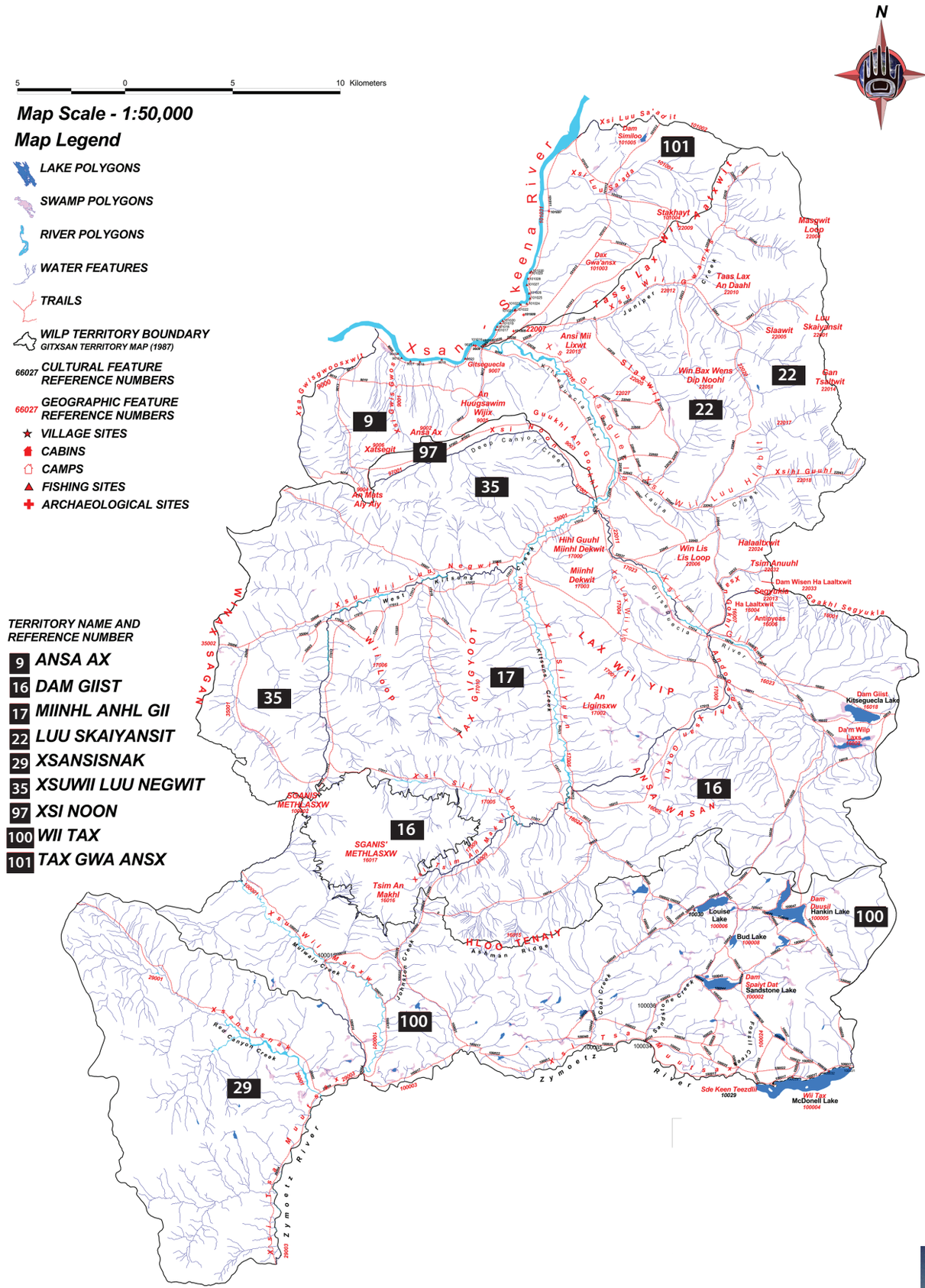







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# Map 2 Social Boundaries / Gitxsan Cultural Heritage Map



