

Klappan Plan



Klappan Plan

February 10, 2017

Maps Amended February 16, 2018

Prepared for

The Tahltan People and all British Columbians

Prepared by

Tahltan Central Government and the Province of British Columbia

Acknowledgments

We gratefully acknowledge those who have worked for many years on a collaborative path forward in the Klappan.

In particular, we extend a heartfelt thank you to all the community members, the Provincial and Tahltan representatives, and all peoples that have made the Klappan Strategic Initiative, Klappan Technical Report, and the Klappan Plan, a success.

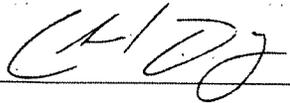
Thank you / Meduh

Important Notice

The Klappan Plan itself is not a legal instrument, nor is it intended to be legally binding. It is intended to assist the Tahltan and the Province in advancing reconciliation and the shared objective of long term management and land use direction in the Klappan. Tahltan and the Province intend to work collaboratively on recommended tools for its implementation. Some components of this Klappan Plan will be implemented as legal designations or objectives. The remainder of the plan provides policy guidance to be considered by decision makers along with other applicable law, legislation and policy. Activities identified as acceptable in the plan continue to be subject to all required regulatory review and consultation processes.

Approved and signed on this 27 day of August, 2019

Representatives for Tahltan



President Chad Day
Tahltan Central Government

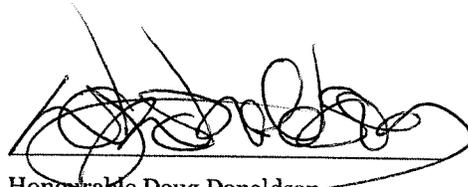


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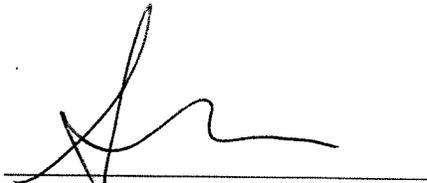
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in Right of the Province of British
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Preamble

The Klappan Area (the Klappan) is of vital importance to the Tahltan people and to all British Columbians. The Klappan Plan over this area includes approximately 636,000 hectares in northwestern British Columbia, and encompasses the area identified by the Tahltan people as the “Sacred Headwaters,” an immense subalpine basin which is the birthplace of three salmon bearing rivers, the Skeena, Nass and Stikine. These rivers are fed by water purified in the peat lands and the tributaries of the Klappan. The longstanding Tahltan relationship with this area continues to this day as it is home to many resources, including fish and wildlife, which sustain the Tahltan people and communities.

The Klappan Plan provides joint recommendations for long term management and land use direction that embrace the area’s significant social, cultural, environmental, and economic values. It builds upon information in the Klappan Technical Report - which was one of the outcomes of the BC-Tahltan Klappan Strategic Initiative (KSI), a joint process of information collection, discussion, and community outreach between the years 2013-2015.

BC and Tahltan have worked collaboratively to advance reconciliation of our respective interests and find innovative approaches to arrive at a working plan for the Klappan, without prejudice to differing views with regards to sovereignty, jurisdiction, Tahltan title and rights, and ownership. For clarity, the Klappan Plan does not, and is not intended to, establish, define, limit, abrogate, or derogate from any Aboriginal rights or title. This Plan includes an area jointly identified for long term protection, with management for significant areas of social, cultural, and environmental importance in the “Sacred Headwaters,” while at the same time jointly recognizing areas where Industrial Activity is generally considered to be acceptable. In this way, this unique plan offers a clear path forward for all Tahltan people and British Columbians.

The Klappan has always supported our people culturally, spiritually and economically, and we continue to use and rely on the lands and resources of the Klappan to sustain our people and communities. We know there is a continuum between the ancient, historic, contemporary and future Tahltan relationship to the Klappan because it is in our blood, our culture and our teachings.

The Klappan is therefore more than a collection of things – of trees, waters and minerals -that can be taken apart without harming the whole. The Klappan is an integral part of the whole of Tahltan territory and culture. The Tahltan Nation is vested with the sacred responsibility to manage this area and protect it from harm, for the benefit of all Tahltan, and the people of British Columbia, Canada and the world.



Skeena Panorama

Vision and Goals

The Tahltan and the Province of British Columbia share a vision where present and future generations continue to have a meaningful relationship with the Klappan. This includes ensuring that its distinct cultural, environmental, social, and economic values are sustained for the Tahltan people, and that the area can continue to be of benefit to all British Columbians. As part of our collaborative work together, the Province of British Columbia acknowledges and respects that Tahltan have their own views and position on sovereignty and Tahltan title and rights in the Klappan.

The Klappan Plan will be used as a guide to develop recommendations, which, when implemented, are intended to be resilient and enduring, for land and resource management and use in the Klappan Area, to:

- Sustain Klappan values (social, spiritual, cultural, environmental and economic);
- Increase long term stability and predictability for both the Tahltan and the Province with respect to land and resource use in the Klappan;
- Protect a large area from Industrial Activity, that includes the Sacred Headwaters;
- Provide clear and predictable pathways to proponents for responsible economic development; and
- Respectfully build upon the information and management recommendations outlined in the Klappan Technical Report, which was one of the outcomes of the BC-Tahltan of the Klappan Strategic Initiative, a joint process of information collection, discussion, and community outreach.

The Klappan Plan may form part of existing and future agreements. For example, it is intended to form part of the re-alignment of the *Shared Decision Making Agreement (2013)* as per our commitment of the *September 11, 2014 BC-Tahltan Memorandum of Understanding (MOU)*, to increase predictability for land and resource use and decision making processes across Tahltan Territory.

