



Gwìch'ínat Eenjit Dachantat K'àtr'àgwaadhat Akòò Dàgwìheedi'yaa

Gwich'in Forest Management Plan: A Framework for Forest Management



Photo Credit for cover page: GRRB

Additional Copies of this plan may be obtained from:

- **Gwich'in Renewable Resources Board**
- **Gwich'in Tribal Council**
- Environment and Natural Resources, Government of the Northwest Territories
- Renewable Resources Councils in Fort McPherson, Tsiigehtchic, Inuvik and Aklavik

Figure 1: Forestry Legislation in the Gwich'in Settlement Area – Personal Use

Forestry legislation in the Gwich'in Settlement Area		
<u>Personal Use</u>		
	<i>Crown lands</i>	<i>Gwich'in Private lands</i>
Gwich'in Participants	Free timber permit (ENR)	Free load ticket (ENR / local RRC)
Non-Gwich'in Participants	Free timber permit (ENR)	Not issued without written support from local RRC
Regulatory Authority	ENR	GTC, GLUPB, local RRC GRRB reviews

Forest management in the Gwich'in Settlement Area shall be in accordance with the Gwich'in Comprehensive Land Claim Agreement and will not infringe on Gwich'in harvesting rights.

For information, please contact

Gwich'in Renewable Resource Board: (867) 777-6600
 Gwich'in Tribal Council: (867) 777-7900
 Environment & Natural Resources: (867) 678-6691
 Gwich'in Land Use Planning Board: (867) 777-7936


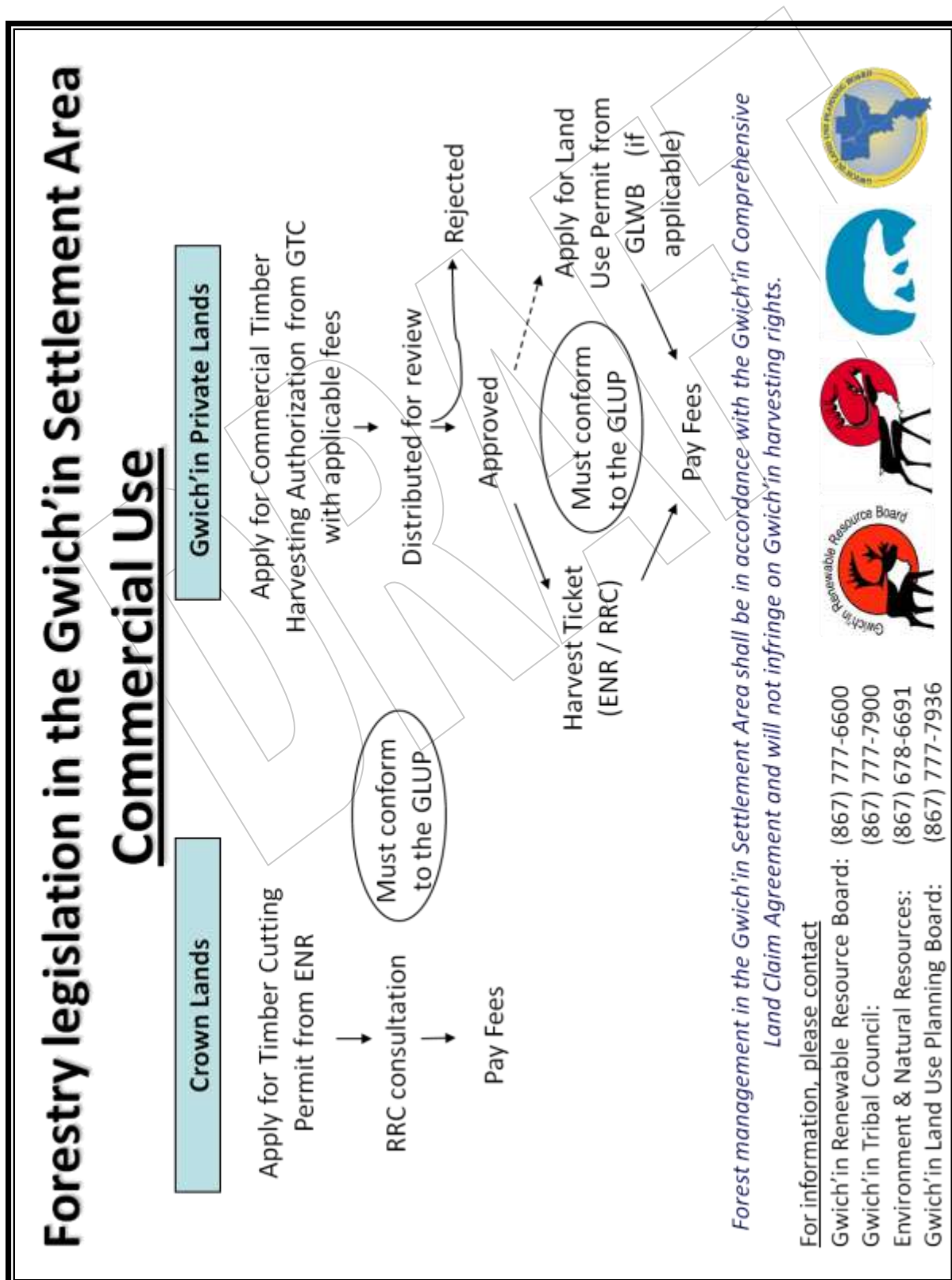


Figure 2: Forestry Legislation in the Gwich'in Settlement Area — Commercial Use



Gwich'inat Eenjit Dachantat K'àtr'àgwaadhat Akòò Dàgwiheedi'yaa

The Gwich'in Forest Management Plan: A Framework for Forest Management

Plan Endorsement

The Gwich'in Forest Management Plan Steering Committee was originally established in 1999, as the Forest Advisory Committee. The purpose of the Committee was to collaborate in the development and implementation of a Forest Management Plan for the Gwich'in Settlement Area. In 2006, the committee's name was changed to the "Forest Management Steering Committee" (Committee).

The Steering Committee of the Gwich'in Forest Management Draft Plan has done extensive consultations with the communities of the Gwich'in Settlement Area. Having completed the initial work of developing the **Gwich'in Forest Management Plan: A Framework for Forest Management** (the Plan), which captures the concerns of the people of the Gwich'in Settlement Area, the signatories below set out the following guidelines for the continuing development and implementation of the Plan as a living document.

Membership

The Committee consists of one (1) representative appointed by each of the three (3) organisations that have a direct role in forest resource management. The organisations include **Gwich'in Tribal Council, Gwich'in Renewable Resources Board, and the Government of the Northwest Territories** through the Department of Environment and Natural Resources.

Responsibilities

The Committee will monitor the implementation of the **Gwich'in Forest Management Plan: A Framework for Forest Management**, and annual work plans. Final approval of the annual work plan and associated funding required to implement the annual plan will remain with the organisations responsible for funding and be dependent on available resources.

Consultation and Liaison

1. Meet at least once annually with the four (4) Gwich'in Renewable Resources Councils to obtain input for the annual plan and to report on the progress of the plan implementation.

2. Hold a series of meetings every three (3) years with the four (4) Gwich'in Renewable Resources Councils to review progress made on the current five (5)-year work plan and acquire input for the next five (5)-year period of the plan implementation.
3. Liaise with Gwich'in Land Use Planning Board (GLUPB), Gwich'in Land and Water Board (GLWB), Gwich'in Renewable Resources Board, and Inuvialuit Regional Corporation (IRC) on forest related issues.
4. Recognizing that sufficient resources to implement the Forest Management Plan will be key to its success, it will be necessary for all partners to be proactive and cooperative in the identifying and obtaining these.

Monitoring and Reporting

1. Review implementation plan annually and develop new work plans.
2. Prepare an annual report on the Committees activities and progress in implementing the **annual plan and provide to each organisation and Gwich'in Renewable Resources Councils.**

Five-Year Work-Plans and Priorities

1. Develop and maintain five (5)-year implementation. Plan to be reviewed and updated by April 30th of every third year.

Annual Work-Plans and Priorities

1. Develop annual work plan and prepare budget estimates. Plans and budget information submitted for review and approval by organisations.
2. Plan is to be completed annually by April 30th.

