



**Off-Road Vehicles:  
Stakeholders' Responsibilities, Networks and Use  
Work Document  
September 2005**

**CONSULTATION  
SUR PLACE**

CANQ  
TR  
MOO  
ATNQ  
151A  
Ex.1

**Québec**   
Ministère  
des Transports

The cover page illustrates the various modes of transportation present in Nord-du-Québec.

The aerial view of the edge of Québec shows the importance of the surface of this region within the rest of the province. As a resource region, the road transport is represented by a heavy truck transporting lumber, and the marine transport by the native fishing boats. The snowmobile remains one of the means of transportation most frequently used for leisure and utility purposes. As for air transport, it is represented by a propeller airplane as it is the type of airplane most frequently used in Nord-du-Québec. The rail transport is also present on this territory, but it covers only the south of the region.

As for the logo, it repeats the theme of the three modes of transportation with the following symbols: the bird for air transport, the caribou for surface transport and the whale for marine transport. The dotted line surrounding the logo represents the nine cree villages, the fourteen inuit municipalities, the five jamesian localities, the provincial government and the federal government all gathered around the same table in view of establishing a partnership in the planning process of the *Transportation Plan of Nord-du-Québec*.

831610

## Transportation Plan of Nord-du-Québec

Technical Study

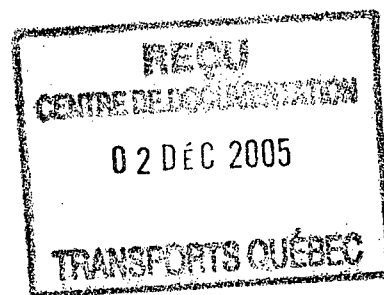
**Off-Road Vehicles:**

**Stakeholders' Responsibilities, Networks and Use**

WORKING PAPER

**Transports**  
**Québec**   
September 2005

CANQ  
TR  
MOO  
ATNQ  
ISA  
Ex. 1



**MINISTÈRE DES TRANSPORTS**  
CENTRE DE DOCUMENTATION  
700, BOUL. RENÉ-LEVESQUE EST, 21<sup>e</sup> étage  
QUÉBEC (QUÉBEC) CANADA  
G1R 5H1

## **RESEARCH AND WRITING**

Julie Baert, Groupe d'études inuit et circumpolaires (Gétic), Université Laval  
Gérard Duhaime, Groupe d'études inuit et circumpolaires (Gétic), Université Laval

## **REVISION AND TEXT HARMONIZATION**

Luc Ampleman, Coordination du Nord-du-Québec, DATNQ  
Anick Guimond, Coordination du Nord-du-Québec, DATNQ  
Caroline Vigneault, Coordination du Nord-du-Québec, DATNQ

## **SPECIAL COLLABORATION**

Stéphanie Cashman-Pelletier, Service des politiques de sécurité, DST  
Mario Grenier, Centre de services d'Amos, MTQ  
Stéphane McKenzie, Municipalité de Baie-James  
Charles Roy, Centre de services de Chibougamau, MTQ

## **TECHNICAL SUPPORT**

Gilles Basque, Service des inventaires et plan, DATNQ  
Michelle Bélanger, Service des liaisons avec les partenaires et usagers, DATNQ  
Andrée Champagne, Service des inventaires et plan, DATNQ  
Jocelyne Desrosiers, Service des inventaires et plan, DATNQ  
Gaëtan Lessard, Service des inventaires et plan, DATNQ

## **ACKNOWLEDGEMENTS**

We wish to thank all those who have contributed comments and suggestions in the making of this document.

This document was prepared for the Direction de l'Abitibi-Témiscamingue-Nord-du-Québec of the Ministère des Transports. For more information, contact:

Ministère des Transports  
Coordination du Nord-du-Québec  
80, avenue Québec  
Rouyn-Noranda (Québec) J9X 6R1  
Telephone: (819) 763-3237  
Fax: (819) 763-3493  
Email: [plannord@mtq.gouv.qc.ca](mailto:plannord@mtq.gouv.qc.ca)  
Web Site: [www.mtq.gouv.qc.ca/en/regions/abitibi/plan\\_nord.asp](http://www.mtq.gouv.qc.ca/en/regions/abitibi/plan_nord.asp)

ISBN-2-550-45733-1

Legal deposit

Bibliothèque nationale du Québec, 2005

# TABLE OF CONTENTS

<b>ACRONYMS .....</b>	<b>VII</b>
<b>SUMMARY .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>3</b>
<b>1. TERRITORIES AND POPULATIONS .....</b>	<b>7</b>
1.1 Road Infrastructures and Population Distribution .....	7
1.2 Lifestyle of Nord-du-Québec Populations.....	8
1.2.1 Crees and Inuit.....	8
1.2.2 Jamesians .....	8
<b>2. OFF-ROAD TRANSPORTATION SYSTEM .....</b>	<b>9</b>
2.1 Federated or Official Network of Snowmobile and ATV Trails.....	10
2.1.1 Location, Extent and Access Conditions .....	10
2.1.2 Infrastructures and Services.....	16
2.1.3 Type of Use and Users' Profile.....	17
2.2 Snowmobile and ATV Informal Network .....	17
2.2.1 Location and Extent.....	17
2.2.2 Type of Use and Users' Profile.....	19
<b>3. MAIN STAKEHOLDERS, LEGISLATIVE FRAMEWORK AND INTERVENTION TOOLS .....</b>	<b>21</b>
3.1 Provincial Level: Ministères and Agencies.....	21
3.1.1 Ministère des Transports (MTQ) .....	21
3.1.2 Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP).....	24
3.1.3 Ministère des Ressources naturelles et de la Faune (MRNF).....	25
3.1.4 Ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ).....	25
3.1.5 Ministère de la Santé et des Services sociaux (MSSS).....	26
3.1.6 Bureau du coroner (Coroner's Office) .....	26
3.1.7 Société de l'assurance automobile du Québec (SAAQ).....	26

3.1.8	Tourisme Québec.....	26
3.1.9	Canada Economic Development (CED).....	26
3.1.10	Fédération des clubs de motoneigistes du Québec (FCMQ) and Fédération québécoise des clubs quad (FQCQ).....	27
<b>3.2</b>	<b>Regional and Local Levels .....</b>	<b>28</b>
3.2.1	Cree Villages.....	28
3.2.3	James Bay .....	28
3.2.4	Cree Regional Police Force and Kativik Regional Police Force .....	29
3.2.5	Sûreté du Québec .....	29
3.2.6	Off-Road Vehicle Users' Clubs.....	30
<b>3.3</b>	<b>Grants and Financial Contributions to Off-Road Transportation in Nord-du-Québec .....</b>	<b>31</b>
3.3.1	Ministère des Transports (MTQ) .....	31
3.3.2	Secrétariat au loisir et au sport (SLS).....	32
3.3.3	Canada Economic Development (CED).....	32
3.3.4	Ministère des Ressources naturelles et de la Faune (MRNF) .....	32
3.3.5	Secrétariat aux affaires autochtones (SAA) .....	33
3.3.6	Municipalité de Baie-James (MBJ).....	33
<b>3.4</b>	<b>Economic and Tourism Development Organizations .....</b>	<b>34</b>
<b>4.</b>	<b>ECONOMIC, SOCIAL AND ENVIRONMENTAL IMPACTS .....</b>	<b>37</b>
<b>4.1</b>	<b>Economic Impacts.....</b>	<b>37</b>
4.1.1	Federated Network.....	37
4.1.2	Informal Network .....	37
<b>4.2</b>	<b>Social Impacts .....</b>	<b>39</b>
4.2.1	Food Supply .....	39
4.2.2	Noise and Exhaust Gas.....	39
<b>4.3</b>	<b>Environmental Impacts .....</b>	<b>40</b>
4.3.1	Air.....	40
4.3.2	Soils, Water Tables and Watercourses .....	40
4.3.3	Vegetation .....	41
4.3.4	Wildlife.....	41

<b>5.</b>	<b>STRENGTHS AND WEAKNESSES OF OFF-ROAD TRANSPORTATION .....</b>	<b>43</b>
5.1	Territory Access .....	43
5.2	Trail Marking .....	43
5.3	Climatic Conditions .....	43
5.4	Users' Behaviour .....	44
5.5	Costs .....	44
5.6	Presence of Numerous Communities .....	44
5.7	Multiple Stakeholders .....	45
<b>6.</b>	<b>TRENDS AND INTERVENTION LEADS .....</b>	<b>47</b>
6.1	Specific Requests Related to Off-Road Vehicles .....	47
6.1.1	Marked Trails .....	47
6.1.2	Utilization Costs .....	47
6.1.3	Legislation .....	48
6.2	Intervention Leads .....	48
6.2.1	Club Membership .....	48
6.2.2	Supervision of Federated Trails .....	48
6.2.3	Information Dissemination to Users .....	48
6.2.4	Support to Clubs .....	49
6.2.5	Local Particularities Taken Into Account .....	49
	<b>CONCLUSION .....</b>	<b>51</b>
	<b>BIBLIOGRAPHY .....</b>	<b>53</b>

## APPENDICES

1. Directory of Off-Road Vehicle Users' Clubs in Nord-du-Québec.
2. Informal Network of Snowmobile Trails in Nunavik.
3. Example of Compensation by the Public Insurance Plan.
4. Calculation of the Economic Significance of Informal Network Use.

## LIST OF MAPS, PICTURES AND TABLES

### MAPS

1.	Territory under Study.....	5
2.	Snowmobile Trails and facilities .....	11
3.	Authorized Passageways for Snowmobiles and All-Terrain Vehicles.....	13

### PICTURES

1.	All-Terrain Vehicle on a Forest Road .....	15
2.	All-Terrain Vehicle on a Federated Trail.....	16
3.	Informal Trails in Nunavik.....	18

### TABLES

1.	Means of Transportation Used in Nunavik and the James Bay Territory by the Active Population 15 Years and Over Whose Workplace Is not the Residence.....	9
2.	Number of Licensed Snowmobiles and ATV in the Nord-du-Québec Region Since 1995 .....	10
3.	Provincial Level: Stakeholders in Off-Road Transportation .....	27
4.	Regional and Local Levels: Stakeholders in Off-Road Transportation .....	31
5.	Grants and Financial Contributions to Off-Road Transportation in Nord-du-Québec .....	34



## ACRONYMS

ATV	All-terrain vehicle
CED	Canada Economic Development
CLD	Conseil local de développement et points de service
CRA	Cree Regional Authority
FCMQ	Fédération des clubs de motoneigistes du Québec
FQCQ	Fédération québécoise des clubs quad
KRDC	Katutjiniq Regional Development Council
KRG	Kativik Regional Government
MAMM	Ministère des Affaires municipales et de la Métropole
MAPAQ	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation
MBJ	Municipalité de Baie-James
MDDEP	Ministère du Développement durable, de l'Environnement et des Parcs
MRC	Municipalité régionale de comté
MRNF	Ministère des Ressources naturelles et de la Faune
MSSS	Ministère de la Santé et des Services sociaux
MTQ	Ministère des Transports
ORV	Off-road vehicle
RCEO-BJ	Regional Conference of Elected Officers–Nord-du-Québec–Baie-James
RCEO-KRG	Regional Conference of Elected Officers–Nord-du-Québec– Kativik Régional Government
RCTM	Programme de réduction des coûts de transport de marchandises
SAA	Secrétariat aux affaires autochtones
SAAQ	Société de l'assurance automobile du Québec
SDBJ	Société de développement de la Baie James
SLS	Secrétariat au loisir et au sport

## NOTICE TO READER

Unless indicated otherwise by the context, the following expressions and words mean:

**"Technical study"** This technical study has no scientific pretence. It is not an opportunity study by any means, nor an exhaustive research on the subject. It aims at drawing up an overview of the situation in this specific area of transportation in Nord-du-Québec. Although the study is internal, the Ministère is nonetheless pleased to make it available to the reader.

**"the Ministère"** Ministère des Transports du Québec.

In the text, words in *italics* are found in the glossary except for laws, regulations and document titles.

## SUMMARY

This technical study is part of the planning process of the Transportation Plan of Nord-du-Québec. The objective is to draw a portrait of the system of off-road vehicle transportation and its use in the region. The Nord-du-Québec region, located between the 49th parallel and the northern limit of Québec, is the largest administrative region of the province. The territory is divided on either side of the 55th parallel with James Bay to the south and the Nunavik to the north.

Although the Crees and the Inuit now have varied sources of income, a large number of them still count on hunting and fishing for part of their food requirements. The use of off-road vehicles is often necessary to traditional activities. Contrarily, Jamesians (non-Aboriginal people of James Bay), use off-road vehicles for recreational purposes mainly.

The main impact of off-road vehicles on the community is probably to allow Aboriginal people to enjoy better food supplies. No study has yet allowed to measure the impact of off-road vehicles on the environment in Nord-du-Québec; therefore, no assertion can be made on the magnitude of the problems created by this use. However, considering the low density of the population versus the immensity of the territory, the impacts would be localized. Special attention should be given to the polluting emissions of vehicles, treading of vegetation, ground compaction and contamination of watercourses from the continual rejection of part of the gas-oil mixture. At a human level, the impacts are however the risks of major accidents as well as the development of hearing problems to the users not wearing helmets.

According to the Pre-analysis carried out by the Ministère des Transports in June 2001, there were several requests from the Nord-du-Québec population. More particularly, the population requests more marked snowmobile and all-terrain vehicle (ATV) trails, a reduction of sales taxes on snowmobiles, ATVs and gas, as well as of the cost of parts and the waiting period before getting the parts.

Several intervention leads are proposed, mainly the promotion of membership to off-road vehicle clubs, an increased users' awareness to impaired driving and the impacts on health and the environment, as well as increased supervision of the trails by a larger number of police officers. It is also a priority to make sure the clubs have the resources they need to better assume their responsibilities. In this respect, more consultation between government and local representatives would contribute to the development of a overview. Furthermore, information dissemination on registration and driving permit regulations in the Nord-du-Québec Aboriginal communities must also be improved to clarify certain legal procedures and requirements. Besides, any intervention regarding off-road vehicles should take into account the large number of stakeholders. Considering that the Crees and the Inuit mainly use snowmobiles and ATVs for subsistence activities, government intervention planning in Nord-du-Québec should place this aspect in the centre of any decision, especially when adapting regulations.