History of BC-Tahltan Klappan Strategic Initiative

In September 2013, the Tahltan and British Columbia formed the Klappan Strategic Initiative (KSI), a joint process of information collection, discussion, and community outreach between the years 2013-2015, to address ongoing issues in the Klappan Area. To help guide the discussion and inform the development of recommendations, the parties jointly developed the Klappan Technical Report.

The Klappan Plan builds upon information in the Klappan Technical Report. The Technical Report, which represents a summary of values (environmental, social, cultural and economic), was developed with input from both the Tahltan and the Province’s representatives and includes input from Tahltan community members, scientific reports as well as input from interested stakeholders, and provides a summary of values important to both parties. Tahltan knowledge is integrated throughout the Report.

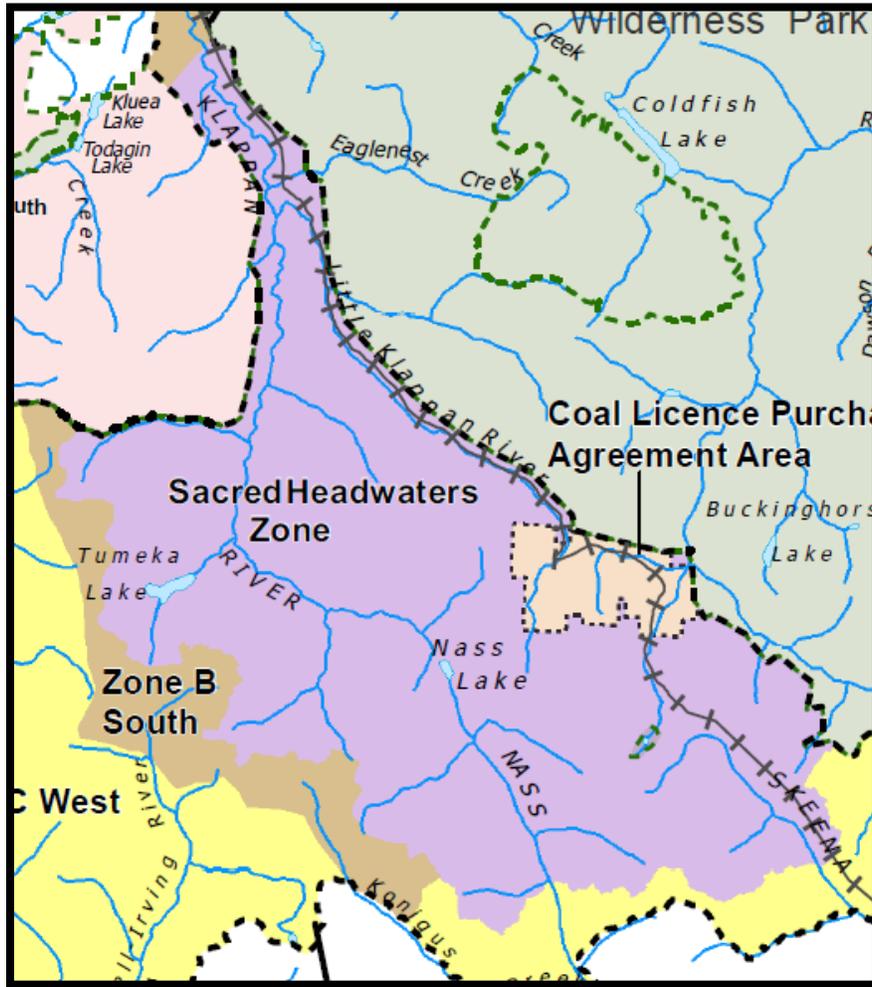
Community and stakeholder engagement took place throughout the development of the Klappan Technical Report. Public consultation was also a key element of the process, with a public comment period from December 16, 2014 to February 16, 2015. All input received was carefully considered by Tahltan and BC.

For more information about the general approach and timelines, please refer to the table below, which has been adapted from the KSI Terms of Reference (September 4, 2013):

General Approach		
Stage	Description	Status
Stage 1	Tahltan and BC to jointly establish a Technical Working Group	Completed in 2013
Stage 2	Technical Working Group to develop a technical report in preparation for government-to-government discussions	Completed in 2015 – Klappan Technical Report For more information, please see Appendix 2: Klappan Strategic Initiative Technical Report
Stage 3	Tahltan and BC to review the technical report and develop joint recommendations to decision-makers for long term management and land use direction for the Klappan.	Completed in 2017 – Klappan Plan For more information, please review this plan.
Stage 4	Recommendations are brought forward to the governments for review, consideration and decision.	Approvals currently being undertaken by both governments.
Stage 5	Implementation if accepted	Dependant on approvals.

Management Zones

I. Sacred Headwaters Zone



Map of Sacred Headwaters Zone

Area Description

The Sacred Headwaters Zone is approximately 286,580 hectares¹. It includes the Sacred Headwaters area with ecologically sensitive drainages, including the majority of the Klappan and Little Klappan Rivers, and the headwaters of the Skeena, Nass, and Stikine rivers. It also provides low elevation winter habitat for ungulates and grizzly bears, and includes areas of high density Tahltan social, spiritual, cultural and environmental values. The zone has significant

¹ See Appendix 3: Zones by Hectare and Percentage of Klappan Area

ancient, historic, current, and future uses, sites, gathering/harvesting areas, and trails. The importance of the area to access high elevation areas outside of winter is well documented, and the density of low elevation sites, villages, burial sites, and cultural areas support the importance of entire zone. The zone is considered one of the core areas of cultural importance and a seasonally important “breadbasket” to meet sustenance needs for the Tahltan Nation.