Decision Making

Decisions made by the Committee will be made through consensus. The Committee will meet at least three (3) times a year. Discussions will occur through conference calls and electronic communications as decided by the committee.

The signatories below approve the Terms of Reference for the Gwich'in Forest Management Plan Steering Committee.

Amendment Process

If an Renewable Resources Council, the Board, GTC or ENR wishes to review or change any aspect of the agreement, written notice is to be submitted to all parties. Each party has thirty (30) days to respond. When the thirty days has lapsed, within sixty (60) days the Board will initiate a process to meet with all stakeholders to begin the amendment process."

The signatories below agree that the Gwich'in Forest Management Plan: Community Forest Management Needs including Current Status, Concerns and Directions accurately represents the concerns of the Gwich'in communities.

Robert Charlie, President
Gwich'in Renewable Resources Board

Richard Nerysoo, President
Gwich'in Tribal Council

Honourable J. Michael Miltenberger
Environment & Natural Resources
Government of the Northwest

Acknowledgements

Haj'choo Mäh'si'choo Thank you Very Much!

The Forest Management Steering Committee produced this Gwich'in Forest Management Plan with the help and support of many people and departments. We would especially like to mention:

- The First Nations Forest Program for providing the funding for the development of this **Management Plan and to the Gwich'in Renewable Resources Board for funding projects** that support this plan.
- **The staff of the Gwich'in Renewable Resources Board** — Amy Thompson, Jen Walker-Larson, Jari Heikkila, Ian McDonald, Patrice Simon, Wynet Smith. A special thanks to Wynet Smith who initiated the Plan.
- **The staff of the Gwich'in Tribal Council** — Alex Benitah, Jozef Carnogursky, Dwayne Semple, Mardy Semmler, and Norman Snowshoe.
- The staff of Government of the Northwest Territories - Environment & Natural Resources Department — Mike Gravel, Lawrence Lewis, Martin Callaghan, Ron Morrison, Tom Lakusta, Lisa Smith
- Chelsea Hermus for editing and proofreading the final document.
- Mary Beckett, who was contracted to add Community comments and re-format the Plan.
- The Renewable Resources Council members and community members who contributed to the plan through their participation in the consultation meetings over the years.
- **The Gwich'in Renewable Resources Board, Gwich'in Tribal Council, Government of the Northwest Territories - Environment & Natural Resources Department, Gwich'in Land Use Planning Board** and everyone else that gave their assistance and support through this process.

A very special thanks to the current members of the Steering Committee — Jozef Carnogursky, Martin Callaghan and Amy Thompson — who worked on the final consultation and worked to complete the plan.

Special thanks are also owed to Mike Gravel who worked on this plan from the beginning years and contributed much to the final product.

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Gwich'in Forest Management Plan Steering Committee

Terms of Reference

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The purpose of this Terms of Reference is to identify the responsibilities of the Committee and to confirm the agreement to collaborate on the development and implementation of a Forest Management Plan for the Gwich'in Settlement Area.

Membership

The Committee will consist of one (1) representative appointed by each of the three (3) organisations that have a direct role in forest resource management. The organisations include **Gwich'in Tribal Council, Gwich'in Renewable Resources Board, and the Government of the Northwest Territories** through the Department of Environment and Natural Resources.

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The Committee will develop the **Gwich'in Forest Management Plan: A Framework for Forest Management**, a five (5)-year implementation plan, and annual work plans. Final approval of the annual work plan and associated funding required to implement the annual plan will remain with the organisations responsible for funding.

Consultation and Liaison

1. **Meet at least once annually with the four (4) Gwich'in Renewable Resources Councils** to obtain input for the annual plan and to report on the progress of the plan development and implementation.
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Monitoring and Reporting

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Decision Making

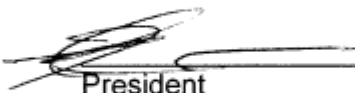
Decisions made by the Committee will be made through consensus. The Committee will meet at least three (3) times a year. Discussions will occur through conference calls and electronic communications as decided by the committee.

The signatories below approve the Terms of Reference for the Gwich'in Forest Management Plan Steering Committee.

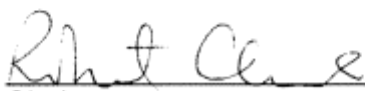
Dated the 17th of December, 2007



Deputy Minister, Environment and Natural Resources
Government of the Northwest Territories



President
Gwich'in Tribal Council



Chair
Gwich'in Renewable Resource Board



Gwìch'inat Eenjit Dachantat K'àtr'àgwaadhat Akòò Dàgwiheedi'yaa

The Gwich'in Forest Management Plan: A Framework for Forest Management

Part I: Introduction, History & Background

This section includes the introduction, the history of the plan and forest use in the GSA. It also defines the roles of the various organizations in the development and implementation of the Forest Management Plan.

Introduction

People in the Gwich'in Settlement Area have valued and used the forests that surround them for generations. The forests shelter people and wildlife, purify the air and water, provide food and medicines, provide timber and fuelwood, and much more. The forests can also be used to gain economic benefits for communities.



Photo supplied by GRRB: credit unknown

Making a birchbark basket

The Gwich'in people want to manage the multiple uses of the forests so that the forests can continue to be used by future generations. The best way to do this is to make a plan so everyone involved with forests can agree on what needs to be done and who is responsible.

The Gwich'in Forest Management Plan was developed through the collaborative efforts of the Gwich'in Tribal Council (GTC), Gwich'in Renewable Resources Board (GRRB), Government of the Northwest Territories through the Department of Environment and Natural Resources (ENR), the Renewable Resources Councils (RRC)

in each community in the GSA and various community members. This plan shall be in accordance with the Gwich'in Comprehensive Land Claims Agreement.

The forests within the Gwich'in Settlement Lands are slow growing and slow to regenerate after disturbances - whether manmade or natural. Due to cold temperatures and a short growing season, it takes many years for a tree to mature from a seedling.

This Forest Management Plan identifies concerns and outlines solutions to guide forest related activities while minimising conflicts among various interests. It is a framework for the management and protection of forests.



Photo Credit Wilkinson/NWT Archives

Bobby Edwards, Charlie Furlong and Neil Greenland saw fuelwood. Aklavik, NWT Aug/55

Planning History

The GRRB and ENR began working on a Forest Management Plan to guide forestry activities in the GSA. This action was in response to community concerns about the level of commercial timber harvest, fuelwood harvesting, forest protection, and tourism. With the Settlement Agreement in place, the communities wanted to start forest management planning to protect timber resources for future generations.

A Forestry Working Group involving GTC, GRRB, ENR and RRC representatives was formed and initial work on the Forest Management Plan began. With direction from the Forestry Working Group, the GRRB and ENR started research projects to provide background information needed for the plan. These included forest inventories, forest use surveys, and traditional knowledge and ecoforestry workshops.

The Gwich'in Forest Management Plan Steering Committee (Steering Committee) was created with one representative from ENR, GTC, and GRRB. In 2007 a Terms of Reference was signed between ENR, GTC, and GRRB outlining the roles and responsibilities of the Steering Committee. The Steering Committee ensured each **organisation's concerns were represented** while allowing for more effective and efficient communication with the Forest



Photo credit: GRRB

Inuvik GFMP Consultation
October 2008

Working Group and overall development of the plan.

2008 Consultation

- Tsiigehtchic: October 16, 2008
- Aklavik: October 20, 2008
- Inuvik: October 22, 2008
- Fort McPherson: November 27, 2008

Meetings were advertised with mail drop, radio, community posters and door prizes.