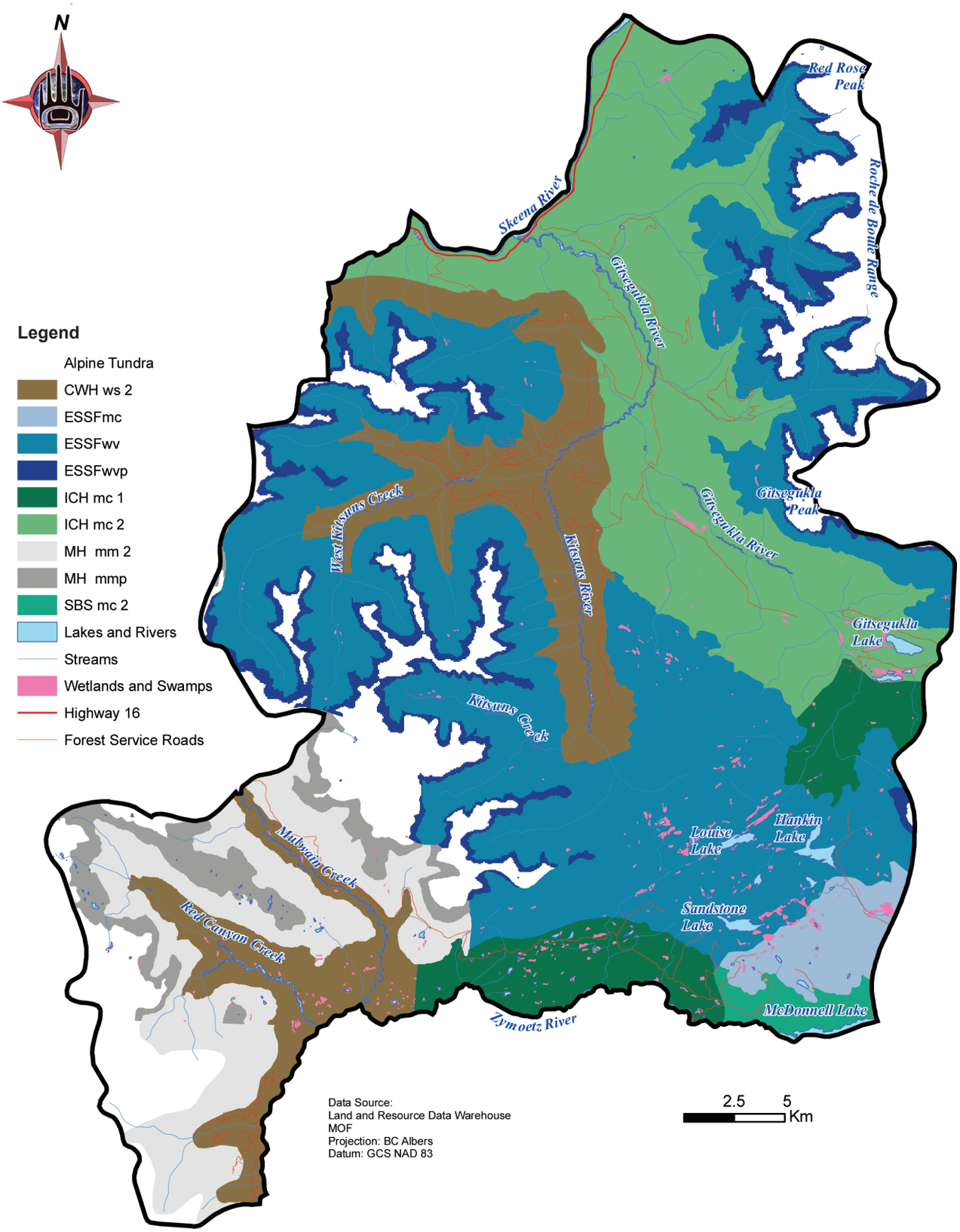

Gitsegucla Watershed



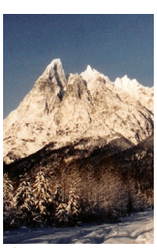


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# Map 3 Environmental Characteristics / Biogeoclimatic Classification