Coal Licence Purchase Agreement Area

The Coal Licence Purchase Agreement Area is approximately 16,400 hectares identified for illustrative purposes on Map 1 – Sacred Headwaters Zone. The *Coal Licence Purchase Agreement Area (2015)* encompasses 100% of the coal tenures in the Mount Klappan Area, currently held by the British Columbia Crown Corporation “CrownCo.” It includes ecologically sensitive portions of Little Klappan and Spatsizi Rivers, and high density Tahltan cultural values. A detailed description of the values within this area can be found in the Klappan Strategic Initiative technical report².



Cow Moose in the Klappan

The *Coal Licence Purchase Agreement* is in effect for a period of 10 years, and it expires on May 1, 2025. While that agreement is in effect, the Coal Licence Purchase Agreement Area will not be included in any measures contemplated for the Sacred Headwaters Zone. Prior to the expiration of the *Coal Licence Purchase Agreement*, BC and Tahltan will employ a consensus seeking process to recommend objectives and measures for the long term use of the Coal Licence Purchase Agreement Area and may agree to amend the Klappan Plan accordingly.

Sacred Headwaters Zone Overarching Objectives

This zone is recognized for its cultural, social, and spiritual significance to the Tahltan people and for its high environmental value. The following management objective is designed to ensure that social, cultural, spiritual and environmental values will not be negatively affected by Industrial Activity in the medium term, while still maintaining flexibility in the event of a change in Tahltan and BC land management objectives in the future.

Management Objectives

² See Appendix 2: Klappan Strategic Initiative Technical Report

The management objective is to protect the core of the Klappan, including the Sacred Headwaters area, from Industrial Activity for an initial proposed minimum period of 20 years from the date of approval of this plan.

Activities

Industrial Activities are not considered to be generally acceptable activities.

Other land uses and forms of tenure, such as recreation and guide outfitting, are considered to be generally acceptable activities.

Timeframe

Sacred Headwaters Zone protection measures are intended to be long term measures, and tools will be identified for an initial proposed minimum period of 20 years from the date of approval of this Plan.

To increase the compatibility of BC and Tahltan interests a consensus seeking decision making process will be employed to seek any recommendations regarding amendments or cancelations, or otherwise vary the boundaries, allowable uses, or timeframe.

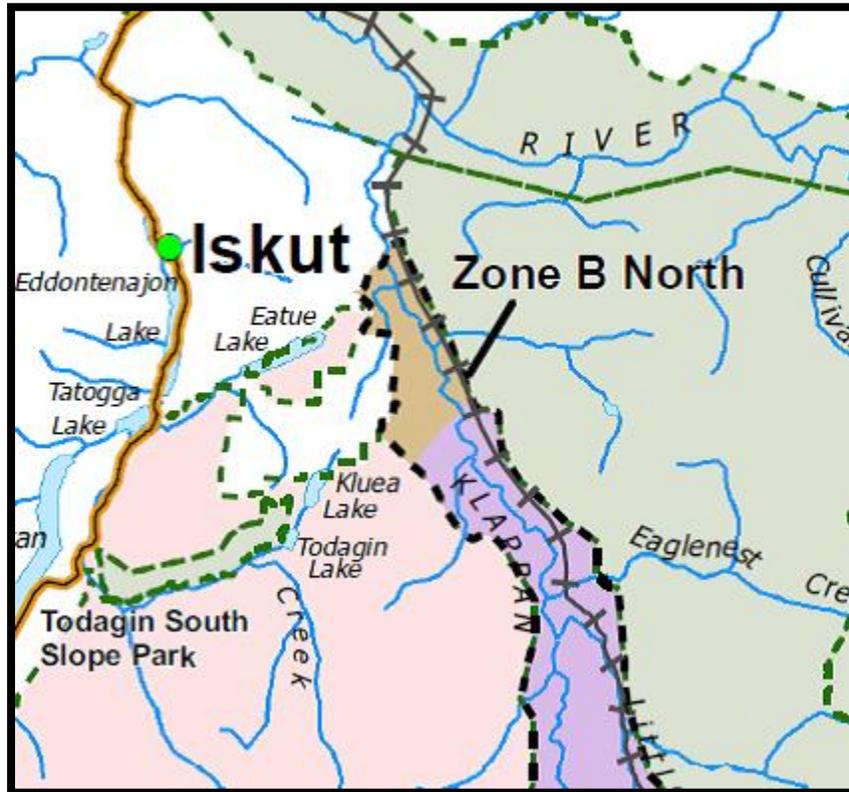


Lower Klappan River



Klappan Nass Divide

II. Zone B



Map of Zone B (North)



Map of Zone B (South)

The Klappan holds critically important environmental values. It is the headwaters of three major salmon bearing rivers, fed by the waters purified by the peatlands and tributaries of the Klappan. And it is the home to the fish and animals that our community harvests for sustenance. But the value of the Klappan cannot be measured in ecological terms only. It is our home, the land that nurtures our culture, teaches our children, sustains our spiritual beliefs, and offers us the animals and resources to continue our traditional practices.

Area Description

Zone B is approximately 49,360 hectares³. The northern portion of Zone B is approximately 7430 hectares. This area encompasses a portion of the Klappan River, east of Ealue Lake, adjacent to the Red Chris mineral tenures and bordering the Spatsizi Plateau Wilderness Provincial Park⁴. The southern portion of Zone B is much larger and is approximately 41,940 hectares. It encompasses the headwaters of Burrage Creek and the Bell-Irving River, following height of land, south and west of Tumeka Lake. Overall, Zone B includes a number of significant Tahltan values⁵. A detailed description of the values within this area can be found in the Klappan Strategic Initiative technical report⁶.