Minutes for the meetings were reviewed by the Forest Steering Committee and posted on the GRRB website



Photo credit: GRRB

Tsiigehtchic GFMP Consultation October 2008

History of the Gwich'in Forest Management Plan

- 1995: Forest Management Plan initiated
- 1997: Forest Working Group was expanded to include RRC representation
- 1997 to 2007: Baseline data collected
- 1998 to 2001: Community meetings and workshops held
- 2007: TOR signed
- 2008: Consultation
- 2009: Plan endorsed by Regional RRC meeting.

Next Steps - A Living Document

This plan identifies key issues for Forest Management in the Gwich'in Settlement Area. In order to make progress with these issues, the three organizations that have a direct role in Forest Management in the GSA have agreed to develop workplans including a five year plan and annual plans to address the concerns and directions identified in this plan.

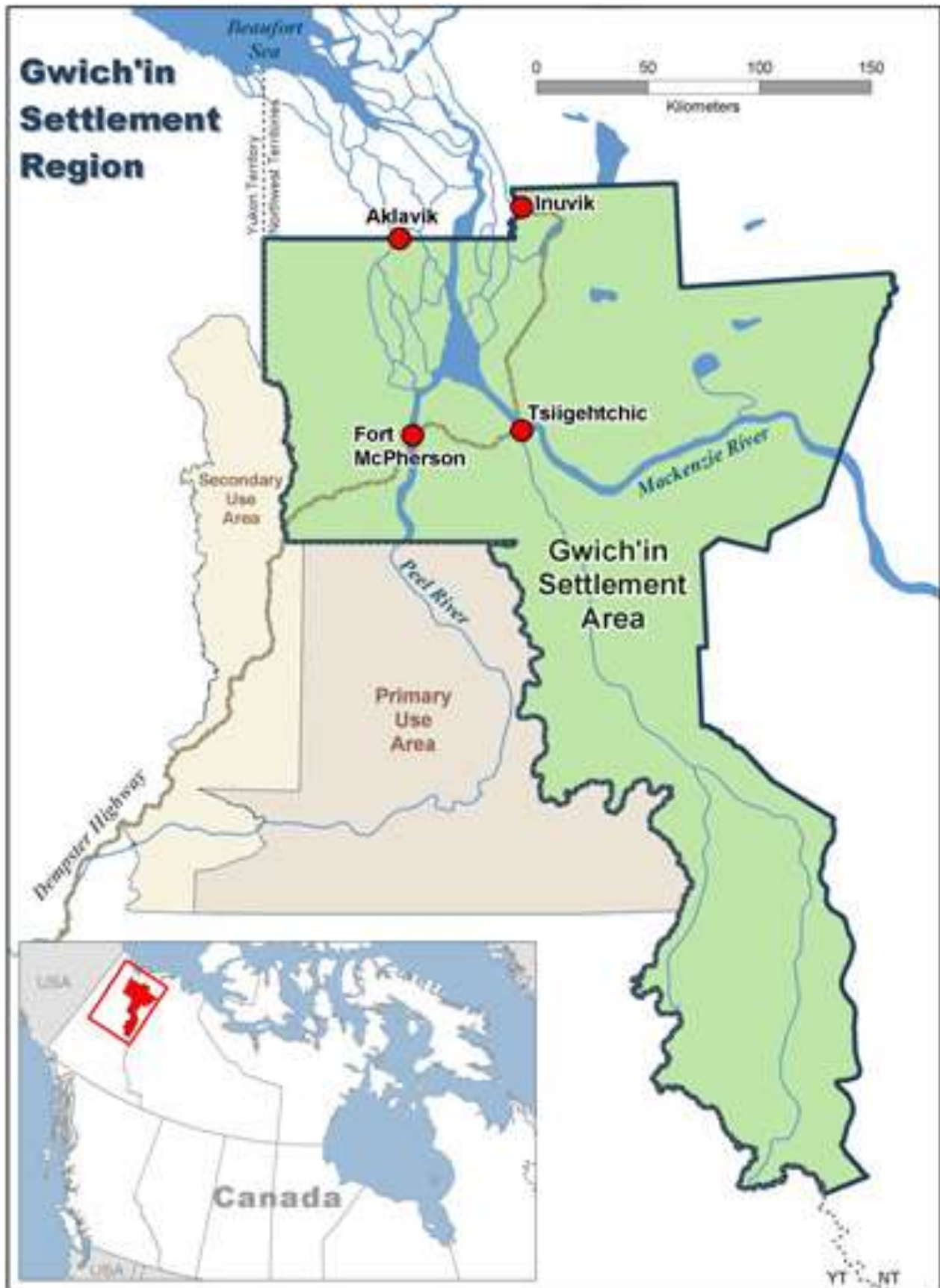
The plan has been developed as a living document and through continued consultation within the GSA, the Forest Management Steering Committee will periodically update the plan to reflect the current status and issues raised by the communities. An amendment process for the plan has been agreed upon to deal with issues that arise between the five year reviews of the plan.

Although the Gwich'in Comprehensive Land Claim Agreement gives the Gwich'in management rights over lands with the Primary and Secondary use areas, these areas have not been considered in this plan. In future, the Forest Management Plan will be extended to consider these areas through cooperation with Yukon Government representatives and the Forest Management Steering Committee



Photo credit: GRRB

Figure 3: The Gwich'in Settlement Region



Credit: Gwich'in Land Use Planning Board

Forest Management Roles and Responsibilities in the Gwich'in Settlement Area

Forests are co-managed under the **Gwich'in Comprehensive Land Claim Agreement (GCLCA)**. The following groups play a role in the management of forests in the settlement area.

- Department of Environment and Natural Resources (ENR)
- **Gwich'in Tribal Council (GTC)**
- **Gwich'in Renewable Resources Board (GRRB)**
- Ehdiiat, Gwichya, Nihtat, and Tetlit **Gwich'in Renewable Resources Councils (RRC)**

Primary management roles include:

Environment & Natural Resources

- Manages forests on Crown lands;
- Create legislation respecting forest and forest fire management;
- Create policies respecting forest and fire management;
- Enforce forest management regulations;
- Issues permits and licences and collects fees for forest harvest and transport on Crown land;
- Work with GTC and GRRB to develop forest management plans for the GSA;
- Manages forest fires within the GSA.

Gwich'in Tribal Council

- Controls, manages and administers **access to Gwich'in Private Lands**;
- Sets guidelines for forest use on **Gwich'in Private Lands**;
- Work with ENR and GRRB to develop forest management plans for the GSA;
- **Authorise development on Gwich'in Private land.**

Gwich'in Renewable Resources Board

- Establish policies and proposes regulations on the harvesting of trees

for personal or commercial purposes in the GSA;

- Work with ENR and GTC to develop forest management plans for the GSA;
- Approve forest conservation and management plans and policies;
- Conduct and fund forest research within the GSA.

Renewable Resources Councils

- Recommends approval of new licences for commercial harvest of trees when the harvest would significantly affect the **harvesting of wildlife by Gwich'in**;
- Is consulted by ENR prior to any change in the area of operation of an existing licence;
- Is consulted with regarding forest management issues;
- Assist GTC, ENR and GRRB to develop forest management plans for the GSA.
- Government and the Board may jointly delegate authority to RRCs, upon terms and conditions established by Government and the Board. (GCLCA 12.9.5)