## INTRODUCTION

This study was conducted as part of the planning process of the Transportation Plan of Nord-du-Québec. It aims at acquiring a better understanding of off-road transportation in that region, defining its importance, impacts, strengths and weaknesses. This way, more information will be available for any further transportation planning.

In this study, off-road vehicles (ORVs) include snowmobiles and all-terrain vehicles (also called ATVs or quads).

Nord-du-Québec is a vast region covering more than half of Québec (see Map 1), but accounting for 0.5% of its total population. Because of the limited road network and the nature of the activities in the region, off-road vehicles are widely used for transportation in Nord-du-Québec. The southern part of the territory, i.e. James Bay counts approximately 16,300 Jamesians (non-Aboriginal people of James Bay), who mainly use snowmobiles and ATVs for recreational purposes. It also counts 11,850 Crees, who mainly use these vehicles for traditional activities, that is, hunting, trapping and fishing. In Nunavik, where live approximately 10 400 people, 90% being Inuit, off-road vehicles are extensively used for subsistence activities. But there are used for many other reasons as well, often predominantly in the villages where walking has become a lot less popular.

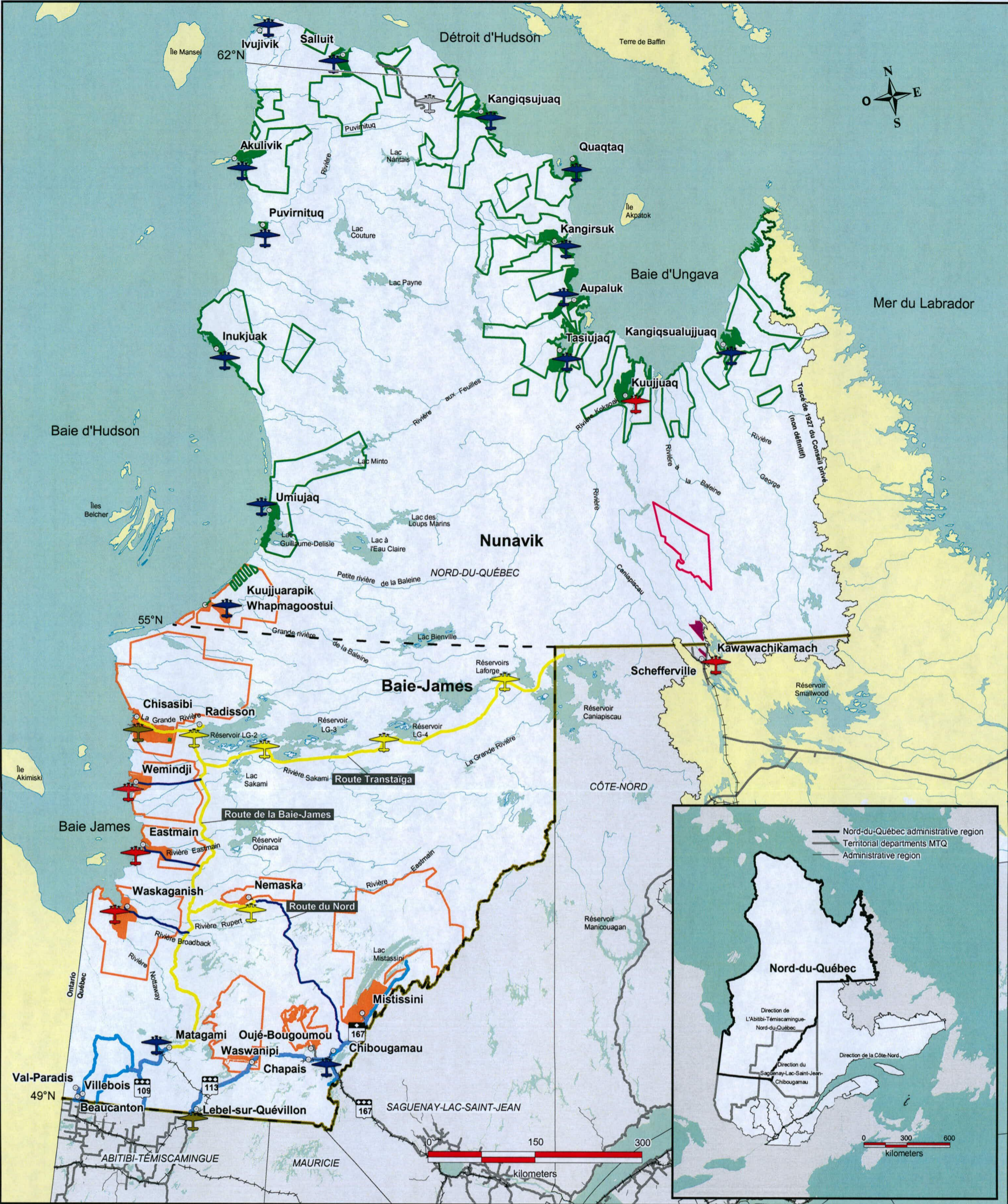
Although there are more snowmobiles, ATVs have gained in popularity in the past years to the detriment of snowmobiles. This could be explained by the fact that ATVs can be used for a longer period of the year, their maintenance is easier and they use up a little less gas.

Generally speaking, very little is known on the different aspects of off-road transportation in the Nord-du-Québec region. In conducting this technical study, a great many telephone interviews were required to collect the most up-to-date information.

The study is divided into six sections. The first section addresses the issue of population distribution over the territory and their lifestyle. The second deals with the federated and informal networks of the region. Then, there is a description of the stakeholders, the legislative framework and the intervention tools; as well, this third section relates the origin and the nature of the grants allocated to off-road transportation. The next section looks at the social, environmental and economic impacts of off-road vehicles. The fifth section is dedicated to the strengths and weaknesses of off-road transportation, and is followed by the sixth and last section, where trends and intervention leads are highlighted.

It should be noted that a complement to this technical study, entitled "Overview of safety on the use of, Off Road vehicles in Nord-du-Québec is also available".





Map 1: Territory under Study

**Transports Québec**  
Coordination du Nord-du-Québec

**Transportation Plan of Nord-du-Québec**  
*Off-Road Vehicles: Stakeholders  
Responsibilities, Networks and Use*

Source:  
- Ministère des Transports du Québec

Basic map:  
- Ministère des Ressources naturelles,  
digital maps, scale 1 : 250,000 and 1 : 8,000,000

September 2005

**Land regime**  
(category I) (category II)

- Cree
- Inuit
- Naskapi

Note: The limits of the Oujé-Bougoumou territory are defined under the Cree-Québec Agreement of February 7, 2002.

**Administrative limit**

- Municipalité de Baie-James
- South limit Nord-du-Québec region
- Other Québec regions

**Others**

- Railway
- City, village or town

**Road**  
**Financial responsibility**

- MTQ - National, regional, collector
- MTQ - Acces roads
- MTQ - Other roads \*
- Hydro-Québec
- Other roads

\* Financial responsibility for maintenance only

**Airport**  
**Financial responsibility**

- Ministère des Transports
- Transport Canada
- Hydro-Québec
- Cree council / Municipality
- Other



## **1. TERRITORIES AND POPULATIONS**

### **1.1 Road Infrastructures and Population Distribution**

Occupying 55% of the surface of Québec, Nord-du-Québec is spread out over 840 178 km<sup>2</sup> (Map 1). Bordered to the east by Labrador and Côte-Nord, to the south by the Saguenay-Lac-Saint-Jean, Mauricie and Abitibi-Témiscamingue and to the west by Ontario, Nord-du-Québec is also surrounded by the James bay, Hudson Bay, Hudson strait and Ungava bay. According to the 2001 census, the total population of Nord-du-Québec was be of 38 575 people, thus 0.5% of the Québécois population. In 2004, the population was of 39 234 people.

The region comprises two distinct territories: north of the 55th parallel, Nunavik covers nearly 490 000 km<sup>2</sup> for a population of 10 410 inhabitants (Statistics Canada, 2001). The population is gathered in 14 Inuit municipalities and a Cree village located along the coasts of Hudson Bay, Hudson strait and Ungava Bay. There are Kuujjuarapik, Umiujaq, Inukjuak, Puvirnituk, Akulivik, Ivujivik, Salluit, Kangiqsujaq, Quaqtaq, Kangirsuk, Aupaluk, Tasiujaq, Kuujuaq, Kangiqsualujuaq and of the Cree village of Whapmagoostui.

Between the 49th and 55th parallel, covering approximately 350 000 km<sup>2</sup>, we find the territory of James Bay. This territory consists of the Municipalité de Baie-James (MBJ), of category I lands as defined by the James Bay and Northern Québec Agreement (JBNQA), as well as enclaved towns in the MBJ, thus Chibougamau, Chapais, Lebel-sur-Quévillon and Matagami. The Municipalité de Baie-James includes the localities of Radisson, Villebois and Valcanton (merge of Val-Paradis and Beaucanton), the hamlets of Miquelon, Desmaraisville and Rapide-des-Cèdres, as well as a vast wide spread little inhabited. In total, the MBJ and the enclaved towns count 16 314 people (Statistics Canada, 2001). As for the category I lands, defined by the JBNQA as being of exclusive use of the Crees and where are located the Cree villages, it counts 11 851 people divided in eight communities: Mistissini, Oujé-Bougoumou, Waswanipi, Nemaska, Waskaganish, Eastmain, Wemindji and Chisasibi.

The only Naskapi village, Kawawachikamach, is located at about fifteen kilometres at the north-east of Schefferville. It takes part of the Côte-Nord region (09), but the community has the use of category IB and II lands located in Nunavik, under the terms of the North-Eastern Québec Agreement (NEQA).

## **1.2 Lifestyle of Nord-du-Québec Populations**

### **1.2.1 Crees and Inuit**

Before the 50s, the Crees and the Inuit were semi-nomadic hunters occupying different camping sites around the seasons. Considering the scattering of the various water and land games over the whole Northern territory and the yearly abundance cycle of each of them, Aboriginal populations broke up in smaller groups to make the maximum of their hunting and fishing activities. They traveled with dog sleds or canoes (Gouvernement du Québec, 1983).

In the second half of the XXth century, the federal administration began to set up permanent facilities in Aboriginal territory, followed later by the provincial. Then the Crees and the Inuit became eligible to various government benefits, which tied them administratively to particular places, thus initiating the sedentation process. The arrival of the governments and the resulting building of infrastructures further strengthened the trend towards sedentation (Duhaime et al., 2001).

From a completely self-sufficient semi-nomadic life, they have turned to a lifestyle based both on an external inputs and local resources (Hydro-Québec, 1993). Indeed, although many Crees and Inuit today hold wage-earning employment (mainly in the public service), hunting and fishing still remain important for numerous families. Furthermore, with the arrival in the 70s of the snowmobile and ATV, access to the territory was greatly modified. Hunting and fishing and means of transportation being related, off-road vehicles have now become extensively utilized to reach the hunting territories and carry back the games. They are also very useful to go about inhabited areas.

### **1.2.2 Jamesians**

The Jamesians' lifestyle is relatively similar to that of the population of Southern Québec. Jobs are mostly available in mining and forestry and in the service industry (Canada Economic Development, 2000). Contrarily to the situation prevailing with the Crees and the Inuit, the use of snowmobiles and ATVs is mainly recreational: riding, sports fishing and hunting, etc.

## 2. OFF-ROAD TRANSPORTATION SYSTEM

According to a study conducted by the Institut de la statistique du Québec, approximately 23% of the active population of Nunavik having a workplace other than at home use a means of transportation other than car or pick-up truck, bicycle, motorcycle or walking, to get to work; they mainly use the snowmobile and ATV. In the James Bay territory, this percentage falls to 6% of the active population (Table 1), (Institut de la statistique du Québec, 1996). However, these data do not distinguish between Crees and Jamesians. It is supposed that the use of snowmobiles to go to work is more popular among the Crees than the Jamesians. For example, in Chisasibi, 18% of the active population uses ORVs to go to work and in Mistissini the percentage is approximately 12% (Institut de la statistique du Québec, 1996).

**TABLE 1**

MEANS OF TRANSPORTATION USED IN NUNAVIK AND THE JAMES BAY TERRITORY BY THE ACTIVE POPULATION 15 YEARS AND OVER WHOSE WORKPLACE IS NOT THE RESIDENCE

MEANS OF TRANSPORTATION	TERRITORIES			
	NUNAVIK		JAMES BAY (CREE AND JAMESIAN)	
	Nb	%	Nb	%
Total active population with workplace different from residence	2,860	100	12,615	100
Car, pick-up truck or van	470	16.5	8,065	64
Walking	1,670	58.4	3,285	26
Public transportation, bicycle, motorcycle, taxi	20	0.7	410	3.2
Other means (snowmobile, ATV, etc.)	670	23.4	785	6.2
Unknown	30	1.0	70	0.55

Source: Institut de la statistique du Québec (1996).

In 2000, 3,036 snowmobiles were licensed in Nord-du-Québec, that is 3,025 in the James Bay territory and 11 in Nunavik; similarly, 1,948 ATVs were licensed in 2000 in the James Bay territory and four in Nunavik (Société de l'assurance automobile du Québec, pers. com., 2002). In fact, the Crees and the Inuit do not usually license their snowmobiles and ATVs. Therefore, these data on licensing are not a good indicator of the snowmobile and ATV park among this population. Such data would rather apply to the ownership of these vehicles to the Jamesians. Since 1995, there is a constant increase in the number of licensed ATVs and a decrease in the number of licensed snowmobiles in Nord-du-Québec (Table 2). Indeed, almost all Aboriginal households would own at least one snowmobile, and most would also have an ATV, a situation not reflected in these figures.

**TABLE 2**

NUMBER OF LICENSED SNOWMOBILES AND ATV IN THE NORD-DU-QUÉBEC REGION SINCE 1995

	1995	1996	1997	1998	1999	2000
<b>SNOWMOBILE</b>	3,435	3,524	3,519	3,382	3,249	3,036
<b>ATV</b>	1,579	1,600	1,615	1,714	1,765	1,952

Source: Société de l'assurance automobile du Québec (2002).