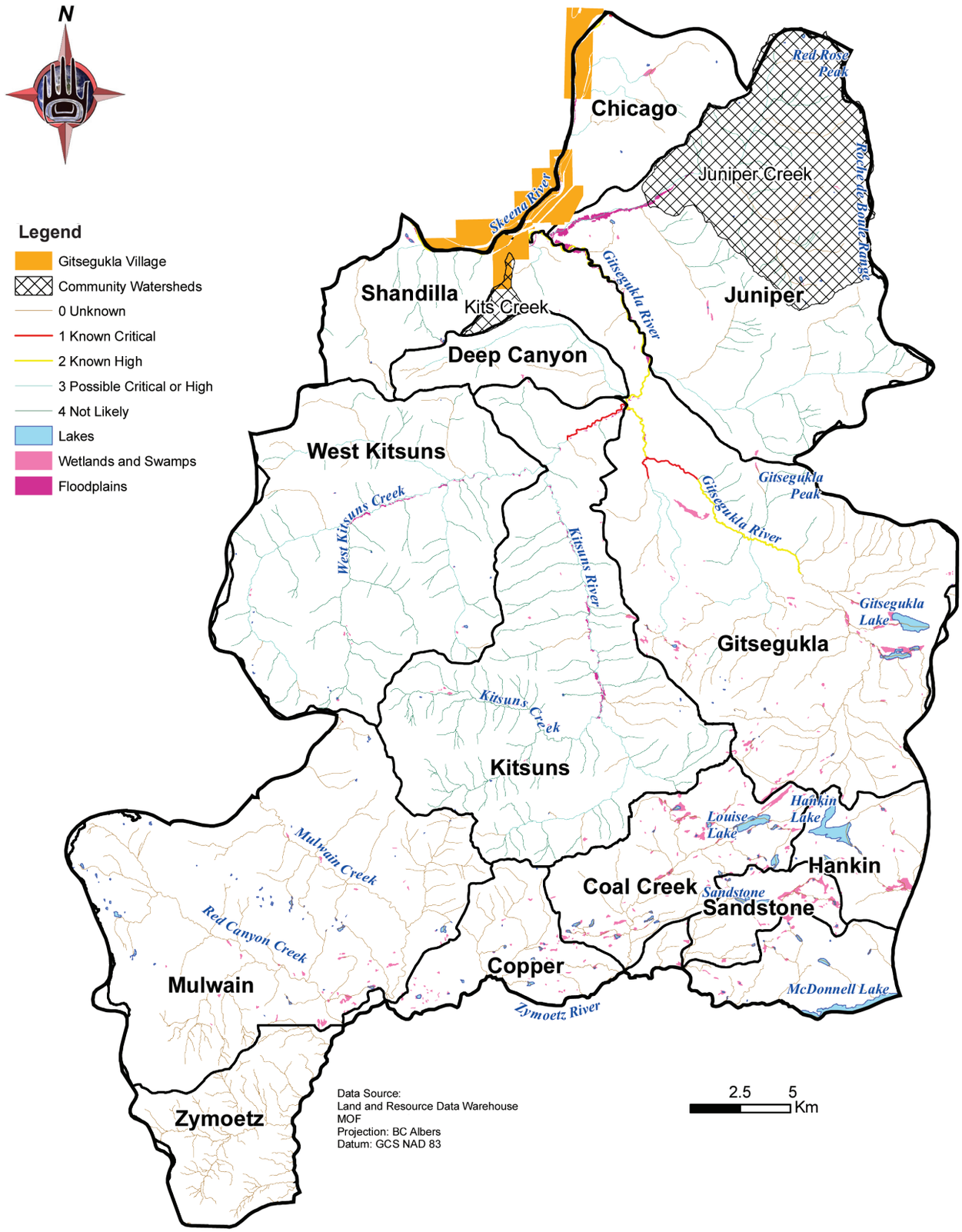




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# Map 4 Environmental Characteristics / Watersheds and Critical Fish Streams



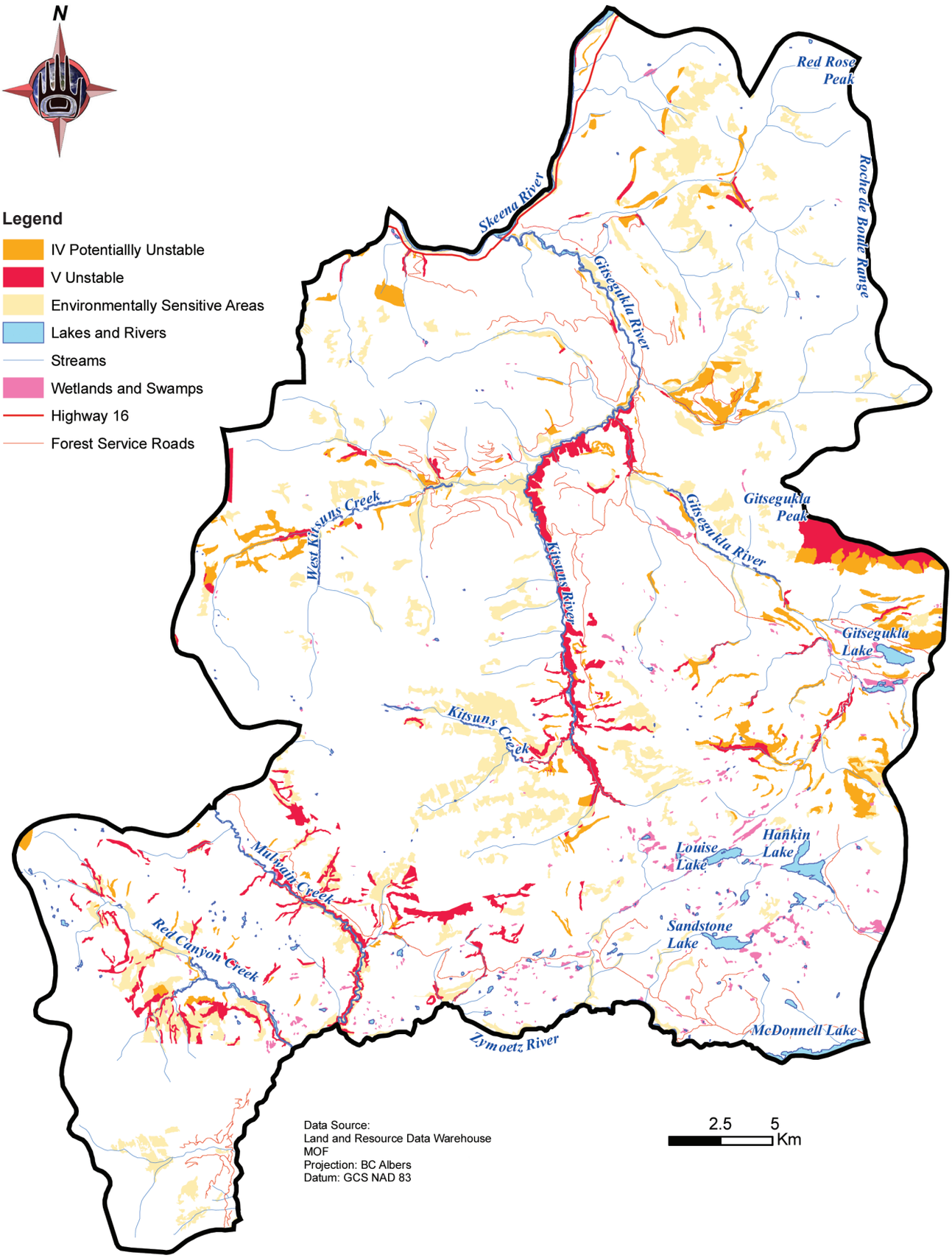

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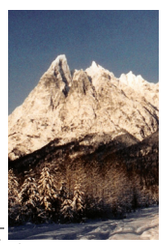


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# Map 5 Environmental Characteristics / Soils and Terrain Stability