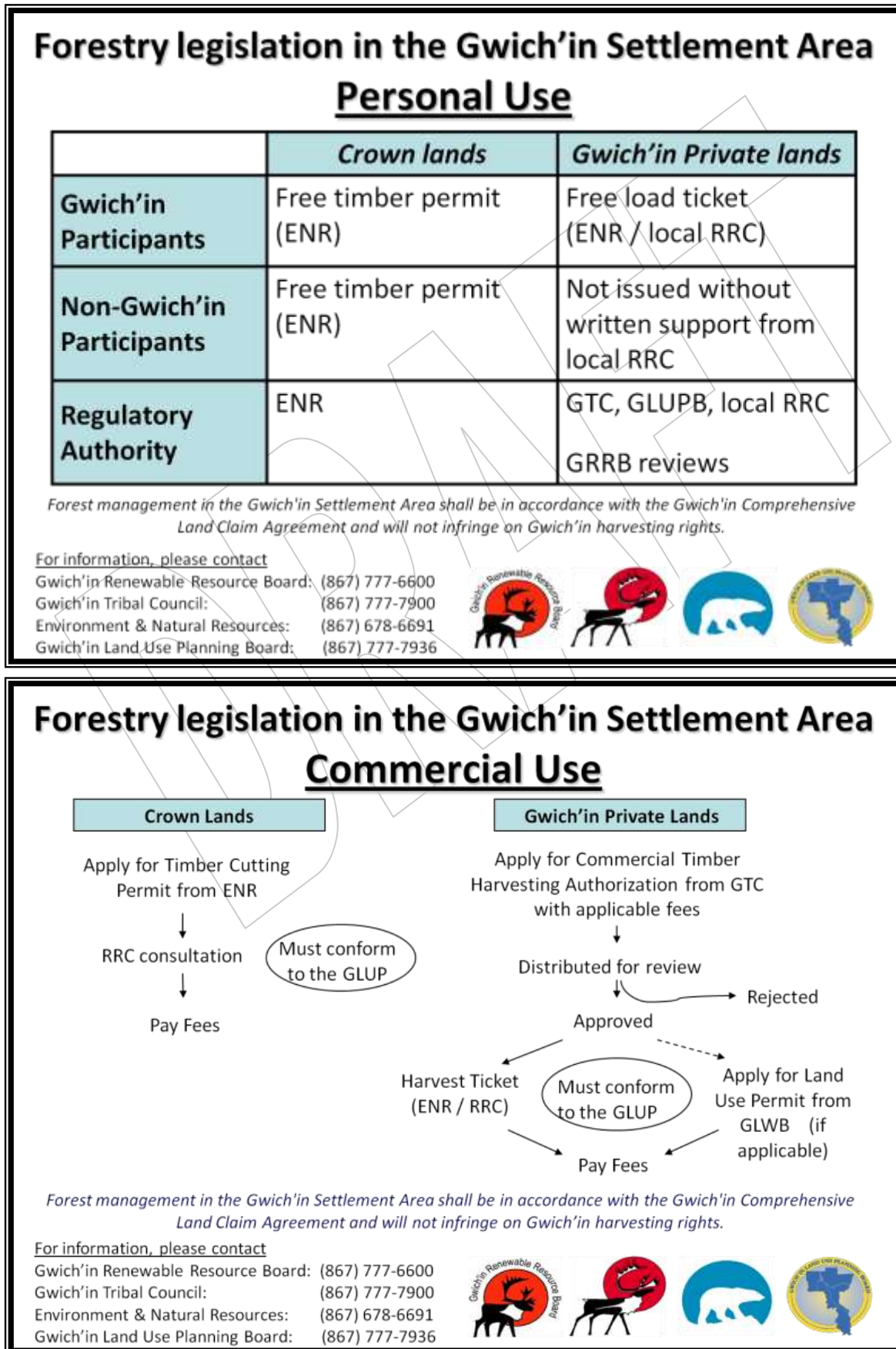
Gwich'in Land Use Planning Board

- Responsible for developing, reviewing and proposing amendments to the **Gwich'in Land use Plan.**

Gwich'in Land & Water Board

- Regional panel of the Mackenzie Valley Land and Water Board
- Responsible for the management of land and water use and the deposit of waste into water in the GSA.
- Issue, amend or renew land use permits and water licences on crown lands and **Gwich'in Settlement lands.**

Figure 4: Forestry Legislation in the Gwich'in Settlement Area



Planning Framework - Legislation

Forest harvest activities on territorial or Crown lands within the NWT are currently regulated through the *GNWT Forest Management Act (1998)*. Forest harvest activities may also be subject to the *Mackenzie Valley Resources Management Act*, the *Fisheries Act*, and the *Environmental Protection Act*.

Forest protection is governed by the *Forest Protection Act*, GNWT Forest Fire Management Policy, and an inter-jurisdictional agreement between Yukon and GNWT to manage fires within 40 kilometres of the Northwest Territories / Yukon border (Fire Cooperation Zone Agreement).

The Gwich'in Comprehensive Land Claim Agreement (GCLCA), signed in 1992, established a new system of land and resource management in the Gwich'in Settlement Region. Within Chapters 13 and 18 of the GCLCA a framework for forest

Gwich'in Private Lands. The Gwich'in Renewable Resources Board has the authority to establish forest policies, propose regulations and approve forest management plans after consultation with the community Renewable Resources Councils.

The Gwich'in Land Use Plan, signed in 2003, established land use zones in the Gwich'in Settlement Area. These zones include general use zones, special management zones, heritage zones, and conservation zones. Proposed land use activities, including commercial forestry activities, must conform to the Gwich'in Land Use Plan.

Regulations & Legislation

- GNWT Forest Management Act (1988)
- Mackenzie Valley Resource Management Act
- Fisheries Act
- Environmental Protection Act
- Gwich'in Land Use Plan
- Gwich'in Comprehensive Land Claims Agreement Act
- Forest Protection Act



Photo credit: GRRB

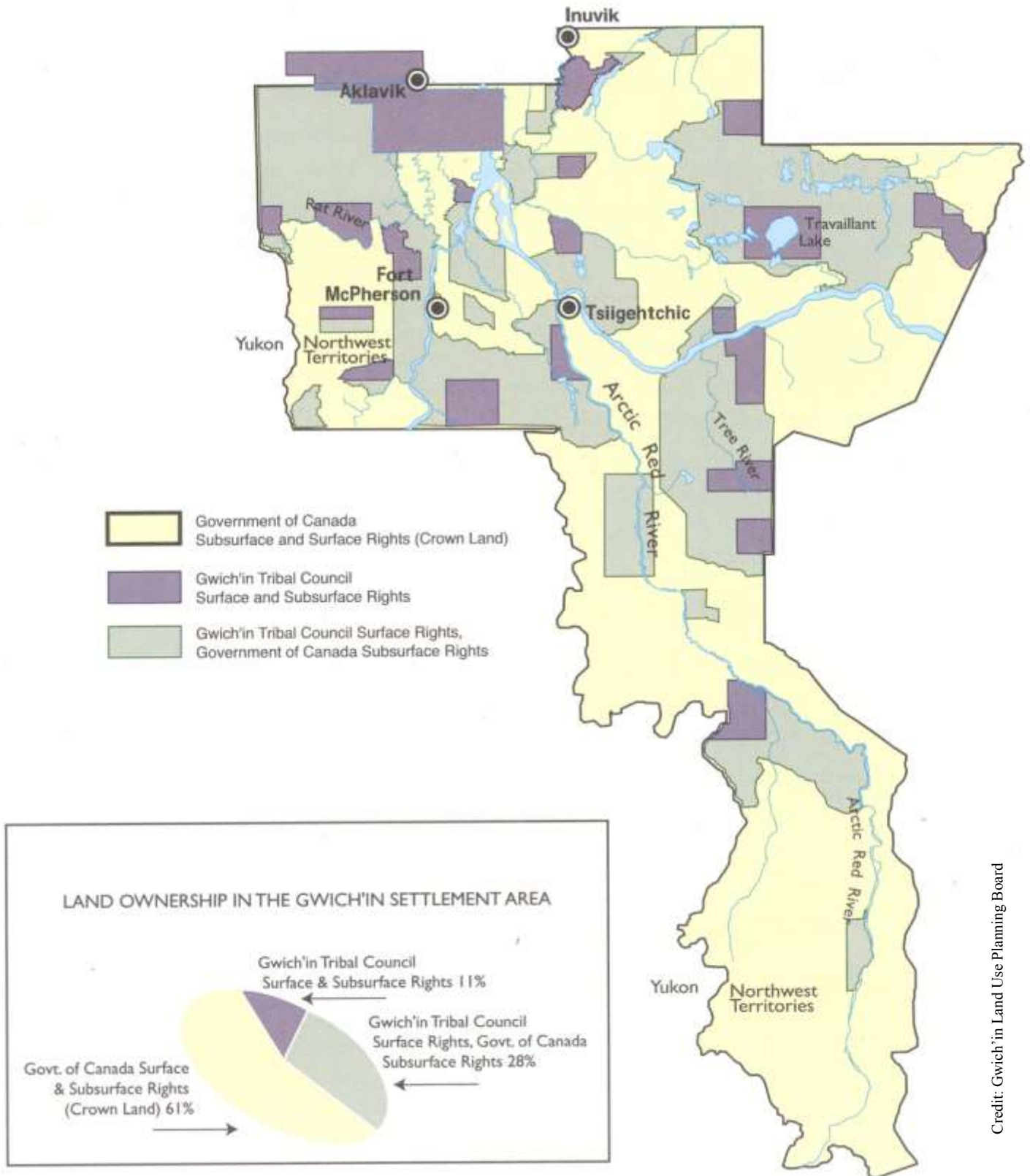
Since the signing of the GCLCA, the bodies with forest management responsibilities in the GSA (GNWT, GTC, GRRB, and the RRCs) agreed to collaboratively establish a Forest Management Plan for the GSA.