Zone B Overarching Objectives

This zone is recognized as an area with very high concentrations of Tahltan values (cultural, spiritual, social and environmental), as well as potential for economic development. This zone

³ See Appendix 3: Zones by Hectare and Percentage of Klappan Area

⁴ See Map 1: Klappan Plan

⁵ See Map 1: Klappan Plan

⁶ See Appendix 2: Klappan Strategic Initiative Technical Report

has been identified as an area where economic development, including Industrial Activity, is viewed as an acceptable activity. The following management objectives clarify the expectation that, prior to any Industrial Activity that includes ground disturbance in this zone, consultation requirements will apply, and stringent information collection may be required. Any proposed project would be expected to take this information into account during project design.

Management Objectives

The management objective is to recognize the importance of Tahltan values, in particular cultural values, in this area while providing for responsible economic development.

A Notation of Interest will be implemented after the approval of the Klappan Plan to spatially recognize Zone B as an area of concentrated culturally significant Tahltan values.

For any circumstance where there will be ground excavation of any scale, proponents are encouraged to build and strengthen their relationship with Tahltan, and engage in discussions on the proposed project. Furthermore, proponents are encouraged to work collaboratively with Tahltan to collect information, such as archeological, use and occupancy, community and other forms of information as agreed to by the proponent and Tahltan, and that may help inform the project development process.

Activities

Economic development, including Industrial Activities, is considered to be a generally acceptable activity. In recognition of the Tahltan values within this zone, and consistent with the management objectives noted above, it is expected that any proposed project will take into account during project design all relevant cultural information collected in advance and consider ways to avoid, minimize, or mitigate impact to Tahltan values, in particular cultural values.



Upper Skeena River headwaters below Kluakaz Creek

Timeframe

Zone B is intended to be in place for an initial proposed minimum period of 20 years from the date of approval of this Plan.

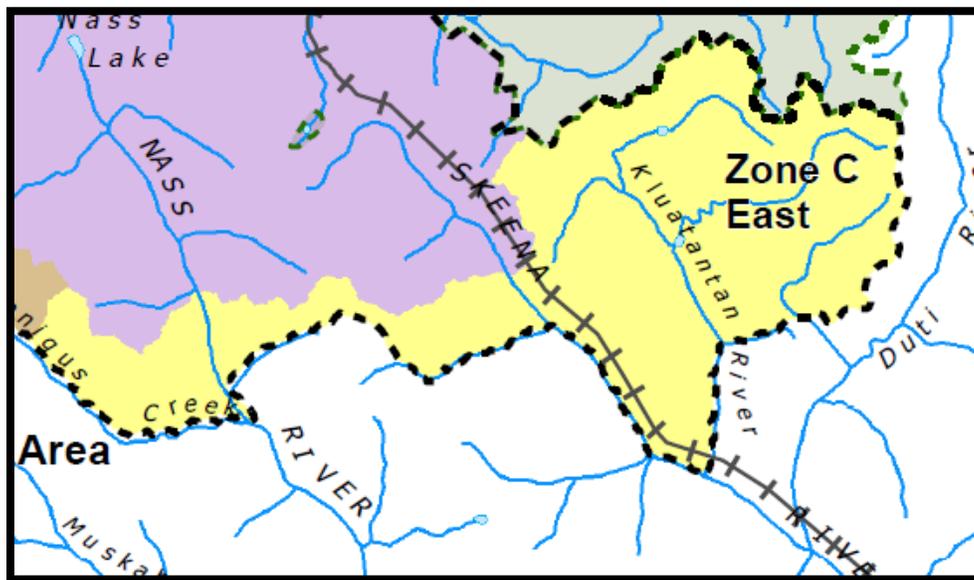


High elevation Buckbrush within the Klappan

III. Zone C



Map of Zone C (West)



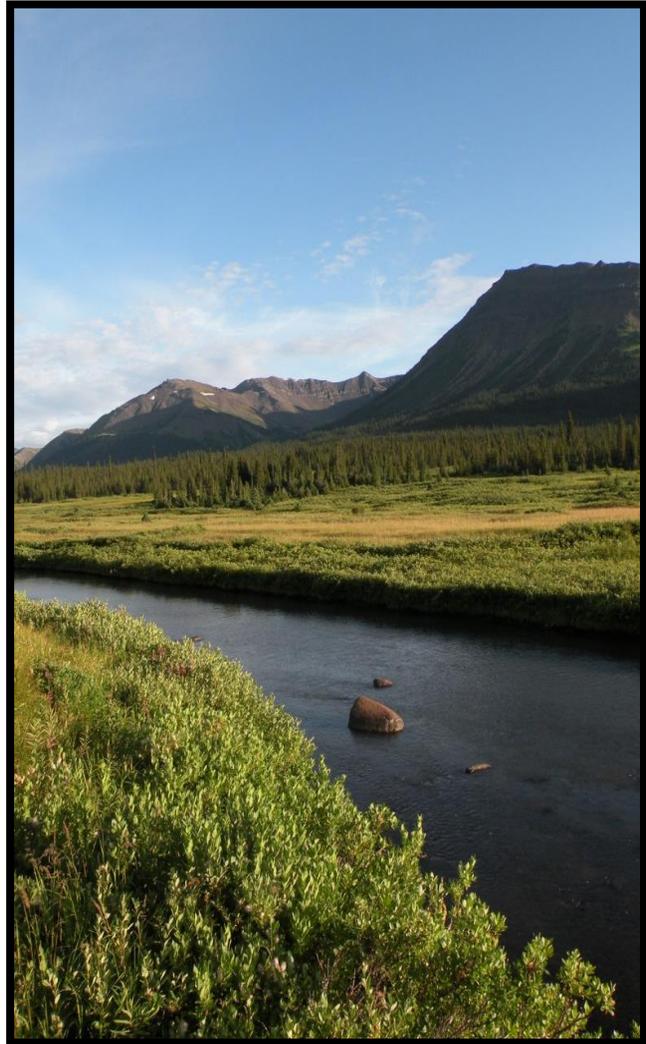
Map of Zone C (East)

Area Description

Zone C is approximately 283,250 hectares⁷. It includes the remainder of the Klappan Study Area identified in the Klappan Strategic Initiative Technical Report, including the Kluatantan Watershed Area⁸. A detailed description of the values within this area can be found in the Klappan Strategic Initiative technical report⁹.