## **2.1 Federated or Official Network of Snowmobile and ATV Trails**

### **2.1.1 Location, Extent and Access Conditions**

#### **Snowmobile Trails**

The federated network of snowmobile trails is exclusively located in the James Bay territory (Map 2). The network is formed by all the trails recognized by the Fédération des clubs de motoneigistes du Québec (FCMQ) and maintained by the snowmobile clubs of the Nord-du-Québec region (see Appendix 1). Snowmobile trails are usually built in the forest, that is in the public forest. The trails use several secondary and tertiary forest roads. If these roads are no longer in use, the trails are directly made in the roads. However, if for reasons of accessibility, the trails must be built in the road network still in use by forest companies, they will use the right-of-way of these roads. The main trail is part of the Trans-Québec network, thus linked to the provincial network of federated snowmobile trails. In the Nord-du-Québec region, it links the municipalities of Chibougamau, Chapais and Lebel-sur-Quévillon. A local trail links Oujé-Bougoumou to Chapais, and another one links Villebois, Val-Paradis and Beaucanton. Also, an off-trail way links Mistissini to Chibougamau. Since winter 2001-2002, a new local trail, 62 kilometres of which are in Nord-du-Québec, links the Amos sector in Abitibi-Témiscamingue to the regional trail between Matagami and Val-Paradis, Villebois and Beaucanton. The locality of Radisson also has snowmobile trails, but they are not linked to the network. In total in 2004, there are 1,360 kilometres of federated trails in the Nord-du-Québec region. The network can be accessed from Saint-Félicien (Saguenay-Lac-St-Jean), or from La Sarre, Amos and Senneterre in Abitibi-Témiscamingue (Map 2). With respect to passageways exclusively authorized for snowmobiles, there are 37 of them on the MTQ road network in James Bay (See Map 3). Also, a snowmobile and ATV passageway is present in the Valcanton area, and on a particular bridge between Amos and Matagami the road is shared with snowmobiles.

## Map 2: Snowmobile Trails and Facilities

### Transportation Plan of Nord-du-Québec

#### Off-Road Vehicles: Stakeholders Responsibilities, Networks and Use

##### Sources:

- Ministère des Transports du Québec
- Fédération des clubs de motoneigistes du Québec
- Tourisme Baie-James (Carte des sentiers de motoneige 2002-2003)

##### Basic map:

- Ministère des Ressources naturelles,  
digital maps, scale 1:250,000 and 1:8,000,000

September 2005

#### Land regime (category I) (category II)



Note: The limits of the Oujé-Bougoumou territory are defined under the Cree-Québec Agreement of February 7, 2002.

#### Administrative limit

- - - Municipalité de Baie-James
- South limit Nord-du-Québec region
- Other Québec regions

#### Other

- ++++ Railway
- Road Network
- City or town
- Ⓢ Snowmobile Clubs

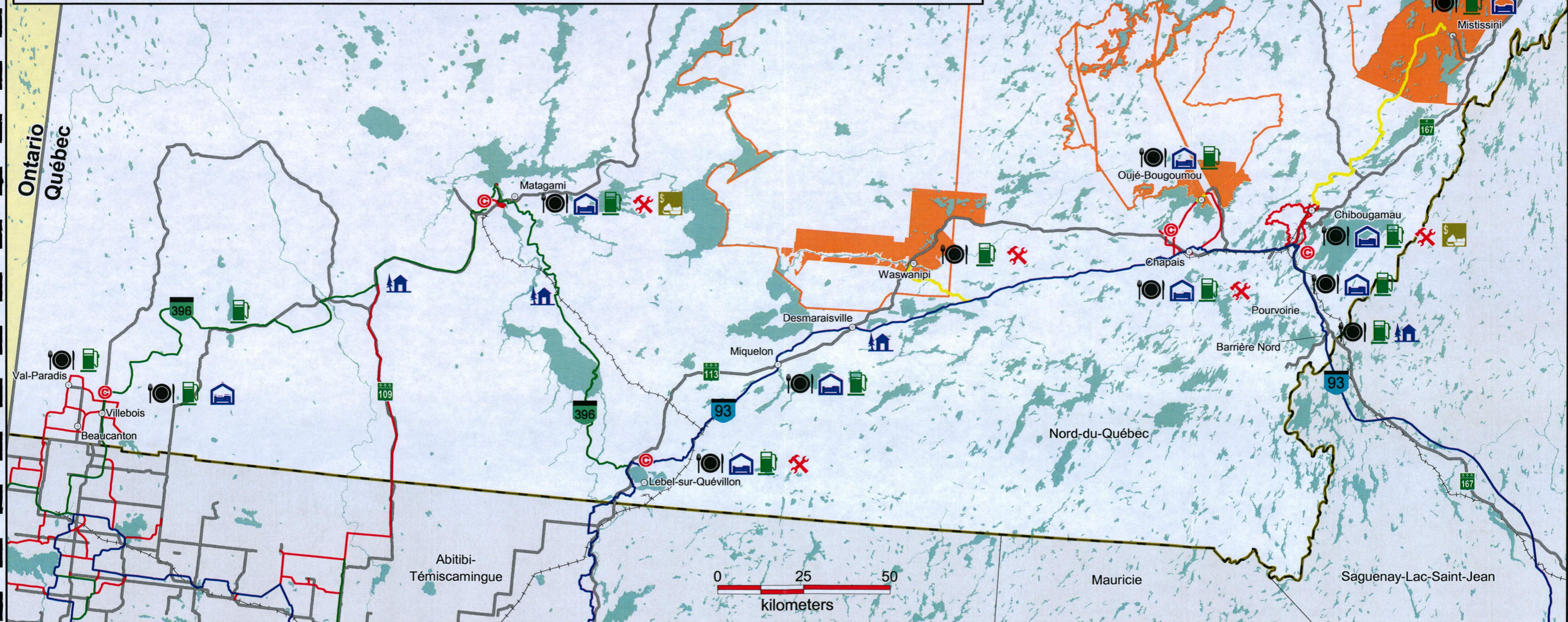
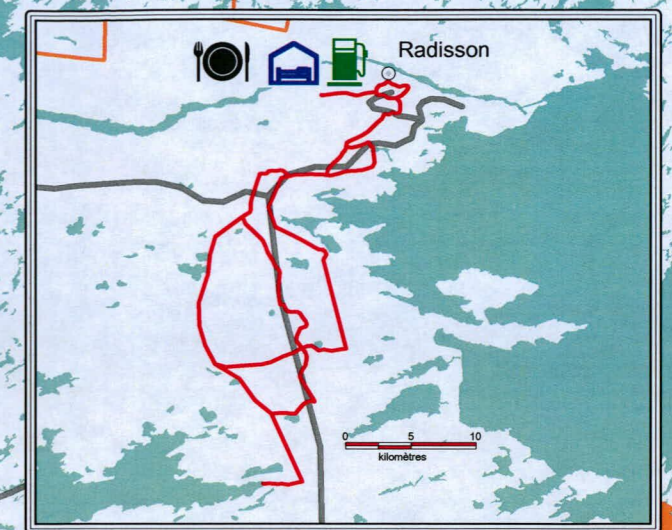
#### Snowmobile trail

- Main
- Secondary
- Local
- Off trail

#### Facility

- ✂ Repairs
- ⛽ Gaz
- 🍴 Restaurant
- 🏠 Lodging
- 🛖 Shelter
- 💰 Rental

Note: Hundreds of kilometres of off trails are scattered in the region (see appendix 2)





# Map 3: Authorized Passageways for Snowmobiles and Off Road Vehicles

## Transportation Plan of Nord-du-Québec

### Off-Road Vehicles: Stakeholders Responsibilities, Networks and Use

#### Sources:

- Ministère des Transports du Québec
- Fédération des clubs de motoneigistes du Québec
- Tourisme Baie-James (Carte des sentiers de motoneige 2002-2003)

#### Basic map:

- Ministère des Ressources naturelles,  
digital maps, scale 1:250,000 and 1:8,000,000

September 2005

#### Land regime

(category I) (category II)

Cree

Note: The limits of the Oujé-Bougoumou territory are defined under the Cree-Québec Agreement of February 7, 2002.

#### Administrative Limit

- - Municipalité de Baie-James
- South limit Nord-du-Québec region
- Other Québec regions

#### Other

- ++++ Railway
- Road Network
- City or town

#### Snowmobile Trail

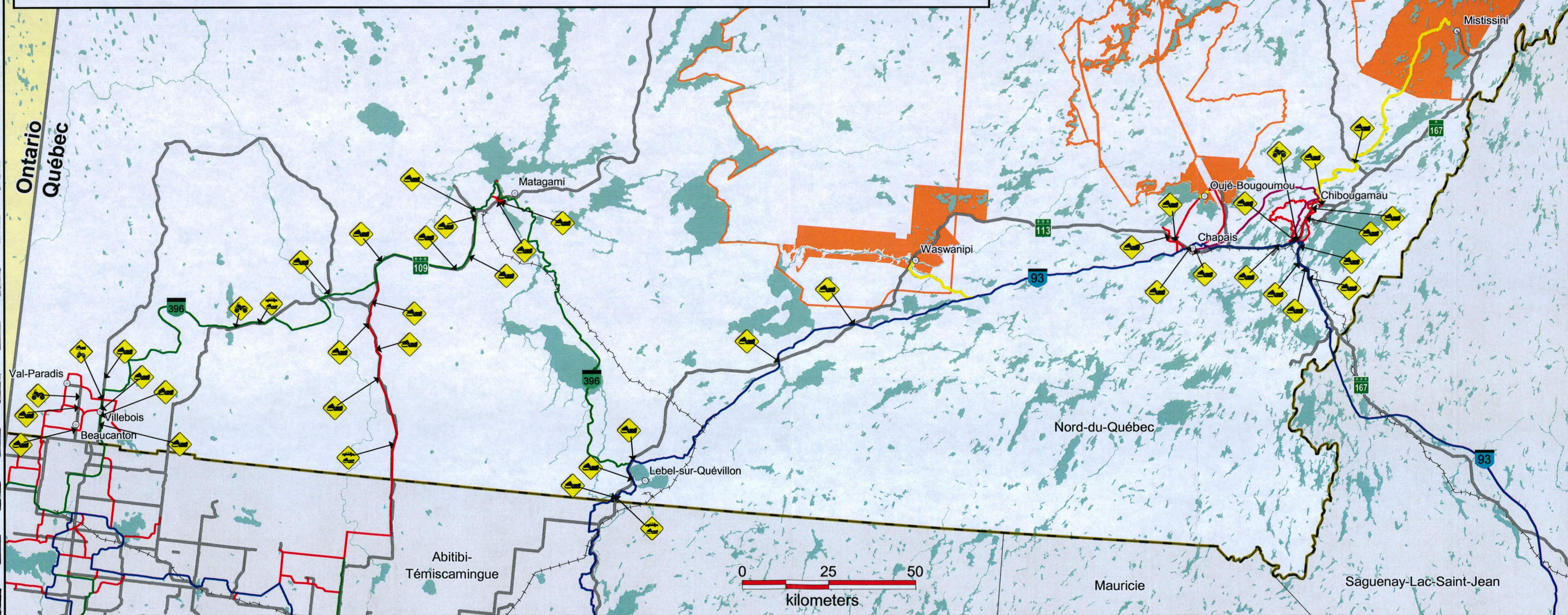
- Main
- Secondary
- Local
- Off trail

#### Federated trail for ORVs

- Club Chibougamau-Chapais

#### Authorized passage

- Snowmobile and ORV
- Road sharing
- ORV
- Snowmobile





## ATV Trail

With regard to ATV trails in Nord-du-Québec, 82 kilometres are federated trails. These trails are mainly located in the Chapais sector (56 km), Valcanton and Villebois (approximately 100 km), Chibougamau (42 km) and Lebel-sur-Quévillon (57 km).

Many of these trails are located or pass through the forest roads network. With regard to the authorized right-of-ways exclusive for ATV, we count three (Map 3).

Only the ATV club of Chibougamau, Chapais and Abitibi-Ouest–Baie-James (located at La Sarre in Abitibi-Témiscamingue) are affiliated to the Fédération québécoise des clubs quad (FQCQ).

### PICTURE 1

#### ALL-TERRAIN VEHICLE ON A FOREST ROAD



Club VTT de Chibougamau-Chapais, 2002

However, the Club VTT Abitibi-Ouest–Baie-James, also founded in 2001 and located at La Sarre in Abitibi-Témiscamingue, counts approximately 300 kilometres of trails, mainly located in the forest road network; a part of which is located near the localities of Valcanton and Villebois (Club VTT Abitibi-Ouest-Baie-James, pers. com., 2002). The Club is not yet affiliated with the FQCQ. Concerning the passageways exclusively authorized for ATVs, there are three of them (See Map 3).

## 2.1.2 Infrastructures and Services

Federated trails have safety signage. Snowmobile and ATV passageway signage is also posted alongside and on the MTQ-managed road network to foster ORV and road users' safety (Map 4). On the municipal road networks, ORV signage can also be found. Furthermore, there are a few shelters on the federated network. Although not designed for sleeping, these shelters provide a place to stop and drink warm beverages and warm up. Some have first-aid kits. The six snowmobile clubs have at least one medical sled, usually stored at the club facility (Club de motoneige de Chapais, pers. com., 2002).

### PICTURE 2

#### ALL-TERRAIN VEHICLE ON A FEDERATED TRAIL



Club VTT de Chibougamau-Chapais, 2002

There is at least one gas station in each municipality, locality and Cree village of James Bay. It is also possible to eat and sleep in most of them (Map 2).

There are three or four log shelters along the ATV trails of the Club VTT Abitibi-Ouest-Baie-James, but they are very little used and often unknown to users. In fact, since there was no demand yet, the Club's authorities did not feel it was necessary to publicize them. Cottages or camps, often privately owned, are available for rent at different places along the circuit. Trail maintenance and marking are done by

volunteers, who also act as Trail Supervision Officers recognized by the Off-Road Vehicles Act<sup>1</sup>. (Club VTT Abitibi-Ouest–Baie-James, pers. com., 2002).