and land-use management was developed. The framework established the Government of the Northwest Territories as the manager of Crown lands and the Gwich'in Tribal Council as the manager of

Gwich'in Private Lands:

Land blocks within the Gwich'in Settlement Area owned by the Gwich'in Tribal Council. For each land block, the GCLCA specifies whether GTC ownership includes subsurface rights only, surface rights only, or both surface and subsurface rights (see illustration on following page.)

Figure 5: Land Ownership in the Gwich'in Settlement Area



Credit: Gwich'in Land Use Planning Board

Forest Resources

Forest resources play a central role in the **lives of Gwich'in participants and others** living in the GSA. The forest provides fuelwood, wood for building, habitat for wildlife, food plants, medicines, recreational and tourism opportunities, and spiritual benefits.

There are two main types of forested areas in the GSA: riparian and upland. Each area has distinct growing conditions, types of disturbances and types of forest stands.

1. Riparian forests: Riparian forests are forests that grow near water bodies such as the Mackenzie River, its delta, and tributaries. Forest stands are primarily white spruce, alder, willows, and balsam poplar. Tree growth is slow due to the short summers and cool temperatures. Lower permafrost levels near the water and fertilising from floods help the trees grow better than upland areas. White spruce trees grow to a height of about 25 metres (80 feet), with diameters up to 80 cm.



Vittrekwa River

2. Upland areas: Upland forests grow on the higher lands surrounding the river systems. Forest stands are mainly stunted black spruce and tamarack, with the occasional stand of white spruce and white birch growing on south facing

slopes. Black and white spruce hybrids are also common. Black spruce trees grow to a height of about 10 metres (30 feet), with diameters up to 40 cm.



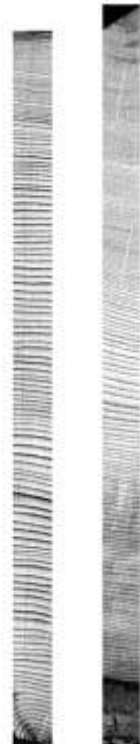
Photo credit: GRRB

Due to the short growing season and cold temperatures of the region, forests in this area grow at a much slower rate than they do further south. It takes much longer for regrowth to occur when disturbances take place. Because of these factors, conservation of forest resources is **especially important in the Gwich'in Settlement Region.**

Photo credit: GRRB/Millar

Delta Spruce Tree Rings of the riparian forest (right) and Upland White Spruce Tree Rings (left) show the slow growth of the forests in the GSA.

Photo credit: GRRB



Forest Harvesting

Trees in the settlement area are harvested for fuelwood, sawlogs, tent poles, tools, crafts, and many other uses. Harvesting practices have changed little in the past few decades. The advent of chainsaws and snowmobiles has allowed tree harvesters to execute their trade much more efficiently. Most harvesting still occurs during winter months with snowmobiles, although some harvesting along shorelines using boats occurs in the summer months after break up.



Cord wood logs

Photo credit: GRRB



Photo Credit: NWT Archives/A.L.Fleming

The Hudson's Bay Company paddle-wheeled steamer *Distributor* at Aklavik in 1937.

lumber for community buildings. Logs were used for pilings. One of these sawmills was moved to Indian Village at the mouth of the Peel during the construction of Inuvik and produced over a ¼ million board feet of lumber during this time. Another sawmill operated at Roy Island just upstream of Fort McPherson in the 1950's and 60's and a sawmill operated at 7 miles up the Arctic Red River in the 1960's.

Forest use in the GSA is recorded back to the early 1900's. In 1898 Hudson Bay Company steamships began to travel through the GSA each summer to supply local trading posts. Many local men were hired to cut and stack fuelwood by the riverbanks along the travel route. According to reviews of steamship logs, these boats burned roughly 3-3.5 cords of wood per hour of travel and likely cut 267 cords of wood for each trip made through the GSA.

From the 1940's to the 1970's, sawmills operated within the settlement area and provided white spruce pilings and some lumber for building construction. Private sawmills were operated from Aklavik during the 1940's and 50's to provide



Credit: Ted Grant/NWT Archives

Feeding lumber into the planer at sawmill on Arctic Red River, NWT Taken by Ted Grant, 1967.

In 1959/1960, DIAND started a logging and milling operation to develop and utilize natural resources and provide vocational training and local employment. Logging camps were established near Arctic Red River, downstream of Fort McPherson and upstream from Aklavik and employed approximately 54 men. The mill was located across the Peel Channel from Aklavik. The operation was not considered economic due mainly to losses of logs in river drives and the high cost of milling.

Fuelwood use in communities decreased dramatically after the **1950's with installation of oil furnaces** in homes and buildings but some residents do have wood stoves. Sawmill operations in the GSA were reduced considerably after the end of the oil boom in the **1970's. In 1994, each community** purchased a portable sawmill with funding from the GNWT Department of Industry, Tourism and Investment. Some communities, such as Inuvik operate their portable sawmill throughout the year, while other communities use theirs sporadically. **In 2007, Tetlit Gwich'in** Council received funds from the First Nation Forestry Program to host a sawmilling workshop in Fort McPherson to train their participants on sawmizer operation and best practices. As a result, TGC purchased a new sawmizer. A similar workshop is proposed for 2009 for all communities in the GSA.

Gwich'in have traditionally used a variety of trees, shrubs and berries for food, medicine, shelter and tools. Information about the uses of plants and their collection was handed down from generation to generation. Today, the forests continue to be an important source for berries, trees and shrubs for the **Gwich'in people.**



Photo credit: GRRB/



Photo credit: GRRB/



Photo credit: GRRB/

Photo credit: GRRB/Thompson



Photo credit: GRRB

Examples of non-timber forest products from the GSA: blueberries, cranberries, cloudberries, Labrador tea, willow baskets



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The Gwich'in Forest Management Plan: A Framework for Forest Management

Part II: Summary of Community Forest Management Needs:

Current Status, Concerns and Proposed Solutions

This plan is the product of extensive public consultation with individual communities in the GSA and is divided into major topic areas. For each topic area current status, concerns and priorities for directed actions are identified.

Photo Credit: Beckett

1.0 Commercial Tree Harvesting

Commercial tree cutting in the GSA has been on going since the establishment of communities. Sawmill operations were reduced considerably after the end of the **oil boom in the 1970's**. DIAND administered cutting permits up to 1986. Since then ENR has administered cutting permits.

Current Status

- **Each Gwich'in community land claim organization (Designated Gwich'in Organisation or DGO) has a wood miser that is available for community use.** Wood misers in Fort McPherson, Tsiigehtchic and Aklavik have mainly been used by community members to cut lumber for personal use. In Inuvik, the Nihtat Band runs the wood miser and produces fuelwood and some lumber.