Zone C Overarching Objectives

Zone C is recognized as an area to develop our mutual interest in responsible economic development, and the following management objectives clarify that expectation. However, Zone C needs be viewed in connection with the Plan for the entire Klappan Area. The Sacred Headwaters Area has been identified for protection for its high Tahltan values, Zone B includes additional requirements prior to ground disturbance to ensure these values are protected, and Zone C is acknowledged as an appropriate area for economic development, including Industrial Activities. In this way, the entire plan is intended to bring about stability and predictability for users, with Zone C in particular being recognized as an area where potential future Industrial Activities would be supported.



Upper Skeena at Kluakaz

Management Objectives

The management objective is to use more efficient and predictable processes, and applicable regulations, to develop our mutual interest in responsible economic development.

Zone C is identified as an area with potential for economic development, including Industrial Activities, and high environmental values. Economic development is viewed as appropriate and

⁷ See Appendix 3: Zones by Hectare and Percentage of Klappan Area

⁸ See Map 1: Klappan Plan

⁹ See Appendix 2: Klappan Strategic Initiative Technical Report

acceptable. Thus, in Zone C, economic development, including Industrial Activities, will not be opposed based upon the industrial nature of the proposed activity. However, predictable engagement processes, with respect to a decision, will be required to assess the specific activity and its impacts. The expectation is that proposed projects or Industrial Activities will continue to conform to current regulatory processes, and are informed by relevant agreements between the Tahltan Central Government and the Government of British Columbia.

Activities

Responsible economic development, including Industrial Activities, is a generally acceptable and appropriate activity within Zone C subject to Provincial and Federal regulatory processes. The Government of British Columbia and the Tahltan will work together to seek to ensure that any Industrial Activities that occur are environmentally and culturally responsible, and that efficiencies are realized wherever possible.

Kluatantan Watershed

The Kluatantan Watershed is a third order, lake headed watershed that was heavily glaciated during the last glacial episode. The northern end of the watershed borders the Spatsizi Plateau Wilderness Park. Glacial erosion and deposition has resulted in the development of extensive glacio-fluvial deposits and associated groundwater storage that augments low flow potential and provides excellent spawning and rearing conditions. The watershed is mountainous with remnant glaciers in the headwaters. A detailed description of the values within this area can be found in the Klappan Strategic Initiative Technical Report¹⁰.



Management should focus on the maintenance of hydrologic integrity, riparian structure and groundwater flow paths, and be informed by the collection of baseline stock assessment, run timing and juvenile productivity estimates.

Timeframe

Zone C is intended to be in place for a longer term timeframe.

¹⁰ See Appendix 2: Klappan Strategic Initiative Technical Report

Adjacent Areas

The Klappan Area is surrounded by a number of important areas that are relevant but located outside of the Klappan Plan. These include Spatsizi Plateau Wilderness Park, Todagin Wildlife Management Area, and the Todagin South Slope Provincial Park.

Spatsizi Plateau Wilderness Park

Spatsizi Plateau Wilderness Park is one of Canada's largest and most significant parks, at approximately 698,659 hectares, and is in close proximity to the Klappan Area. The park spreads across two broad physiographic regions, the Spatsizi Plateau and the Skeena Mountains. A portion of the central part of the park just south of Cold Fish Lake has been designated as the Gladys Lake Ecological Reserve. The park includes important habitats for woodland caribou, moose, grizzly and black bears, wolverines, beaver, hoary marmot, and Arctic ground squirrels.



Broad peatlands looking toward Skeena / Spatsizi watershed divide

Todagin Wildlife Management Area

Todagin Wildlife Management Area (WMA) is an area of approximately 122,787 hectares and is in close proximity to the Klappan Area. The Todagin WMA is located within the Iskut River and Klappan River major watersheds, and includes Todagin Plateau and Tsatia Mountain. While a number of activities can occur in the Todagin WMA, in 2001 it was designated for the purpose of conservation and management of critical habitat for Stone Sheep and other habitat and wildlife values.

Todagin South Slope Provincial Park

Todagin South Slope Provincial Park is an area of approximately 3,557 hectares and is in close proximity to the Klappan Area. The park is home to large populations of Stone Sheep. In 2001, it was designated as a park to protect habitat for Stone Sheep and a wide variety of other wildlife, including grizzly bears, moose and caribou.

Klappan Decision-Making and Management Board

Overview of Klappan Decision-Making and Management Board

The Klappan Plan proposes land use zones in the Klappan Area that set out the boundaries and use of those zones. To provide a decision making structure that will allow the zoning proposed in the Klappan Plan to be implemented, the Tahltan and the Province have agreed to establish the Klappan Decision-Making and Management Board (the “Board”).

The Board is being established because the Tahltan and the Province are committed to developing an innovative decision making and management model in the Klappan Area that respects and acknowledges the existence of Tahltan title and rights, advances reconciliation between Tahltan and the Crown, advances and builds upon previous collaborative work including the implementation of the Klappan Plan. In addition, the Parties intend to see the Board operate in a way that is efficient and effective.