### 2.1.3 Type of Use and Users' Profile

The federated network is almost exclusively used for recreational purposes, such as camping, observation of nature or hiking. Linking all the regions of Québec (except for Nunavik), it allows to travel long distances on the trails. Access rights must be paid to use them. For rented vehicles, access rights to the trails are included in the rental price. Although the trails are reserved to those who pay access rights, it is currently tolerated that trapping right holders use the trails at no cost to access their trapping territories. The public consultation on off-highway vehicles in Québec's regions that will take place in summer of 2005 will allow to discuss on legislative and regulatory adjustments to change the *Act Respecting Off-Highway Vehicles* and its regulations.

Although ATVs can be used a part of winter (especially in urban areas), the two clubs do not operate during the cold season. But currently on the market are new ATVs, more performing in snow conditions, able to circulate in rather heavy snow with relative ease. Moreover, ATVs being more reliable and using up less gas than snowmobiles, winter use of ATVs may become more popular in the future (Club VTT de Chibougamau-Chapais, pers. com., 2002).

## 2.2 Snowmobile and ATV Informal Network

### 2.2.1 Location and Extent

Thousands of kilometres of snowmobile and ATV trails cover the Nord-du-Québec region. In Nunavik, given the absence of a federated network, all the circuits (they can rarely be called "trails") are part of an informal network (Appendix 2) which is designed according to the territorial requirements of hunting and fishing; thus it is difficult to define it exactly. These territories are closely related to the seasonal migration areas of games in the tundra and close to the shores of Hudson Bay, Hudson Strait and Ungava Bay. Lakes also are high hunting and fishing activity zones.

---

1 Off-Road Vehicles Act, (R.S.Q., c. V-1.2).

**PICTURE 3**

**INFORMAL TRAILS IN NUNAVIK**



Caroline Vigneault, 2002

In the James Bay territory, it is also difficult to have an exact representation of the informal network. As in Nunavik, it is largely influenced by the hunting and fishing activities of Aboriginal people. However, the presence of forest roads makes off-road vehicle traffic easier.

The Cree hunting and fishing territories are divided into “close areas” and “remote areas”. A close area is close to the community, where most of the harvesting is done and hence, most of the snowmobile and ATV traffic. The remote area is mainly accessed by snowmobile, but also by seaplane. The advantage of the snowmobile is that it can reach locations the plane cannot access, and further makes transportation of large games easier (Hydro-Québec, 1993). Known informal networks exist in Cree territory, particularly in the neighbouring areas of the villages of Waswanipi, Oujé-Bougoumou and Mistissini (See Map 2).

The non-Aboriginal people of Nunavik and the Jamesians use the informal trails a lot less than the Crees or the Inuit. Their hunting territories are smaller, mostly located around the inhabited areas and alongside the road network, which reduces the distances traveled (Club VTT Abitibi-Ouest–Baie-James, pers. com., 2002).

#### 2.2.2 Type of Use and Users' Profile

People mainly use the informal network for hunting and fishing and to visit other communities. Although non-Aboriginal people also use the circuit, the Crees and the Inuit are the main users. On Category I or II lands, any non-Aboriginal person must obtain the local Aboriginal authorities' approval to travel, hunt, fish or camp. Moreover, north of the 52<sup>nd</sup> parallel, it is mandatory for Québec non-residents to hire the services of an outfitter to hunt and fish in the territory (Municipalité de Baie-James, pers. com., 2002).



### 3. MAIN STAKEHOLDERS, LEGISLATIVE FRAMEWORK AND INTERVENTION TOOLS

#### 3.1 Provincial Level: Ministères and Agencies

##### 3.1.1 Ministère des Transports (MTQ)

Table 3 provides a list of the stakeholders presented in this section.

#### Off-Road Vehicles Act

The MTQ is responsible for enforcing the Off-Road Vehicles Act<sup>2</sup>, effective as of 1997. This act, along with the related regulations on snowmobiles and ATVs, provides a framework for the use and traffic of these vehicles on private and public lands. In particular, it establishes the rules for users of off-road vehicles and ORV traffic, as well as the obligations of users' clubs with regard to building and operating trails (Ministère des Transports, 2001).

The Act applies to the following off-road vehicles:

- Snowmobiles with a net mass which does not exceed 450 kg and whose width, equipment included, not exceeding 1,28 m.
- All-terrain vehicles, fitted with handlebars and at least two wheels, that can be mounted, and with a net mass not exceeding 600 kg.
- Other motor vehicles designed to circulate off public roads and provided for by regulation (1996, c.60, a.1). No other type of off-road vehicles is provided for by regulation.

The primary objective of the *Off-Road Vehicles Act* is to establish a framework for the use of these vehicles and to improve users' safety. It also aims at protecting the environment, maintaining public order, respecting private property, and fostering the harmonious development of their recreational use (Ministère des Transports, June 2000).

#### REGULATION ON SNOWMOBILES AND ALL-TERRAIN VEHICLES REGULATION

Pursuant to the *Off-Road Vehicles Act*, two regulations were introduced: the *Regulation respecting snowmobiles* and the *All-terrain vehicles regulation*<sup>3</sup>. The prescribed standards can include exceptions and vary according to vehicle type, location of use and purpose of use as indicated by the government. However, once the off-road vehicles regulation bill is adopted, these two regulations will be repealed.

---

2 Off-Road Vehicles Act, (R.S.Q., c.V-1.2).

3 Regulation respecting snowmobiles and All-terrain vehicles regulation, (R.R.Q., c. C-24.2, r.5.1).

## **HIGHWAY SAFETY CODE**

The MTQ, together with the SAAQ, oversees the Highway Safety Code<sup>4</sup>. The present Code applies to off-road vehicles only for registration and identification, by means of a number affixed on them. It is to be noted that when an ORV circulates on a public road, it must comply with the road traffic regulations. However, the MTQ must approve any municipal by-law aimed at off-road vehicle traffic on a public road before it becomes valid (Ministère des Transports, 2001).

With regard to license fees, any owner of an off-road vehicle intended for exclusive off-road use, wherever that may be, must:

- Register his ORV with SAAQ;
- Carry with him the proof of registration whenever driving;
- Fix a plate in plain view on his ORV. He must pay for the plate and the proof of registration. Annual registration fees however do not apply (SAAQa, pers. com., 2002).

But, when an ORV owner also wants to use his vehicle on a public road (pursuant to the *Off-Road Vehicles Act*), he has the obligation to pay annual registration fees in addition to the plate and proof of registration. As is the case for any motor vehicles, there are no differences in the law between non-Aboriginal and Aboriginal people or according to place of residence (SAAQa, pers. com., 2002).

With respect to obtaining a driver's license in Québec, there is no obligation to have a driver's license to drive an off-road vehicle, except to circulate on or use (for passageways) a public road (SAAQb, pers. com., 2002).

However, it is forbidden to those under 14 years of age to drive an ORV. A 14 or 15 year old driver, " ... must hold a certificate, obtained from an authorized government official, certifying that he has the skills and knowledge required to drive such a vehicle ..." (*Off-Road Vehicles Act*, s. 18). This skills certificate is issued by the FQCQ and the FCMQ upon completion of a training course.

For all Nord-du-Québec drivers wishing to have a driver's license, the conditions to obtain one are the same as for the rest of Québec. But, to meet a local need, the SAAQ has been issuing category "T" (for territorial) licenses for some fifteen years for isolated communities across Québec (for instance, the Inuit and the Crees of Whapmagoostui). This type of license, was introduced upon request of the local communities. No examination is required. It only gives SAAQ the driver's identity. In the past few years, category "T" licenses have been less and less frequently issued. Today, the trend among drivers from isolated communities is to have a driver's license.

---

4 Highway Safety Code, (R.S.Q., c. C-24.2).

Through the Public Insurance Plan, all Québec citizens can be compensated for any injuries or death resulting from a car accident<sup>5</sup>. All Québec citizens including the Nord-du-Québec Aboriginal communities, are therefore protected by this plan and this coverage is valid anywhere in the world (no matter whether the accident occurs in Québec or elsewhere).

Any driver, passenger, motor cyclist, pedestrian, cyclist, ATV and snowmobile driver, or any other road user, can be compensated for an automobile accident, whether he is responsible or not, insured (with an insurance company) or not, has a driver's license or not, or that his vehicle is licensed or not. Therefore, the Inuit, the Crees and non-Aboriginal people of Nord-du-Québec who do not hold a registration, license or liability insurance, will still be compensated following an automobile accident just like in the rest of the province (SAAQb, pers. com., 2002).

However, the accident must involve a moving automobile and must take place on a public road. For example, if injury or death occurs when an ORV collides with an automobile on a municipal road, it is covered by the Public Insurance Plan. But if an ORV collides with another ORV on a public road and there is a casualty, there will be no compensation because a moving motor car is not involved (See Appendix 3).

Also, the SAAQ can, under certain conditions, provide compensation for material damages, for instance, in a hit-and-run accident or when the person responsible for the accident has is insolvent. In these cases, the accident victim would be left unprotected. Then the SAAQ will pay him up to \$10,000 for material prejudice<sup>6</sup>.

Storage rules are the same for off-road vehicles as for road vehicles. Owners can store their ORV at any time. A single phone call to the SAAQ is needed. In such a case, the SAAQ will cancel the registration on the last day of the month the call was received and will refund the unused part of the registration fee.

Although the MTQ is the main government stakeholder with respect to off-road transportation, other ministères are also concerned and several public order laws impact on ORV traffic.

---

5 The authority to compensate is given pursuant to the *Automobile Insurance Act*.

6 Société de l'assurance automobile du Québec (2002), *La police d'assurance de tous les Québécois, en cas de blessures ou de décès dans un accident d'automobile* (The insurance policy of every Québec citizen, in case of an automobile accident causing injuries or death) (brochure), Québec, p. 6.

### 3.1.2 Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP)

#### **ACT RESPECTING THE CONSERVATION AND DEVELOPMENT OF WILDLIFE**

The Act respecting the conservation and development of wildlife<sup>7</sup> provides that in the territory of a wildlife sanctuary, refuge or a controlled harvesting zone, the government can make regulations to control or prohibit the use of vehicles of all types.

Wildlife Conservation Officers are mandated and sent in the field to ensure compliance with the Act as a whole and its related regulations. Particularly, they have the power to stop a vehicle for inspection.

#### **PARKS ACT**

The Parks Act<sup>8</sup> specifies that, in the territory of a park, the government can adopt regulations to prohibit or regulate the use of all types of vehicles, motorized or not.

Wildlife Conservation Officers, having in this regard the same powers as peace officers, have the authority to ensure the enforcement of this Act and its regulations.

#### **ECOLOGICAL RESERVES ACT**

The Ecological Reserves Act<sup>9</sup> states that any activity likely to modify the ecosystems' condition or appearance is prohibited in the territory of an ecological reserve. Except for inspection or to exercise an activity authorized by law, it is forbidden to enter an ecological reserve site.

The Minister can appoint inspectors charged with the monitoring of ecological reserves and enforcement of the Act and its regulations.

#### **ENVIRONMENT QUALITY ACT**

The Environment Quality Act<sup>10</sup> states that the government can adopt regulations to define the terms and conditions of use of any vehicle making noise, and prescribe standards for noise levels.

---

7 *Act respecting the conservation and development of wildlife*, (R.S.Q., c. C-61.1).

8 *Parks Act*, (R.S.Q., c. P-9).

9 *Ecological Reserves Act*, (R.S.Q., c. R-26.1).

10 *Environment Quality Act*, (R.S.Q., c. Q-2).

### **ACT RESPECTING THREATENED OR VULNERABLE SPECIES**

The Act respecting threatened or vulnerable species<sup>11</sup> stipulates that in the habitat of a threatened or vulnerable flora species, it is forbidden to exercise an activity likely to modify the ecological processes in place, the biodiversity and the chemical or physical components specific to this habitat.

To ensure the enforcement of the present act, the Minister can authorize any person to act as a flora inspector (Gouvernement du Québec, 2001).

#### **3.1.3 Ministère des Ressources naturelles et de la Faune (MRNF)**

### **ACT RESPECTING THE LANDS IN THE DOMAIN OF THE STATE**

The Act respecting the lands in the domain of the State<sup>12</sup> applies to any land in the domain of the State, including watercourse and lake beds. Any person can pass on the lands in the domain of the State, except as provided for by law or by a government regulation. But it is not permitted to build or improve on a land, a road other than a forest or mining road, without prior written authorization by the government.

### **FOREST ACT**

The objective of the *Forest Act*<sup>13</sup> is to foster recognition of the heritage and the sustainable development of the forest in order to meet the needs of the present and future generations, while taking into account other potential uses of the territory. To make recreational developments, a management permit is required (Gouvernement du Québec, 2001).

#### **3.1.4 Ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ)**

The MAPAQ oversees the enforcement of the *Act respecting agricultural lands of the domain of the State*<sup>14</sup>. The Ministère is concerned with the damages caused to the property of agricultural producers by all-terrain vehicles. The Minister can agree to an easement or a right on non granted land.

---

11 *Act respecting threatened or vulnerable species*, (R.S.Q., c.E.12.01).

12 *Act respecting the lands in the domain of the State*, (R.S.Q., c. F-4.1).

13 *Forest Act*, (R.S.Q., c. F-4.1).

14 *Act respecting agricultural lands of the domain of the State*, (R.S.Q., c. T-7.1).

### 3.1.5 Ministère de la Santé et des Services sociaux (MSSS)

The MSSS is concerned with the social costs incurred by the use of all-terrain vehicles. With regard to prevention, certain community health services have conducted statistical surveys to assess the impacts of ORV use on health, in order to identify solution avenues.

### 3.1.6 Bureau du coroner (Coroner's Office)

The Bureau du coroner is concerned with the protection of users' life. It investigates on the causes of death resulting from an accident involving an off-road vehicle.

### 3.1.7 Société de l'assurance automobile du Québec (SAAQ)

The SAAQ is involved in safety and compensation matters, for bodily injuries, for victims of automobile accidents taking place on a public road. It is also responsible for vehicle registration and can as well provide certain statistical data on vehicles.

### 3.1.8 Tourisme Québec

Tourisme Québec banks tremendously on snowmobile activities as a tourist attraction generating important economic benefits, and promotes these activities abroad (Ministère des Transports, 1997).

### 3.1.9 Canada Economic Development (CED)

Canada Economic Development is now preparing to set up a snowmobile "Bureau" to improve snowmobile promotion in Nord-du-Québec and to provide a better coordination of the various stakeholders of the tourist network. It also attempts, through contributions, to support off-road transportation in Nord-du-Québec (Canada Economic Development, pers. com., 2002).