Fuelwood gathering

- A small number of commercial forest harvesting activities, including wood for pilings and fuelwood occur in the GSA.
- There is renewed interest in commercial forest use.
- Commercial harvesting is managed and monitored by the ENR permitting process on Crown Lands and by the **Land Access process on Gwich'in Private Lands**.

- Commercial forest activities on Crown lands are regulated by the Forest Management Act (1998) and associated regulations.
- **The GRRB surveyed Gwich'in participants to collect information about commercial and personal forest use in 1997 (Forest Use Survey).**

Concerns

1. Not everyone is aware of the permit system in place to monitor amounts and locations of commercial tree harvests on **Gwich'in Private Lands. (see Figures on page i and ii).**
2. Historic commercial timber harvest information has not been documented.
3. Harvesting may occur too close to cabins.

Direction

1. Implement further public education re the permit system currently in place to monitor commercial tree **harvests on Gwich'in Private lands.**
2. Document historic commercial timber harvest information.
3. Determine suitable distance in which harvesting can occur from cabins.

2.0 Tree Harvesting for Personal Use

The majority of personal tree harvesting is for fuelwood. Most harvesting occurs during winter months with snowmobiles, although some harvesting along shorelines using boats occurs in the summer months. Some personal use for cabins and fencing does occur. Permits are not required for wood cut for subsistence use of trees while trapping, hunting, fishing, etc. throughout the GSA.

Current Status:

- The majority of tree harvesting is for fuelwood, using dead trees.
- Tree harvesting occurs primarily in the Mackenzie River delta and along the Peel and Arctic Red Rivers. According to community residents, most of the fuelwood harvest for use in town is concentrated close to the communities.
- Sawlog harvest is increasing with increased demand for log homes.
- Tree harvesting for personal use on Crown Lands is regulated by the Forest Management Act (1988) and monitored through the ENR Timber Permit process.
- Tree harvesting for personal use on **Gwich'in Private Lands is monitored** through the Timber Transport Permit process when the timber is moved over Crown lands or to communities. These load tickets are reviewed and approved by applying to the community RRC.
- **The GCLCA in 13.1.2 gives the Gwich'in** the right to harvest trees on all lands throughout the Settlement Area for firewood, construction of camps for harvesting and other personal uses subject to legislation in respect of forest management and protection of the environment from significant damage.

not monitored closely enough with the current system of ENR transport permits.

2. Forest users are often confused over permit issuance procedures.
3. According to many community residents, forest users are not complying with the provisions of the Forest Management Act and Forest Management Regulations and as a result are having negative impacts on the forests.
4. There is community concern that some areas are being over harvested.

Concerns:

1. Community members feel that tree harvesting for personal use on Gwich'in Private Lands by Gwich'in participants is

Direction:

1. Implement a system for monitoring personal tree **harvesting on Gwich'in Private Lands**
2. Increase compliance with Forest Management Regulations by:
 - a) Increasing awareness of forest management rules and regulations in the communities.
 - b) Implementing and enforcing corrective actions when rules are not followed.
 - c) Increasing inspections to ensure forest users are following rules and regulations.
 - d) Maintaining frequency and intensity of patrols appropriate with the scale and intensity of forest use activity.
3. Increase information sharing with interest groups and forest users to increase awareness of permit issuing procedures.

Figure 6: Sample Timber Transport Permit



3.0 Sustainable Harvest Levels

Sustainable harvest levels represent the amount that can be harvested annually without depleting the resource. A sustainable forest harvest level is determined using forest and vegetation inventories, estimates of growth rates, and by considering the range of uses expected in the GSA. These estimates may be critical for developing forest management guidelines, establishing quotas, and ensuring sustainable harvest levels are maintained.



Photo credit: GRRB

Current Status

- No sustainable harvest levels have been established for the GSA.
- Forest inventory maps of productive areas along the Peel River, Arctic Red River and Mackenzie River delta have been completed
- A satellite based forest vegetation classification is ongoing for the GSA.
- ENR has a network of permanent sampling plots in the GSA that follow National Forest Inventory standards. These are used to inventory forests and monitor change.
- Some growth and productivity information has been collected for white spruce in the GSA but the accuracy of the data has been questioned.

Concerns

1. Forest inventory and vegetation assessments do not exist for the entire GSA.
2. Recent research has demonstrated that aging techniques previously used for the

Mackenzie River Delta significantly underestimate actual tree age.

Directions

All partners — GTC, GRRB and ENR — should work collectively to ensure:

1. Complete reconnaissance forest vegetation inventory for the GSA.
2. Develop forest productivity and yield relationships.
3. Develop more accurate aging methods for trees in the GSA.
4. Maintain permanent monitoring plot network.
5. Monitor ongoing harvest levels.
6. Estimate sustainable harvest levels.

4.0 Development Activities

Tree clearing for development activities such as road construction, gravel pit construction, and oil and gas exploration likely will have more impact on the forests in the GSA than tree harvesting for personal use. During the oil boom of the **1970's for example, more than 4,000 km of seismic lines were cut in the Gwich'in Settlement Area.** In the Inuvialuit Settlement Region, where oil and gas exploration was concentrated, over 16,000 km of lines were cut over the same time period. Renewed interest in oil and gas development and potential construction of a Mackenzie Valley pipeline will increase development impacts to forests.

Current status

- Development activities are currently reviewed by ENR, GTC, community RRCs and GRRB as part of the GLWB and GLA land use permitting process.
- In the past we have recommended that trees cut during clearing activities be made available for use by community members.

Concerns

1. Impacts of oil and gas activities are not known or understood.
2. ENR has little input into the regulatory process.



Photo credit: GRRB



Aerial view of a cut line

Photo credit: GRRB

Direction

1. Recommend development methods that minimize or mitigate linear disturbances during review of land use permit applications.
2. **Work with the GTC, Gwich'in Land and Water Board, and other regulatory agencies to develop a 'best practices' guide for industry.**
3. **Increase ENR's role in regulatory process for development activities.**
4. Learn more regarding tree clearing impacts related to development activities with respect to tree recruitment and regeneration.

5.0 Conservation Zones

Tree harvesting by Gwich'in participants for personal use is allowed throughout the settlement area, but some areas are protected from commercial forestry activities through designation of territorial park status and the Gwich'in Land Use Plan. One Territorial Park, the Gwich'in Territorial Park, is established in the settlement area near Campbell Lake. Gwich'in Conservation Areas (areas of outstanding wildlife significance) and Gwich'in Heritage areas (areas of outstanding historical or cultural significance) were established throughout the settlement area by the Gwich'in Land Use Plan. No development activities, including commercial forestry, are allowed in these areas.

Activities that are exempt from the Zoning Rules:

- Existing activities at the time of the GLUP approval - continue as non-conforming activities
- Low impact recreational and tourism activities such as hiking and canoeing do not require a permit
- Traditional activities protected by the Gwich'in Land Claim
- In an emergency that threatens life, property or the environment.
- Other minor exceptions noted in the GLUP.

Current Status

- RRCs can propose that other areas be protected from all cutting. At Community Forest Use Planning Workshops, a 2 km no cut zone around each community was proposed due to a lack of deadwood in that area.
- The Tsiigehtchic RRC proposed that no wood cutting be permitted off the Dempster highway at Rengleng River except for local cabin owners. They felt this area is being over-harvested.