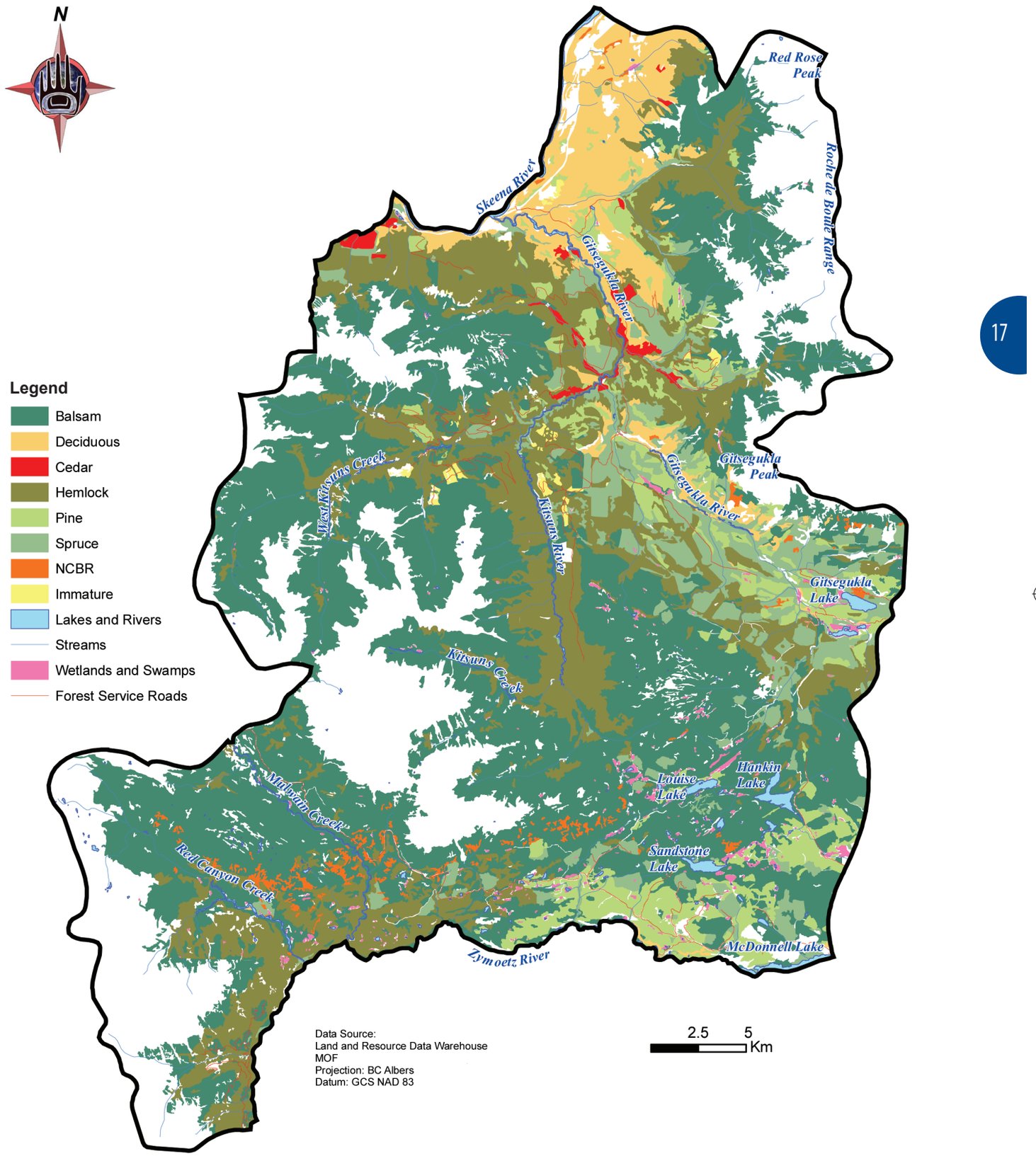


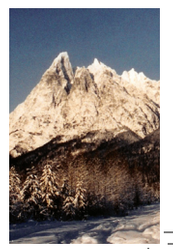


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# Map 6 Environmental Characteristics / Forested Landbase