### 3.1.10 Fédération des clubs de motoneigistes du Québec (FCMQ) and Fédération québécoise des clubs quad (FQCQ)

The FCMQ and the FQCQ are non-governmental organizations whose role is to promote snowmobile and ATV activities across the province. The two federations, among other things, represent their members' interests to the Québec government and police authorities. Furthermore, they ensure the promotion of safety, in collaboration with the Ministère, the training and certification of Trail Supervision Officers as well as the overall supervision of the trail network (Ministère des Transports, 1997). Trail Supervision Officers are volunteers recruited by the clubs. Note that the investigators and inspectors appointed pursuant to the Act to ensure safety in guided land transport are also Trail Supervision Officers.

TABLE 3

PROVINCIAL LEVEL: STAKEHOLDERS IN OFF-ROAD TRANSPORTATION

Ministères and Agencies	Legislative Framework
1- MTQ	a) <i>Off-Road Vehicles Act</i> b) <i>Regulation on Snowmobiles and All-Terrain Vehicles Regulation</i> c) <i>Highway Safety Code</i>
2- MDDEP	a) <i>Act respecting the conservation and development of wildlife</i> b) <i>Parks Act</i> c) <i>Ecological Reserves Act</i> d) <i>Environment Quality Act</i> e) <i>Act respecting threatened or vulnerable species</i>
3- MRNF	a) <i>Act respecting the lands in the domain of the State</i> b) <i>Forest Act</i>
4- MAPAQ	a) <i>Act respecting agricultural lands of the domain of the State</i>
5- MSSS	—
6- Bureau du coroner	—
7- SAAQ	a) <i>Highway Safety Code: Registration.</i>
8- Tourisme Québec	—
9- CED	—
10- FCMQ and FQCQ	—

### 3.2 Regional and Local Levels

Table 4 provides a list of the stakeholders presented in this section.

#### 3.2.1 Cree Villages

The Cree local governments of each community (band councils) can, on IA lands, adopt regulations in matters provided for in sections 45 to 48 of the Cree-Naskapi (of Quebec) Act<sup>15</sup>, including in particular the regulations on driving and speed of vehicles. The same applies to IB lands, in accordance with the provisions of The Cree Villages and the Naskapi Village Act<sup>16</sup>. Category II lands fall under the joint responsibility of the Municipalité de Baie-James and the Cree communities through the James Bay Regional Zone Council as the municipal authority. Whenever the Cree-Naskapi (of Quebec) Act contradicts any federal or provincial laws, it supersedes them, except for the James Bay and Northern Quebec Native Claims Settlement Act<sup>17</sup>.

#### 3.2.2 Inuit Villages

Inuit people have chosen a municipal system for their villages, therefore the northern villages corporations operate in a way similar to the Québec municipalities, as defined in the *Act Respecting Northern Villages and the Kativik Regional Government*<sup>18</sup>. Each corporation ensures the maintenance of the municipal infrastructures, and enforces the municipal by-laws and orders. The scope of the regulations voted by the municipal councils, such as the one on vehicle traffic, extends to the municipal perimeter (I lands), which is larger than the village surface area. This way, Inuit people control most of the services provided in the region. Working independently or in collaboration with various Ministères of the gouvernement du Québec, they oversee the administration and development of all the activity sectors of the territory (Secrétariat aux affaires autochtones, pers. com., 2002).

#### 3.2.3 James Bay

Any municipality can, by means of a by-law, determine the distance (from a dwelling, a health institution or a recreational area) within which off-road vehicle traffic is prohibited. In any place other than the locations regulated under the different laws of the public

---

15 *Cree-Naskapi (of Quebec) Act*, (SC, 1984, c.18).

16 *The Cree Villages and the Naskapi Village Act*, (R.S.Q, c. V-5.1).

17 *James Bay and Northern Quebec Native Claims Settlement Act*, (SC, 1984, c.18, a.3).

18 *Act Respecting Northern Villages and the Kativik Regional Government*, (R.S.Q., c. V-6.1).

domain, a municipality can also determine the speed or limit off-road vehicle traffic to certain types of vehicles or at certain periods of time (1996, c. 60, a. 48).

In case of conflict between a government regulation or a municipal by-law, the former prevails (1996, c.60, a.8).

Legal proceedings for an offence to a provision of the Off-Road Vehicles Act or its enabled regulations can be initiated by a local municipality, when the offence is committed in its territory (1996, c. 60, a. 68), (Ministère des Transports, 2001).

The Municipalité de Baie-James (MBJ) has authority over a large part of its territory, i.e. Category III lands as well as the localities of Radisson, Valcanton (algamation of Val-Paradis and Beaucanton), Villebois and the hamlets of Desmaraisville, Miquelon and Rapide-des-Cèdres. The municipalities of Chapais, Chibougamau, Lebel-sur-Quévillon and Matagami, although enclaved in the MBJ territory, are completely independent, they have full jurisdiction over their territories; they are governed by the *Cities and Towns Act*<sup>19</sup>. As for the eight Cree communities, they are located on Category I lands (as prescribed in the James Bay and Northern Quebec Agreement), and therefore not under the MBJ jurisdiction. However, as mentioned in the previous section, the MBJ has a certain jurisdiction over Category II lands through the James Bay Regional Zone Council (Municipalité de Baie-James, pers. com., 2002).

#### 3.2.4 Cree Regional Police Force and Kativik Regional Police Force

With regard to the Cree villages, each one of the nine Cree communities has its own police station. The territorial jurisdiction of a Cree village municipality under the Police Act<sup>20</sup> system, extends to all Category I lands, including Category II and III lands enclaved in them. In each village the police department and its staff, has the authority to enforce the Canadian and Québec laws and the local applicable regulations (Secrétariat aux affaires autochtones, pers. com., 2002).

In Nunavik, the Inuit police force is also present in each village, with the same powers as any other municipal police force (Kativik Regional Police Force, pers. com., 2002).

#### 3.2.5 Sûreté du Québec

In order to enforce the Off-Road Vehicles Act and regulations, a peace officer can order an off-road vehicle to stop and proceed to the inspection of the mandatory equipment. He can also ask to verify the skills certificate or the driving authorization, the driver's license if the driver is on a public road, the registration certificate or the proof of public liability insurance (1996, c.60, a. 38).

---

19 *Cities and Towns Act*, (R.S.Q., c. C-19).

20 *Police Act*, (R.S.Q., c. P-13.1).

Peace officers can deliver statements of offence to users who contravene a provision of the Off-Road Vehicles Act or its regulations, and also the Highway Safety Code if they are circulating on a public road (Ministère des Transports, 2001).

The Sûreté du Québec is the only police force in the Jamesian territory. There are five police stations in Nord-du-Québec, that is, in Chibougamau, Lebel-sur-Quévillon, Matagami, Radisson and Kuujuaq. In Kuujuaq however, the role of the Sûreté du Québec is mainly to support the local Inuit police (Sûreté du Québec of Kuujuaq, pers. com., 2002).

### 3.2.6 Off-Road Vehicle Users' Clubs

All off-road vehicle users' clubs are responsible for the construction, signage and maintenance of the trails they operate. In addition, they must ensure safety and compliance with the Off-Road Vehicles Act provisions and applicable regulations, particularly via the Trail Supervision Officers recruited by the clubs and trained by the federations (1996, c. 60, a. 15). Off-road vehicle users' clubs can, by means of a signage consistent with regulation standards, prohibit or limit traffic to certain types de vehicles, certain persons or to certain periods of time (1996, c.60, a.9).

Although the Off-Road Vehicles Act provides for the Trail Supervision Officers to be authorized to deliver tickets to drivers who do not comply with regulations, this is in fact possible only if the municipality, pursuant to the Code of Penal Procedure grants them such right. As a general rule, this right is only rarely granted (Ministère des Transports, 2001).

The six snowmobile clubs and the ATV club of Nord-du-Québec are exclusively located in the James Bay territory.

**TABLE 4****REGIONAL AND LOCAL LEVELS: STAKEHOLDERS IN OFF-ROAD TRANSPORTATION**

<b>Stakeholders</b>	<b>Intervention Tools</b>
Local Cree Administrations	<ul style="list-style-type: none"> <li>• Adoption of regulations on Category I lands.</li> </ul>
Inuit Villages	<ul style="list-style-type: none"> <li>• Adoption of regulations on Category I lands.</li> </ul>
Jamesian Municipalities	<ul style="list-style-type: none"> <li>• Adoption of regulations on the municipalities' territory and Category III lands.</li> </ul>
James Bay Regional Zone Council	<ul style="list-style-type: none"> <li>• Adoption of regulations on Category II lands (Cree and Jamesians members).</li> </ul>
Cree Police and Inuit Police	<ul style="list-style-type: none"> <li>• Enforcement of the Canadian and Quebec laws and the regulations applicable to I lands. Authority to deliver tickets.</li> </ul>
Sûreté du Québec	<ul style="list-style-type: none"> <li>• Enforcement of the Canadian and Quebec laws.</li> <li>• Authority to deliver tickets.</li> </ul>
Users' Clubs	<ul style="list-style-type: none"> <li>• Building, signage and maintenance of trails.</li> <li>• Recruitment and training of Trail Supervision Officers.</li> <li>• Officers: Trail patrol and enforcement of off-road vehicles law and regulations.</li> <li>• Authority to deliver tickets in the trails if provided for in a municipal by-law.</li> </ul>

### **3.3 Grants and Financial Contributions to Off-Road Transportation in Nord-du-Québec**

#### **3.3.1 Ministère des Transports (MTQ)**

In response to a request from the Fédération des clubs de motoneigistes du Québec, the Ministère des Transports deemed justified to increase, in 1999, the financial assistance to the snowmobile clubs. The financial assistance program is taken directly from each paid ORV registration fee, and managed by the SLS. The amount appropriated for this program is \$25. The program's main objective is to provide the clubs with the necessary funds to ensure the integrity, safety and maintenance of the trails in Québec (Ministère des Transports, Nov. 2001).

With respect to ATVs, an amount of \$6 per vehicle is taken directly from the registration fee to finance the clubs. The total amount collected this way is then paid to the Federation and the different clubs.

In 2000, the Ministère des Transports and the Fédération des clubs de motoneigistes du Québec made a joint contribution of \$100,000 to produce and purchase traffic signs that were distributed in all the snowmobile clubs in Québec. Furthermore, the two

federations led an annual safety education campaign in collaboration with the Ministère, totalling \$123,000 (Ministère des Transports<sup>b</sup>, 2001). In 2002 the Ministère also granted \$55,000 for various projects regarding safety, in particular for the special volunteer patrol team of the FCMQ (Ministère des Transports, pers. com., 2003). An amount of \$40,000 was contributed to the Fondation de la faune du Québec for the preparation of a guide for trail development and respect of wildlife. Another \$10,000 also went to the Fédération québécoise de la faune, for a pamphlet to develop snowmobilers' environmental awareness (Ministère des Transports, pers. com., 2003).

### 3.3.2 Secrétariat au loisir et au sport (SLS)

Since 1999, the Secrétariat au loisir et au sport has the responsibility for public financial assistance programs aimed at fostering safety, and building and maintaining reserved trails (Ministère des Transports, August 2000). The amount of the grant is determined particularly in terms of the number of kilometres of trails maintained by the clubs. Grants for more than \$3M were allocated between 1981 and 1997 (Ministère des Transports, 1997). For the year 2001-2002, the SLS granted the FCMQ and Nord-du-Québec snowmobile clubs an amount of \$158,399 for trail maintenance and \$30,560 for the purchase of a surfer. With regard to ATVs, the grant amounted to \$7,242, which was used for trail maintenance (Secrétariat au loisir et au sport, 2002). The total amount granted under this program to the federations across Québec, represents approximately 5 million dollars annually.

### 3.3.3 Canada Economic Development (CED)

At the federal level, Canada Economic Development contributes to snowmobiling in Nord-du-Québec. In 2001, it paid a contribution of approximately \$110,000 to the six snowmobile clubs of the region, for the purpose of adding small infrastructures along the snowmobile trails, that is, traffic signs and culverts. The Canadian agency also contributed an amount of \$120,000 for the purchase of a surfer in Oujé-Bougoumou, to be used by the Cree communities of Oujé-Bougoumou and Mistissini. In 1998, it had already contributed to the purchase of three surfers for Jamesian clubs. In addition, via a project called "Focus Snowmobile" set up by the Raid des Braves, a grant of approximately \$90,000 was allocated in 2001 to the Nord-du-Québec snowmobile clubs to support the creation of a regional association (Focus Snowmobile, pers. com., 2002).

### 3.3.4 Ministère des Ressources naturelles et de la Faune (MRNF)

As part of its forest resources development program, the Ministère des Ressources naturelles granted an amount of \$75,000 to the Club VTT de Chibougamau–Chapais (year 2001-2002) for trail construction, signage and maintenance (Club VTT de Chibougamau–Chapais, pers. com., 2002). The Club VTT Abitibi-Ouest–Baie-James,

received a grant of approximately \$20,000 for 2001-2002, its first year of operation (Club VTT Abitibi-Ouest-Baie-James, pers. com., 2002).

### 3.3.5 Secrétariat aux affaires autochtones (SAA)

Concerning more specifically Aboriginal people, the Secrétariat aux affaires autochtones is responsible for the Aboriginal Development Fund, a component of which is the construction of community infrastructures. Many types of infrastructures are eligible under this funding, including the construction of snowmobile and ATV trails. However, no applications have been made yet for such projects (Secrétariat aux affaires autochtones, pers. com., 2002).

### 3.3.6 Municipalité de Baie-James (MBJ)

The MBJ financially contributes to snowmobiling in its territory. In 2002, it allocated a \$15,000 grant to be distributed among all the snowmobile clubs in the Nord-du-Québec region (Municipalité de Baie-James, pers. com., 2002).

Table 5 presents the list of the granting organisms.