The Board will develop specific recommendations for implementation of priority measures regarding the zones and values in the Klappan Plan. The Parties have specifically identified the need for the implementation of recommendations that will address matters related to wildlife and access as key priorities.

In recognition of adaptive management of this area over multiple generations, on an annual basis, Tahltan and BC will conduct a review to seek to ensure that the Board is continuing to meet the goals and interests of the Tahltan and BC, learning from the work that has been done, and adapting as needed to emerging needs and contexts

Wildlife

The Klappan is an area richly populated with a variety of wildlife species. The many contiguous watersheds provide habitat for a number of ungulate species, as well as large-ranging carnivorous species, which together comprise a large portion of the Spatsizi predator-prey system.

Tahltan and BC have a number of shared objectives related to wildlife including a healthy wildlife population, resolving land use conflicts related to wildlife, and finding the balance of sustaining Tahltan way of life while providing opportunities for BC resident hunters.



Klappan Tall Grass

Given these shared objectives, the Board will work collaboratively to explore and advance new tools, strategies, and approaches related to wildlife management for the Klappan Area.

Access

Ground access into the Klappan is composed of two main corridors, one from the north and the other from the south. Access from the north includes the Ealue Forest Service Road travelling east from Highway 37 to the Klappan River, then via the abandoned BC Rail grade generally running in a south east direction through the Sacred Headwaters and ultimately leading to the Skeena River valley. The access corridor from the south follows the abandoned rail grade along the east side of the Skeena River.

Tahltan and BC have a shared access related objective of safe and environmentally responsible access, with the principle of public access for all British Columbians. A detailed description of the rail grade and associated concerns are provided in the Klappan Strategic Initiative Technical report.

Given the shared objective and principle, the Board will work collaboratively to explore and advance new tools, strategies, and approaches to manage access related risks for the Klappan Area.

Other

There is an understanding that Tahltan and BC may from time to time, after the first year of the Board's functioning, seek to develop consensus recommendations for additional pilot projects and other initiatives to be undertaken in the Klappan.

There are also a number of additional resources available to the Board that it may consider, including the Klappan Strategic Initiative Technical Report¹¹ and management considerations¹² included in that report.



Looking towards the Skeena/Spatsizi watershed divide

¹¹ See Appendix 2: Klappan Strategic Initiative Technical Report

¹² See Appendix 1: Klappan Strategic Initiative Management Considerations

Definitions

Industrial Activity

Economic development with the potential for major ecological impact and exploration for the primary purpose of producing mineral, coal, petroleum, natural gas, forestry, or major energy products, and does not include incidental uses for cultural, recreational, or other purposes such as the construction of roads, buildings or other structures, and minor developments with low impact.

Klappan Area

A vast area that hugs the western flank of Spatsizi Park, contains the “Sacred Headwaters” area with ecologically sensitive drainages, including the majority of the Klappan and Little Klappan Rivers, and the headwaters of Skeena, Nass, and Stikine rivers. It is also an area of cultural significance for the Tahltan. See Map 1: Klappan Plan.