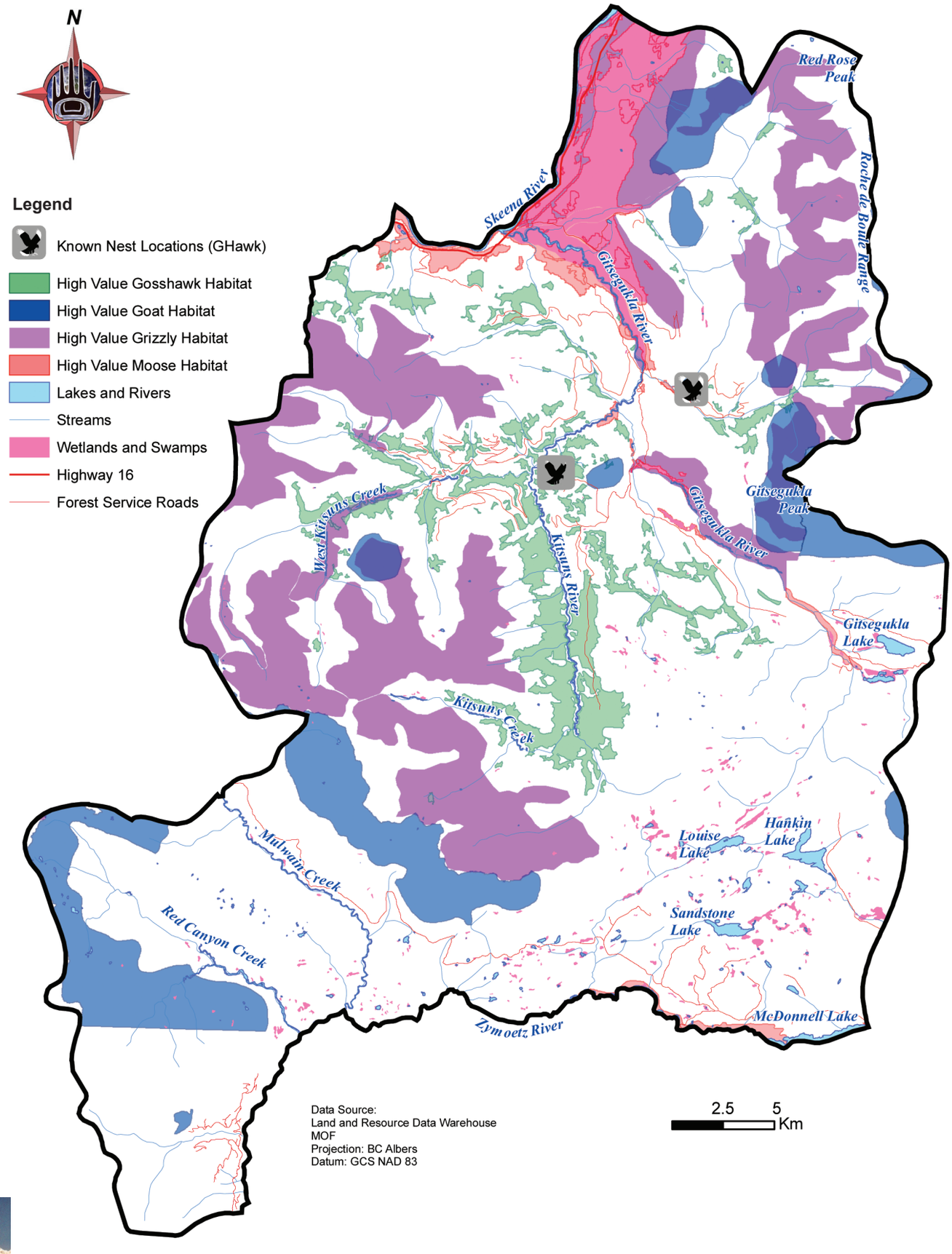


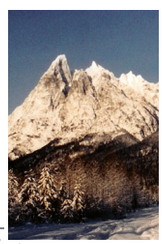
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# Map 7 Environmental Characteristics / High Value Wildlife Habitat



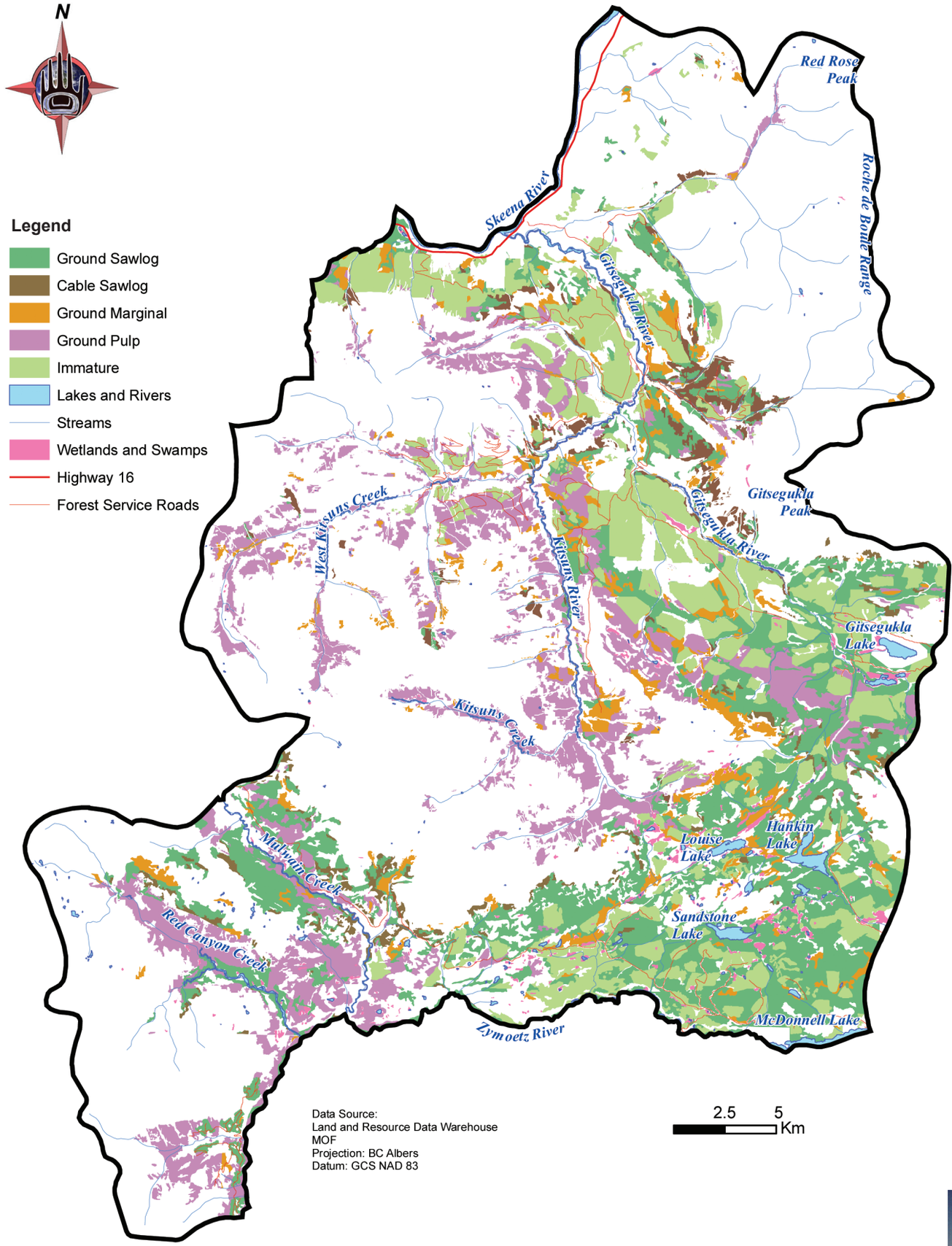




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# Map 8 Economic Characteristics / Operable Landbase