**TABLE 5**

**GRANTS AND FINANCIAL CONTRIBUTIONS TO OFF-ROAD TRANSPORTATION IN NORD-DU-QUÉBEC**

AGENCIES	DESCRIPTION OF TYPE OF FUNDING
1- Ministère de l'Éducation du Loisir et du Sport	<ul style="list-style-type: none"><li>• Responsible for public financial assistance programs aimed at fostering safety, construction and maintenance of reserved trails.</li><li>• Amount of grant proportional to, in particular, number of kilometres of maintained trails.</li></ul>
2- Ministère des Transports	<ul style="list-style-type: none"><li>• Regulations and legislations.</li><li>• Educational campaigns.</li><li>• Financial assistance program for snowmobile and ATV clubs managed by SLS.</li><li>• Grants for safety related projects.</li></ul>
3- Canada Economic Development	<ul style="list-style-type: none"><li>• Financial contributions and grants to clubs for various projects.</li></ul>
4- Ministère des Ressources naturelles et de la Faune	<ul style="list-style-type: none"><li>• Grants to clubs under the Forest Development Program.</li></ul>
5- Secrétariat aux affaires autochtones	<ul style="list-style-type: none"><li>• Responsible for the Aboriginal Development Fund. Grants available for off-road transportation.</li></ul>
6- Municipalité de Baie-James	<ul style="list-style-type: none"><li>• Grants to the region's clubs.</li></ul>

### **3.4 Economic and Tourism Development Organizations**

Several economic and tourism development organizations in the James Bay territory may be interested in the off-road transportation problem, particularly:

- Municipalité de Baie-James (MBJ);
- Société de développement de la Baie James (SDBJ);
- Regional Conference of Elected Officers – Nord-du-Québec – Baie-James (RCEO-BJ);
- Conseil local de développement et points de service (CLDBJ);
- James Bay Tourism;
- Cree Regional Authority (CRA);
- James Bay Eeyou Corporation;
- Cree Outfitting and Tourism Association.

In Nunavik, organizations concerned with the region's economic and tourist development are:

- Kativik Regional Government (KRG);
- Regional Conference of Elected Officers – Nord-du-Québec – Kativik Regional Government (RCEO-KRG);
- Makivik Corporation;
- Land Corporations;
- Nunavik Tourism Association.



## **4. ECONOMIC, SOCIAL AND ENVIRONMENTAL IMPACTS**

### **4.1 Economic Impacts**

#### **4.1.1 Federated Network**

Since there are no studies on the economic impacts of snowmobile and ATV use in Nord-du-Québec, the following calculations will give an approximation of the “expenses” made in the region and not an evaluation of the economic benefits. The numbers relate to snowmobiling only because no data is available on ATVs. Snowmobile-related expenses include accommodation, food services, gas, purchase and maintenance of snowmobiles and purchase of clothing and accessories (Zins Beauchesne et ass., 1997).

Based on the principle that the needs of the excursionists and tourists in Nord-du-Québec are similar to those in other regions, it is possible to make a very approximate evaluation of the expenses related to the use of the federated network. In Québec as a whole, the seasonal expenses of an excursionist or tourist snowmobiler were evaluated at \$980, not including the purchase cost of the snowmobile. Per excursion, the amount would be \$45 for each person, passenger or driver (Zins Beauchesne et ass., 1997).

In 2000, in the James Bay territory, there were 3,025 registered snowmobiles, which would be close to the actual number of snowmobiles owned by the Jamesians. If we multiply the seasonal expenses of snowmobilers by the number of registered snowmobiles, it amounts to a total \$2,9M in expenses. This evaluation does not take into account the purchase of the snowmobiles, nor that the Jamesians do not make all their snowmobile excursions or trips in the territory. Therefore part of the expenses can be made in other regions. As well, this evaluation does not take into account the expenses made by tourists visiting James Bay in snowmobile. Although the results obtained only constitute a plausible order of magnitude, it nevertheless noticed that snowmobiling for recreational purposes has a certain economic value. But this value is only relative, since on a regional economic scale, it would be low. It could be interesting to conduct a more comprehensive study on the economic benefits of off-road vehicles using the federated network in Nord-du-Québec.

#### **4.1.2 Informal Network**

The use of snowmobiles and ATVs on informal networks being predominantly related to the Crees and Inuit's hunting and fishing activities, the analysis of the economic significance of the use of such networks will not take into account the activities of non-Aboriginal people. It is possible to get an idea of the economic significance of the use of the informal network by measuring the economic significance of hunting for the Inuit and Cree communities. Indeed, the hunting and fishing production is made possible

essentially with the use of snowmobiles and ATVs, and the use of the region's informal circuits.

According to a study on regional development in the Cree communities, the portion of the income resulting from Cree traditional activities has gone from 61% to 43% between 1971 and 1981, even though the hunters' income has more than tripled during the same period (Salisbury, 1986). Despite the fact that traditional activities do not have the same significance they had before, it is clear that they still are quite important.

Among the Inuit, in 1995, it was estimated that approximately 70% of the annual subsistence harvesting (i.e. caribou hunting, bird hunting, and a large part of seal hunting) intended to the market was carried out with an off-road vehicle. The portion of the formal gross income related to off-road vehicles would therefore be less than 1%, that is \$480,000 per year or \$285 per household per year (Duhaime et al., 1998).

Still regarding the Inuit, for game consumption by the hunters' families, it is estimated that more than 50% would be harvested with off-road vehicles. The informal income related to game consumption is calculated on the basis of the gross replacement value of the game. Out of a total informal income of \$3,7M per year, or \$2,200 per household per year, it is therefore estimated that the value of the consumed game harvested with off-road vehicles, is \$1,8M per year or \$1,100 per household per year (Duhaime *et al.*, 1998). The total formal and informal income related to traditional activities performed with off-road vehicles would therefore be \$2,3M per year or \$1,385 per household per year.

For the Crees, the consumption of game harvested with off-road vehicles would be similar to that of the Inuit (Gouvernement du Québec, 1983). The Cree communities account for approximately 12,000 people, that is approximately 2,600 households. If we multiply the income of \$1,385 per household per year with the number of households, it amounts to a total income of \$3,6M per year.

The purchase of off-road vehicles also means expenses in the region. There are approximately 22,000 Crees and Inuit living in Nord-du-Québec, which corresponds to approximately 4,700 households. Based on the principle that on average, an household has one snowmobile and that it replaces it every three years at a mean cost of \$8,000, this would amount to approximately \$12,5M in expenses per year for the purchase of snowmobiles by Cree and Inuit people.

If we apply the same reasoning to ATVs, but supposing that only half the households replace their ATVs every three years, this would amount to approximately \$6,2M in expenses per year.

On the whole, the expenses related to the use of the informal snowmobile and ATV network would be approximately \$24,6M per year for the Nord-du-Québec region. This roughly estimated amount does not take into account the expenses related to gas, maintenance and repair of off-road vehicles. Nevertheless, these figures have some significance, since they indicate a volume of economic activity that could not exist

without off-road vehicles and without the possibility of moving across the territory for traditional pursuits (Appendix 4).

## **4.2 Social Impacts**

### **4.2.1 Food Supply**

Although snowmobiles and ATVs can, theoretically, make it easier to travel to other communities, it does not seem to be common practice. The Inuit travel to other communities mostly by airplane. Only the hunters sometimes go to the neighbouring village by snowmobile or ATV (Kativik Regional Police Force, pers. com., 2002).

For the Crees, cars or vans are the preferred transportation mode to travel to other communities. All the Cree communities, except Whapmagoostui, have a road link between them and to the south.

The Jamesians mainly use ORV for recreational purposes, not to travel to other towns, municipalities and localities. They however use informal networks for sports hunting and fishing.

At the community level, the main impact probably is that off-road vehicles allow the Crees and the Inuit to access sizable food supplies. When a hunter returns after one or several days of hunting, a part of the catch goes to the family, another can be sold (to the community freezer, even to the local coop if any) or given to members of the extended family or to neighbours. This food contribution would help certain community members to stay in the village because the social tie value expressed in the sharing, enhances cohesion and a sense of belonging.

### **4.2.2 Noise and Exhaust Gas**

Since the 70s, great progress has been made towards reducing the noise caused by running snowmobiles. Although new vehicles are set at 78 decibels (measured during acceleration, 17 metres from the trail), at high speed it is no longer the noise of the motor which dominates, but that of the track. The noise can therefore rise to 100 decibels. In several regions of Québec, noise causes social conflicts when snowmobiles ride close to dwellings (Découverte, 2002).

However, in the James Bay territory, no complaint was ever made in relation to off-road vehicle noise (Sûreté du Québec Matagami, pers. com., 2002), (Sûreté du Québec Radisson, pers. com., 2002). But this does not mean that noise does not cause inconveniences to the population. In addition, there is a genuine risk of ear damage, particularly in users not wearing a helmet, which is common among the Crees and the Inuit (Cree Police of Chisasibi, pers. com., 2002), (Kativik Regional Police Force, pers. com., 2002).

As well, when traveling in groups, the exhaust gases can be partially inhaled by users forming a line, which can have negative effects on human health.

### **4.3 Environmental Impacts**

The extent of the impacts caused by the passing of off-road vehicles in natural environments depends on several factors. First of all, there are the biophysical factors, such as the type of soil and its water content, vegetation cover, or snow or ice accumulation. Human factors are also very important. The type of vehicle used, speed, and the general behaviour of the driver, are all of prime importance. But there is very little written information on the subject, therefore it is very difficult to make an accurate evaluation of the significance of each factor.

#### **4.3.1 Air**

Snowmobiles are two-stroke engine vehicles while ATVs have a four-stroke engine. Without a catalyst, these motors are however twice as polluting as the motor of a gas-operated vehicle. The snowmobile's two-stroke engine is the worst for environmental damage. According to a study conducted in the United States by an independent researcher from Wyoming, snowmobiles would produce from 500 to 1,000 times more carbon monoxide than an automobile in the same conditions (constant and controlled speed). In fact, exhaust and intake occurring simultaneously in the cylinder, at least 25% of the gas-oil mixture is released from the motor without being burned. This type of motor, consuming an average of 20 litres per 100 kilometres, has the advantages of being powerful, less expensive to manufacture, and offering an excellent power/weight ratio (Découverte, 2002). Snowmobile manufacturers are presently working at designing four-stroke engine snowmobiles, that would be less polluting and more silent. Some have already made their appearance on the market. As to four-stroke engine ATVs, no data are available concerning the air pollution caused by them.

#### **4.3.2 Soils, Water Tables and Watercourses**

In the James Bay territory, that is, below the 55th parallel, snow covers the soil from mid-October to the end of April approximately. During this time, the impacts of passing snowmobiles or ATVs is low because the snow cover generally protects it, and also because it is frozen and therefore not easily compactable. But in the spring, when snow melts and the soil fills with water, it then becomes excessively vulnerable. Off-road vehicle traffic causes soil compaction and deformation that interferes with the natural flow of water and increases erosion (Gauthier & Guillemette consultants inc., 1993). This phenomenon is stronger in fragile zones, such as peat bogs, marshes and swamps, where revegetation is compromised. The same is true with the Nunavik soils, where northern summers are short with only the surface layer of the permafrost (active level or mollisol) thawing out, and therefore becoming vulnerable to ATV traffic. Also, ORVs circulating on beaches cause more soil compaction and destabilize the shores, which accelerates erosion.

However, according to the Fédération québécoise des clubs quad, the pressure exerted on the soil by an ATV would be three times lesser per unit area than that of a walking excursionist (Fédération québécoise des clubs quad, 2002). But that does not necessarily mean the impacts are less significant, since the contact area is a lot greater for ATVs than excursionists.

As previously mentioned, snowmobiles' two-stroke engines release more than a quarter of the gas-oil mixture in the environment. These two products go to the snow first, and then start to seep into the soil, or run off its surface. In the first case, toxic products may reach the water table. In the second, more frequent to the north, where only the soil surface thaws out, products can run off to the watercourses. One way or the other, there is contamination of either the ground or surface water. Here again, the magnitude of the phenomenon is unknown in Nord-du-Québec.

#### 4.3.3 Vegetation

To the extent that off-road vehicle drivers remain in marked trails, damages are minimal (excluding the damages caused when building the trails). But when drivers ride off the trails, plants and shrubs can be damaged or completely ruined. In the spring, when early plants start covering the humid soils of the underbrush, ATV traffic can be extremely damageable. It is the same with peat bogs, marshes and swamps, where biodiversity is very high and the vegetation extremely vulnerable. Making ruts in these zones can compromise revegetation for a very long period of time (Gauthier & Guillemette consultants inc., 1993).

In winter, because of the thick protective snow cover, off-trails snowmobiles and ATVs cause damage more specifically to shrubs and young trees. In Nunavik, ATVs passing on plant cover negatively affects them for sure, but the lack of documented information on the subject makes it impossible to determine the nature and extent of the impacts. However treading of vegetation is probably more noticeable in the vicinity of villages, where traffic is more regular.

#### 4.3.4 Wildlife

The noise generated by snowmobiles and ATVs would be a source of stress for the animals. In the Radisson area, for instance, where a small portion of the huge caribou herd is grazing, the main impact observed on wildlife is caribous running away when snowmobilers pass by (Sûreté du Québec, pers. com., 2002). But nothing is known of the real impact it has on their behaviour and their occupation of the territory.

According to the Canadian Council of Snowmobile Organizations, itself referring to studies conducted in the 70s and 80s, the reaction of the large ungulates to passing snowmobiles would demonstrate an habituation greater than towards a walking person. Moreover, snowmobile traffic would not entail a measurable variation of the surface

area of the white-tailed deer's vital domain (Canadian Council of Snowmobile Organizations, 2002). No relevant information seems to have been collected regarding other animal species.

Concerning habitats, repeated passing of off-road vehicles off the trails and on ecologically fragile zones, causes their deterioration. It is legitimate to believe that the deterioration of habitats could reduce the survival capacity of several less mobile species that are captive of a particular environment. With a view to raising awareness on wildlife and the environment, the MTQ allocated a grant to the Fondation de la faune du Québec for the production and distribution of a guide on building ATV trails. This guide will be available in Fall 2003.