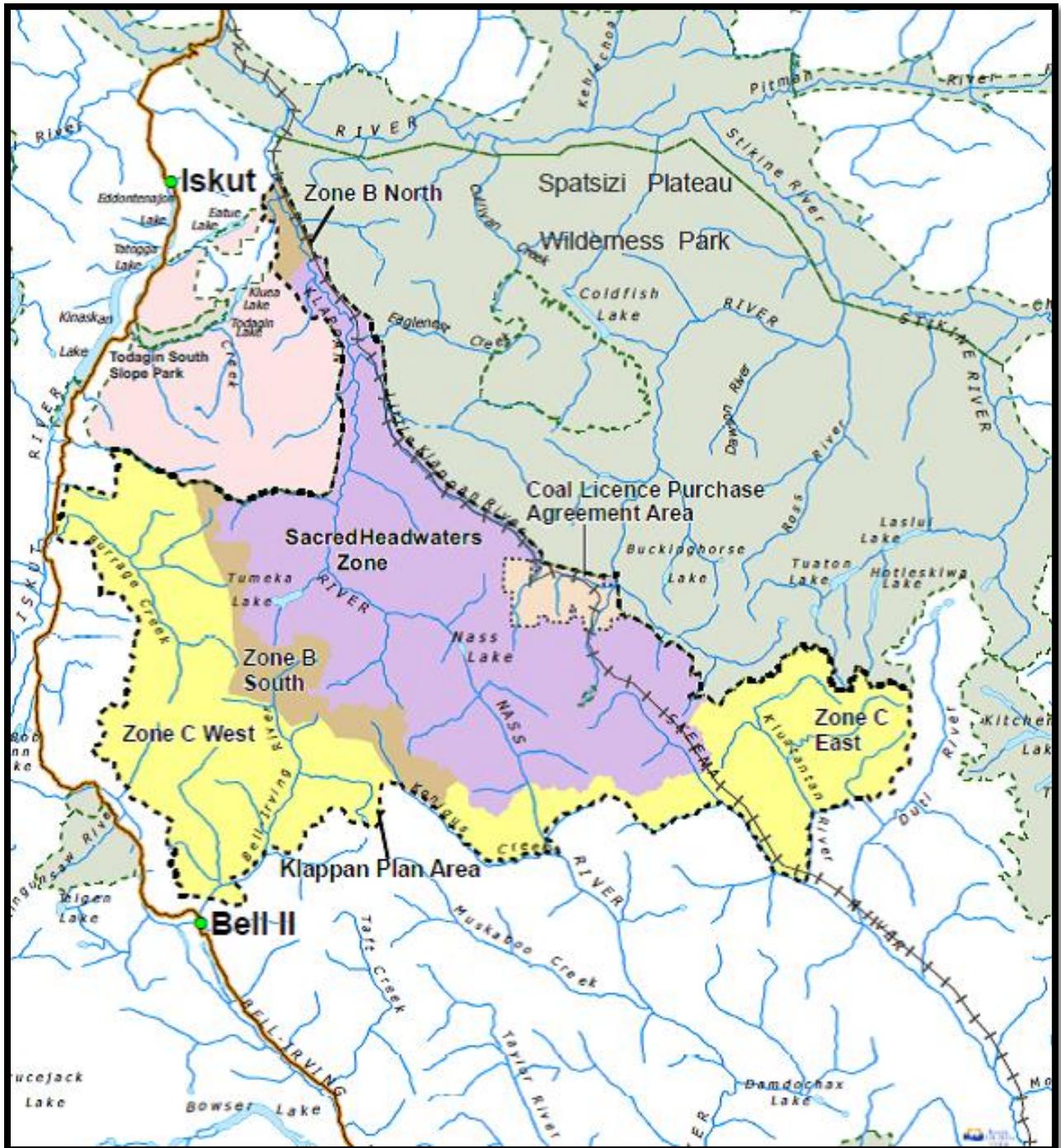
Major Energy

High ecological impact hydro-electric, geo-thermal, and wind development, does not include considerations for the size of the development, and does not include minor developments with low impact such as dams on small creeks to supply power for local facilities such as a tourism lodge.

Mineral

Ore of metal and every natural substance that can be mined and that either is in place where it was originally formed or deposited, or is in talus rock, and includes rock or other materials from mine tailings, dumps, and previously mined deposits of minerals, but does not include: coal, petroleum, natural gas, earth, soil, peat, marl, sand and gravel, and rock and riprap used in the construction of roads, buildings or structures.

Map 1: Klappan Plan



Map of the Klappan Plan

Appendix 1: KSI Technical Report Management Considerations

Tourism

- *Managing access to 4-wheel use into peatlands and alpine areas*
- *Identify possible areas for resource overlap when planning, including access, camp sites, and visual quality.*
- *Maintain current recreational access points, such as for Dideene Portage, Eaglenest Trail and Mcewan Creek Trailhead.*

Fishing

- *Possible downstream effects of development on commercial, sport and aboriginal fisheries*

Guide Outfitting

- *Identify locations of guide outfitting territories and potential conflicts (temporal and spatial) when resource planning or permitting resource development.*
- *Major projects should provide an assessment of the implications of resource development on guide outfitting and wildlife abundance and distribution.*
- *In terms of global significance, 99% of the world's population of Stone's sheep and approximately 50% of the world's population of mountain goats occur in British Columbia. The existence of these unique species of wildlife in British Columbia and within the TRA, supports a global responsibility for the sustainable management of those species and the economic opportunities that sound management approaches provide.*

Trapping

- *Identify locations of trapping territories and potential conflicts (temporal and spatial) when resource planning or permitting resource development.*
- *Resource development should provide an assessment of the implications of the development that considers habitat supply, forest succession/seral stage distribution and linkages/fragmentation, and temporal disturbance.*

Timber Values

- *Consider avoiding areas of high cultural or environmental values*
- *Consider aligning with other resource deferrals in the Klappan*
- *Consider seasonal timing to avoid vulnerable periods for wildlife, sensitive periods for fish and to minimize soil and water impacts.*
- *Visual quality of an area and the impact it will have on the outdoor recreational experience.*

Coal and Mineral Exploration and Mining

- *The Klappan TRA contains a rare and significant quantity of high quality anthracite coal, if developed it would generate significant economic benefits*
- *Access management needs to be considered for acceptable endeavours/projects within and beyond the Klappan TRA*
- *Coalbed methane reserves are to be managed consistent with other resource reserves.*

Water

- *Existing and ongoing hydrologic impacts in the TRA resulting from the construction and subsequent abandonment of the Dease Lake connector rail grade. There has been no comprehensive assessment of those impacts and therefore it cannot properly inform land use. Learning from the past is a hallmark of good land use planning.*
- *Lack of baseline information means there is no way to assess the value of, or potential impacts to ecosystem services provided by the TRA to downstream reaches of the Skeena, Nass and Stikine Rivers.*
- *Maintenance of the integrity of the peatland/aquifers*
- *Rail grade construction and coal mining have the potential to lower groundwater levels in the Klappan with potential impacts to peatland and wetland function. This has many potentially adverse outcomes to fish habitats but may also affect the carbon storage function of the peatlands by reducing the amount of atmospheric carbon that is annually sequestered and increasing the carbon footprint of land use.*
- *Wetlands, including peatlands, often support clear water tributaries that act as refugia for fishes during periods of high flow and turbid water. This is particularly important for clear water tributaries in the Klappan and Spatsizi where there is a prolonged turbid water period. The Skeena also has extensive areas of clear water tributary that serve as clear water refugia.*
- *Potential land use hydrologic impacts to the Klappan TRA include the following;*
- *Dewatering coal seams during mining pose the potential to generate a groundwater cone of depression that may alter the groundwater regime in the area and reduce peripheral groundwater flow;*
- *Inter basin transfers from surface water diversions pose a risk to hydrology and the potential for inter basin transfer of organisms;*
- *Shallow ground water interception by the rail grade can potentially alter the storage function of the shallow aquifers and reduce low flow augmentation and flood mitigation.*

Climate Change

- *Protection of enduring features that will underpin future ecosystems.*
- *Consideration should be given to the management of alpine areas that are expected to persist in the face of climate change.*