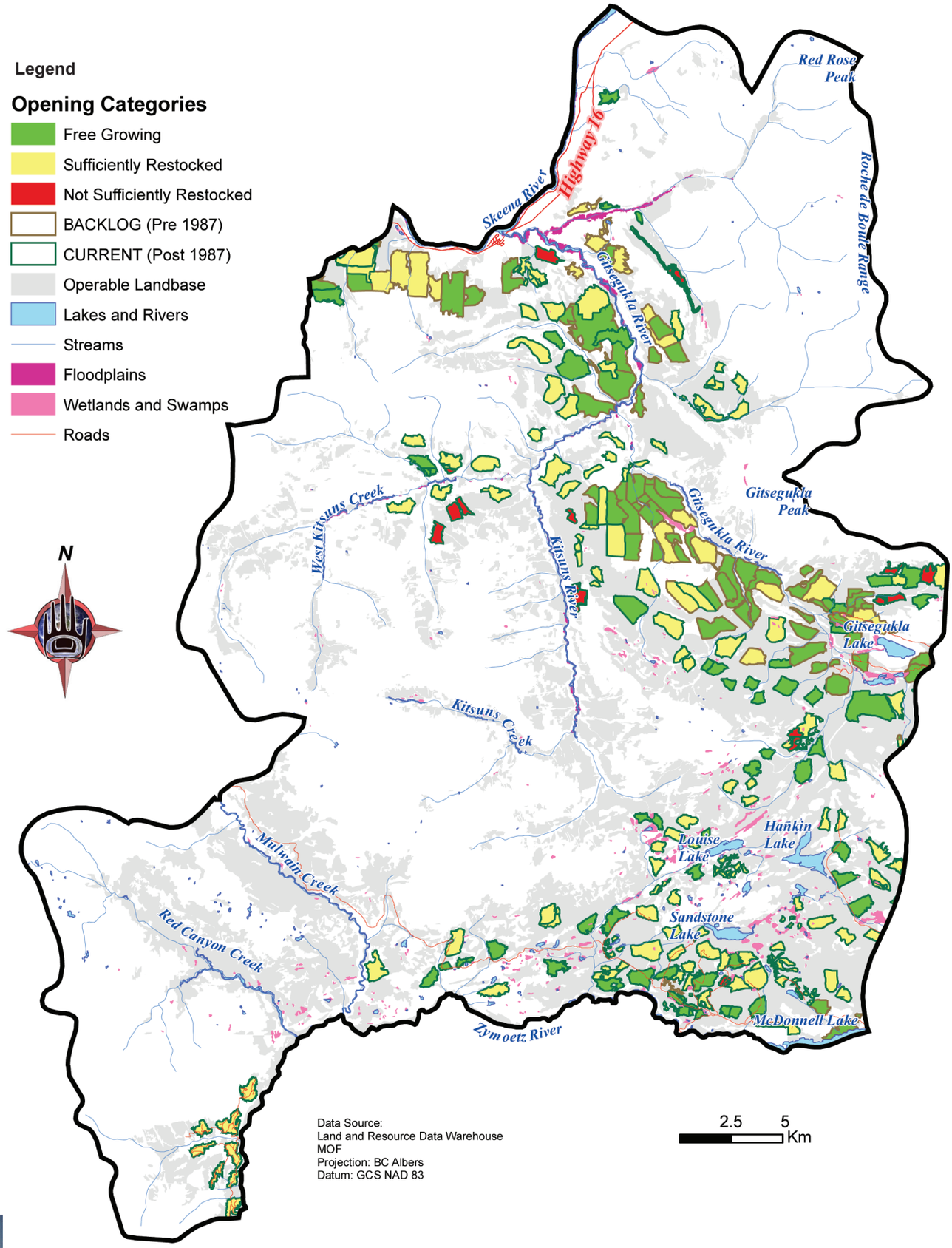

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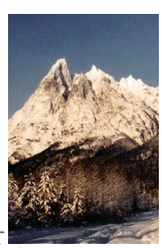


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# Map 9 Economic Characteristics / Opening Status