## **5. STRENGTHS AND WEAKNESSES OF OFF-ROAD TRANSPORTATION**

### **5.1 Territory Access**

Off-road transportation gives access to parts of the territory which, owing to the lack of road links, could not be accessed otherwise. This way it is easier and quicker to get to hunting, fishing and trapping grounds. The use of snowmobiles or ATVs contributes to maintain or raise the standard of living by allowing subsistence activities to be pursued, resulting in sizeable supplies for the Aboriginal communities. However, the enormous size of the territory is a barrier to the development of off-road transportation, particularly in Nunavik where distances between communities are so great that travelling between them in snowmobile or ATV remains relatively trying, especially in the wintertime. Moreover, these long distances make trail supervision difficult and reduce users' safety.

Another existing problem relates to the sharing of responsibilities for the use of forest roads. As stated in the *Plan de transport de l'Abitibi-Témiscamingue*, "When a forest company operates in a sector, it builds and maintains a forest road. Once the work is finished, it is not required to keep maintaining the road. In the long term, access becomes dangerous for hunters, anglers or other public forest users. It is then every user's responsibility to make sure forest roads remain passable according to everyone's needs. Outfitters and sporadic users of the public forest are responsible for maintaining long stretches of forest roads, resulting in significant costs" (MTQ, *Plan de transport de l'Abitibi-Témiscamingue*, 2002).

### **5.2 Trail Marking**

Since the federated network is not very extended, the lack of marked trails leads users to make other trails everywhere in the territory, thus increasing the damages caused to the environment and decreasing the safety of users. In the James Bay territory, the existence of forest roads reduces the use of unmarked trails. For instance, in Radisson, most traffic off the federated trail uses former roads made for the construction of the hydroelectric plants. ORV drivers also use power line corridors (Sûreté du Québec de Radisson, pers. com., 2002).

### **5.3 Climatic Conditions**

The climate-related constraints vary in terms of the latitude. The more to the north a person travels, the more numerous and unforeseeable are the natural pitfalls. Extreme temperatures, for example, can become fatal if a breakdown or accident occurs. Strong winds, drifting snow or unevenly frozen water bodies are all elements requiring high vigilance. Climatic hazards are multiplied for riders under the influence of drugs or alcohol.

## **5.4 Users' Behaviour**

As mentioned in the previous paragraph, the behaviour of snowmobile and ATV users plays an important role in the safety of federated and informal networks. Speeding or circulating in sensitive environments (beaches, etc.) are human factors resulting in accidents or damage to the environment.

## **5.5 Costs**

At the economic level, it is evidently less expensive to build and maintain ATV or snowmobile trails rather than a long paved road. But with regard to the expenses incurred by Inuit and Cree families, the high costs related to off-road vehicle use (purchase and repair of the vehicle, gas supply) limit the financial profitability of the traditional activities. In Nunavik, except for Kuujuaq, no village has a sales and repair service point for off-road vehicles. Generally, people repair their vehicles themselves and the ordered parts are delivered by plane, which is very expensive. Furthermore, insurance companies do not generally accept to insure vehicles in Nunavik. The cost of a plane ticket to go to the scene of an accident and the appraisal (insurance adjustor, automobile appraiser, etc.) being very high, insurance companies are unwilling to sell in James Bay protection in Nunavik (Kativik Regional Police Force, pers. com., 2002). For the Crees and Jamesians, because of the roads, this seems to be less of a problem.

## **5.6 Presence of Numerous Communities**

With regard to the regional management of off-road transportation, the presence of independent municipalities and of Cree villages in the James Bay territory constitute an additional difficulty. Depending on location, regulations are not necessarily enforced the same way and with the same diligence. Also, among the Crees or Jamesians, a lot of people know each other, which translates into greater tolerance on the trails. Moreover, the cohabitation of Jamesian and Cree communities causes certain conflicts, particularly concerning the use of federated trails. Presently, any person using a federated trail without paying access rights contravenes the law. In order to reduce the irritants between the snowmobile clubs and the Crees who are not club members, the use of the federated trails by the Crees to access their hunting, trapping and fishing territories, is tolerated (Fédération des clubs de motoneigistes du Québec, pers. com., 2002).

## **5.7 Multiple Stakeholders**

At the government and public policy level, there are many stakeholders (ministères and government agencies) called upon and concerned with snowmobile and ATV riding.

Authorities such as the Ministère des Transports and the Secrétariat au loisir et au sport have similar concerns, particularly the matters related to safety of ORV users. Tourisme Québec is also involved in the development of the snowmobile and ATV industry, especially concerning the promotion of these activities abroad.

However, the MTQ remains the entry point for any questions regarding ORVs, given that the *Off-Road Vehicles Act* falls under its jurisdiction. In cases where the MTQ would not be the concerned stakeholder, it will refer to the organization in charge.



## **6. TRENDS AND INTERVENTION LEADS**

For half of the Nord-du-Québec population, that is, the 14 Inuit communities and the nine Cree communities, the use of off-road vehicles for traditional activities is now a usual thing.

For non-Aboriginal people in Nunavik and James Bay, snowmobiles and ATVs are mainly used for recreational purposes. Although frequent, hunting and fishing activities are not subsistence activities as is the case with the Crees and the Inuit.

No environmental impact study has been conducted in the Nord-du-Québec region, which excludes any assertion regarding the magnitude of the problems caused by off-road vehicle use. However, given the low population density and the immense territory, the impacts would be very localized. Particular attention should be given to the polluting emissions of vehicles, treading of vegetation, soil compaction, erosion of shores and contamination of watercourses by the continual release of a part of the gas-oil mixture. At the human level, the risks of worsening accident-related injuries and impaired hearing, for users wearing no helmet, should be taken into consideration

### **6.1 Specific Requests Related to Off-Road Vehicles**

#### **6.1.1 Marked Trails**

During the consultation tour for the *Transportation Plan of Nord-du-Québec* in 2000, several requests were made by the population for the construction of marked snowmobile and ATV trails between the Nunavik villages and the hunting and fishing territories. In the James Bay territory, there is a regional will to develop a network of snowmobile trails to Radisson, that would also link the Cree villages.

#### **6.1.2 Utilization Costs**

The second type of requests concerned the costs related to the use of snowmobiles and ATVs in Nunavik. The population expressed the wish that sales tax on snowmobiles, ATVs and gas be reduced, on the basis that ORV transportation is directly related to the pursuit of traditional subsistence activities. They also asked for the reduction of the cost of parts and of the waiting period to receive those parts.

As part of the discussions held in winter 2001 between Nunavik representatives and the MTQ on service equity for the isolated communities, several issues were raised and comparisons made, particularly with regard to certain services available in the isolated communities of the Basse-Côte-Nord. To address these issues and concerns, the Ministère initiated certain projects, including an agreement creating the Financial assistance concerning the reduction of freight charges to Nunavik.

### 6.1.3 Legislation

At the legislative level, a deregulation is requested to legally permit snowmobile and ATV traffic on the Route du Nord. Also, certain Jamesians would like their towns and localities to exercise their power and authorize ORV traffic on certain municipal roads. Moreover, the Crees demand a deregulation for trappers and hunters to be legally entitled to use the federated snowmobile and ATV trails to access their hunting, fishing and trapping territories, without paying access rights (Ministère des Transports, June 2001). This request from the Cree trappers has been taken into consideration in the proposed *Regulation on off-road vehicles*.

## 6.2 Intervention Leads

The transportation plan developed by the Ministère des Transports for the Abitibi-Témiscamingue region sets out several possible intervention leads, to improve the quality of life, the protection of the environment, and to foster the socio-economic development of off-road transportation. Some of these leads could apply to the James Bay territory because of certain similarities.

### 6.2.1 Club Membership

First of all, it is important to promote membership to off-road vehicle clubs in order to assist in concentrating traffic in the marked trails. It has indeed been demonstrated that snowmobile and ATV-related delinquent behaviours are fewer among affiliated members. The collaboration of snowmobile and ATV clubs is necessary in this matter (Ministère des Transports<sup>a</sup>, Nov. 2000).

### 6.2.2 Supervision of Federated Trails

As for the rest of the province, there is police control on the federated snowmobile trails in the James Bay territory. The patrol officers are present in the sectors of Radisson, Chibougamau-Chapais, Matagami and Lebel-sur-Quévillon (Sûreté du Québec de Matagami, pers. com., 2005).

### 6.2.3 Information Dissemination to Users

It is necessary to increase information dissemination to users concerning health and human life hazards and environmental impacts. Aborigines wearing a helmet, keeping to the trails and reducing speed are key to improving the safety of Nord-du-Québec users. Although the problems cannot simply be resolved through an information and

education campaign, it could nevertheless help reduce their severity. Moreover, the MTQ carries out annual information campaigns focused on safety and intended to ORV users, particularly by participation to shows, TV vignettes, etc. In addition, the MTQ granted funds to the Fondation de la faune du Québec for the preparation of a guide on the construction of ATV trails that respect wildlife and the environment, and to the Fédération québécoise de la faune for a wildlife information brochure intended to snowmobilers. Once the proposed *Regulation on Off-Road Vehicles* is adopted, a communication plan will inform the population (Crees and Inuit included) on the new provisions, and so, in their own language.

#### 6.2.4 Support to Clubs

Support to snowmobile and ATV clubs, other than through the financial assistance program managed by the SLS they presently enjoy, is of prime importance, especially because they are responsible for the maintenance of the trails and the installation of signage, which both contribute to the safety of users on the network. It is a priority to make sure the clubs have the resources they need to properly take on this responsibility. In this respect, a partnership could be developed among the various users of forest roads to ensure their maintenance. Furthermore, consultation mechanisms could be put in place between the snowmobile clubs and the forest companies with a view to improving relations and come up with solutions to the different problems identified. Besides, any off-road vehicle related interventions should take into account the large number of stakeholders.

#### 6.2.5 Local Particularities Taken Into Account

Since among the Crees and the Inuit, snowmobile et ATV use is directly related to subsistence activities, it should be given a more central place in government planning and decision making. As previously mentioned, this particular situation was taken into account in the proposed *Regulation on Off-Road Vehicles*.

### **LOCAL CONSULTATION ON PUBLIC ROAD MAINTENANCE**

During the year 2001-2002, the Ministère des Ressources naturelles et de la Faune (MRNF), in collaboration with the Ministère des Affaires municipales et de la Métropole (MAMM) held consultations with the Fédération québécoise des municipalités, the Union des municipalités du Québec and the main organizations and users of public roads, regarding the maintenance problem of these roads in relation to territory access and use. The objective of the consultation was to allow the MRCs to voice their interest to have maintenance authority over these roads and their willingness to measure the interest and eventually coordinate the voluntary financial contributions of the different organizations using public roads (MRNF, pers. com., 2002). If this new management

mode is adopted this user-payer principle will give local people facilitated and improved access to the territory, which will impact positively on ORV activities.

#### **IMPROVING INFORMATION DISSEMINATION ON THE RULES RELATED TO REGISTRATION AND DRIVER'S LICENSE**

Aboriginal communities of Nord-du-Québec often wonder what are the rules related to registration fees and driver's license. To this end, information documents should be produced in popular language and translated into their mother tongue, and an information campaign should be carried out in the region, to clarify the statutory requirements they must comply with as well as the steps to be taken to fulfill these requirements.

## CONCLUSION

Snowmobile and ATV activities in Nord-du-Québec are very different from most of those done in other Québec regions because they are largely related to the subsistence activities of Aboriginal people. For this reason, there is a large number of informal trails running across the whole Nord-du-Québec. Although the magnitude of the environmental impacts is unknown, it is probably greater in the informal trails than in the federated ones. Since the federated trails are better maintained, marked and supervised, off-road vehicle traffic often causes less damage to the environment and is safer for users. The present network of federated trails of Nord-du-Québec is little developed, being limited to the James Bay territory. Keeping in mind the safe development of snowmobile or ATV tourism, it is important to ponder on the quality and quantity of the present infrastructures.

With regard to accidents, the problem is more serious in Nunavik than in James Bay. Drug and alcohol use is to be considered, but several other factors must be taken into account. Simple carelessness, so common throughout Québec, often has much more serious consequences in Nord-du-Québec, especially in Nunavik. Indeed, with its harsh climatic conditions, unevenly frozen water bodies and a visibility that can become null, the region is filled with hazards of all kinds for snowmobilers and ATV drivers.

The priority interventions are varied. For one, the establishment of marked trails seems essential in several areas, particularly where the population clearly expressed the need for them. This way, users would be more inclined to use the trails, which would at the same time increase their safety and reduce damages to the environment. Also, more information dissemination on human hazards and environmental impacts related to off-road vehicles is needed everywhere in the region. Furthermore, in the James Bay territory, the promotion of membership to off-road vehicle users' clubs could contribute to an increased use of the federated trails. Finally, a larger number of police officers and a good support from the clubs are also to be considered.



## BIBLIOGRAPHY

Club de motoneige de Chapais (2002), Personal communication.

Club VTT Abitibi-Ouest–Baie-James (2002), Personal communication.

Club VTT de Chibougamau-Chapais (2001), [Online],  
<http://www.quadnet2.com/quad/91/index.html> (page accessed January 10, 2002).

Canadian Council of Snowmobile Organizations (2002), [Online],  
<http://www.ccsso-ccom.ca> (page accessed January 20, 2002).

Kativik Regional Police Force (2002), Personal communication.

Découverte (2002), *Les ravages de la snowmobile*. Société Radio-Canada, [Online],  
[http://src.ca/tv/decouverte/30\\_skidoo/2a.html](http://src.ca/tv/decouverte/30_skidoo/2a.html) (page accessed January 25, 2002).

Canada Economic Development (2002), Personal communication: Daniel Ricard.

Canada Economic Development (2000), *Socio-economic Profile of Nord-du-Québec*, 21 pages.

Duhaime, G et al. (1998), *Les impacts socio-économiques de la contamination de la chaîne alimentaire au Nunavik*, Bibliothèque nationale du Québec, Québec, pages 89-121.

Duhaime, G. et al. (2001), *Atlas historique du Québec, Le Nord, habitants et mutations*. Les Presses de l'Université Laval, Sainte-Foy, page 89.

Fédération québécoise des clubs quad (2002), [Online].  
<http://www.fqcq.qc.ca> (page accessed January 12, 2002).

Fédération des clubs de motoneigistes du Québec (2002), Personal communication.

Focus Snowmobile (2002), Personal communication.

Gauthier & Guillemette consultants inc. (1993), *Évaluation des impacts environnementaux de certaines activités récréatives*, Final Report, 84 pages.