- *Hydrologic disturbance of the TRA peatlands has the potential to produce greenhouse gas emissions.*
- *Potential sources of hydrologic disturbance include the drain down of shallow aquifers along the proposed rail grade and the groundwater “cone of depression” from the dewatering of coal seams during mining.*
- *Coal mining has a potential carbon footprint related to fugitive methane gas emission that needs to be considered.*
- *Permafrost thaw, in relation to land clearing and hydrologic impacts is a potential carbon source in the TRA that needs to be considered in proposed land use developments.*

Fish

- *Groundwater function as it relates to fish habitat suitability and fish productivity should be conserved, protected and in some cases restored.*
- *Fish access to all habitats needs to be maintained and in certain places re-established. Historic impacts need to be assessed and then restored (see the railgrade section).*
- *Most of the fish species in the TRA employ unique life history strategies to deal with water temperature or climate variability, which makes them more susceptible to habitat impacts (e.g., riparian loss, groundwater influences and sedimentation).*
- *Fish species such as Bull Trout, Dolly Varden and Cutthroat Trout have been well documented to be particularly sensitive to habitat impacts associated to land use development (Haas 1998). The species are also particularly sensitive to overexploitation when remote areas are made accessible via regulated and unregulated road or trail development.*
- *Spawning habitats are rare and not well documented within the Klappan River and upper Nass River portions of the TRA, and must be identified and properly managed.*
- *Opening up of remote areas to access can threaten particular fish species that are vulnerable to overharvest.*
- *Decisions made within the study area have the potential to impact downstream populations.*

Terrestrial

- *Protection strategies should evaluate representation of ecosystems, ecosections, special features and enduring features.*

Rare and Endangered Species and Ecosystems

- *Follow existing recovery plans for identified species or ecosystems at risk.*
- *If no recovery plans exists, conduct surveys to determine presence and abundance and develop an appropriate management plan.*

Wildlife

- *Resource developments should provide an assessment of the implications on habitat supply, distribution and linkages/fragmentation of important wildlife habitats, and temporal disturbances that can conflict with critical seasonal habitats and migrations by alienating those habitats.*

Mountain Goats

- *Establishing provincial aircraft distance requirements adjacent known critical habitats and during winter and kidding periods for the Klappan TRA.*
- *Where mechanized land use disturbance is being proposed in close proximity to high value habitats, to include a mitigation and monitoring plan by a qualified biologist to ensure the disturbance is not impacting mountain goats.*
- *Recommending alpine or elevational restrictions for all motorized (ATV & snowmobile) use for recreational purposes including hunting.*

Caribou

- *Maintain adequate amounts of well-distributed, critical habitats available across seasonal ranges and through time. Exclusion of activities in critical seasonal ranges such as traditional rutting ranges and migration corridors should occur.*
- *Preserve access to these areas for woodland caribou by preventing fragmentation of the areas or displacing the caribou from other resource development activities.*
- *Minimize risk to woodland caribou from human-caused mortality.*
- *Use techniques that enhance retention and recovery of terrestrial lichens.*
- *Develop recreational, commercial tourism, and access management strategies that limit or prohibit recreational and tourism activities and access in specific areas during critical seasons.*

Moose

- *Maintain adequate amounts of well-distributed, critical habitats that are available across seasonal ranges and through time.*
- *Minimize risk to moose from human-caused mortality.*
- *Monitoring bull:cow ratios ($\geq 50:100$) for low density moose populations as documented in the 2013 Draft Provincial Framework For Moose Management report.*
- *Undertake a stratified random block survey in the Klappan moose population unit to provide current population information upon which to base licensed harvest opportunities.*
- *The Tahltan/B.C. Working group is working to assess all forms of harvest and management approaches to better manage moose in this area. This body will make recommendation to support moose management in the area including landuse, resource development and regulatory mechanisms.*

Grizzly Bear

- *Having access management in place and road densities minimized to reduce habitat fragmentation, displacement, and human- bear encounters from resource development.*
- *Using mitigation strategies to reduce human-wildlife encounters and attractants to bears.*
- *Strategies to reduce displacement of bears from resource development and associated cumulative effects.*

Stone's Sheep

- *Applying provincial aircraft distance recommendations during winter and kidding periods for the Klappan TRA.*
- *Where mechanized land use disturbance is being permitted within 500m of high value habitats, to include a mitigation and monitoring plan by a qualified biologist to ensure the disturbance is not impacting mountain goats.*
- *Recommend alpine or elevational restrictions for ATV, snowmobiles and winter backcountry recreation use.*

Marmot

- *Identifying and maintaining colonies within a resource development footprint.*
- *Maintain access for Tahltan to harvest marmots.*
- *Reclamation strategies to recolonize areas for marmots from resource development.*

Furbearers

- *Maintain a diversity of seral habitats with effective landscape level linkages in older coniferous stands for cover to support prey species and provide for critical habitats that will also maintain forest structure for furbearer denning and reproduction habitats.*
- *Use mitigation strategies to reduce human-wildlife encounters and attractants to furbearers.*
- *Where applicable, use predator management, including trapping, to reduce predation pressures on ungulate*

Appendix 2: Klappan Strategic Initiative Technical Report

<http://www.env.gov.bc.ca/main/ksi/docs/KSI-Technical-Report-Draft-for-Public-Review-20141216.pdf>

Appendix 3: Zones by Hectare and Percentage of Klappan Area

Zones by Hectare and Percentage of Klappan Area		
Zone	Hectare	Percentage
Sacred Headwaters Zone	286,583	45%
Coal Licence Purchase Agreement Area	16,412	2.5%
Zone B	49,360	7.5%
Zone C	283,254	45%
Total	635,609	100%