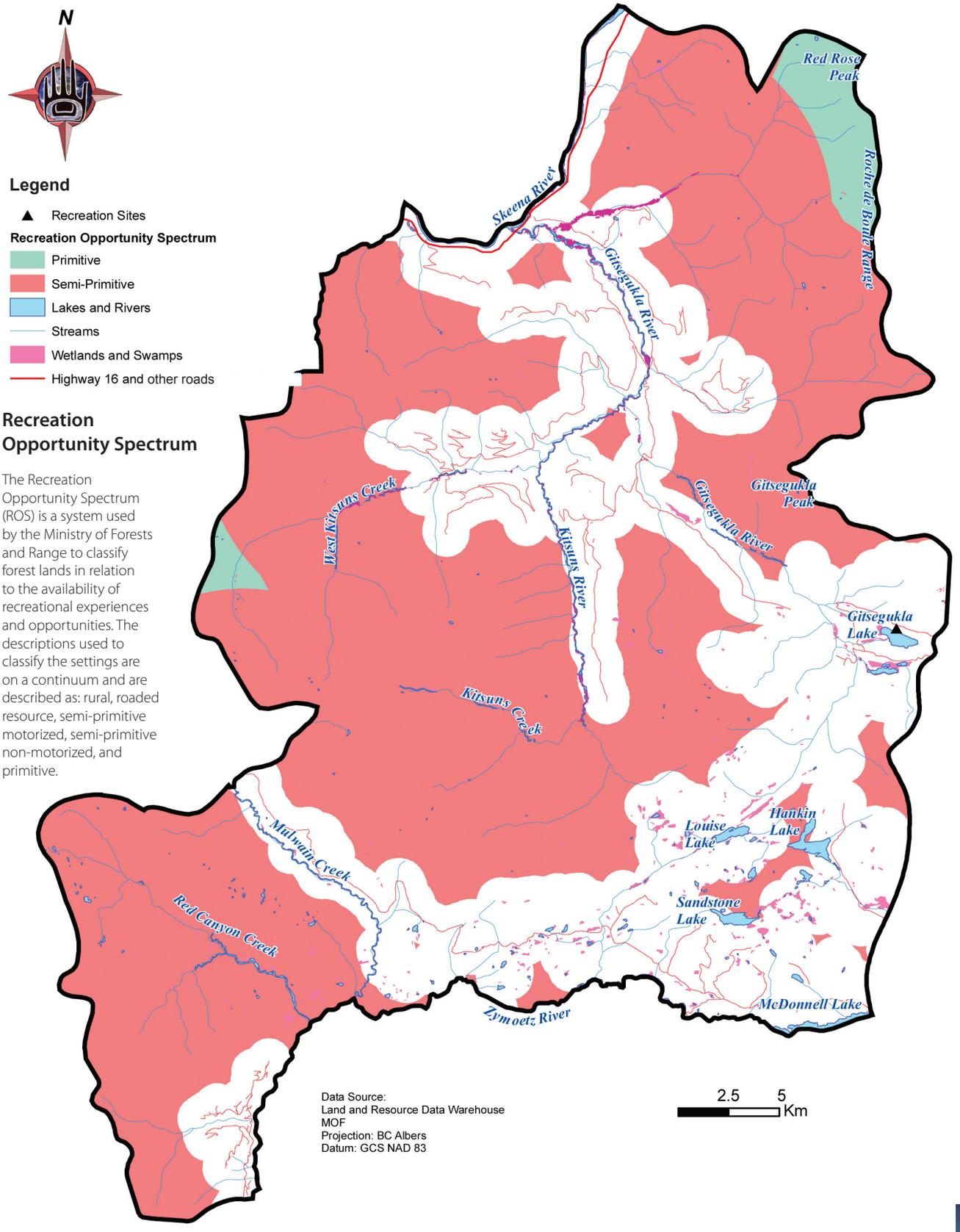




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# Map 10 Economic Characteristics / Recreation Opportunity Spectrum




## Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) is a system used by the Ministry of Forests and Range to classify forest lands in relation to the availability of recreational experiences and opportunities. The descriptions used to classify the settings are on a continuum and are described as: rural, roaded resource, semi-primitive motorized, semi-primitive non-motorized, and primitive.







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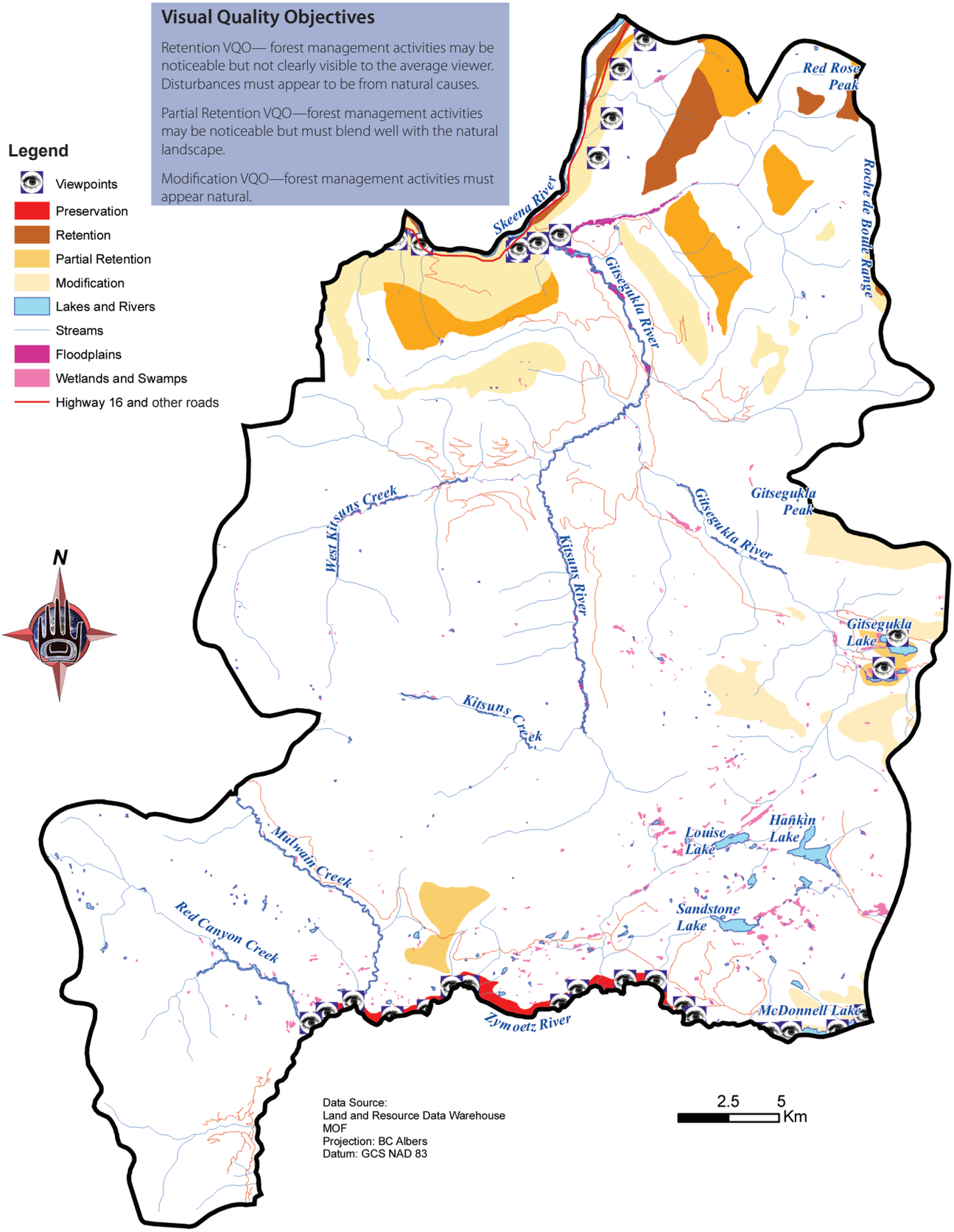
# Map 11 Economic Characteristics / Visual Quality Objectives