Gouvernement du Québec (1983), *Le Nord du Québec, profil régional*, Bibliothèque nationale du Québec, Québec, 184 pages.

Gouvernement du Québec (2001), [Online], <http://publicationsduquebec.gouv.qc.ca/fr> (page accessed January 9, 2002).

Hodgins, S. (1997), *Health and what affects it in Nunavik: how is the situation changing?* Bibliothèque nationale du Québec, Québec, 321 pages.

Hydro-Québec (1993), *Complexe Grande-Baleine, résumé du rapport d'avant-projet*, 294 pages.

Institut de la statistique du Québec (1996), *Recensement de la population 1996-1991-1986 : données comparatives et faits saillants. Nord-du-Québec : la région administrative, les territoires de Jamésie et Kativik et les principales municipalités. Cahier 4 : Travail, scolarité et mobilité*. [Online], <http://www.stat.gouv.qc.ca/publications/regional/theme4.htm> (page accessed January 25, 2002).

Ministère des Ressources naturelles (2002), Personal communication: Denis Gagnon.

Ministère des Ressources naturelles (2002), *L'entretien des chemins du domaine de l'État*, Consultation Paper, 11 pages.

Ministère des Transports (2003), Personal communication: Stéphanie Cashman-Pelletier.

Ministère des Transports (2001), *Off-Road Vehicles Act*, [Online], <http://www.mtq.gouv.qc.ca/ministere/lois/autres.htm> (page accessed January 8, 2002).

Ministère des Transports (Dec. 2001), *L'assemblée nationale adopte la Loi modifiant la Loi sur les véhicules hors route*. In Gouvernement du Québec, Site du ministère des Transports, [Online], <http://www.mtq.gouv.qc.ca/ministere/communiques.htm> (page accessed January 12, 2002).

Ministère des Transports (Nov. 2001), *Augmentation de l'assistance financière destinée aux clubs de motoneigistes du Québec*, [Online], <http://www.mtq.gouv.qc.ca/ministere/communiques.htm> (page accessed January 12, 2002).

Ministère des Transports (June 2001), *Pre-Analysis of the Transportation Plan of Nord-du-Québec*, 30 pages.

Ministère des Transports<sup>a</sup> (Nov. 2000), *Vers le plan de transport de l'Abitibi-Témiscamingue, Consultation Report*, [Online], <http://www.mtq.gouv.qc.ca/regions/abiti/consultation.pdf> (page accessed February 5, 2002).

Ministère des Transports<sup>b</sup> (Nov. 2000), *Transport des personnes : véhicules hors route*. [Online], <http://www.mtq.gouv.qc.ca/personnes/VHR/quad.htm> (page accessed January 15, 2002).

Ministère des Transports (August 2000), *Plan de transport du Saguenay-Lac-St-Jean, Diagnostic régional des transports*, pages 81-85.

Ministère des Transports (1997), *Vers un plan de transport pour la Côte-Nord*, chapter 14, pages 1-21.

- Municipalité de Baie-James (2002), Personal communication: Stéphane McKenzie.
- Cree Police of Chisasibi (2002), Personal communication.
- Cree Police of Waskaganish (2002), Personal communication.
- Salisbury, R.F. (1986), *A Homeland for the Cree. Regional Development in James Bay 1971-1981*. McGill-Queen's University Press, Montreal, page 94.
- Secrétariat aux affaires autochtones (2002), Personal communication: François Dupuis.
- Secrétariat aux affaires autochtones (2002), *La population autochtone au Québec*, [Online],  
<http://www.mce.gouv.qc.ca/d/html/d1017008.html> (page accessed February 2, 2002).
- Secrétariat au loisir et au sport (2002), Personal communication.
- Simard, J.J. et al. (1996), *Tendances nordiques: les changements sociaux 1970-1990 chez les Cris et les Inuit du Québec*, Bibliothèque nationale du Québec, Québec, 253 pages.
- James Bay Energy Corporation (1978), *Connaissances du milieu des territoires de la Baie-James et du Nouveau-Québec*, Bibliothèque nationale du Québec, Québec, 297 pages.
- Société de l'assurance automobile du Québec (February 2003), Personal communication: Sylvie Régimbald.
- Société de l'assurance automobile du Québec (2002), Personal communication.
- Société de l'assurance automobile du Québec-a (2002), Personal communication: Daniel MacDuff.
- Société de l'assurance automobile du Québec-b (2002), Personal communication: Daniel MacDuff et Jean-Pierre Gaudet.
- Statistics Canada (2001), *Population Census*. [Online],  
[http://ceps.statcan.ca/francais/profil/PlaceSearchForm1\\_F.cfm](http://ceps.statcan.ca/francais/profil/PlaceSearchForm1_F.cfm) (page accessed March 20, 2002).
- Sûreté du Québec de Matagami (2003), Personal communication.
- Sûreté du Québec de Chibougamau-Chapais (2002), Personal communication.
- Sûreté du Québec de Kuujuaq (2002), Personal communication.
- Sûreté du Québec de Radisson (2002), Personal communication.
- Trak Concept de carte (2000), *Carte des sentiers de motoneige Baie-James/Nord-du-Québec 2000-2001*.

Zins Beaudesne et Associés (1997), *Évaluation des impacts économiques directs de la pratique de la motoneige au Québec.*

## APPENDICES

**APPENDIX 1**

**DIRECTORY OF OFF-ROAD VEHICLE USERS' CLUBS IN NORD-DU-QUÉBEC**

**DIRECTORY OF OFF-ROAD VEHICLE USERS' CLUBS  
IN NORD-DU-QUÉBEC**

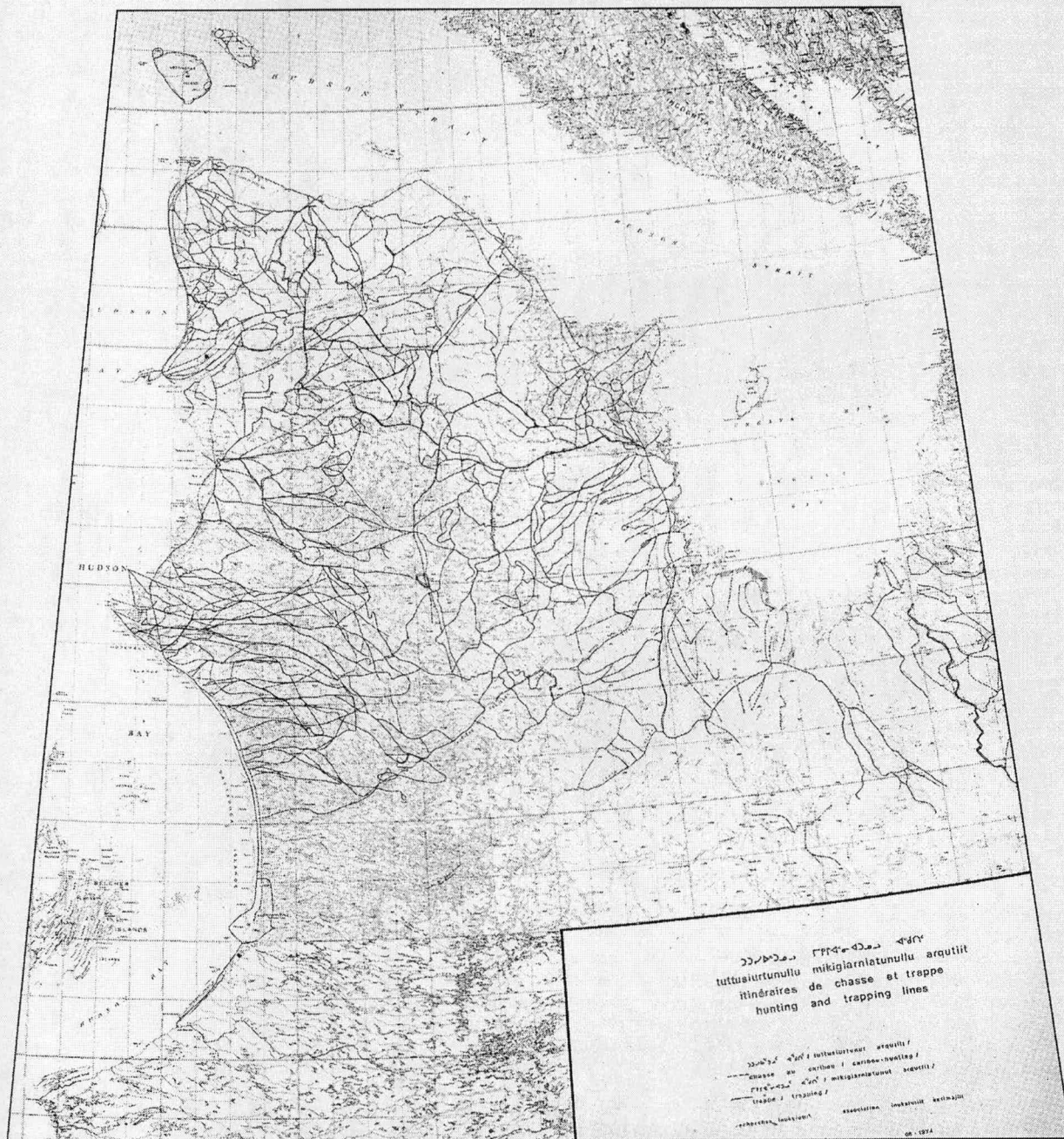
<b>NAME OF THE ORGANIZATION</b>	<b>CONTACT INFORMATION</b>	<b>MEMBERSHIP IN 2001</b>	<b>FEDERATED TRAILS (KM)</b>
Club de motoneige de Matagami	P.O. Box 548, Matagami (Québec) J0Y 2A0 Phone: (819) 739-3323	250	260
Club de motoneige de Lebel-sur-Quévillon	P.O. Box 127, Lebel-sur-Quévillon, (Québec) J0Y1X0 Phone: (819) 755-3451	275	211
Club de motoneige de Radisson	P.O. Box , Radisson (Québec) J0Y 2X0 Phone: (819) 638-2419	50	91
Club de motoneige des deux Montagnes	1685, rte Selbaie, Villebois, (Québec) J0Z 3V0 Phone: (819) 941-2655	45	295
Club de motoneige de Chapais	P.O. Box 812, Chapais (Québec) G0W 1H0 Phone: (418) 745-2224	176	221
Club de motoneige de Chibougamau	P.O. Box 248, Chibougamau, (Québec) G8P 2K5 Phone: (418) 748-4572	502	348
Club VTT de Chibougamau-Chapais (1st year of operation)	767, 4 <sup>e</sup> av. Chibougamau, (Québec) G8P 1S7 Phone: (418) 748-4575	119	84
Club Quad Abitibi-Ouest/ Baie-James (1st year of operation)	La Sarre (Québec) Phone: (819) 782-4501	30 (including 3 Nord-du-Québec)	385

Source: Fédération des clubs de motoneigistes du Québec, 2002.  
Clubs de motoneige et VTT, 2002

**APPENDIX 2**  
**INFORMAL NETWORK OF SNOWMOBILE TRAILS IN NUNAVIK**

## INFORMAL NETWORK OF SNOWMOBILE TRAILS IN NUNAVIK

FIGURE 4  
Itinéraires de chasse au caribou,  
de pêche et de trappe au renard



Itinéraires suivis par les Inuit du Nunavik entre la fin du XIX<sup>e</sup> siècle et le début des années 1970

Source: synthèse des enquêtes ethnographiques réalisées sous la direction scientifique de B. Saladin d'Anglure entre 1965 et 1971.

**APPENDIX 3**  
**EXAMPLE OF COMPENSATION BY THE PUBLIC INSURANCE PLAN**

### Example of Compensation by the Public Insurance Plan

EXAMPLE	COMPENSATION	No COMPENSATION
An Aboriginal or non-Aboriginal person driving/riding an ORV is involved in an accident on a municipal road with a moving automobile. He is seriously injured.  However, if he contravenes a section of the <i>Criminal Code</i> (example: impaired driving), the compensation will be a lot smaller.	4	
If a similar accident occurs, but in a parking lot, <ul style="list-style-type: none"> <li>• if the automobile is moving;</li> <li>• if it is not moving.</li> </ul>	4	4
An ORV driven by a Nord-du-Québec resident collides with another ORV on a public road. No automobile is involved.		4
A snowmobile driven by a Nord-du-Québec resident collides with a pedestrian on a public road. No automobile is involved.		4
Accident casualties involving an ORV taking place off a public road (in nature, for example).		4
Accident casualties involving an automobile on a forest road. Such road is considered a public road.	4	
An automobile going off the road from a forest road involving no collision with another object or automobile, but there is a casualty.	4	
An automobile collides with a parked automobile or a pedestrian.	4	

Source: Société de l'assurance automobile du Québec, (Sylvie Régimbald, pers. com., February 2003).

**APPENDIX 4**  
**CALCULATION OF THE ECONOMIC SIGNIFICANCE OF INFORMAL NETWORK USE**

**CALCULATION OF THE ECONOMIC SIGNIFICANCE  
OF INFORMAL NETWORK USE**

	FORMAL GROSS INCOME (\$/YEAR)		IN FORMAL INCOME (\$/YEAR)		TOTAL INCOME (\$/YEAR)	
	Household	Community	Household	Community	Household	Community
<b>Inuit</b>	285	480,000	1,100	1,800,000	1,385	2,280,000
<b>Crees</b>	285	740,000	1,100	2,860,000	1,385	3,600,000
<b>Total</b>		<b>1,220,000</b>		<b>4,660,000</b>		<b>5,880,000</b>

	<b>Inuit and Crees</b>
<b>Purchase of Snowmobiles (\$/year)</b>	12,500,000
<b>Purchase of ATVs (\$/year)</b>	6,200,000
<b>Total (\$/year)</b>	<b>18,700,000</b>

Formal Gross Income (Crees and Inuit):	\$1,220,000/year
Informal Income (Crees and Inuit):	\$4,660,000/year
Purchase of Snowmobiles and ATVs :	\$18,700,000/year

---

<b>Total of Incomes and Expenses:</b>	<b>\$24,580,000/year</b>
---------------------------------------	--------------------------

Source: Groupe d'études inuit et circumpolaires (Gétic), 2002



MINISTÈRE DES TRANSPORTS



QTR A 211 306