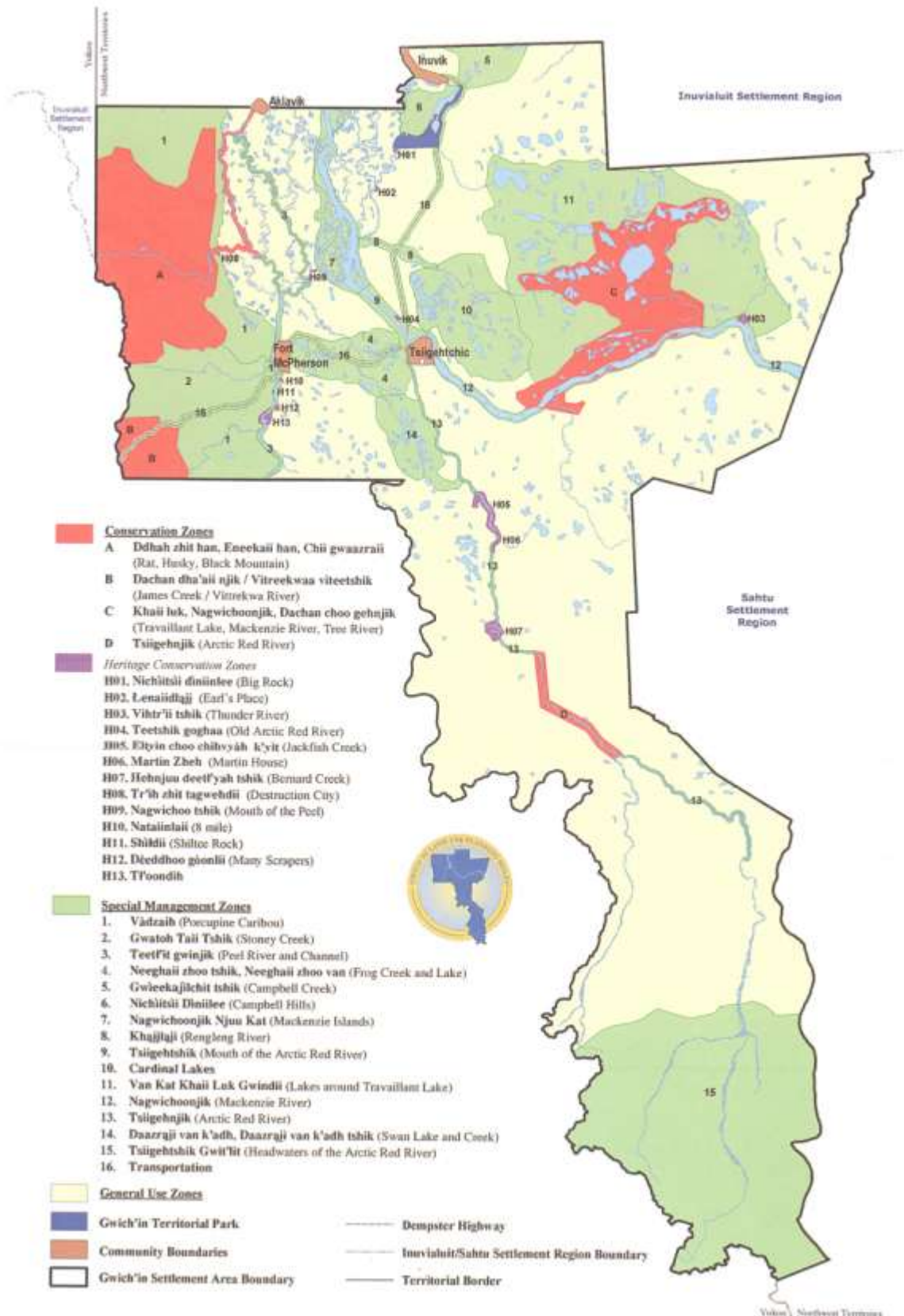
Concerns

1. We need to ensure that no commercial harvest permits are issued for conservation zones or in other areas that have been identified by RRCs and / or the GTC that should be protected from all cutting.

Direction

1. ENR will maintain and update maps of conservation zones to ensure that commercial harvest permits are not issued for these areas.
2. Improve communication between RRCs and all responsible bodies.
3. No timber permits (commercial use) will be issued for areas identified as conservation zones by the RRCs and / or the GTC.

Figure 7: Map showing Conservation Zones, Heritage Conservation Zones and Special Management Zones



Credit: Gwich'in Land Use Planning Board

6.0 Forest Protection

Forest ecosystems rely on natural disturbances such as fire, floods, wind, insects, and disease to remove dead, dying or weak elements from its system and begin the renewal process. The main disturbance to forests in the GSA is fire in upland areas and flooding in riparian areas. Wildfire management has been occurring in the settlement area since the 1950's.

Current Status

- The GSA has experienced several large fires in the past.
- ENR provides forest fire management services on forested areas including **Crown and Gwich'in Private Lands**.
- ENR maintains and updates maps of areas burned in the NWT.



Photo credit: GRRB

- Fires are managed according to the Fire Management Policy, primarily based on values-at-risk, i.e. humans, communities, developments, and other values.
- Other disturbances such as insects or weather have not had large scale impacts.

Concerns

1. Past fire suppression practices and the natural forest cycle have resulted in **mature forests near Gwich'in** communities that pose a fire threat.
2. Climate change has increased the uncertainty about the future. As the environment changes it is possible that severity and frequency of fires and insect infestations may increase.

Direction

1. Plan for forest fires:

a) Develop Community Wildfire Protection Plans that identify areas at risk from high intensity fires and establishes fire action zones.

b) Increase public understanding of forest protection measures and reasons behind management philosophies.

2. Perform research and monitoring to improve the knowledge and understanding of fire behaviour, fire effects, and climate change.

3. Perform research and monitoring to improve the knowledge and understanding of other disturbances such as insects and floods.

7.0 Forest Health

Forest health generally refers to the condition of the forest. Natural agents such as insects, disease, or weather conditions can influence forest health, while humans, through pollution or harvesting methods can also have an impact on the health of the forest.

Current Status

- At the present time forests throughout the GSA appear to be healthy.
- To date, no major insect outbreaks have **affected the forest's overall health** or people's use and enjoyment of the forest.



Black spruce bog



2. Climate change can influence and alter existing forest ecosystems.

Directions

1. Conduct research on the presence and magnitude of forest stressors such as insects and disease in the settlement area.
2. Continue to maintain a network of insect monitoring plots and permanent sampling plots and **report results to GTC, RRC's and communities.**
3. Develop a monitoring and reporting system for forest health.

Concerns

1. Changes are being observed in the forest with little explanation or understanding of their origins.

8.0 Forest Renewal

Forest renewal refers to the activities that are intended to ensure a new forest stand is established. Trees often need a disturbance for their seeds to germinate. When a tree dies, another may not necessarily grow in its place. Without adequate renewal (regeneration) the forest will not maintain all of its present values.

Current Status

- Substantial tree harvesting has occurred along river routes in the GSA for nearly one hundred years.
- To date, renewal of the harvested trees has almost completely relied on natural regeneration.
- Inadequate restocking has occurred in many harvested areas.



Photo credit: GRRB

Regrowth after burn

Concerns

1. Some harvested areas are not regenerating naturally.
2. Forests closest to communities have been heavily harvested.
3. Only local seed sources are adequate for tree planting in the GSA
4. We have a poor understanding of forest regrowth in northern forests and the influence of permafrost.

Direction

1. Continue tree planting in over harvested areas subject to available resources. Work with community RRCs to identify potential replanting sites.
2. Collect seeds in years when trees produce many seeds (mast years).
3. Experiment with different surface preparation and planting techniques and monitor results to develop effective replanting methods.
4. Perform research on forest regeneration following natural disturbance and man-made disturbance (clearing, harvesting).



Photo credit: ENR/Gravel

Seedling planted

9.0 Harvest of Non-Timber Forest Products

Non-Timber forest products are items other than lumber that the forest can provide. Items may be edibles, decorations, arts & crafts, tools, and more. They include all the lichens, mosses, herbs, flowers, fungus, seed, roots berries, branches, shoots, twigs and other plants found in the forest.

Current Status

- Gwich'in participants may gather plant material for food, medicine, cultural and other personal purposes and for purposes required in the exercise of wildlife harvesting rights anywhere within the settlement area.



Photo credit: GRRB

- Gwich'in participants own all plant material within Gwich'in Private Lands.
- Non-participants may gather plant material on Crown land within the GSA.
- At this time there is no legislation pertaining to the gathering of plant material. (Check Ch 14 GCLCA)
- ENR held a Non-Timber Forest Products workshop in Inuvik in 2007.
- GSCI and ARI published a booklet in 2002 called "Gwich'in Ethnobotany – plants used by the Gwich'in for food, medicine, shelter and tools" which is a

great resource to learn about what plants are in the GSA and what the Gwich'in name and traditional uses are.