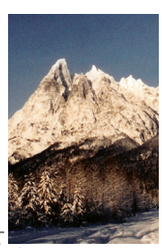
## Visual Quality Objectives

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.

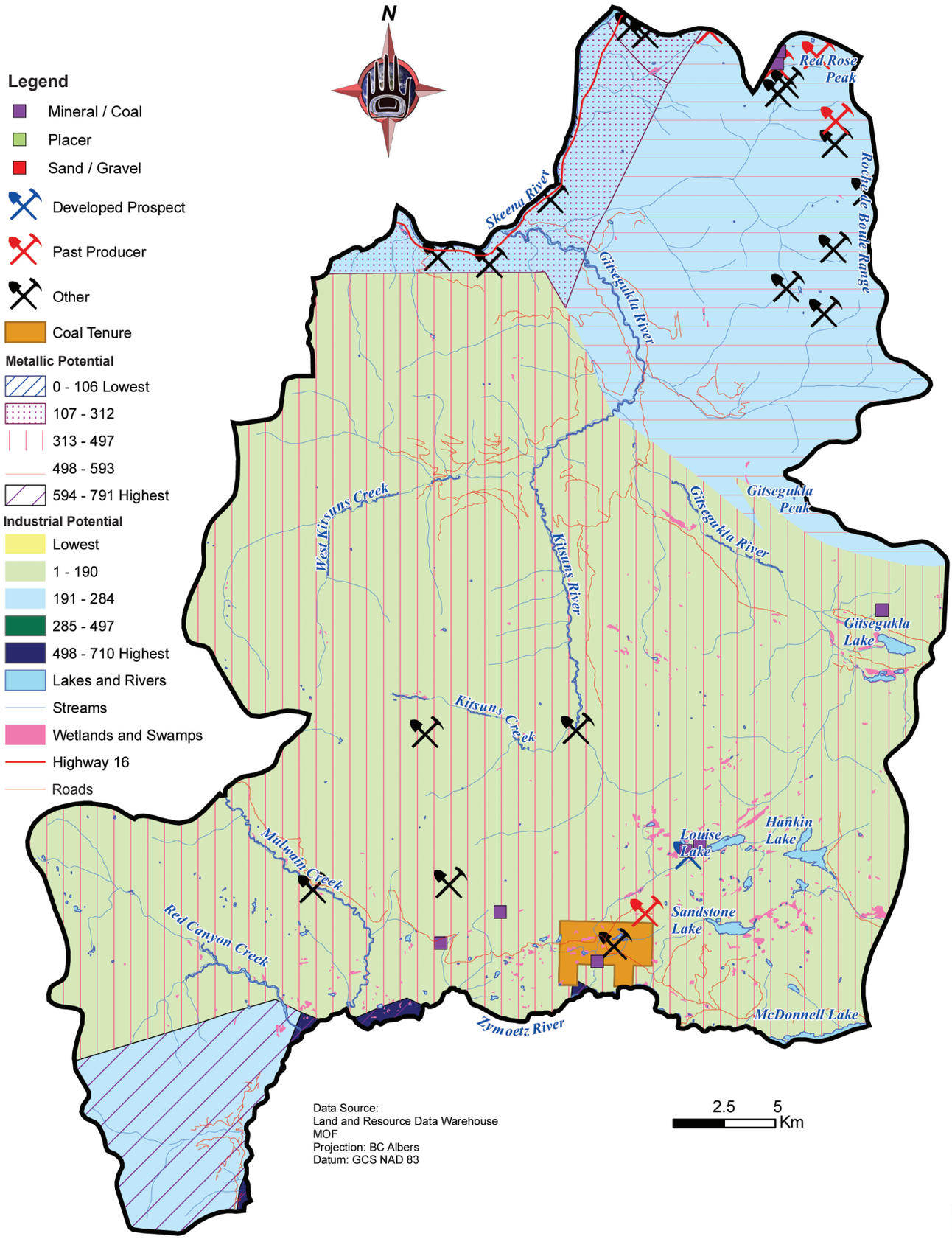




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# Map 12 Economic Characteristics / Mineral Potential








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