Concerns

1. The lack of legislation concerning the commercial harvest of non-timber forest products within the GSA could be detrimental to the sustainability of plant species if collection of such materials increased in an uncontrolled manner.
2. Certain species require proper harvesting techniques to ensure the species successfully reproduce.

Direction

1. Monitor any large-scale plant harvesting activities that may occur within the GSA in the next five years. SARA will apply to plant material as well as animals.
2. Develop information pamphlets on proper harvesting techniques for non timber forest products in conjunction with knowledgeable Elders of the GSA communities.
3. Identify communities interested in setting up pilot programs to explore non-timber forest product business opportunities.

The Gwich'in Renewable Resources Board is the main instrument for wildlife management in the GSA. The Gwich'in Comprehensive Land Claim Agreement identifies wildlife as big game, furbearers, birds and fish. Wildlife has a significant role in Gwich'in culture and traditional lifestyle. Hunting, trapping, and fishing are important parts of the Gwich'in traditional lifestyle. Wildlife also provides commercial opportunities for hunting, tourism and recreation. Forests provide critical habitat for wildlife. Healthy and abundant wildlife populations require a variety of forest types (habitats).

Current Status

- Wildlife habitat is considered in planning for forest uses.
- **The Gwich'in Land Use Plan** excludes commercial development activities, including commercial forestry, from some areas for wildlife conservation reasons.
- Management Plans for moose and Coney and a fishing plan for Rat River Dolly Varden char have been completed and approved. A Grizzly bear management agreement is in place, but the management plan has not been signed. Plans are being prepared for Bluenose caribou, a national plan for Northern Mountain caribou, Porcupine caribou, Dall's sheep, broad whitefish and an integrated fishing management plan for the northern form of Dolly Varden are being prepared.
- **Some Gwich'in people are still active trappers and maintain trapping lines.** Individual families control certain trapping areas.

Concerns

1. There is little information about the distribution of critical wildlife habitat for species that depend on forests.

2. Forest use activities can alter wildlife habitat impacting wildlife populations and distribution.
3. People need to be informed about the **importance of respecting other people's** cabins and trapping areas.

Direction

1. GTC, GRRB and ENR will work together to produce mapping of critical habitat for the GSA. Once identified, these areas should be considered for additional protection from some forest uses.
2. Identify impacts that forest use activities have on wildlife and wildlife habitat.
 - a) Monitor forest use activities to identify impacts.
 - b) Promote research into the effects of forest use activities on wildlife distribution and population.
3. Educational materials should inform tree harvesters that they should not **cut too close to someone else's** cabin or trapline without permission.



Photo credit: Perigaud

11.0 Heritage Resources

Heritage resources are all things that relate to the history and culture of the **Gwich'in** including; archaeological and traditionally significant sites; historical places; objects of historical and cultural or **religious value; and records such as elders' stories, maps, drawings and photographs.**

GSCI has worked to have some of the rivers and locations within the GSA classified as Canadian Heritage Rivers, National Historic Sites, Territorial Historic Sites or Heritage & Cultural Places in the GSA.

Canadian Heritage Rivers

The Canadian Heritage Rivers System (CHRS) is **Canada's national river conservation program.** It promotes, **protects and enhances Canada's river heritage, and ensures that Canada's** leading rivers are managed in a sustainable manner.

National Historic Sites

The Historic Sites and Monuments Board of Canada is the statutory body to the Minister of the Environment and, through the Minister, to the Government of Canada on the commemoration of **nationally significant aspects of Canada's history.**

Territorial Historic Sites

(nominations for inclusion in the NWT Historic Sites Register)

The new Historic Places Program, part of the national Historic Places initiative, is designed to document and commemorate **the NWT's historic places and cultural landscapes.**

Heritage and Cultural Places in the Gwich'in Settlement Area

The GSCI was contracted by the Gwich'in Land Use Planning Board to prepare an annotated list of heritage and cultural places in the **Gwich'in Settlement Area.** The GSCI created this list as a Geodatabase with both location and tabular data and summarized and prioritized the heritage and cultural places listed.

Current status

- Arctic Red River (Tsiigehnjik) designated in 1993 as a Canadian Heritage River.
- Nagwicheonjik (Mackenzie River) National Historic Site (the stretch from Thunder River to Point Separation) designated in 1997. Plaque installed 2003.
- Other nominations are pending for Heritage Rivers and Historic Sites.

Concerns

1. Heritage resources in the GSA are still being identified and mapped.
2. People might cut trees inadvertently on heritage resource sites.

Direction

1. Work with the GSCI to produce maps of heritage site locations and develop guidelines for harvesters to prevent damage to the area.
2. Maps will be used to direct timber permitting and provided to community RRCs and residents.



Photo credit: GRRB

Mackenzie River Delta

12.0 Traditional Knowledge

Traditional knowledge is the accumulated knowledge and understanding of the natural world and our relationship with it. Traditional knowledge is deeply rooted within the traditional lifestyle of Gwich'in peoples. The knowledge collected through generations has allowed Gwich'in to live in the forest in a sustainable manner for thousands of years.

Traditional, local, and scientific knowledge about the forest need to be integrated to make wise management decisions.

Current Status

- The GTC and ENR have each created a traditional knowledge policy
- The GRRB and ENR regularly consult the communities about forestry issues and gather local knowledge about forests
- The GRRB maintains a traditional knowledge database, which includes renewable resources in the GSA.
- Traditional knowledge about forests was gathered at a workshop hosted by the GRRB in 1997.

Concerns

1. Traditional and local knowledge needs to be considered in the decision making process and its proprietary nature should be respected.
2. Youth need to experience the traditional lifestyle in order to maintain Gwich'in culture, and gain respect for the land and forest.

Direction

1. Traditional and local knowledge about forests must be properly stored, collected, and maintained.
2. "On the Land" types of camps that teach traditional harvest techniques should continue to be encouraged and promoted.

For more information on the Forest Management Plan contact:

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Gwich'in Land Use Planning Board
Need address etc.

References & Resources

Nành' Geenjit Gwitr'it Tigwaa'in, Working for the Land - The Gwich'in Land Use Plan

Gwich'in Comprehensive Land Claim Agreement

Place Names document from GSCI

Mackenzie Valley Resource Management Act

Forest Use Survey, ENR

GNWT Forest Management Act (1988)

Fisheries Act

Environmental Protection Act

Forest Protection Act

Species At Risk Act

National Historic Sites and Monuments Board Canada website

Canada Heritage River Systems website

Fire Management Policy, ENR, GNWT

National monitoring network—ARNEWS

Prince of Wales Northern Heritage Centre website: <http://pwnhc.learnnet.nt.ca/>

Gwich'in Renewable Resources Board website

ENR website

Other websites???

Andre, Alestine and Fehr, Alan. 2002. **Gwich'in Ethnobotany, Plants used by the Gwich'in for food, medicine, shelter and tools.** Gwich'in Social and Cultural Institute and Aurora Research Institute. Inuvik, Northwest Territories. 68 pages.

List of Acronyms & Definitions

ARI – Aurora Research Institute, Aurora College, Inuvik Campus

DIAND – Department of Indian and Northern Development

DGO – **Designated Gwich'in Organisation**

ENR – Department of Environment and Natural Resources

GCLCA – **Gwich'in Comprehensive Land Claim Agreement**

GLA – **Gwich'in Land Administration**

GLUPB – **Gwich'in Land Use Planning Board**

GLWB – **Gwich'in Land and Water Board**

GNWT – Government of the Northwest Territories

GRRB – **Gwich'in Renewable Resources Board**

GSA – **Gwich'in Settlement Area**

GSCI – **Gwich'in Social & Cultural Institute**

GTC – **Gwich'in Tribal Council**

RRC – **Gwich'in Renewable Resources Councils**

SARA – Species At Risk Act

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